PRACTICAL ADVICE FOR MANAGING PSYCHIATRIC DISORDERS

OXFORD HANDBOOK OF PSYCHIATRY

David Semple | Roger Smyth

Provides a comprehensive overview, updated with the latest legislation and classification

Includes a new section on neuropsychiatry, to reflect the biological basis of mental disorders

Features historical context and current controversies, to provide a holistic view of the specialty

Acute presentations index

Reference ranges

Haematological values

Haemoglobin	♂ 13–18 g/dL
	♀ 11.5–16 g/dL
Mean cell volume (MCV)	76–96 fL
Platelets	$150–400\times10^9$/L
White cell count (WCC)	$4–11\times10^9$/L
Neutrophils	$2.0–7.5\times10^9$/L
Eosinophils	$0.04–0.44\times10^9$/L
Lymphocytes	$1.3–3.5\times10^9$/L

Biochemistry values

Sodium	135–145 mmol/L
Potassium	3.5–5.0 mmol/L
Creatinine	70–150 µmol/L
Urea	2.5–6.7 mmol/L
Calcium (total)	2.12–2.65 mmol/L
Albumin	35–50 g/L
Protein	60–80 g/L
Alanine aminotransferase (ALT)	5–35 iu/L
Alkaline phosphatase	30–150 u/L
Bilirubin	3–17 µg/L
Gamma-glutamyl-transpeptidase (GGT)	411–51 iu/L
	57–33 iu/L
Thyroid stimulating hormone (TSH)	0.5–5.7 mu/L
Thyroxine (T4)	70–140 nmol/L
Thyroxine (free)	9–22 pmol/L
Tri-iodothyronine (T3)	1.2–3.0 nmol/L
Vitamin B12	0.13–0.68 nmol/L
Folate	2.1 µg/L
Glucose (fasting)	3.5–5.0 mmol/L
Prolactin	♂ <450 u/L
	♀ <600 u/L
Creatinine kinase (CK)	♂ 25–195 iu/L
	♀ 25–170 iu/L
Osmolality	278–305 mosmol/kg

Urine

Osmolality	350–1000 mosmol/kg
Sodium	100–250 mmol/24h
Protein	<150 mg/24h
Hydroxymethylmandelic acid (HMMA, VMA)	16–48 mmol/24h

Reference ranges for selected drugs

Lithium	0.8–1.2 mmol/L
	0.6–0.8 mmol/L (as an augmentative agent)
Valproate	50–125 mg/L
Carbamazepine	4–12 mg/L
	(>7 mg/L may be more efficacious in bipolar disorder)
Clozapine	350–500 µg/L (0.35–0.5 mg/L)
Nortriptyline	50–150 µg/L

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Oxford Handbook of Psychiatry

FOURTH EDITION

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OXFORD
UNIVERSITY PRESS

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Great Clarendon Street, Oxford, OX2 6DP, United Kingdom

Oxford University Press is a department of the University of Oxford.
It furthers the University's objective of excellence in research, scholarship, and education by publishing worldwide. Oxford is a registered trade mark of Oxford University Press in the UK and in certain other countries

First Edition published in 2005
Second Edition published in 2009
Third Edition published in 2013
Fourth Edition published in 2019

Impression: 1

Published in the United States of America by Oxford University Press
198 Madison Avenue, New York, NY 10016, United States of America

British Library Cataloguing in Publication Data
Data available

Library of Congress Control Number: 2018967784

ISBN 978–0–19–879555–1
eISBN 978–0–19–251497–4

Dedication

To Fiona
(D.M.S.)

Preface to the first edition

Every medical student and doctor is familiar with that strange mixture of panic and perplexity which occurs when, despite having spent what seems like endless hours studying, one is completely at a loss as to what to do when confronted with a real patient with real problems. For doctors of our generation, that sense of panic was eased somewhat by the reassuring presence in the white coat pocket of the original *Oxford Handbook of Clinical Medicine*. A quick glance at one of its pages before approaching the patient served to refresh factual knowledge, guide initial assessment, and highlight 'not to be missed' areas, allowing one to enter the room with a sense of at least initial confidence which would otherwise have been lacking.

The initial months of psychiatric practice are a time of particular anxiety, when familiar medical knowledge seems of no use and the patients and their symptoms appear baffling and strange. Every new psychiatrist is familiar with the strange sense of relief when a 'medical' problem arises in one of their patients—'finally something I know about'. At this time, for us, the absence of a similar volume to the *Oxford Handbook of Clinical Medicine* for psychiatrists was keenly felt. This volume attempts to fulfil the same function for medical students and doctors beginning psychiatric training or practice. The white coat pocket will have gone, but we hope that it can provide that same portable reassurance.

2004
D.M.S.
R.S.S.
J.K.B.
R.D.
A.M.M.

Preface to the second edition

It is entirely unoriginal for authors to think of their books as their 'children'. Nonetheless, during the process of creating the first edition of this handbook, we found ourselves understanding why the comparison is often made—experiencing the trials of a prolonged gestation and a difficult delivery, balanced by the pride of seeing one's offspring 'out in the world'. And of course, the rapid forgetting of the pain leading to agreement to produce a second a few years later.

We have updated the handbook to reflect the substantial changes in mental health and incapacity legislation across the UK, updated clinical guidance, the continuing service changes across psychiatric practice and the more modest improvements in treatments, and the evidence base for psychiatric practice.

The main audience for this handbook has been doctors in training. Unfortunately the most recent change experienced by this group has been profoundly negative, namely the ill-starred reform of medical training in the UK. This attempt to establish a 'year zero' in medical education is widely agreed to have been a disaster. A 'lost generation' of juniors has been left demoralized and bewildered—some have left our shores for good.

Despite this, we have been impressed and heartened by the cheerful optimism and stubborn determination shown by the current generation of trainees and we have been tremendously pleased when told by some of them that they have found our handbook useful. To them and their successors we offer this updated version.

2008
D.M.S.
R.S.S.

Preface to the third edition

One of the ironies of writing books is that the preface, that part to which the reader comes first, is the very part to which the writers come last of all. Once the rest of the book is finished, composing the preface can allow the authors an opportunity for reflection and an attempt at summing up their initial aims and current hopes for the book as it leaves their hands for the final time.

While writing this third preface we found it interesting to examine its two predecessors, to see what they revealed about our thoughts at those times. Reading the first preface it's clear we were writing to ourselves, or at least to our slightly younger selves, reflecting on the book we wished we'd had during our psychiatric training. The emotions conveyed are those of anxiety and hope. Moving on to the second, it is addressed to our junior colleagues and seems to us to convey a mixture of indignation and pride.

In this third edition we have continued to revise and update the book's contents in line with new developments in clinical practice. While these changes reflect ongoing and incremental improvement, one cannot fail to be struck by how unsatisfactory the state of our knowledge is in many areas and how inadequate many of our current treatments are. On this occasion we finished the book with the hopes that it would continue to serve as a useful guide to current best practice and an aid in the management of individual patients, and that these current inadequacies would inspire, rather than discourage, the next generation of clinicians and researchers. Our feelings at the end of a decade of involvement with this handbook are therefore of realism mixed with optimism.

2012
D.M.S.
R.S.S.

Preface to the fourth edition

We had rather hoped that this fourth edition would be a 'fresh start', incorporating the major revisions to both classifications of psychiatric disorders. DSM-5 did finally arrive in 2013 (DSM-5 and all that …, p. 12), but unfortunately, although ICD-11 has been 'launched' in June 2018, it is unlikely to be fully ratified until 2019 and implementation will not be before 2022 (Wait, what … ICD-11? p. 1120). We have tried to integrate DSM-5, while keeping one eye on the current proposals for ICD-11 and still retaining ICD-10 categories and codes as far as possible (as it is likely that we will all still be using these for the foreseeable future). Hopefully you will agree that we have struck a pragmatic balance between being useful and yet informative. Full assimilation of ICD-11 will have to wait until the fifth edition!

Nevertheless, we have undertaken a major revision of the overall text, and the scope of these changes has meant a reorientation of the content to reflect the evolution of ideas that directly and indirectly have influenced psychiatric thinking over those last few years such as global mental health and gender-related issues. Equally, advances in research have increased our understanding of the biological basis of mental disorder, hence our inclusion of a new neuropsychiatry section (and a lengthy explanation of what neuropsychiatry actually *is*; pp. 122–125).

When we first approached this project, over 15 years ago, we tried to produce the book we wished we had when starting training. Our core aim was to provide a practical guide for anyone entering this medical specialty, which would help them to gain a working knowledge of the diagnosis and management of mental disorders and a deeper understanding of the functioning of the brain in health and disease. While that experience will always be daunting and sometimes overwhelming, perhaps this fourth incarnation of the handbook can still act as a companion in the early days and a familiar source of reassurance as experience is gained. At the same time, we hope it will encourage you to think more deeply about the wider reaching scientific, philosophical, ethical, social, and legal issues that you encounter in your medical practice.

2018
D.M.S.
R.S.S.

Acknowledgements

First edition

In preparing this handbook, we have benefited from the help and advice of a number of our more senior colleagues, and we would specifically like to thank Prof E.C. Johnstone, Prof K.P. Ebmeier, Prof D.C.O. Cunningham-Owens, Prof M. Sharpe, Dr S. Gaur, Dr S. Lawrie, Dr J. Crichton, Dr L. Thomson, Dr H. Kennedy, Dr F. Browne, Dr C. Faulkner, and Dr A. Pelosi for giving us the benefit of their experience and knowledge. Also our SpR colleagues: Dr G. Ijomah, Dr D. Steele, Dr J. Steele, Dr J. Smith, and Dr C. McIntosh, who helped keep us on the right track.

We 'piloted' early versions of various sections with the SHOs attending the Royal Edinburgh Hospital for teaching of the MPhil course in Psychiatry (now reborn as the MRCPsych course). In a sense, they are all contributors, through the discussions generated, but particular thanks go to Dr J. Patrick, Dr A. Stanfield, Dr A. Morris, Dr R. Scally, Dr J. Hall, Dr L. Brown, and Dr J. Stoddart.

Other key reviewers have been the Edinburgh medical students who were enthusiastic in reading various drafts for us: Peh Sun Loo, Claire Tordoff, Nadia Amin, Stephen Boag, Candice Chan, Nancy Colchester, Victoria Sutherland, Ben Waterson, Simon Barton, Anna Hayes, Sam Murray, Yaw Nyadu, Joanna Willis, Ahsan-Ul-Haq Akram, Elizabeth Elliot, and Kave Shams.

Finally, we would also like to thank the staff of OUP for their patience, help, and support.

Second edition

In the preparation of the first edition of this handbook, we were joined by three colleagues who contributed individual specialist chapters: Dr R. Darjee (Forensic psychiatry, Legal issues, and Personality disorders), Dr J. Burns (Old age psychiatry, Child and adolescent psychiatry, and Organic illness), and Dr A. McIntosh (Evidence-based psychiatry and Schizophrenia). They continue to contribute to this revised version.

For this second edition, we have been joined by four additional colleagues who revised and updated specialist sections: Dr L. Brown (Child and adolescent psychiatry), Dr A. McKechanie (Learning disability), and Dr J. Patrick and Dr N. Forbes (Psychotherapy). We are grateful to them for their advice and help.

We are also pleased to acknowledge the assistance of Dr S. MacHale, Dr G. Masterton, Dr J. Hall, Dr N. Sharma, and Dr L. Calvert with individual topics and thank them for their advice and suggestions.

Other helpful suggestions came from our reviewers and those individuals who gave us feedback (both in person or via the feedback cards).

Once again, we thank the OUP staff for their encouragement and help.

Third edition

The contributors named above were joined for this third edition by Dr S. Jauhar (Substance misuse), Dr S. Kennedy (Sexual disorders), Dr F. Queirazza (Therapeutic issues), Dr A. Quinn and Dr A. Morris (Forensic psychiatry), and Dr T. Ryan (Organic illness and Old age psychiatry). We are also pleased to acknowledge the assistance of Prof J. Hall and Prof D. Steele who provided helpful suggestions and engaged in useful discussions. We remain indebted to the staff at OUP for their support of this book and its authors over the last decade.

Fourth edition

This was a major revision and old friends, such as the EBMH chapter, have now gone. We created a new Neuropsychiatry chapter with the assistance of Dr L. McWhirter and Dr M. Oto. Gender-related issues have been brought into the twenty-first century by Dr D. Mogford for adults and Dr G. Wilkinson for children and adolescents. We are also grateful to Dr R. Devlin for casting a critical eye over Perinatal and Therapeutic issues. The Forensic chapter has benefited from a team approach by Dr R. Sibbett, Dr L. Steven, and Dr E. Pike, with Dr U. Okudo sorting out the Personality disorders chapter. The other specialties have undergone review and revision too at the hands of Dr P. Andrew (Old age), Dr C. Blayney (Substance misuse), Dr Z. Davidson (Child and adolescent), Dr G. Scott (Intellectual disability), Dr K. Morton (Eating disorders), and Dr E. Richardson (Difficult and urgent situations). Dr D. Murdie updated the Therapeutics chapter, and Dr J. Ahrens revisited the Transcultural chapter in light of recent developments in global mental health. Additional assistance came from Dr H. Welsh and Dr L. Cameron (Intellectual disability), Prof H. Minnis (Child and adolescent), Dr E. Lockhart (Paediatric liaison), Dr A.S. Addo, (Paediatric intellectual disability), and Dr W. Ahmed (Forensic child and adolescent). Yet again we would like to thank the staff at OUP for their patience and support.

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Contents

Symbols and abbreviations

Abbreviations can be a useful form of shorthand in both verbal and written communication (e.g. TLAs: Three Letter Acronyms). They should be used with care, however, as there is the potential for misinterpretation when people have different understandings of what is meant by the abbreviation (e.g. PD may mean personality disorder or Parkinson's disease; SAD may mean seasonal affective disorder or schizoaffective disorder).

	Cross reference
	Online reference
	Phone
	Warning
	Important
	Don't dawdle
~	Approximately
≈	Approximately equal to
	Increased
	Decreased
	Leads to
	Normal
>	Greater than
<	Less than
±	Plus/minus
°	Degree
♂	Male
♀	Female
α	Alpha
β	Beta
δ	Delta
ε	Epsilon
κ	Kappa
μ	Mu
θ	Theta
®	Registered trademark
™	Trademark

	Controversial topic
5-HIAA	5-hydroxyindoleacetic acid
5-HT	5-hydroxytryptamine (serotonin)
6CIT	Six-item Cognitive Impairment Test
A&E	Accident and Emergency
AA	Alcoholics Anonymous
AASM	American Academy of Sleep Medicine
ABC	Airway/breathing/circulation; antecedents, behaviour, and consequences
ABG	Arterial blood gas
ABI	Acquired brain injury
ACAPS	Anterior capsulotomy
ACC	Anterior cingulate cortex
ACE	Angiotensin-converting enzyme
ACE-III	Addenbrooke's Cognitive Examination, third edition
ACE-III-R	Addenbrooke's Cognitive Examination, third edition —Revised
ACh	Acetylcholine
AChEI	Acetylcholinesterase inhibitor
ACING	Anterior cingulotomy
ACMD	Advisory Council for the Misuse of Drugs
ACOM	Anterior communicating (artery)
ACT	Acceptance and commitment therapy
ACTH	Adrenocorticotrophic hormone
ADD	Attention deficit disorder
ADDISS	Attention Deficit Disorder Information and Support Service
ADH	Alcohol dehydrogenase; antidiuretic hormone
ADHD	Attention-deficit/hyperactivity disorder
ADI-R	Autism Diagnostic Interview–Revised
ADL	Activity of daily living
ADNFLE	Autosomal dominant nocturnal frontal lobe epilepsy
ADOS	Autism Diagnostic Observation Schedule
AF	Atrial fibrillation
AIDS	Acquired immune deficiency syndrome
AIMS	Abnormal Involuntary Movement Scale
ALD	Alcoholic liver disease

ALDH	Acetaldehyde dehydrogenase
ALS	Amyotrophic lateral sclerosis
AMHP	Approved mental health professional
AMP	Approved medical practitioner
AMPA	α-amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid
AMT	Abbreviated Mental Test
ANA	Anti-nuclear antibody
ANCA	Antineutrophil cytoplasmic antibodies
ANF	Anti-nuclear factor
ANPA	American Neuropsychiatry Association
AOX	Aldehyde oxidase
AP	Anteroposterior
APA	American Psychiatric Association
APP	Amyloid precursor protein
AQ	Autism Spectrum Quotient
ARBD	Alcohol-related brain damage
ARDS	Acute respiratory distress syndrome
ARFID	Avoidant/restrictive food intake disorder
ARMS	At-risk mental state
ASD	Autism spectrum disorders
ASV	Adaptive servo ventilation
ASW	Approved social worker
ASWPD	Advanced sleep–wake phase disorder
ATT	Attention training technique
AUDIT	Alcohol Use Disorders Identification Test
AV	Atrioventricular
AZT	Azidothymidine (zidovudine)
B12	Vitamin B12
BA	Behavioural activation
BAC	Blood alcohol concentration
BAI	Beck Anxiety Inventory
BAP	British Association for Psychopharmacology
bd	*Bis die* (twice daily)
BDI	Beck Depression Inventory
BDNF	Brain-derived neurotrophic factor

BDZ	Benzodiazepine
BECT	Bilateral electroconvulsive therapy
BECTS	Benign epilepsy with centrotemporal spikes
BID	Body integrity dysphoria
BIID	Body integrity identity disorder
BIMC	Blessed Information Memory Concentration Scale
BiPAP	Bi-level positive airways pressure
BMD	Bone mineral density
BMI	Body mass index
BNF	*British National Formulary*
BNPA	British Neuropsychiatry Association
BP	Blood pressure
BPD	Borderline personality disorder
bpm	Beat per minute
BPPV	Benign paroxysmal positional vertigo
BPRS	Brief Psychiatric Rating Scale
BPSD	Behavioural and psychological symptoms in dementia
BSE	Bovine spongiform encephalopathy
bvFTD	Behavioural variant fronto-temporal dementia
Ca^{2+}	Calcium
CADASIL	Cerebral autosomal dominant arteriopathy with subcortical infarcts and leukoencephalopathy
CAGE	Cut down? Annoyed? Guilty? Eye opener
CAMHS	Child and Adolescent Mental Health Services
cAMP	Cyclic adenosine monophosphate
CARS	Childhood Autism Rating Scale
CAT	Cognitive analytic therapy
CATIE	Clinical Antipsychotic Trials of Intervention Effectiveness
CBASP	Cognitive–behavioural analysis system of psychotherapy
CBD	Corticobasal degeneration
CBF	Cerebral blood flow
CBM	Cognitive bias model
CBT	Cognitive behavioural therapy
CBT-E	Cognitive behavioural therapy-Enhanced

CCBT	Computerized cognitive behavioural therapy
CCD	Cultural concept of distress
CCF	Congestive cardiac failure
CCHS	Congenital central hypoventilation syndrome
CCK	Cholecystokinin
CD	Conduct disorder
CDD	Childhood disintegrative disorder
CDI	Children's Depression Inventory
CDM	Cognitive deficit model
CDT	Carbohydrate-deficient transferrin
C-ECT	Continuation electroconvulsive therapy
CFI	Cultural Formulation Interview
CFS	Chronic fatigue syndrome
CFT	Compassion-focused therapy
CGH	Comparative genomic hybridization
CHF	Congestive heart failure
CI	Confidence interval
CJD	Creutzfeldt–Jakob disease
CK	Creatinine kinase
CKD	Chronic kidney disease
Cl^-	Chloride
CMT	Compassionate mind training
CMV	Cytomegalovirus
CNS	Central nervous system
CO	Carbon monoxide
CO_2	Carbon dioxide
COAD	Chronic obstructive airways disease
COPD	Chronic obstructive pulmonary disease
COPE	Calendar of Premenstrual Experiences
CPA	Care programme approach
CPAP	Continuous positive airway pressure
CPMS	Clozapine Patient Monitoring Service
CPN	Community psychiatric nurse
CR	Conditioned response
CrCl	Creatinine clearance
CRF	Corticotropin-releasing factor

CRP	C-reactive protein
CRSD	Circadian rhythm sleep–wake disorder
CS	Conditioned stimulus
CSA	Childhood sexual abuse, central sleep apnoea
CSB	Cheyne-Stokes breathing
CSBD	Compulsive sexual behaviour disorder
CSF	Cerebrospinal fluid
CT	Computed tomography
CTE	Chronic traumatic encephalopathy
CTO	Community Treatment Order; Compulsory Treatment Order (Scotland)
CUtLASS	Cost Utility of the Latest Antipsychotic drugs in Schizophrenia Study
CVA	Cerebrovascular accident
CVS	Cardiovascular system
CXR	Chest X-ray
CY-BOCS	Children's Yale–Brown Obsessive–Compulsive Scale
DA	Dopamine
DAH	Disordered action of the heart
DALY	Disability-adjusted life year
DAMP	Deficits in attention, motor control, and perception
DAOA	*d*-amino acid oxidase activator
DARI	Dopamine reuptake inhibitor
DAT	Dementia of the Alzheimer type; dopamine transporter
DAWBA	Development And Well-Being Assessment
DBS	Deep brain stimulation
DBT	Dialectical behavioural therapy
DCD	Developmental coordination disorder
DESS	Discontinuation-Emergent Signs and Symptoms (inventory)
DEXA	Dual-energy X-ray absorptiometry
DIC	Disseminated intravascular coagulation
DIPD-IV	Diagnostic Interview for DSM Personality Disorders
DIS	Diagnostic Interview Schedule
DISC 1	Disrupted in Schizophrenia 1

DISCO	Diagnostic Interview for Social and Communication Disorders
DKA	Diabetic ketoacidosis
dL	Decilitre
DLB	Dementia with Lewy bodies
dlPFC	Dorsolateral prefrontal cortex
DMDD	Disruptive mood dysregulation disorder
DMP	Designated medical practitioner
DMS	Denzapine Monitoring System
DMST	Dexamethasone suppression test
DMT	Dimethyltryptamine
DNA	Deoxyribonucleic acid
DNRI	Dopamine–noradrenaline reuptake inhibitor
DoLS	Deprivation of Liberty Safeguards
DOM	2,5-dimethoxy-4-methylamphetamine
DRSP	Daily Record of Severity of Problems
DSH	Deliberate self-harm
DSM-IV	*Diagnostic and Statistical Manual*, 4th edition
DSM-5	*Diagnostic and Statistical Manual*, fifth edition
DSWPD	Delayed sleep–wake phase disorder
DT	Delirium tremens
DTTOS	Drug testing and treatment orders
DUP	Duration of untreated psychosis
DVLA	Driver and Vehicle Licensing Agency
DZ	Dizygotic
EBM	Evidence-based medicine
EBV	Epstein–Barr virus
ECA	Epidemiological Catchment Area Programme (NIMH)
ECG	Electrocardiogram
ECT	Electroconvulsive therapy
ECTAS	Electroconvulsive Therapy Accreditation Service
EDC	Emergency Detention Certificate
EDS	Excessive daytime sleepiness
EEA	Environment of evolutionary adaptedness
EEG	Electroencephalogram/electroencephalography
eGFR	Estimated glomerular filtration rate

EIP	Early intervention for psychosis
ELISA	Enzyme-linked immunosorbent assay
EMCDDA	European Monitoring Centre for Drugs and Drug Addiction
EMDR	Eye movement desensitization and reprocessing
EMG	Electromyogram/electromyography
EMI	Extended matching item
EMW	Early morning wakening
ENDS	Electronic nicotine delivery system
ENT	Ear, nose, and throat
EOG	Electro-oculogram
EPA	Enduring power of attorney
EPDS	Edinburgh Postnatal Depression Scale
EPSE	Extra-pyramidal side effect
ERIC	Enuresis Resource and Information Centre
ERP	Exposure and response prevention
ESES	Electrical status epilepticus during slow sleep
ESR	Erythrocyte sedimentation rate
ESS	Epworth sleepiness scale
EUFEST	European First-Episode Schizophrenia Trial
EUPD	Emotionally unstable personality disorder
FAB	Frontal assessment battery
FACTS	Forensic adolescent consultation and treatment service
FAS	Fetal alcohol syndrome
FASD	Fetal alcohol spectrum disorder
FAST	Fast Alcohol Screening Test
FBC	Full blood count
FCAMHS	Forensic Child and Adolescent Mental Health Services
FDG-PET	Fludeoxyglucose positron emission tomography
FFI	Fatal familial insomnia
FFT	Family-focused therapy
FGA	First-generation antipsychotic
fMRI	Functional magnetic resonance imaging
FSH	Follicle-stimulating hormone
FT	Family therapy

FTD	Fronto-temporal dementia
FTLD	Fronto-temporal lobar degeneration
FtM	Female to male
g	Gram
GABA	Gamma-aminobutyric acid
GAD	Generalized anxiety disorder; glutamic acid decarboxylase
GAF	Global Assessment of Functioning Scale
GAG	Glycosaminoglycan
GARS	Gilliam Autism Rating Scale
GBD	Global Burden Disease (Study)
GBL	Gammabutyrolactone
GCS	Glasgow Coma Scale
GDS	Geriatric Depression Scale
GENDEP	Genome-based Therapeutic Drugs for Depression
GENPOD	Genetic and Clinical Predictors of Treatment Response in Depression
GET	Graded exercise therapy
GFR	Glomerular filtration rate
GGT	Gamma glutamyl transferase
GH	Growth hormone
GHB	Gamma-hydroxybutyrate
GHQ	General Health Questionnaire
GI	Gastrointestinal
GID	Gender identity disorder
GIT	Gastrointestinal tract
GMC	General Medical Council
GMH	Global mental health
GnRH	Gonadotrophin-releasing hormone
GP	General practitioner
GPI	General paralysis of the insane
GSS	Gerstmann–Sträussler–Scheinker syndrome
GTN	Glyceryl trinitrate
GWAS	Genome-wide association studies
HAART	Highly active antiretroviral therapy
HAD	HIV-associated dementia; Hamilton anxiety and depression rating scale

HADS	Hospital Anxiety and Depression Scale
HALO	Hampshire Assessment for Living with Others
HAM-A	Hamilton Anxiety Rating Scale
HAM-D	Hamilton Rating Scale for Depression
HAND	HIV-associated neurocognitive disorder
HAV	Hepatitis A virus
Hb	Haemoglobin
HBV	Hepatitis B virus
HCl	Hydrochloric acid
HCO_3	Bicarbonate
HCR-20	Historical, Clinical, and Risk 20
HCV	Hepatitis C virus
HD	Huntington's disease (chorea)
HDL-C	High-density lipoprotein cholesterol
HDS	HIV Dementia Scale
HDV	Hepatitis D virus
HGV	Heavy goods vehicle
HII	Hypoxic–ischaemic injury
HIV	Human immunodeficiency virus
HLA	Human leucocyte antigen
HPA	Hypothalamic–pituitary–adrenal (axis)
HPRT	Hypoxanthine phosphoribosyl transferase
hr	Hour
HRT	Hormone replacement therapy
HSV	Herpes simplex virus
HVA	Homovanillic acid
HVS	Hyperventilation syndrome
Hz	Hertz (cycles per second)
IADL	Instrumental Activities of Daily Living
IBCT	Integrative behavioural couple therapy
IBS	Irritable bowel syndrome
ICD	Impulse-control disorder
ICD-10	International Classification of Diseases, tenth revision
ICD-11	International Classification of Diseases, eleventh revision

ICF	International Classification of Functioning, Disability, and Health
ICP	Intracranial pressure, integrated care pathway
ICSD	International Classification of Sleep Disorders
ICSD-3	Third Edition of the International Classification of Sleep Disorders
ICU	Intensive care unit
ID	Intellectual disability
IED	Intermittent explosive disorder
IGF-1	Insulin-like growth factor 1
IgG	Immunoglobulin G
IgM	Immunoglobulin M
IHD	Ischaemic heart disease
IL	Interleukin
ILs	Infant serum levels
IM	Intramuscular
IMCA	Independent Mental Capacity Advocate
INR	International normalized ratio
IPCU	Intensive psychiatric care unit
IPDE	International Personality Disorder Examination
IPT	Interpersonal therapy
IQ	Intelligence quotient
IQCODE	Informant Questionnaire on Cognitive Decline
IU	International unit
IV	Intravenous
JME	Juvenile myoclonus epilepsy
K^+	Potassium
kg	Kilogram
K-SADS	Kiddie Schedule for Affective Disorders and Schizophrenia
L	Litre
LAAC	Looked After and Accommodated Children (services)
LD	Learning disability (older terminology)
LDL	Low-density lipoprotein
L-dopa	Levodopa
LFT	Liver function test
LH	Luteinizing hormone

LHRH	Luteinizing hormone-releasing hormone
LOC	Loss of consciousness
LP	Lumbar puncture
LPA	Lasting powers of attorney, logopenic progressive aphasia
LSD	Lysergic acid diethylamide
LTM	Long-term memory
LTP	Long-term potentiation
lx	Lux
m	Metre
MAD	Mandibular advancement device
MADRas	Montgomery-Asberg Depression Rating Scale
MAOI	Monoamine oxidase inhibitor
MAPPA	Multi-agency public protection arrangements
MARS	Munich Antidepressant Response Signature
MARSIPAN	Management of really sick patients with anorexia nervosa
MaSSA	Melatonin agonist and specific serotonin antagonist
MBCT	Mindfulness-based cognitive therapy
M-CAT	Mephadrone
mcg	Microgram
MCI	Mild cognitive impairment
MCM	Major congenital malformation
MCQ	Multiple choice question
MCT	Magneto-convulsive therapy, metacognitive therapy
MCV	Mean corpuscular volume
MDD	Major depressive disorder
MDI	Manic–depressive illness
MDMA	Methylenedioxymethamphetamine (ecstasy)
MDQ	Mood Disorders Questionnaire
MDRD	Modification of Diet in Renal Disease
MDT	Multidisciplinary team
ME	Myalgic encephalomyelitis
M-ECT	Maintenance electroconvulsive therapy
MERRF	Myoclonic epilepsy with ragged red fibres
mg	Milligram
mg%	Milligram of alcohol per 100 millilitres of blood

Mg^{2+}	Magnesium
MHA	Mental Health Act
MHAC	Mental Health Act Commission
MHC	Mental Health Commission (RoI), major histocompatibility complex
MHCNI	Mental Health Commission for Northern Ireland
mhGAP	Mental Health Gap Action Programme
MHO	Mental health officer
MHRT	Mental Health Review Tribunal
MHRTNI	Mental Health Review Tribunal for Northern Ireland
MHTS	Mental Health Tribunal for Scotland
MI	Myocardial infarction
min	Minute
mL	Millilitre
mmHg	Millimetres of mercury
mmol	Millimole
MMPI	Minnesota Multiphasic Personality Inventory
MMSE	Mini Mental State Examination
MND	Motor neuron disease
MnS	Morvan syndrome
MNS	Mental neurological substance misuse disorders
MoCA	Montreal Cognitive Assessment
mOsm	Milliosmole
mPFC	Medial prefrontal cortex
MR	Modified release
MRI	Magnetic resonance imaging
mRNA	Messenger ribonucleic acid
ms	Millisecond
MS	Multiple sclerosis
MSA	Multisystem atrophy
MSE	Mental state examination
MSLT	Multiple sleep latency test
MtF	Male to female
mth	Month
MUP	Minimum unit pricing
mUPD	Maternal uniparental disomy

MUS	Medically unexplained symptoms
μV	Microvolt
MWC	Mental Welfare Commission (Scotland)
MZ	Monozygotic
n	Sample size, number of subjects
Na^+	Sodium
NA	Noradrenaline
nAChR	Nicotinic acetylcholine receptor
NARI	Noradrenaline reuptake inhibitor
NART	National Adult Reading Test
NaSSA	Noradrenaline and specific serotonin antagonist
NBIA	Neurodegeneration with brain iron accumulation
NCG	National Commissioning Group
NCS	National Comorbidity Survey (1990–92)
NCS-R	National Comorbidity Survey—Replication (2001–2002)
NDDI-E	Neurological Disorders Depression Inventory for Epilepsy
ND-PAE	Neurobehavioural disorder due to prenatal alcohol exposure
NDRI	Noradrenergic and dopaminergic reuptake inhibitor
NF1	Neurofibromatosis type 1
NF2	Neurofibromatosis type 2
NFLT	Nocturnal frontal lobe epilepsy
NFT	Neurofibrillary tangle
ng	Nanogram
NHS	National Health Service
NI	Northern Ireland
NICE	National Institute for Health and Care Excellence
NIDDM	Non-insulin-dependent diabetes mellitus
NIH	National Institutes of Health (USA)
NIMH	National Institute of Mental Health (USA)
NHS	National Health Service (UK)
NMD	Neurosurgery for mental disorders
NMDA	*N*-methyl-*D*-aspartate
NMS	Neuroleptic malignant syndrome
NNO	Nicotine N′-oxide

NO	Nitric oxide
NP	Nocturnal panic attack
NPA	National Pharmacy Association
NPH	Normal pressure hydrocephalus
NPS	Novel psychoactive substance
NPSA	National Patient Safety Agency (UK)
NR	Nearest relative
NREM	Non-rapid eye movement (sleep)
NRM	NMDA receptor modulator
NRT	Nicotine replacement therapy
NSAID	Non-steroidal anti-inflammatory drug
O_2	Oxygen
O&G	Obstetrics and gynaecology
OASys	Offender Assessment System
OCD	Obsessive–compulsive disorder
OCF	Outline for cultural formulation
OCP	Oral contraceptive pill
OCRD	Obsessive–compulsive and related disorders
OCST	Out-of-centre sleep testing
od	*Omni dei* (once daily)
OD	Overdose
ODD	Oppositional defiant disorder
OFC	Olanzapine–fluoxetine combination
OGRS	Offender Group Reconviction Scale
OHS	Obesity–hypoventilation syndrome
OPG	Office of the Public Guardian
OR	Odds ratio
ORD	Olfactory reference disorder
ORS	Olfactory reference syndrome
OSA	Obstructive sleep apnoea
OT	Occupational therapy
OTC	Over the counter
PACE	Police and Criminal Evidence Act
$PaCO_2$	Partial pressure of carbon dioxide in arterial blood
PAG	Periaqueductal grey matter
PAN	Polyarteritis nodosa

PANDAS	Paediatric autoimmune neurological disorder associated with *Streptococcus*
PANS	Paediatric acute-onset neuropsychiatric syndrome
PANSS	Positive and Negative Symptom Scale
PaO_2	Partial pressure of oxygen in arterial blood
PAT	Paddington Alcohol Test
PCL-R	Psychopathy Checklist–Revised
PCP	Phencyclidine
PD	Personality disorder
PDD	Pervasive developmental disorder; premenstrual dysphoric disorder
PDD-NOS	Pervasive developmental disorder not otherwise specified
PDE5	Phosphodiesterase 5
PE	Pulmonary embolism
PECS	Picture Exchange Communication System
PET	Positron emission tomography
pg	Picogram
pHVA	Plasma homovanillic acid
PKAN	Pantothenate kinase-2-associated neurodegeneration
PL	Prolactin
PLMD	Periodic limb movement disorder
PLMS	Periodic limb movements in sleep
PMDD	Premenstrual dysphoric disorder
PMS	Premenstrual syndrome
PMT	Premenstrual tension
PNFA	Progressive non-fluent aphasia
PNRP	Prion protein
PO	*Per os* (by mouth, orally)
PO_4	Phosphate
PoA	Power of attorney
PPA	Primary progressive aphasia
PRIME-MD	Primary Care Evaluation of Mental Disorders
PRISM	Prospective Record of the Impact and Severity of Menstruation
PRL	Prolactin

PRN	*Pro re nata* (as required)
PrP	Prion protein
PSA	Prostate-specific antigen
PSEN1	Presenilin 1
PSEN2	Presenilin 2
PSG	Polysomnography
PSNP	Progressive supranuclear palsy
PTA	Post-traumatic amnesia
PTH	Parathyroid hormone
PTSD	Post-traumatic stress disorder
pUPD	Paternal uniparental disomy
PV	Personal vaporizer
PWS	Prader–Willi syndrome
qds	*Quarter die sumendus* (four times daily)
QOLI	Quality of Life Interview
QTc	Corrected QT interval (on ECG)
RA	Retrograde amnesia
RAD	Reactive attachment disorder
RAGF	Risk assessment guidance framework
RAMAS	Risk assessment, management, and audit systems
RAS	Reticular activating system
RBC	Red blood cell
RBD	REM sleep behaviour disorder
RCP(sych)	Royal College of Psychiatrists
RCT	Randomized controlled trial
RDC	Research diagnostic criteria
RDoC	Research Domain Criteria
REM	Rapid eye movement (sleep)
RERA	Respiratory effort-related arousal
RFT	Relational frame theory
RIMA	Reversible inhibitor of monoamine oxidase
RLS	Restless legs syndrome
RMD	Sleep-related rhythmic movement disorder
RMN	Registered mental health nurse
RMO	Responsible medical officer
RNLD	Registered nurse in learning disability

ROI	Republic of Ireland
ROR	Risk of Reconviction (score)
RPS	Reconviction Prediction Score
RRASOR	Rapid Risk Assessment of Sex Offender Recidivism
RSVP	Risk of Sexual Violence Protocol
RT	Rapid tranquillization
RTA	Road traffic accident
RTI	Respiratory tract infection
rTMS	Repetitive transcranial magnetic stimulation
Rx	Recipe (treat with)
s	Second
SAA	Sex Addicts Anonymous
SAD	Seasonal affective disorder
SADQ	Severity of Alcohol Dependence Questionnaire
SANS	Scale for the Assessment of Negative Symptoms
SAPS	Scale for the Assessment of Positive Symptoms
SAQOR	Systematic Assessment of Quality in Observational Research
SAQOR-CPE	SAQOR adapted for use in cultural psychiatric epidemiology
SARA	Spousal Assault Risk Assessment
SARI	Serotonin antagonist and reuptake inhibitor
SASQ	Single Alcohol Screening Questionnaire
SBE	Subacute bacterial endocarditis
SBS	Sexual behaviour in sleep
SC	Subcutaneous
SCARED	Anxiety Screen for Child Anxiety-Related Emotional Disorders
SCH	Secure children's home
SCID-II	Structured Clinical Interview for DSM-IV personality disorder
SCID-5-PD	Structured Interview for DSM-5 Personality Disorders
SCN	Suprachiasmatic nuclei
SCT	Supervised community treatment
SD	Standard deviation; semantic dementia
SDG	Sustainable Development Goal

SDH	Subdural haematoma
SDQ	Strengths and Difficulties Questionnaire
SE	Sleep efficiency
SEAN	Scottish ECT Accreditation Network
SERT	Serotonin transporter
SGA	Second-generation antipsychotic
sgACC	Subgenual anterior cingulate cortex
SIADH	Syndrome of inappropriate antidiuretic hormone secretion
SIDS	Sudden infant death syndrome
SIGN	Scottish Intercollegiate Guidelines Network
SJW	St John's wort
SLE	Systemic lupus erythematosus
SLL	Stereotactic limbic leucotomy
SMR	Standardized mortality ratio
SMS	Serotinin modulator and stimulator
SNOAR	Sleep and nocturnal obstructive apnoea redactor
SNP	Single nucleotide polymorphism
SNRI	Serotonin and noradrenaline reuptake inhibitor
SOAD	Second opinion appointed doctor
SOL	Space-occupying lesion
SONAR	Sex Offender Needs Assessment Rating
SORAG	Sexual Offending Risk Appraisal Guide
SOREMP	Sleep-onset REM period
SOTP	Sexual Offender Treatment Programme
SPECT	Single-photon emission computed tomography
SR	Slow release
SRED	Sleep-related eating disorder
SRT	Social rhythm therapy
SRV	Sleep-related violence
SS	Serotonin syndrome
SSPE	Subacute sclerosing panencephalitis
SSRI	Selective serotonin reuptake inhibitor
SST	Stereotactic subcaudate tractotomy
ST	Schema therapy
STAR*D	Sequenced Treatment Alternatives to Relieve Depression

stat	*Statim* (immediately)
STC	Secure training centre
STD	Sexually transmitted disease
STDO	Short-Term Detention Order
STI	Sexually transmitted infection
STM	Short-term memory
SUDEP	Sudden unexpected death in epilepsy
SVR-20	Sexual Violence Risk-20
SWA	Scotch Whisky Association
SWS	Slow-wave sleep
t1/2	Biological half-life
T_3	Tri-iodothyronine
T_4	Thyroxine
TB	Tuberculosis
TBI	Traumatic brain injury
TCA	Tricyclic antidepressant
TD	Tardive dyskinesia
tds	*Ter die sumendus* (three times daily)
TENS	Transcutaneous electrical nerve stimulation
TFT	Thyroid function test
TG	Triglycerides
TGA	Transient global amnesia
THC	Tetrahydrocannabinol
TIA	Transient ischaemic attack
TLE	Temporal lobe epilepsy
TMS	Transcranial magnetic stimulation
TNF	Tumour necrosis factor
ToRCH	Toxoplasmosis, rubella, cytomegalovirus, herpes simplex virus
TRH	Thyrotropin-releasing hormone
TRS	Treatment-resistant schizophrenia
TSC	Tuberous sclerosis
TSH	Thyroid-stimulating hormone
TST	Total sleep time
tvFTD	Temporal variant of fronto-temporal dementia
U	Unit

U&Es	Urea and electrolytes
UCSD	University of California San Diego
UECT	Unilateral electroconvulsive therapy
UHR	Ultra high risk
UK	United Kingdom
UPPP	Uvulopalatopharyngoplasty
UR	Unconditioned response
URTI	Upper respiratory tract infection
US	Unconditioned stimulus
USA	United States
USS	Ultrasound scan
UTI	Urinary tract infection
UV	Ultraviolet
VaD	Vascular dementia
vCJD	Variant Creutzfeldt–Jakob disease
VDRL	Venereal Disease Research Laboratory (test for syphilis)
VGKC	Voltage-gated potassium channel
VHL	von Hippel–Lindau
VMA	Vanillyl mandelic acid
vmPFC	Ventromedial prefrontal cortex
VNS	Vagus nerve stimulation
V/Q	Ventilation/perfusion
VRAG	Violence risk appraisal guide
VRE	Virtual reality exposure
VSD	Ventricular septal defect
WAIS	Wechsler Adult Intelligence Scale
WBC	White blood count
WCC	White cell count
WD	Wilson's disease
WED	Willis–Ekbom disease
WHO	World Health Organization
WHODAS	World Health Organization Disability Assessment Schedule
WHO FCTC	WHO Framework Convention on Tobacco Control
WISPI	Wisconsin Personality Inventory

wk	Week
WM	Working memory
WPA	World Psychiatric Association
XR	Extended release
Y-BOCS	Yale–Brown Obsessive–Compulsive Scale
YLL	Years of expected life lost
YMRS	Young Mania Rating Scale
YOI	Young offender institution
YOT	Young offending teams
Yr	Year
ZTAS	Zaponex Treatment Access System

Chapter 1

Thinking about psychiatry

First thoughts

In the stanzas (see Box 1.1), the satirist Alexander Pope captured the essence of the then ongoing European Enlightenment, inspiring his readers to use their sense of reason to replace irrationality in their exploration of the world. This period also saw the re-emergence of attempts to use the same methods of thinking to study mental illness, whose sufferers had then spent more than a thousand years as objects of fear and superstition. Pope's words resonate even today, nearly three centuries later, when—confronted with patients thinking 'too little or too much' or in 'chaos of thought and passion all confused'—we are still struggling to use science to guide the exploration of this 'riddle of the world'.

Psychiatry has often been derided as the Cinderella specialty—poorly funded, exiled to outside hospitals, a victim of rushed political experiments, castigated by anti-psychiatrists, its intellectual basis ridiculed, and the self-confidence of its practitioners lowered. As a trainee psychiatrist, you will have to cope with questions like 'are you a real doctor?' In addition, the general public (and sometimes other medical professionals) frequently misunderstand the types and severity of illnesses that you deal with. Either they picture you spending all of your time tending to Woody Allen-like self-obsessed, befuddled neurotics or guarding Hannibal Lecter-like murdering psychopaths. The reality is that psychiatrists deal with

the most common human disorders which cause the greatest morbidity worldwide.

Psychiatry considers all aspects of human experience over the whole of the lifespan: elation, grief, anxieties, flights of fancy, confusion, despair, perception and misperception, and memory and its loss. We see the mother with a healthy baby, perplexed and frightened by her tearfulness and inability to cope, and terrified by her thoughts of harming her child. We see the family of a young man who have watched him become a stranger, muttering wild accusations about conspiracies, and we aim to be the doctors who know what best to do in these circumstances. The specialty of psychiatry is (or should be) the most 'human' specialty—devoted to the understanding of the whole person in health and illness. Indeed, it is the only medical specialty without a veterinary counterpart.

It is certainly true that the level of knowledge about causation and treatment of mental disorders is less advanced than for other branches of medicine. In some ways, however, this is an attraction. In other specialties, much of what was formerly mysterious is now understood, and interventions and diagnostic methods once fantastic are now quotidian. Psychiatry offers a final frontier of diagnostic uncertainty and an undiscovered country of aetiology to explore. Perhaps the lack of progress made in psychiatry, compared with the other specialties, is not because of lack of will or intelligence of the practitioners, but due to the inherent toughness of the problems. To put this another way, all scientists 'stand on the shoulders of giants'—in psychiatry, we have no fewer and no shorter giants, just a higher wall to peer over.

Box 1.1 The proper study of mankind

Know then thyself, presume not God to scan
The proper study of mankind is man
Placed on this isthmus of a middle state
A being darkly wise, and rudely great
With too much knowledge for the sceptic side
With too much weakness for the stoic's pride
He hangs between, in doubt to act, or rest
In doubt to deem himself a God, or Beast
In doubt his mind or body to prefer
Born but to die, and reasoning but to err
Alike in ignorance, his reason such
Whether he thinks too little, or too much
Chaos of thought and passion, all confused
Still by himself abuse, or disabuse
Created half to rise, and half to fall
Great lord of all things, yet a prey to all
Sole judge of truth, in endless error hurled
The glory, jest, and riddle of the world
Go, wondrous creature!
Mount where Science guides
Go, measure earth, weigh air and state the tides

Instruct the planets in what orbs to run
Correct old time, and regulate the sun
Go, soar with Plato to the empyreal sphere
To the first good, first perfect, and first fair
Or tread the mazy round his followers trod
And quitting sense call imitating God
As Eastern priests in giddy circles run
And turn their heads to imitate the Sun
Go, teach Eternal Wisdom how to rule
Then drop into thyself, and be a fool
Superior being, when of late they saw
A mortal man unfold all Nature's law
Admired such wisdom in an earthly shape
And showed a Newton as we show an Ape
Could he, whose rules the rapid comet bind
Describe or fix one movement of his mind
Who saw its fires here rise, and there descend,
Explain his own beginning, or his end?
Alas what wonder! Man's superior part
Unchecked may rise, and climb from art to art
But when his own great work is but begun
What reason weaves, by passion is undone
Trace science then, with modesty thy guide
First strip off all her equipage of pride
Deduct what is but vanity, or dress
Or learning's luxury, or idleness
Or tricks to show the stretch of human brain
Mere curious pleasure, ingenious pain
Expunge the whole, or lop the excrescent parts
Of all, our vices have created arts
Then see how little the remaining sum
Which served the past, and must the times to come!

From Alexander Pope (1688–1744). *An Essay on Man*. As reproduced in *Poetical Works*, ed. Cary HF (London: Routledge, 1870), 225–6.

What is disease?

Most mental diagnoses have had their validity questioned at several points in their history. Diagnosed by doctors on the basis of symptoms alone, some people find their presence difficult to accept in a field which has been almost universally successful in finding demonstrable physical pathology or infection.

Disease in medicine as a whole was not always based on pathology. The microscope was developed long after doctors began to make disease attributions. Thomas Sydenham developed the medico-pathological model based on symptoms, but it has grown to incorporate information obtained from post-mortem and tissue examination. This model of disease has become synonymous in many people's minds with a model based solely on demonstrably abnormal structure. Thomas Szasz (Box 1.6, p. 29) has

criticized psychiatry in general by suggesting that its diseases fail when this model is applied.

Table 1.1 Models of disease

Model	Summary of assumptions
Medical-pathological definition (Sydenham, 1696; Szasz, 1960)	Assumes diseases are associated with a necessary cause (e.g. bacterial infection) or have a replicable morbid anatomy
Biological disadvantage (Scadding, 1972)	Assumes that sufferers from a disease have a common characteristic to place them at a biological disadvantage
Plan of action (Linder, 1965)	Assumes disease labels are justifications for treatments and further investigations
Syndrome with characteristic symptoms/outcome (Kendell, 1975)	Assumes diseases represent circumscribed concepts distinguished from others by a bimodal distribution of scores on a discriminant function
Disease as imperfection (Cohen, 1943; 1953)	Assumes diseases are quantitative or qualitative deviations from a desirable norm
Disease as 'concept' (Aristotle)	Assumes diseases are man-made abstractions with no independent existence

This argument that psychiatric diagnoses are invalid still strikes a chord with many doctors and non-medical academics. When the *BMJ* conducted a survey of non-disease[1,2] (see Fig. 1.1), many people thought depression to be a non-disease, although schizophrenia and alcoholism fared somewhat better. It is clear from the graph that many conditions rated as real diseases have a characteristic pathology, although some do not (alcoholism, epilepsy). Similarly, many people regard head injury and duodenal ulcer as non-disease, although their pathology is well described. There are several models of disease in existence (see Table 1.1). No single model is adequate by itself, and diseases may move from one group to another. Models based on aetiology or pathology have been found to be the most useful, but the reality may be that 'disease' is a concept which will tend to change over time and has no real existence in itself.

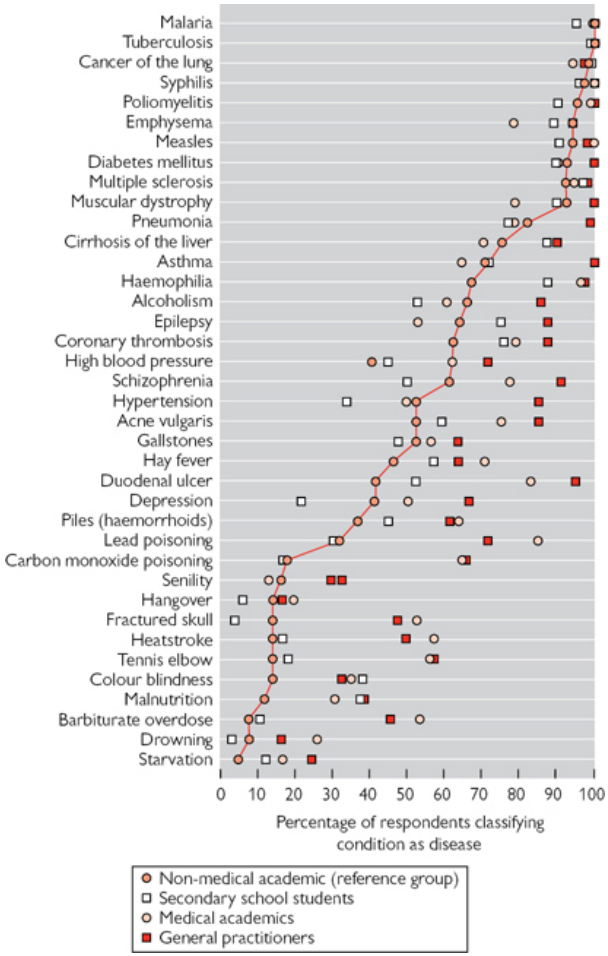

Fig. 1.1 Percentage of respondents classifying a condition as a disease. Reproduced from Smith R (2002) In search of 'non-disease'. *Br Med J* **324**: 883–5 with permission of BMJ Publishing Group.

The role of the psychiatrist

What is illness?

Doctors, being generally practical people, busy themselves with the diagnosis and treatment of various types of illness. They rarely ask 'what is illness?' or 'what is health?' For several reasons, this type of questioning is more germane for psychiatrists:

- While all illnesses have subjective components, psychiatric disorders are usually completely diagnosed by the patient's subjective experiences, rather than objective abnormalities.
- There is a non-absolute value judgement involved in the diagnosis of mental disorder, e.g. wheeze and dyspnoea are abnormal and signs of disease, but some degree of anxiety at times is a common experience and the point at which it is pathological is debatable.
- Mental illnesses have legal consequences.
- It is important psychiatrists are clear about which behaviours and abnormalities are their province. Psychiatrists have been involved in human rights abuses in states around the world when definitions of mental illness were expanded to take in political insubordination.

Disease, sickness, and illness behaviour

The distinction between disease (or disorder) and sickness should be understood. Disease encompasses either a specific tissue lesion or a characteristic constellation of symptoms. Sickness, on the other hand, encompasses the suffering and functional deficit consequent on symptoms. One may exist without the other, e.g. a patient with undiagnosed, asymptomatic breast cancer undoubtedly has disease but is not sick; a patient with chronic fatigue syndrome may see themselves (and be considered) as sick but does not have an identifiable lesion.

Patients generally present complaining of symptoms, and this process is called illness or illness behaviour. Patients need not be suffering from a disease or disorder in order to do this, and sometimes illness behaviour may be abnormal (even when the patient does have a disease). Subject to certain social conventions (e.g. attending a doctor), they are then afforded the 'sick role', which allows them to relinquish some of their normal obligations. This is a man-made concept, encompassing the special rights and expected behaviour of both someone who is sick and the doctor who is treating them (see Table 1.2). Difficulties arise when a person adopts the sick role to gain the rights afforded to them, while neglecting their duties. Another concern relates to the process of diagnosis—causing someone who is not currently ill to adopt the 'sick role'. Doctors should understand their special responsibility to act in the patient's best interests and not to stray outside their area of expertise.

Clarity of roles

It is all too easy for psychiatrists to slip into other roles than that which is properly theirs—an expert in mental disorder. These may include: substitute parent, 'friend', guardian of public morals, predictor of future criminality, arbiter of normal behaviour. Psychiatrists have special training and experience in mental disorder and should avoid being drawn outside this remit in their professional role. Psychiatrists are properly occupied in the business of diagnosing and treating significant psychiatric disorders. As gatekeepers to mental health resources, there are

often pressures to validate distress or medicalize normal experience. Saying someone does not satisfy the criteria for a specific mental disorder does not mean that they do not have significant problems; rather, the problems do not fall within the scope of psychiatry and would be best dealt with by help or advice elsewhere.

Table 1.2 The rights and duties of patients and doctors

Patient	Doctor
Rights	
Exemption from blame	To be considered an expert
Exemption from normal duties while in the sick role	To have privileged access to patient information and person
To expect the doctor to act in their best interests	To direct (and sometimes insist on) a course of action To validate the sick role
Duties	
To seek help	To act in the patient's best interests
To be open and honest	To maintain confidentiality
To comply with treatment	To keep up-to-date
To give up the sick role once well	To act, where possible, in society's interests

Good mental health is more than simply the absence of mental disorder; it requires:

- A sense of self-sufficiency, self-esteem, and self-worth.
- The ability to put one's trust in others.
- The ability to give and receive friendship, affection, and love.
- The ability to form enduring emotional attachments.
- The ability to experience deep emotions.
- The ability to forgive others and oneself.
- The ability to examine oneself and consider change.
- The ability to learn from experience.
- The ability to tolerate uncertainty and take risks.
- The ability to engage in reverie and fantasy.

Diagnosis in psychiatry

Labels

People prefer to be seen as individuals, rather than members of a class: 'I'm a person, not a label'. This desire to recognize uniqueness is a part of the public reaction against race-, class-, and gender-related value judgements. Doctors, on the other hand, seem to love labels and classification and, in their enthusiasm, can

appear like the Victorian butterfly collector who is only able to deal with life when it is named, categorized, and safely inert behind glass. Medical labels are based on characteristic combinations of symptoms and signs, but patient and doctor view these differently. Symptoms are important to patients because of their *individual* nature; this strange and atypical thing is happening to them. Symptoms are important to doctors because they indicate diagnosis and are features which make this patient *similar* to others we have seen or about whom we read.

Diagnosis

The naming of a thing is the first step towards understanding it. We seek to identify disorders (diagnosis) in order to be able to suggest treatments (management) and predict their course (prognosis). Ultimately, the aim is to identify the physical abnormality (pathology) and the cause of the disease (aetiology) and so develop means of prevention and cure. The ideal diagnostic system labels diseases according to aetiology. The aetiology of most mental disorders is unknown, and so we tend towards a diagnostic system based upon common clinical features, shared natural history, common treatment response, or a combination of all three. Diagnosis leads to the consideration of individual diseases as members of groups contained within a hierarchy—a form of classification system.

Why make a diagnosis?

Why allocate the patient, with his individual and unique history, experience, and range of signs to a single label, with the inevitable compromises and loss of information this entails? Diagnosis must be justified on a general and an individual basis. Generally, the process of establishing a diagnosis is essential to allow succinct communication with colleagues, to help predict prognosis, and to carry out valid research on pathological mechanisms and treatments. Remember, however, that allocation of a patient to a diagnostic category can only be justified if it will bring them benefit, not harm.

Classification in psychiatry

Over the past century, within psychiatry, there has been a debate about the value and method of psychiatric classification. On one hand, academic and biological psychiatrists worried that psychiatric diagnosis was insufficiently reliable and valid, with terms being used in imprecise or idiosyncratic ways; on the other hand, psychodynamic practitioners emphasized the importance of unique patient factors and the degree of detail lost by reductionism in diagnostic methods. The first concern was tackled by developing *operational criteria*—clearly defined clinical descriptions of the disorders, together with explicit inclusion and exclusion criteria and details of the number and duration of symptoms required for diagnosis. The second concern was met by *multi-axial diagnosis* where, in addition to the primary mental disorder coded on axis-I, additional axes code the patient's psychosocial problems,

personality factors, medical health, and degree of disability (see Box 1.2).

Box 1.2 International classification

The International Classification of Diseases (ICD-10)

(The ICD-10 multi-axial system, p. 1118)

Published in 1992 by the WHO, the ICD-10 is a general medical classification system intended for worldwide multi-specialty use. It includes 21 chapters, identified by a roman numeral and a letter. Psychiatric disorders are described in Chapter V and are identified by the letter F. An index of the disorders described in this book, together with their ICD-10 coding, is given on pp. 1088–1116.

Coding Disorders are identified using an open alpha-numeric system in the form Fxx.xx. The letter 'F' identifies the disorder as a mental or behavioural disorder; the first digit refers to the broad diagnostic grouping (e.g. psychotic, organic, substance-induced), and the second digit refers to the individual diagnosis. The digits that follow the decimal point code for additional information specific to the disorder, e.g. subtype, course, or type of symptoms. When used as second or third digits, '8' codes for 'other' disorders, while '9' codes for 'unspecified'.

Versions Four versions of the ICD-10 classification of mental disorders exist, suitable for different purposes. ICD-10: *Clinical descriptions and diagnostic guidelines* ('the blue book') is used by psychiatric practitioners and gives clinical descriptions of each disorder, together with the diagnostic criteria. ICD-10: *Diagnostic criteria for research* ('the green book') contains more restrictive and clearly defined clinical features with explicit inclusion, exclusion, and time course criteria and is suitable for identification of homogenous patient groups for research purposes. The *primary care version* focuses on disorders prevalent in primary care settings and contains broad clinical descriptions, diagnostic flow charts, and treatment recommendations. A *short glossary* containing the coding and brief descriptions can be used as a quick reference by practitioners and administrative and secretarial staff.

Axial diagnosis The multi-axial version of ICD-10 uses three axes to broaden the assessment of the patient's condition. Axis 1 describes the mental disorder (including personality disorder and mental handicap), Axis 2 the degree of disability, and Axis 3 current psychosocial problems.

The Diagnostic and Statistical Manual of Mental Disorders (DSM-5)

In May 2013, the APA launched the most recent version of the DSM. While ICD-10 is a wider general medical classification, DSM-5 describes only mental disorders. The two classifications are broadly similar, having undergone a degree of convergence

and cross-fertilization in more recent revisions. Relevant DSM-5 terminology and old DSM-IV codes corresponding to ICD-10 disorders are given on pp. 1088–1116. DSM-IV used a closed numeric coding system of the form xxx.xx (mostly in the range 290–333.xx). DSM-IV was a multi-axial diagnostic system, using five axes: 1—the clinical disorder or the current clinical problem; 2—any personality disorder and any mental handicap; 3—general medical conditions; 4—current psychosocial problems; and 5—global assessment of functioning. This multi-axial approach has been abandoned in DSM-5 (DSM-5 and all that …, p. 12).

DSM-5 and all that …

> ‘The strongest system currently available for classifying disorders.’
>
> David Kupfer, Chair of DSM-5 Task Force, May 3, 2013
>
> ‘Patients with mental disorders deserve better.’
>
> Thomas Insel, Director NIMH, Apr 24, 2013

After nearly 10yrs, a series of white papers, 13 scientific conferences, with 400 contributors to monographs and peer-reviewed journal articles, *Diagnositic and Statistical Manual*, fifth edition (DSM-5) Task Force and Work Groups comprising >160 world-renowned clinicians and researchers, oversight by Scientific Review and Clinical and Public Health Committees, and an estimated cost of $20–25 million, the DSM-5 was officially launched at the American Psychiatric Association (APA)’s Annual Meeting in San Francisco in May 2013. But was it worth it?

Concerns over dramatic changes proved premature, and many of the more contentious proposals were consigned to ‘Section III’ where ‘emerging measures and models’ are to be found, including: assessment measures, guidance on cultural formulation, an alternative model for diagnosing personality disorders (a hybrid dimensional–categorical model), and conditions for further study (see Box 1.3). The final product involved mostly modest alterations of the previous edition, based on new insights emerging from research since 1990 when *Diagnostic and Statistical Manual*, fourth edition (DSM-IV) was published.

There are some changes, e.g. the multi-axial system has gone (The ICD-10 multi-axial system, p. 1118), schizophrenia subtypes have been replaced by a dimensional approach to rate symptom severity (found in Section III), and some new chapters have been added to allow disorders with similar underlying vulnerabilities or symptom characteristics to go together [e.g.

obsessive-compulsive disorder (OCD) and related disorders; trauma- and stressor-related disorders; disruptive, impulse-control, and conduct disorders]. There are some new categories [e.g. mood dysregulation disorder (Bipolar disorder in children and adolescents, p. 700); hoarding disorder (Hoarding disorder (DSM-5), p. 389], and some previous categories have been dropped [e.g. Asperger's syndrome (Asperger's syndrome, p. 820)] and/or reorganized along a continuum [e.g. substance use disorder (Box 14.2, p. 570), autism spectrum disorder (Autism spectrum disorders, p. 674)]. Disorders may now be framed in the context of age, gender, cultural expectations, and developmental lifespan.[3]

APA's goal in developing DSM-5 was to create an evidence-based manual that was useful to clinicians in helping them accurately diagnose mental disorders and that reflected the scientific advances in research underlying those disorders. While DSM-5 is *reliable* in that it does provide a common language for describing psychopathology, it does little to advance the *validity* of the disorders described. Even in the APA press release, David Kupfer comments: 'We've been telling patients for several decades that we are waiting for biomarkers. We're still waiting.'

One unexpected consequence of the whole DSM-5 endeavour has been to lead prominent scientists in the field to question the whole approach and try to devise something better. Efforts like the National Institute of Mental Health's Research Domain Criteria (RDoC) project[4] aim to do just that, by using biological (genetic, imaging, physiological), cognitive, and social information to build more precise classifiers for each patient and develop rational treatments.

In the meantime, rather than throwing the baby out with the bathwater, psychiatrists and other mental health professionals will continue to rely upon categorical diagnoses, as prescribed by DSM-5 and International Classification of Diseases, tenth revision (ICD-10), despite understanding the real limitations of such systems. With the impending release of International Classification of Diseases, eleventh revision (ICD-11) (latest estimate, some time in 2018), it is hoped that there will at least be structural harmonization of these two classification systems. DSM-5's organization was actually designed to reflect the anticipated structure of ICD-11, and the diagnoses are listed with both ICD-9-CM* and the ICD-l0-CM* codes (not distinct DSM-5 codes). In fact, as of October 2014, the official coding system in use in the United States, for insurance purposes, is ICD-10-CM.

While the promise of the science of mental disorders is great, it is clinical experience and evidence, as well as growing empirical research, which should guide us in the present. In the future, our

hope must be to diagnose disorders using precise biological and genetic markers delivered with complete reliability and validity.

'At the end of the 19th century, it was logical to use a simple diagnostic approach that offered reasonable prognostic validity. At the beginning of the 21st century, we must set our sights higher.'[5]

Box 1.3 Conditions for further study

- Attenuated psychosis syndrome.
- Depressive episodes with short-duration hypomania.
- Persistent complex bereavement disorder.
- Caffeine use disorder.
- Internet gaming disorder.
- Neurobehavioural disorder due to prenatal alcohol exposure (ND-PAE).
- Suicidal behaviour disorder.
- Non-suicidal self-injury.

* ICD-9-CM and ICD-10-CM denote the American adapted 'clinical modification', versions of the ninth and tenth revisions of the ICD.

Why do psychiatrists not look at the brain?

Psychiatrists, with the exception of those doing academic research projects, are the only medical specialists who rarely directly examine the organ they treat. The chances that a patient with a serious psychiatric disorder (e.g. schizophrenia, bipolar disorder, severe depression) has ever had a brain scan are fairly slim. Psychiatrists prescribe antipsychotics, antidepressants, mood stabilizers, electroconvulsive therapy (ECT)—all of which have a major impact on brain function—but do not know beforehand which areas of the brain are working well and which are not functioning properly. Why is this?

As a medical student, a medical practitioner, or even as a trainee psychiatrist, this situation does seem somewhat at odds with the medical training we receive. Imagine the outcry if an orthopaedic surgeon were to set fractures without first taking an X-ray, or a cardiologist diagnosing coronary artery disease without an electrocardiogram (ECG), angiography, or computed tomography (CT). Imagine if, based on your description of the problem, a car mechanic replaced the radiator in your car (at great expense to you) without even bothering to look under the bonnet first. How can it be that the state of the art in psychiatry is not to look at the brain?

Looking at this issue another way, it is perhaps not surprising. If I were a patient who presented to a psychiatrist with a catalogue of recent losses (including both my parents and a recent redundancy), low mood, sleep problems, loss of appetite, and a feeling of general hopelessness about the future, I would probably be somewhat perturbed if my psychiatrist declared that they could not help me until they had taken half an armful of blood, performed a painful lumbar puncture (LP), and arranged a magnetic resonance imaging

(MRI)/single-photon emission computed tomography (SPECT) scan of my brain (which might take a few months). I might be impressed at their thoroughness, but over the following weeks, as I fretted even more about the results of my brain scan, I might contemplate the wisdom of approaching someone who just seems to have added to my worries. When the final results came in and the psychiatrist declared that I was suffering from depression, I might seriously question their abilities, when I could have told them that 3mths ago!

In the main, psychiatrists base diagnosis and treatment on symptom clusters, not brain imaging or other investigations. This is not to say that it is not good clinical practice to perform a physical examination and some routine blood tests [or even an electroencephalograph (EEG) or CT/MRI when indicated by the history or clinical signs]. Rather, these are generally investigations of *exclusion* (sometimes a *negative* result can be useful—a point that is often lost on other clinicians when psychiatrists do request investigations which are reported as 'normal'). Psychiatric disorders (with the exception of organic brain disorders, e.g. dementia) are predominantly disorders of brain *function*; there are rarely observable changes in brain *structure* which would aid diagnosis. At present, there are no gold standard diagnostic tests for psychiatric disorders. This is not to say that, in the future, functional imaging of the brain might not play a role in psychiatric diagnosis, but at present [and despite the fact that high-resolution SPECT and positron emission tomography (PET) scans of the brain have been available for more than 20yrs), it is not yet time to use these imaging tools in *routine* psychiatric practice. More research is needed to determine the specificity and sensitivity of these imaging tools, even though there are hundreds of articles on functional brain imaging in a variety of psychiatric disorders (as a Medline search will quickly reveal).

Does this relegate psychiatry to the lower divisions of medical specialties? No. Rather, the doctor practising in psychiatry needs a firm grounding in general medicine (to recognize *when* a condition may have an organic basis), sharply honed interviewing skills (to elicit important psychiatric symptoms), a firm grasp of psychopharmacology (to differentiate between symptoms of disease and drug-related problems), and an appreciation of the psychosocial problems that may affect an individual in the society in which they live.

Psychiatry is not about *medicalizing* normal experience; it is the ability to recognize *symptoms of disease*, as they are manifest in abnormalities of emotion, cognition, and behaviour. Psychopathology reveals as much to a trained psychiatrist as *pathology* does to his medical or surgical colleagues. Psychiatrists may not (yet) examine the brain directly, but they are certainly concerned with the functioning of the brain in health and disease.

Can psychotherapy change the brain?

Descartes' error is never more apparent than when confronted with explanations of *how* exactly the psychotherapies bring about often profound changes in a patient's beliefs, ways of thinking, affective states, or behaviour. If we are ever to bridge the mind–brain divide, then a neurobiological understanding of the mechanisms by which the psychotherapies exert their actions is vital. This would not only provide a sound theoretical foundation for these treatment approaches, but also aid the improvement of psychotherapeutic interventions by opening up the possibility of *objectively* measuring potential benefits and comparing one approach with another.

Psychotherapy has been beset with accusations of being non-scientific. Even Freud had the good sense to abandon his Project for a Scientific Psychology, which he started in 1895. He just did not have the tools he needed to detect functional changes in the living brain. However, Freud's early experiments with cocaine—mainly on himself—convinced him that his putative libido must have a specific neurochemical foundation. Now that we do have the ability to reliably detect training- and learning-related changes in brain activation patterns using non-invasive functional imaging,[6] Freud's unfinished Project may be finally realizable. Research in this area is never likely to attract the funding that major drug companies can invest in neurobiological research. Nevertheless, evidence is emerging for alterations in brain metabolism or blood flow that relate to therapeutic effects. A recent review article[7] identified a number of studies assessing the effects of cognitive behavioural therapy (CBT) in OCD and phobic disorders and of CBT and interpersonal therapy in depression.

In OCD, psychological intervention leads to reduced metabolism in the caudate and a decreased correlation of the right orbitofrontal cortex with the ipsilateral caudate and thalamus. Interestingly, similar changes are observed in OCD treatment with fluoxetine, suggesting common or at least converging mechanisms in the therapeutic benefits of psycho- and pharmacotherapies. In phobia, the most consistent effect of CBT is reduced activation in limbic and paralimbic areas. Reducing amygdala activation appears to be a common final pathway for both psycho- and pharmacotherapy of phobic disorders. Whether different functional networks are responsible for this common end point remains to be determined, although animal research does suggest this may well be the case.

Studies of depression are more difficult to interpret, showing both increases and decreases in prefrontal metabolism associated with successful treatment. It does appear that depression is a much more heterogenous disorder, and the functional networks implicated in the treatment effects of the different therapies are not as straightforward as for anxiety disorders.

Future studies need to address issues including larger patient numbers, use of standardized imaging protocols, and utilization of molecular markers. However, it is clear that modulation of brain activity through psychotherapeutic interventions not only occurs, but also may explain the benefits that patients experience. It may

be time to put old prejudices aside and properly study alternative non-pharmacological interventions. As the neurobiologist Jaak Panksepp has said, modern research into the aetiology of disorders of emotion and behaviour 'is not a matter of proving Freud right or wrong, but of finishing the job'.

The power of placebo

> 'The passions of the mind [have a wonderful and powerful influence] upon the state and disorder of the body.'
>
> Haygarth (1801)

'Placebo' from Latin 'placare', 'to please', entered the medical lexicon in Hooper's *Medical Dictionary* in 1811 as 'an epithet given to any medicine adopted to please rather than benefit the patient'. However, the modern study of the 'placebo effect' began when the anaesthetist Henry K Beecher described patient responses to oral analgesics in 1953 and later discussed 'the powerful placebo' in the often quoted *JAMA* article of 1955.[8] In these largely uncontrolled studies, he found that around 30% of the clinical effect could be attributed to the effect of placebo. Over 50yrs later, research has generated many theories of *how* placebos may exert their effects (see Box 1.4), but it still remains a controversial area.

For psychiatry, understanding the reality of the placebo effect is critical when it comes to examining the evidence for (and against) interventions. A good example is the recent controversy that 'antidepressants are no better than a sugar pill'. This statement conceals an assumption that giving placebo ('sugar pills') is the same as no treatment at all. This could not be further from the truth, and in mild to moderate depression, placebo exerts a powerful effect. Nobody is likely to run the headline 'Psychiatrists agree antidepressants should not be the first-line treatment for mild to moderate depression'. In fact, clear separation of antidepressant medication benefit from placebo is only seen for moderately severe depression, as defined by the Hamilton Depression Rating Scale (i.e. scores of 25+).[9]

Another telling illustration of the power of placebo in psychiatry is Johnstone *et al.*'s[10] ECT trial comparing sham-ECT (anaesthesia plus paralysis) to active treatment. It is no surprise that placebo treatment with sham-ECT was very effective, reducing Hamilton Depression scores by around 50%. The real result was that ECT *was* superior to sham-ECT, but only for *psychotic* depression (i.e. clinically much more severe).

Should we be surprised that placebos can exert such powerful effects? Research on pain[11] (see Box 1.4) suggests that humans and other animals have neurobiological systems that evolved to utilize activation through cognitive mechanisms (e.g. expectation, preconditioning, and contextual-related assessment) that can

induce physiological change. (Imagine the physical effects of exam nerves.) This certainly presents a challenge when designing randomized controlled trials (RCTs) and interpreting the efficacy of active treatments, but it also offers the potential of invoking these resiliency mechanisms to effectively aid in recovery from injury, infection, distress, and functional impairment.

The potency of such techniques has been well known to practitioners of traditional medicine for millennia. This is not to suggest we should pipe in soothing music, don Mesmeresque purple robes, and mutter incantations in Latin. Rather, we ought to be circumspect in how we interpret and present the evidence for the treatments we recommend to our patients. We also ought to be aware that our attitude towards the patient and the setting in which they are seen will affect the real benefits of any intervention.

Box 1.4 Proposed mechanisms for the placebo effect

- **Natural remission** Improvement would have occurred anyway due to the nature of the condition.
- **Regression to the mean** If a measurement is outwith normal parameters, later testing is more likely to be closer to the mean than to be more extreme.
- **Anxiety reduction** Alleviation of anxiety following a therapeutic encounter leads to diminution of symptoms, particularly when they are painful or emotionally distressing.
- **Expectations** Cognitive factors—*past influences*: direct experience (of the intervention, practitioner, and setting), experience of others' accounts, media influences, and cultural factors; and *current influences*: logic, verbal information, non-verbal cues, attitude (towards the intervention, practitioner, and setting), perception of the practitioner (attitude, personality, temperament, experience), and knowledge.
- **Transference** Psychoanalytical theory would suggest placebo works due to the unconscious projection of feelings, attitudes, and wishes, initially formed towards a significant figure early in development, onto another person such as the doctor, e.g. the patient's response may be a simulacrum of the child's need to please the parent.
- **Meaning effects** Whereas 'expectations' are generally explicit and accessible, sometimes the meaning or context of an interaction may be more complex and not directly expressible. Researchers separate *microcontext* (setting or physical environment) from *macrocontext* (wider culture pertaining to the practitioner, patient, and setting).
- **Conditioning** Previous exposure to active treatment engages learnt response mechanisms when followed by placebo. Conditioning processes help explain 'expectations' and 'meaning effects', but there are also circumstances when conditioning operates on physiological responses (e.g. heart rate, blood pressure, hormone excretion, immune response)

without explicit expectation or even conscious awareness of the response occurring.

- **Neurobiology** Functional brain imaging studies of pain implicate a distributed network (anterior cingulate, periaqueductal grey, dorsolateral prefrontal cortex, orbitofrontal cortex, insula, nucleus accumbens, amygdala, and medial thalamus), modulated by both opioid and dopamine neurotransmission in elements of the placebo effect, e.g. subjective value, expectations over time, affective state, and subjective qualities of pain.

Treating patients against their will

Psychiatric patients may have treatment, hospitalization, and other measures imposed on them against their wishes. The power to impose such measures does not sit comfortably with the usual doctor–patient relationship, and psychiatrists may find 'sectioning' patients unpleasant. The existence of these powers means that, under some circumstances, psychiatrists will be damned if they do (criticized for being agents of social control, disregarding a person's autonomy, and being heavy-handed) and damned if they don't (neglecting their duties, not giving patients the necessary care, and putting the public at risk). Although it may not seem so, sectioning a patient may, in fact, be a very caring thing to do—akin to lifting and holding a 2-yr-old having a tantrum and at risk of hurting themselves and then soothing them. Such a (literally) paternalistic view may appall some people, but historically, paternalism has had a major influence in this area.

When we consider why it is that we have such powers, we might argue that because psychiatric illness may affect insight and judgement (i.e. a person's *capacity*), sometimes patients might not be capable of making appropriate decisions about their care and treatment. Although, to modern ears, this may sound ethically sensible, we have had mental health legislation for over 200yrs, and it is only recently that explicit consideration of such matters has influenced mental health legislation.

Mental health legislation has its origins in eighteenth-century laws, allowing for the confinement of 'lunatics' and the regulation of private madhouses. The main concerns at that time were the proper care of lunatics, fear of lunatics wandering free, and paternalistic sentiments that lunatics as a group did not know what was best for them and so others should determine this. Large county asylums were built in the nineteenth century and became the old mental hospitals of the twentieth century. Until 1930, all patients were detained; there was no such thing as a voluntary or informal patient. If you were insane, your relatives (if you were rich) or the poor law-receiving officer (if you were poor) would apply to a justice of the peace with the necessary medical certification, and you would be confined to an asylum—because this was deemed to be the best place for you. Our current legislation has its ancestral

roots in such procedures—reform has rarely led to redrafting from scratch; vestiges of old laws are passed on through centuries.

Another question often raised is why we should deal with psychiatric illnesses any differently from physical illnesses? After all, physicians cannot detain their patients in order to manage their medical problems, can they? Interestingly, in certain circumstances, they can. Although it is unusual, under Sections 37 and 38 of the Public Health Act, the compulsory detention of patients with infectious tuberculosis of the respiratory tract is allowed—however, the patient cannot be treated against their wishes. Patients with a physical illness can only be treated against their wishes if they lack capacity (which may be due to a psychiatric disorder).

Is it right that psychiatric patients can be treated against their wishes, even when they have capacity to make such decisions? In the twenty-first century, paternalism is dead and autonomy rules. A patient with motor neuron disease is allowed to have their life support machine turned off, despite the wishes of their doctors—why not the same right for psychiatric patients?

This does seem to raise interesting ethical questions about whether interventions can ever be justified by principles of paternalism or public protection, when a mentally disordered person has capacity. A pertinent example is that of a currently well patient with a diagnosis of bipolar disorder who wishes to stop their mood stabilizer, despite past episodes of dangerous driving when unwell.

Let's return to the public health argument of public protection. Infectious patients with tuberculosis may pose a risk to others, and some psychiatric patients may also pose a risk to others. However, most people with a mental disorder (even severe cases) are never violent; violence is difficult to predict, and many other people who pose a public risk (those who drink heavily or drive fast) are not subject to such special measures. Potentially dangerous behaviour is not *in itself* a justification for the existence of mental health legislation but instead provides one criterion for the use of such measures when a person meets other criteria (namely having a mental disorder) and needs care and treatment.

We need to be very wary of how our special powers to detain and treat patients against their wishes might be extended and misused. It is not the role of psychiatric services (including forensic psychiatric services) to detain dangerous violent offenders and sex offenders just to prevent them from re-offending. That is not to argue that psychiatrists should not have a role in the assessment and management of such individuals—just that we should not have primary responsibility for their care.

In the twenty-first century, we should be clear about our role—to care for individuals with psychiatric illnesses, without necessarily being paternalistic. We should treat our patients in such a way as to prevent harm to them and to others, but this should not be our *raison d'être*. The primary justification for the existence of mental health legislation should be to ensure the provision of care and treatment for people who, because of mental disorder, have

impaired ability to make appropriate decisions for themselves. We should not be able to forcibly intervene unless this is the case and, when we do, our interventions should be for *their* benefit.

Perceptions of psychiatry

Since the beginning of recorded history, the public imagination has been fascinated and provoked by the mentally afflicted. Of equal interest have been the social and political responses to mental illness and the mechanisms that have emerged to manage and control the 'mad' among us. In general, public perceptions have tended towards polar extremes—on the one hand, fear, ignorance, ridicule, and revulsion; on the other, idealization, romanticism, and a voyeuristic curiosity. The social constructions of madness throughout history have coloured both lay and professional notions of mental illness and its treatment in the present age. These varying perceptions are represented in the arts, the media, and the political discourse of our societies.

In the ancient world, mental illness came from the Gods. Nebuchadnezzar's delusions, the senseless violence of Homer's Ajax, and the suicidal depression of Saul were the result of angry or meddling deities and 'furies'. In Deuteronomy (vi: 5), it is written: 'The Lord will smite thee with madness.' The first to situate mental suffering within the brain were the sages of the classic world: Hippocrates, Aristotle, and Galen. However, the dark age of medieval Europe saw a return to magical and spiritual interpretations of mental disturbance—madness was the work of demonic forces and witchcraft. Thus, Joan of Arc and countless others were burnt at the stake or drowned for their sins. With the dawn of the Enlightenment, Cartesian notions of rationality and a mind that resided separate from the body displaced the supernatural and laid a foundation for modern concepts of mental illness. Insanity represented 'the flight of reason', and religious moralism gave way to scientific moralism—instead of being one possessed, the unfortunate sufferer was now a 'degenerate'. The Romantic era provided a foil to the empiricist veneration of reason. Byron, Blake, Rousseau, Shelley—these were the figures that epitomized in the public mind the archetypal union of madness and genius. 'Great wits are sure to madness near allied; and thin partitions do their bounds divide', wrote Dryden, while in a seventeenth-century etching, Melancolicus proclaims: 'the price of wisdom is melancholy'. The age of asylums and shackles (portrayed by Hogarth in his series depicting 'The Rake's Progress' through Bedlam and condemned by Foucault as 'the great confinement') came to an end when, in the spirit of the French Revolution, Pinel struck off the chains from his charges.

The beginning of the twentieth century witnessed Freud's description of the unconscious and the birth of medical psychiatry. It was to be a century of controversy and intense soul-searching, as psychiatry became equated in the public imagination with 'shock therapy', lobotomies, and the political abuses of Nazi and Soviet

regimes. This provided fodder for Laing and Cooper and the anti-psychiatry movement ( Anti-psychiatry, pp. 28–29), while skirmishes continue to this day between psychoanalytic and biological paradigms. Finally, in the age of mass media, the actions of a handful of mentally ill stalkers and assassins, such as Hinckley (who shot President Reagan), Mark David Chapman (who killed John Lennon), and Tsafendas (who killed Verwoerd, the architect of apartheid), have kindled the public's image of the crazed killer into a blaze of prejudice and stigma.

In the second decade of the third millennium, we are the inheritors of these historical constructs of mental illness. Our individual notions of madness and perceptions of psychiatry are derived, in part, from this varied bequest. Supernatural, romantic, biological, and psychological notions of madness abound, while the historic tensions between the belief that psychiatry is fundamentally benevolent and the conviction that it is inherently repressive continue into the present. The public mind is exposed to portrayals of madness and psychiatry in art, literature, film, and the media, and these are powerful influences in shaping individual and collective perceptions. There are many examples of our contrasting notions within popular art. For example, *The Crucible* illustrates the mentally afflicted as cursed and invokes witchcraft as the agent of causation. By comparison, *Quills* and *The Madness of George III* portray the sick as mentally impaired, disordered, and degenerate (with differing degrees of historical accuracy). Similarly, in literature, *Don Quixote* and *King Lear* depict the anti-hero as simple or incomplete. The neurologist Oliver Sacks did much to counter this stereotype with his sympathetic portrayal of neuropsychiatric conundrums, e.g. in *Awakenings*. The mad genius archetype appears in *A Beautiful Mind, The Hours*, and *Shine*, while Joyce's 'Nighttown' chapter of *Ulysses* and Nietzsche's *Thus Spake Zarathustra* celebrate the gift of unfettered thought. Nietzsche defines madness as the 'eruption of arbitrariness in feeling, seeing and hearing, the enjoyment of the mind's lack of discipline, the joy in human unreason'.[12] In Hannibal Lecter *(Silence of the Lambs*), Raskolnikov (*Crime and Punishment*), and the villainous Hyde of *Dr Jekyll and Mr Hyde*, we see the stereotype of the crazed and dangerous killer. Finally, artistic critiques of psychiatry abound, but the champions surely include *One Flew Over the Cuckoo's Nest, The Snake Pit*, and Sylvia Plath's *The Bell Jar*.

The challenge for us in this post-modern era is to consider our own constructs of what mental suffering means and to reflect upon how we should portray our psychiatric profession in society. In doing so, it is worth remembering the ideas we have inherited from our ancestors and how these ideas pervade current discourse. In sifting the grain from the chaff, we would do well to proceed cautiously—most ideas contain at least some grains of wisdom.

Psychomythology

> ‘Science must begin with myths and with the criticism of myths.’
>
> Sir Karl Popper (1963)

Myths matter. Throughout history, myths have served the central function of explaining the inexplicable—creating the illusion of understanding. Human nature seems to defy explanation, and yet we constantly make value judgements of people and ourselves—inferring the motivation and causation on relatively little evidence—in an attempt to make sense of the world. Most of the time, erroneous beliefs matter little and may even be comforting, but some of the time, they can make us prejudicial or lead us to act unwisely. While it may be acceptable in our private lives to be more liberal with the truth, in our professional lives, we are afforded the benefits of authority, based upon our expertise. This is why there are professional examinations and qualifications. We must guard against misinformation and protect ourselves and our patients from treatments and explanatory models for which evidence is decidedly lacking.

Pseudoscience

Fortunately, we have the scientific method to help us sift the evidence (Trust me, I’m an epidemiologist, p. 30) and the testable biopsychosocial model of aetiology of psychiatric illness (Fig. 6.1, p. 256). Nevertheless, we can be fooled when a set of ideas is presented in a scientific way, even though it does not bear scrutiny. These *pseudoscientific* theories may be based upon *authority*, rather than empirical observation (e.g. old-school psychoanalysis, New Age psychotherapies, Thought Field Therapy), concern the *unobservable* (e.g. orgone energy, chi), confuse metaphysical with empirical claims (e.g. acupuncture, cellular memory, reiki, therapeutic touch, Ayurvedic medicine), or even maintain views that contradict known scientific laws (e.g. homeopathy). Some theories are even maintained by adherents, despite empirical testing clearly showing them to be false (e.g. astrology, biorhythms, ESP). Others cannot even be tested. As Carl Sagan pointed out in his excellent book *The Demon Haunted World: Science as a Candle in the Dark* (1995): ‘any hypotheses should, at least in principle, be falsifiable. In fact the scientific method has this at its heart: the rejection of the null hypothesis. More worrying perhaps is the unthinking promotion of some of these methods by physicians who really should know better. Chi imbalance is not the same as serotonin dysregulation (no, really it isn’t).’

‘Men are from Mars, women are from Venus’

Our culture is infused with popular myths about psychology and psychiatry.[13] From personality profiling to violence and mental illness, there is no end to confusion. The media lap up the newest

theory, treatment, or drug, even when the scientific evidence is shaky. Emotive anecdotes and stirring personal accounts lodge themselves into the public imagination. Modern Barnums promote their wares in bookshops and on the Internet and TV. Autism is on the rise, they say; hospital admissions go up during a full moon; people are more depressed at Christmas; antidepressants cause suicide; I can make you do X, Y, and Z; this is what your dreams really mean. There are many reasons why myths persist (see Box 1.5), and they are very difficult to challenge once they are established. This is one reason why psychoeducation is a vital component of most psychological therapies. Most people find that the antidote to the influence of pseudoscience on them is knowledge of real science. The twist in all of this is that understanding the truth of how the brain functions in health and disease is more remarkable, more amazing, and more life-changing than any fiction could ever be.

Box 1.5 Mythbusting

The ten sources of error:

- **Word of mouth** If we hear something repeated enough times, we begin to believe it is true.
- **Desire for easy answers and the quick fix** If something sounds too good to be true, it probably is.
- **Selective perception and memory** We all suffer from naïve realism and believe that how we see the world is exactly how it is. We also have a tendency to remember hits and forget misses, which leads to illusionary correlation—the mistaken perception that two statistically unrelated event are actually related.
- **Inferring causation from correlation** For example, although it may be true that a history of child sex abuse (CSA) is highly correlated with schizophrenia, it does not necessarily follow that schizophrenia is caused by CSA.
- **Post hoc, ergo propter hoc reasoning ('after this, therefore because of this')** Just because someone appears to get better after receiving a homeopathic remedy does not necessarily mean the remedy was effective.
- **Exposure to a biased sample** Psychiatrists usually see treatment-resistant patients and may assume treatment is less effective than it actually is for the majority of patients.
- **Reasoning by representativeness** Just because two things appear similar does not make them the same.
- **Misleading film and media portrayals** ECT perceptions have never recovered from *One Flew Over the Cuckoo's Nest*.
- **Exaggeration of a kernel of truth**.
- **Terminology confusion** The etymology of words like 'schizophrenia' can lead to confusion, with most people believing it means patients have multiple personalities.

Adapted from the Introduction of Lilienfield SO, Lynn SJ, Ruscio J, Beyerstein BL (2010) *50 Great myths of popular psychology*. Oxford:

Wiley-Blackwell.

Stigma

Stigma is a Greek word meaning ‘mark’ and originally referred to a sign branded onto criminals or traitors in order to identify them publicly. The plural stigmata, when used in medical settings, means a collection of symptoms and signs by which a particular disorder may be identified. In its wider, modern sense, stigma refers to the sense of collective disapproval and group of negative perceptions attached to particular people, trait, condition, or lifestyle. Stigmatization describes the process by which the characteristics of the group in question are identified and discriminated against.

Stigmatization can be thought of as a three-stage process—first, the individual is marked out as different by his actions or appearance; second, society develops a series of beliefs about the affected individual; finally, society changes its behaviour towards these individuals in a way consistent with those beliefs, often to the detriment of the stigmatized individuals. Stigma can become self-reinforcing, as it can be associated with avoidance of the stigmatized individuals, leaving no opportunity for society to confront and change its beliefs.

Fear of the unknown, fear of contamination, and fear of death or the sight of death have led to diseases of all kinds being stigmatized throughout history. This is particularly true of infectious diseases, diseases causing disfigurement, and mental disorders. As infectious and disfiguring diseases have become both more treatable and better understood, sufferers from mental disorders have remained uniquely vulnerable to stigmatization.

One marker of this has been the ease with which originally neutral, descriptive terms for mental disorders have taken on a pejorative and disparaging meaning: cretin, maniac, spastic, imbecile. All have been abandoned in an attempt to free affected individuals from the approbation the name had acquired. Unfortunately, stigmatization involves fundamental and widely held beliefs and is not usually amenable to simple cures such as changes of name of conditions or organizations.

For the person affected by mental illness, the name of the condition and their abnormalities of experience and behaviour will mark them out as different and are the root cause of their distress. However, the wider societal beliefs, expressed as stigmatization, will add to the burden of morbidity and may, in themselves, prolong the condition. For example, the belief that depression is ‘all in the mind’ and could be resolved if the affected individual would only ‘pull themselves together’ may cause people to behave less sympathetically towards the sufferer, but it may also hinder the sufferer from seeking appropriate help.

There is no simple answer to the problem of stigma. We can certainly learn from the increasingly successful approach to the problem of stigmatization which initially attached to those individuals suffering from human immunodeficiency virus (HIV)

infection. Increased public awareness of the cause of the disease, its method of transmission, the plight of its sufferers, and its means of treatment appear to be associated with less, not more, stigmatization. The Royal College of Psychiatrists, with its 'Defeat Depression' campaign, has been active in this regard.

On an individual basis we can:

- Challenge our own prejudices. These may exist, particularly in connection with patients with personality disorder and patients with substance misuse problems.
- Avoid stigmatizing language. There is no place for forced political correctness in medicine, but we should consider whether calling an individual 'a schizophrenic' describes them as a single unfavourable characteristic, rather than as a person with an illness.
- Challenge the lack of knowledge within the profession. A surprising lack of knowledge of mental disorders is often seen in our colleagues in other specialties. This may be expressed in, for example, a lower aspiration for treatment in individuals with mental handicap or chronic psychotic illness.
- Be advocates for political change. Professional conservatism should not halt us from being at the forefront of moves to improve the autonomy of patients, their involvement in society, and their legal protection.

Anti-psychiatry

One view of medicine is that it is an applied science whose object of scientific curiosity is the understanding of the causes and processes of human illness and the study of methods of preventing or ameliorating them. In the scientific method, there are no absolute truths, only theories which fit the observed facts as they are currently known. All scientists must be open to the challenging of firmly established theories as new observations are made and new experiments reported.

All psychiatrists should retain this healthy scientific scepticism and be prepared to question their beliefs about the causes and cures of mental illness. Developments (and hence improvements in patient care) come from improvement in observation methods and trials of new treatment modalities. A result of this may be the enforced abandonment of cherished beliefs and favoured treatments. Always remember that insulin coma therapy[14] was, at one time, believed to be an effective treatment for psychotic illnesses.

While rigorous examination of the basic and clinical sciences of psychiatry is essential if the specialty is to progress, psychiatry as a medical specialty has, over the last 50yrs, been subject to a more fundamental criticism—that the empirical approach and the medical model are unsuited to the understanding of mental disorder and that they cause harm to the individuals they purport to treat. This basic belief, known as 'anti-psychiatry', has been expressed by a variety of individuals over the years, reaching a peak in the late

1960s. Although the central arguments of the anti-psychiatry movement have largely been discredited in the mainstream scientific literature, they have retained currency in some areas of the popular press, within some patient organizations, and in certain religious cults. They are presented here for historic interest and so that the sources for modern-day advocates of these ideas can be identified (see Box 1.6).

Central anti-psychiatry beliefs

- The mind is not a bodily organ and so cannot be diseased.
- The scientific method cannot explain the subjective abnormalities of mental disorder, as no direct observation can take place.
- Mental disorder can best be explained by social, ethical, or political factors.
- The labelling of individuals as 'ill' is an artificial device used by society to maintain its stability in the face of challenges.
- Medication and hospitalization are harmful to the individual so treated.

The anti-psychiatry movement did raise some valid criticisms of then contemporary psychiatric practice—in particular, pointing out the negative effects of institutional living, criticizing stigma and labelling, and alerting psychiatrists to the potential use of political change in improving patient care.

It was, however, fatally flawed by a rejection of empiricism, an over-reliance on single case reports, domination by a small number of personalities with incompatible and deeply held beliefs, and an association with half-baked political theory of the Marxist–Leninist strain.

Box 1.6 Prominent anti-psychiatrists

- **Szasz** Rejected compulsory treatment. Author of *Pain and Pleasure* and *The Myth of Mental Illness*. Viewed disease as a bodily abnormality with an observable pathology to which, by its nature, the brain was immune. Saw mental illness as conflict between individuals and society. Rejected the insanity defence and committal to hospital. Accepted patients for voluntary treatment for drug-free analysis on payment of fee and acceptance of treatment contract.
- **Scheff** Worked in labelling theory. Wrote *Being Mentally Ill*. Hypothesized that mental illness was a form of social rule-breaking. Labelling such individuals as mentally ill would stabilize society by sanctioning such temporary deviance.
- **Goffman** Wrote *Asylums*. Described the 'total institution' observed as a result of an undercover study. Commented on the negative effects of institutions segregated from the rest of society and subject to different rules.
- **Laing** Author of *The Divided Self, Sanity, Madness and the Family* and *The Politics of Experience*. Developed probably the most complete anti-psychiatry theory. He saw the major mental illnesses as arising from early family experiences, in particular from hostile communication and the desire for 'ontological

security'. He saw newborns as housing potential which was diminished by the forced conformity of the family and the wider society. Viewed normality as forced conformity and illness as 'the reality which we have lost touch with'.

- **Cooper** Revived anti-psychiatry ideas. A committed Marxist, he saw schizophrenia as a form of social repression.
- **Buscaglia** Wrote *The Deviant Majority*. Held that diagnosis did not aid understanding of the patient's experience. Believed that social and economic factors were crucial. Successful in pressing for significant reform of the Italian mental health system.
- **Scull** Wrote *Museums of Madness*. Saw mental health systems as part of 'the machinery of the capitalist system'.
- **Breggin** Modern advocate of anti-psychiatry views. Author of *Toxic Psychiatry* which views psychopharmacology as 'disabling normal brain function'. Rejects results of systematic reviews.

Trust me, I'm an epidemiologist

> 'I will follow that system of regimen which, according to my ability and judgment, I consider for the benefit of my patients, and abstain from whatever is deleterious and mischievous.'
>
> Hippocrates

Evidence-based medicine (EBM), defined by David Sackett as 'the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients',[15] has become so embedded in medical curricula and principles of critical appraisal so widespread within the educational and academic establishment that any twenty-first-century graduate might be surprised that EBM has a relatively short history.

The modern concept of EBM emerged out of a general disquiet with traditional approaches to medical decision-making ('the art of medicine'), highlighted in 1967 by Alvan Feinstein's book *Clinical Judgment*. Archie Cochrane's *Effectiveness and Efficiency*, published in 1972, showed a clear lack of controlled trials to support many supposedly effective treatments, and throughout the 1970s and 1980s, the wide variations in clinical practice, gaps in the evidence, and common errors in clinical reasoning were documented by John Wennberg and David M Eddy. This led Alvan Feinstein, David Sackett, and others working in clinical epidemiology to develop and standardize methods to improve clinical decision-making—disseminated to a wide medical audience through 25 *Users' Guides to the Medical Literature* published in *JAMA* from 1993 to 2000 by the Evidence-based Medicine Working Group at McMaster University.

In the United Kingdom (UK), the Cochrane Centre in Oxford was established in 1992 as part of the information systems strategy developed to support the National Health Service (NHS) Research and Development Programme. The international Cochrane Collaboration followed in 1993, creating a network of 13 countries to produce systematic reviews and guidelines, and in 1999, the National Institute for Clinical Excellence (NICE) was created to systematically search for, and classify, evidence and to make recommendations for good clinical practice, based on the strength of that available evidence.

In the last 20yrs, three streams of evidence dissemination developed: (1) systematic reviews and meta-analyses were widely published in the medical literature and online (e.g. http://www.cochrane.org); (2) knowledge search engines (e.g. Google Scholar and Medline interfaces such as Ovid and PubMed) became ubiquitous tools for medical literature searching; and (3) knowledge distillation services compiled and disseminated concise reviews of evidence and links to published guidelines (e.g. NICE) on specific topics or questions (e.g. BMJ Clinical Evidence, InfoPoems). There have also been significant efforts to provide appropriate guidance for clinicians seeking to understand the quality of evidence behind published recommendations and guidelines. The most recent comprehensive approach is GRADE[16] which has become the gold standard used by the World Health Organization (WHO), Cochrane Collaboration, NICE, Scottish Intercollegiate Guidelines Network (SIGN), BMJ Clinical Evidence, UpToDate, and many more organizations worldwide.

In the UK, psychiatry has been at the forefront of this EBM revolution. The Centre for Evidence-Based Mental Health was founded in Oxford in 1988 and still promotes and supports the teaching and practice of EBM (http://www.cebmh.com). In collaboration with the British Psychological Society and the BMJ, the Royal College of Psychiatrists launched the *Evidence-Based Mental Health* journal (http://ebmh.bmj.com) in 1998, with the stated intent of harnessing 'recent advances in clinical epidemiology, biostatistics, and information science to produce a coherent and comprehensive approach to allow clinicians to base their practice on the best available evidence.'[17] The College also introduced a Critical Appraisal paper to the MRCPsych examination in 1999 and the most recent examination format retains Evidence-Based Practice multiple choice questions (MCQs) and extended matching items (EMIs) in Paper B.[18] There is a clear expectation that the modern psychiatrist should be competent in formulating answerable questions, finding relevant evidence quickly, appraising that evidence, and then applying it to their practice. In this digital age of information and communication technologies, answers to clinical questions are literally at our fingertips.

While it is true that EBM has significantly contributed to the scientific development of medical literature in the past two decades,

modern commentators caution of its 'considerable limitations, overall reductionism, insufficient consideration of problems related to financial conflicts of interest, disregard of the patient–physician relationship (including patient's preferences) and the need for integration with clinical judgment.'[19] As early as 1995, Alvan Feinstein, then aged 70, anticipated this when he wrote: 'the glaring handwriting on the wall is that randomized trials will be impossible —logistically, ethically, and fiscally—for investigating all the cause–effect relationships … what we have learned from the trials offers splendid guidance for principles and criteria that can improve science in observational studies. The outstanding need for the immediate future is to develop those principles and criteria.'[20]

It has become increasingly clear that clinical experience and judgement are necessary to individualize treatment plans and account for recognizable patterns of symptoms, severity of illness, effects of comorbid conditions, timing of phenomena, rate of progression of illness (staging), and responses to previous treatments. Our current evidence base simply cannot deal effectively with these sorts of complexities. The challenge for clinicians and epidemiologists in the next decades will be to develop appropriate clinimetric taxonomies and methodologies to classify and eventually analyse these sorts of clinical entities and to tackle the fundamental problems of evidence-informed clinical decision-making.

15 Sackett DL, Rosenberg WM, Gray JA, Haynes RB, Richardson WS (1996) Evidence-based medicine: what it is and what it isn't [editorial]. *BMJ* **312**:71–2.

16 Guyatt GH, Oxman AD, Vist GE, *et al*. (2008) GRADE: an emerging consensus on rating quality of evidence and strength of recommendations. *BMJ* **336**:924–6. http://www.gradeworkinggroup.org/

17 Geddes J, Reynolds S, Streiner D, *et al*. (1998) Evidence-based practice in mental health. *Evid Based Mental Health* **1**:4–5.

18 Royal College of Psychiatrists. *Preparing for exams*. https://www.rcpsych.ac.uk/training/exams/preparing-for-exams [accessed 31 December 2019].

19 Fava GA (2013) Clinical judgment in psychiatry. Requiem or reveille? *Nord J Psychiatry* **67**:1, 1–10.

20 Feinstein AR (1995) Meta-analysis: statistical alchemy for the 21st century. *J Clin Epidemiol* **48**:71–9.

Evolutionary psychiatry

> 'Nothing in Biology Makes Sense Except in the Light of Evolution.'
>
> Theodosius Dobzhansky (1973) Article Title in *The American Biology Teacher*. **35**(3):25–129

The origins of evolutionary psychiatry can be traced to the collaboration of Charles Darwin with Dr James Crichton-Browne on writing *The Expression of the Emotions in Man and Animals* in

1872. Regarding mental illness as an atavistic regression to a less evolved state underpinned nineteenth-century degenerationistic views. Similarly, recapitulationism (or Ernst Haeckel's 'biogenic law')—the idea that an individual's development summarizes the evolution of their species ('ontology recapitulates phylogeny')—popularized the view that criminals and psychiatric patients were fixations or regressions to earlier stages of evolutionary development and was responsible for scientific racism (the belief that some races are 'more developed' than others). It should never be forgotten that these ideas fermented into eugenic practices such as large-scale sterilization of psychiatric patients in early twentieth-century America and the genocide of over 100,000 psychiatric patients in Nazi Germany.

In fact, evolutionary ideas were so popular in the early twentieth century that even Freud hoped to give his psychodynamic theory more credibility by linking it to ancestral inheritance—in his *Phylogenetic Fantasy* (written in 1915, but published posthumously). Many contemporary evolutionary psychiatrists credit Freud as a 'founding father' of evolutionary psychiatry for this (albeit phylogenetically erroneous) attempt to understand neuroses by looking to the ancestral environment of our species.

The modern era of molecular and population genetics really began in the 1950s with Watson and Crick's description of the structure of deoxyribonucleic acid (DNA) in 1953 and the subsequent unravelling of the genetic code for Mendelian inheritance. The synthesis of evolutionary ideas that followed tried to draw a line under older 'evolutionisms' (e.g. Spencer's social Darwinism, Lamarckism, and degeneration theories) and place the evolutionary theory on a firm foundation of testable, hypothesis-driven biological science.

In 1963, Niko Tinbergen wrote 'On aims and methods of ethology' in the *Zeitschrift für Tierpsychologie*, proposing his 'four questions' for understanding behaviour:

1. What physiological mechanisms are involved (causation)?
2. How does behaviour develop during ontogeny (development)?
3. To what extent is reproduction fitness enhanced (survival value)?
4. How has it changed throughout evolutionary time (evolution)?

Tinbergen maintained that to fully understand the behaviour of an organism, both *proximate* (questions 1 and 2) and *ultimate* (questions 3 and 4) causation must be considered together.

Psychiatric research has generally focused on proximate causes, e.g. genetics, neuropathology, serology, traumatic experiences, internal psychological conflicts; however, in 1964, the evolutionary biologists Huxley and Mayr and the psychiatrists Osmond and Hoffer published 'Schizophrenia as a genetic morphism' in *Nature*, considering the 'puzzle of schizophrenia' and proposing that to keep a prevalence of about 1% in most populations, there must be selective advantages to compensate for obvious disadvantages. In 1967, a *Lancet* article by John Price 'The dominance hierarchy and

the evolution of mental illness' argued that mental disorders, including psychotic depression and schizophrenia, were adaptive mechanisms in the social environment of our ancestors to cope with a strict group hierarchy. John Bowlby explored the idea of the environment of evolutionary adaptedness (EEA) in *Attachment* (1969). Indeed, over the last five decades, psychiatrists have increasingly attempted to understand mental illnesses by comparing them to behaviours seen in animal species as diverse as birds (Demaret, 1971), reptiles (MacLean, 1990), marsupials (Jones, Stoddart and Mallick, 1995), and monkeys (McGuire, 1988).

Evolutionary (or Darwinian) psychiatry has faced strong criticism. At worst, it is seen as 'bad science' ( Psychomythology, p. 24), 'just-so story-telling', and simply speculation. In its purest form, evolutionary theory is too deterministic, reductionistic, and adaptionistic, not allowing for chance, drift, and history. Social learning may also be an equally important source of individual and cultural preferences, beliefs, and behaviours (and, by extension, mental disorders). The reason to ask Tinbergen's ultimate questions is to arrive at a deeper biologically based understanding of mental disorders and to stimulate hypotheses (see Table 1.3) that can lead to research and ultimately new therapeutic options. Provided evolutionary psychiatry does not lose sight of its scientific principles, it may well help satisfy man's continued search for meaning.

Table 1.3 Evolutionary hypotheses regarding mental disorders

Model	View of disorders	Examples
Adaptionist	Oversensitive or excessive adaptations	Anxiety disorders reflect an overactive threat detection system
Mismatch	Behaviours suited to the ancestral, not modern, environment	Phobias reflect ancestral fears, e.g. dark, heights, snakes
Organic breakdown of our evolved nature	Brain dysfunction due to proximate causes	Central nervous system infection, lesions, mutations, and neurodevelopmental disorders
Trade-off (balanced selection)	Genetic causes may confer some benefit to heterozygote carriers	Schizophrenia is the price we pay for sociality, language, or creativity
Senescence	Pathological genes avoid negative selection pressures by presenting in later life	Alzheimer's dementia/Huntington's chorea
Psychodynamic (displacement)	Normal defence mechanisms that are fixated, overactive, or contextually inappropriate	Suspiciousness becomes overactivated by hallucinations

A brief history of psychiatry

Ancient times **74,000 bc** Sumerian records describe the euphoriant effect of the poppy plant. **71,700 bc** First written record concerning the nervous system. **460–379 bc** Hippocrates discusses epilepsy as a brain disturbance. **387 bc** Plato teaches that the brain is the seat of mental processes. **280 bc** Erasistratus notes divisions of the brain. **177** Galen lectures *On the Brain*.

Pre-modern **1649** Descartes describes the pineal gland as a control centre of the body and mind. **1656** Bicêtre and Salpêtrière asylums established by Louis XIV in France. **1755** Perry publishes *A Mechanical Account and Explication of the Hysteric Passion*. **1758** Battie publishes his *Treatise on Madness*. **1773** Cheyne publishes his book *English Malady*, launching the idea of 'nervous illness'. **1774** Mesmer introduces 'animal magnetism' (later called hypnosis). **1793** Pinel is appointed to the Bicêtre and directs the removal of chains from the 'madmen'. **1794** Chiarugi publishes *On Insanity*, specifying how a therapeutic asylum should be run.

1800–1850 1808 Reil coins the term ‘psychiatry’. **1812** Rush publishes *Medical Inquiries and Observations Upon the Diseases of the Mind*. **1813** Heinroth links life circumstances to mental disorders in the *Textbook of Mental Hygiene*. **1817** Parkinson publishes *An Essay on the Shaking Palsy*. – Esquirol lectures on psychiatry to medical students. **1825** Bouillaud presents cases of aphonia after frontal lesions. – Todd discusses the localization of brain functions. **1827** Heinroth appointed as the first professor of psychological therapy in Leipzig. **1832** Chloral hydrate discovered. **1843** Braid coins the term ‘hypnosis’. **1848** Phineas Gage has his brain pierced by an iron rod, with subsequent personality change.

1850–1900 1856 Morel describes ‘*démence précoce*’—deteriorating adolescent psychosis. **1863** Kahlbaum introduces the term ‘catatonia’. – Friedreich describes progressive hereditary ataxia. **1864** Hughlings Jackson writes on aphonia after brain injury. **1866** Down describes ‘congenital idiots’. **1868** Griesinger describes ‘primary insanity’ and ‘unitary psychosis’. **1869** Galton claims that intelligence is inherited in *Hereditary Genius*. **1871** Hecker describes ‘hebephrenia’. **1872** Huntington describes symptoms of a hereditary chorea. **1874** Wernicke publishes *Der Aphasische Symptomenkomplex* on aphasias. **1876** Ferrier publishes *The Functions of the Brain.* – Galton uses the term ‘nature and nurture’ to describe heredity and environment. **1877** Charcot publishes *Lectures on the diseases of the nervous system.* **1883** Kraepelin coins the terms ‘neuroses’ and ‘psychoses’. **1884** Gilles de la Tourette describes several movement disorders. **1885** Lange proposes the use of lithium for excited states. **1887** Korsakoff describes characteristic symptoms in alcoholics. **1892** American Psychological Association formed. **1895** Freud and Breuer publish *Studies on Hysteria*. **1896** Kraepelin describes ‘dementia praecox’. **1899** Freud publishes *The Interpretation of Dreams*.

1900s 1900 Wernicke publishes *Basic Psychiatry* in Leipzig. **1903** Barbiturates introduced. – First volume of *Archives of Neurology and Psychiatry* published in the United States. – Pavlov coins the term ‘conditioned reflex’. **1905** Binet and Simon develop their first intelligence quotient (IQ) test. **1906** Alzheimer describes ‘presenile degeneration’. **1907** Adler’s *Study of Organ Inferiority and its Physical Compensation* published. – Origins of group therapy in Pratt’s work supporting tuberculosis (TB) patients in Boston. **1909** Brodmann describes 52 cortical areas. – Cushing electrically stimulates the human sensory cortex. – Freud publishes the case of Little Hans in Vienna.

1910s 1911 Bleuler publishes his textbook *Dementia Praecox or the Group of Schizophrenias*. **1913** Jaspers describes ‘non-understandability’ in schizophrenia thinking. – Syphilitic spirochaete established as the cause of ‘generalized paresis of the insane’. – Jung splits with Freud, forming the school of ‘analytic psychology’. – Mental Deficiency Act passed in the UK. – Goldmann finds the blood–brain barrier impermeable to large molecules. **1914** Dale isolates acetylcholine. – The term ‘shell shock’ is coined by British soldiers. **1916** Henneberg coins the term ‘cataplexy’. **1917** Epifanio

uses barbiturates to put patients with major illnesses into prolonged sleep. – Wager-Jauregg discovers malarial treatment for neurosyphilis.

1920s 1920 Moreno develops 'psychodrama' to explore individual problems through re-enactment. – Watson and Raynor demonstrate the experimental induction of phobia in 'Little Albert'. – Crichton-Miller founds the Tavistock Clinic in London. – Klein conceptualizes the development theory and the use of play therapy. – Freud's *Beyond the Pleasure Principle* published. **1921** Rorschach develops the inkblot test. **1922** Klaesi publishes the results of deep sleep treatment, which is widely adopted. **1923** Freud describes his 'structural model of the mind'. **1924** Jones uses the first example of systematic desensitization to extinguish a phobia. **1927** Jacobi and Winkler first apply pneumoencephalography to the study of schizophrenia. – Wagner-Jauregg awarded the Nobel Prize for malarial treatment of neurosyphilis. – Cannon-Bard describes his 'theory of emotions'. **1929** Berger demonstrates the first human EEG.

1930s 1930 First child psychiatry clinic established in Baltimore, headed by Kanner. **1931** Hughlings-Jackson describes positive and negative symptoms of schizophrenia. – Reserpine introduced. **1932** Klein publishes *The Psychoanalysis of Children.* **1933** Sakel introduces 'insulin coma treatment' for schizophrenia. **1934** Meduna uses chemical convulsive therapy. **1935** Moniz and Lima first carry out 'prefrontal leucotomy'. – Amphetamines synthesized. **1936** Mapother appointed as England's first Professor of Psychiatry. – Dale and Loewi share Nobel Prize for work on chemical nerve transmission. **1937** Kluver and Bucy publish work on bilateral temporal lobectomies. – Papez publishes work on limbic circuits and develops the 'visceral theory' of emotion. **1938** Cerletti and Bini first use 'electroconvulsive therapy'. – Skinner publishes *The Behaviour of Organisms*, describing operant conditioning. – Hoffmann synthesizes lysergic acid diethylamide (LSD).

1940s 1942 Freeman and Watts publish *Psychosurgery*. **1943** Antihistamines used in schizophrenia and manic depression. **1946** Freeman introduces 'transorbital leucotomy'. – Main publishes *Therapeutic Communities.* **1948** Foulkes' *Introduction to Group Analytical Psychotherapy* published. – *International Classification of Diseases* (ICD) first published by WHO. – Jacobsen and Hald discover the use of disulfiram. **1949** Cade uses lithium for treatment of mania. – Penrose publishes *The Biology of Mental Defect.* – Moniz awarded Nobel Prize for treatment of psychosis with leucotomy. – Hess receives Nobel Prize for work on the 'interbrain'. – Magoun defines the reticular activating system. – National Institute of Mental Health established. – Hebb publishes *The Organization of Behaviour: A Neuropsychological Theory*.

1950s 1950 First World Congress of Psychiatry held in Paris. – Chlorpromazine (compound 4560 RP) synthesized by Charpentier. – Roberts and Awapara independently identify gamma-aminobutyric acid (GABA) in the brain. **1951** Papaire and Sigwald report the efficacy of chlorpromazine in psychosis. **1952** *Diagnostic*

and Statistical Manual (DSM-I) introduced by APA. – Eysenck publishes *The Effects of Psychotherapy*. – Delay and Deniker treat patients with psychological disturbance using chlorpromazine. – Delay, Laine, and Buisson report isoniazid use in treatment of depression. **1953** Lurie and Salzer report use of isoniazid as an 'antidepressant'. **1954** Kline reports reserpine exerts a therapeutic benefit on both anxiety and obsessive–compulsive symptoms. – Delay and Deniker, Noce, and Steck report favourable effects of reserpine on mania. – First community psychiatric nurse post established in the UK. **1955** Chlordiazepoxide, the first benzodiazepine, synthesized by Sternbach for Roche. – Kelly introduces his 'personal construct therapy'. – Shepherd and Davies conduct the first prospective placebo-controlled, parallel-group RCT in psychiatry, using reserpine in anxious-depressive outpatients (with clear benefit). **1957** Imipramine launched as an antidepressant. – Iproniazid launched as an antidepressant. – Delay and Deniker describe the characteristics of neuroleptics. **1958** Carlsson *et al.* discover dopamine in brain tissues and identify it as a neurotransmitter. – Janssen develops haloperidol, the first butyrophenone neuroleptic. – Lehman reports the first (successful) trial of imipramine in the United States. **1959** Russell Barton's *Institutional Neurosis in England* describes the adverse effects of institutional regimes. – Diazepam first synthesized by Roche. – Schneider defines his 'first-rank symptoms' of schizophrenia. – English Mental Health Act of 1959 allows voluntary admission to psychiatric hospitals.

1960s 1960 Merck, Roche, and Lundbeck all launch versions of amitriptyline. **1961** Knight, a London neurosurgeon, pioneers stereotactic subcaudate tractotomy. – Founding of the World Psychiatric Association. – Thomas Szasz publishes *The Myth of Mental Illness*. **1962** Ellis introduces 'rational emotive therapy'. – US Supreme Court declares addiction to be a disease, and not a crime. **1963** Beck introduces his 'cognitive behavioural therapy.' – Carlsson shows that neuroleptics have effects on catecholamine systems. **1966** Gross and Langner demonstrate the effectiveness of clozapine in schizophrenia. **1968** Strömgren describes 'brief reactive psychosis'. – Ayllon and Azrin describe the use of 'token economy' to improve social functioning. – Publication of DSM-II and ICD-8.

1970s 1970 Laing and Esterson publish *Sanity, Madness and the Family*. – Rutter publishes the landmark Isle of Wight study on the mental health of children. – Janov publishes *Primal Scream*. – Maslow describes his 'hierarchy of needs'. – Axelrod, Katz, and Svante von Euler share Nobel Prize for work on neurotransmitters. **1971** British Misuse of Drugs Act passed. – Carlsson, Corrodi *et al.* develop zimeldine, the first of the selective serotonin reuptake inhibitors (SSRIs). **1972** Feighner *et al.* describe the St Louis criteria for the diagnosis of schizophrenia. **1973** International pilot study of schizophrenia uses narrow criteria and finds similar incidence of schizophrenia across all countries studied. **1974** Hughes and Kosterlitz discover enkephalin. **1975** Research

diagnostic criteria (RDC) formulated by Spitzer *et al.* in the United States (USA). – Clozapine withdrawn following episodes of fatal agranulocytosis. **1976** Johnstone uses CT to study schizophrenic brains. **1977** Guillemin and Schally share Nobel Prize for work on peptides in the brain. **1979** Russell describes bulimia nervosa.

1980s 1980 DSM-III published by APA. – Crow publishes his two-syndrome (type I and type II) hypothesis of schizophrenia. **1984** Klerman and Weissman introduce 'interpersonal psychotherapy'. – Smith *et al*. first use MRI to study the cerebral structure in schizophrenia. – Andreasen develops scales for the assessment of positive and negative symptoms in schizophrenia (SAPS/SANS) ( Schizophrenia, p. 97). **1987** Liddle describes a three-syndrome model for schizophrenia. – Fluvoxamine introduced. – Mednick publishes the first prospective cohort study of schizophrenia using CT. **1988** The 'harm minimization' approach to drug misuse introduced in Britain. – Kane *et al.* demonstrate the efficacy of clozapine in treatment-resistant schizophrenia.

1990s 1990 Sertraline introduced. – Ryle introduces 'cognitive analytical therapy'. **1991** Paroxetine introduced. **1992** Moclobemide introduced as the first reversible inhibitor of monoamine oxidase (RIMA). – The False Memory Syndrome Society Foundation formed in the United States. – Publication of ICD-10. **1993** Huntington's disease gene identified. – Launch of risperidone as an 'atypical' antipsychotic. – Linehan first describes her 'dialectical behaviour therapy'. **1994** Publication of DSM-IV. – Launch of olanzapine. – Gilman and Rodbell share Nobel Prize for their discovery of G-protein coupled receptors and their role in signal transduction. **1995** Citalopram, an SSRI, nefazodone (dual-action SSRI), venlafaxine, a serotonin and noradrenaline reuptake inhibitor (first SNRI) all introduced. **1999** Hodges publishes first results from prospective Edinburgh High Risk (Schizophrenia) Study using MRI.

2000s 2000 Carlsson, Greengard, and Kandel share Nobel Prize for their work on neurotransmitters. **2002** Neuregulin-1 and dysbindin identified as susceptibility genes for schizophrenia. **2003** Aripiprazole, the first dopamine partial agonist antipsychotic, launched. – Caspi and colleagues show that genetic and environmental factors interact to modulate risk for depression and antisocial behaviour. **2005** The *DISC1* gene, implicated in psychotic and affective illness, is shown to regulate cyclic adenosine monophosphate (cAMP) signalling. – The first non-commercial large-scale trial compares new and old antipsychotics—Clinical Antipsychotic Trials of Intervention Effectiveness (CATIE). – Deep brain stimulation (DBS) trials show promise in treatment-resistant OCD and depression. **2006** Hall and coworkers show that the neuregulin-1 gene is associated with changes in brain function and psychosis in the Edinburgh High Risk (Schizophrenia) Study. **2007** A glutamate agonist (LY2140023) is found by Patel *et al.* to have antipsychotic effects in patients with schizophrenia. **2009** Genome-wide genetic analysis reveals both common and rare genetic

variants involved in schizophrenia. Launch of the antidepressant agomelatine.

2010s 2011 Neural stem cells derived from peripheral samples reveal cellular changes in patients with schizophrenia and related disorders. **2013** Publication of DSM-5. Launch of the antidepressant vortioxetine. **2014** Launch of National Institutes of Health (NIH) BRAIN (Brain Research through Advancing Innovative Neurotechnologies) initiative in the United States (https://www.braininitiative.nih.gov). The Schizophrenia Working Group of the Psychiatric Genomics Consortium publishes the largest genome-wide association study of schizophrenia in *Nature* of nearly 37,000 cases, identifying 108 schizophrenia-associated genetic loci. **2017** Hall, Rosbash, and Young share Nobel prize for their work on the molecular mechanisms controlling circadian rhythms. **2018** Publication of ICD-11.

The future

Attempting to predict the future is a dangerous business. Predictions tend to be based upon contemporary ideas and have a tendency to overestimate some types of change and underestimate others. Wild inaccuracy is the usual rule. This is particularly so in medical science where change is often a result of chance discoveries (e.g. penicillin) and sweeping reforms which make most then current knowledge redundant (e.g. the germ theory of disease).

Currently practising psychiatrists are (or should be) keenly aware of the deficiencies of current psychiatric practice. We lack knowledge of the aetiology and pathogenesis of most psychiatric disorders; we have no objective diagnostic or prognostic investigations; and our drug and psychological treatments are often minimally or only partially effective. While we welcome the ongoing gradual progress in knowledge and treatments, we are naturally impatient for rapid and fundamental improvements—we hope to join the other medical specialties in moving 'from the descriptive to the analytical'. Now, at last, it seems the tools are becoming available to develop a true understanding of psychiatric disease.

We are, however, cautious—there have been false dawns before. The insights into mental mechanisms provided by the psychoanalytical pioneers in the first half of the twentieth century gave rise to hope that these methods would prove therapeutic in many mental illnesses. The discovery of effective antipsychotic and antidepressant drugs in the 1950s raised hopes that examination of drug effects would reveal the pathological mechanisms of the underlying diseases. The move to community care which followed Enoch Powell's 'Water Tower Speech' in 1961 was driven by the hope that many of the deficits experienced by sufferers from mental disorder were not intrinsic to the disorders themselves but were related to institutional living. None of these hopes were fulfilled. However, in the first decades of the twenty-first century, we have a number of genuine reasons for optimism and excitement.

Genetics

The information provided by the Human Genome Project and large linkage and association studies, combined with techniques of high-throughput genetic screening, allows identification of susceptibility genes for complex polygenic disorders. Advances in molecular biology will allow the functions of these gene products to be understood, potentially generating new therapies. We are increasingly coming to understand how susceptibility genes interact with the environment to cause illness, including the potential role of epigenetic factors in mediating the impact of environmental stresses on gene expression.

Novel treatment approaches

In the last century, discovery of effective treatments led to aetiological hypotheses. In this century, the hope is that understanding of the molecular and chemical pathways involved in risk for illness will lead to the development of novel treatment approaches, therapeutics becoming hypothesis-driven, rather than hypothesis-creating. Rational drug design will be aided by computer modelling and screening of large numbers of potential drug molecules. There will be further investigation of stem cell therapy in neurodegenerative disorders.

Functional and diagnostic imaging

Current structural scanning methods (e.g. CT and MRI) reveal changes across cohorts of patients with major mental disorders but do not allow objective diagnosis in individuals. Many psychiatric disorders show no measurable abnormalities at all, using current structural methods. In the future, functional imaging (e.g. PET, functional MRI), either alone or in combination with structural scanning, may allow an understanding of how changes in neural systems contribute to illness and possibly true diagnostic imaging.

Large-scale treatment trials

In current practice, even relatively common treatment decisions are not clearly evidence-based. The current evidence base is overly reliant on small randomized trials, uncontrolled trials, and 'expert opinion'. Now, however, psychiatry researchers are following their peers in cardiology and oncology and recruiting to large-scale treatment trials.

'Every generation enjoys the use of a vast hoard bequeathed to it by antiquity, and transmits that hoard, augmented by fresh acquisitions, to future ages.'

Thomas Babington Macaulay

'I like the dreams of the future better than the history of the past.'

Thomas Jefferson

'There are fish in the sea better than have ever been caught.'

Irish proverb

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2 Campbell EJ, Scadding JG, Roberts RS (1979) The concept of disease. *BMJ* **2**:757–62.

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4 National Institute of Mental Health. *Research Domain Criteria (RDoC)*. https://www.nimh.nih.gov/research-priorities/rdoc/index.shtml [accessed 31 December 2018].
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8 Beecher HK (1955) The powerful placebo. *JAMA* **159**:1602–6. http://www.ncbi.nlm.nih.gov/pubmed/13271123
9 Fournier JC, DeRubeis RJ, Hollon SD, *et al*. (2010) Antidepressant drug effects and depression severity: a patient meta-level analysis. *JAMA* **303**:47–53. http://jama.ama-assn.org/cgi/content/full/303/1/47.
10 Johnstone EC, Deakin JF, Lawler P, *et al.* (1980) The Northwick park electroconvulsive therapy trial. *Lancet* **2**:1317–20.
11 Zubieta JK, Stohler CS (2009) Neurobiological mechanisms of placebo responses. *Ann N Y Acad Sci* **1156**:198–210.
12 Nietzsche F (1974) *The Gay Science*. Trans. Kaufman W. New York, NY: Vintage.
13 ' … and most popular psychology is from Uranus.' When John Gray, author of *Men are from Mars, Women are from Venus*, appeared on Season 2, Episode 3 of Penn & Teller's *Bullshit!*, Penn quipped 'I guess the title "We're all people and should be treated with love and respect" just wouldn't fit on the book spine'.
14 In 1933, Manfred Sakel introduced insulin coma therapy for the treatment of schizophrenia. This involved the induction of hypoglycaemic coma using insulin, the rationale being that a period of decreased neuronal activity would allow for nerve cell regeneration. In the absence of alternative treatments, this was enthusiastically adopted by practitioners worldwide. However, with the advent of antipsychotics in the 1950s and the emergence of RCTs, it became clear that the treatment had no effect above placebo and it was subsequently abandoned.

Chapter 2

Psychiatric assessment

The clinical interview

In most branches of clinical medicine, diagnoses are made largely on the basis of the patient's history, with physical examination and investigation playing important, but subordinate, roles. In psychiatry, physical examination and investigations are of lesser diagnostic value and diagnosis is based on the clinical interview and, to a lesser extent, the later course of the patient's illness. Clinical interviewing is thus the central skill of the psychiatrist, and development of clinical interviewing skills is the main aim of basic psychiatric training.

The clinical interview includes both history-taking and mental state examination (MSE). The MSE is a systematic record of the

patient's current psychopathology. In addition to its role in diagnosis, the clinical interview begins the development of a therapeutic relationship and is, in many cases, the beginning of treatment.

Clinical interview skills cannot be learnt from a textbook. This chapter is intended as a guide to the doctor developing skills in interviewing psychiatric patients. As a trainee psychiatrist, you should also take the opportunity to observe experienced clinicians, as they interview patients, to review your own videotaped consultations with a tutor, and, most importantly, to carry out many clinical interviews and present the results to your seniors. Skills in this area, as with all others, come with experience and practice.

This chapter describes a model for the assessment of general adult and old age psychiatry patients on the wards or in the outpatient clinic. For special patient populations, modifications or extensions to the standard interview are described in the appropriate chapter: alcohol and drug problems (Assessment of the patient with alcohol problems, p. 584; Assessment of the drug user, p. 630); forensic (Assessing risk of violence, p. 748; Suggested format for criminal court report, p. 770); child and adolescent (Assessment 1: principles, p. 648; Assessment 2: considerations, p. 650; Assessment 3: practice points, p. 652); intellectual disability (The process of assessment, p. 798); and psychotherapy (Assessment for psychotherapy, p. 884).

The student or doctor coming to psychiatric interviewing for the first time is likely to be apprehensive. The symptoms which the patient describes may seem bizarre or incomprehensible, and the examiner may struggle for understanding and knowledge of which further questions to ask. Remember that the interviewer is not like a lawyer or policeman trying to 'get at the truth', but rather an aid to the patient telling the story in their own words. Start by listening, prompting only when necessary, and aim to feel at the end of the interview that you really understand the patient's problems and their perception of them.

The following pages describe the standard structure for a routine history, MSE, and case summary; there are then pages devoted to the different symptom areas in adult psychiatry, with suggested probe questions. These are intended as guides to the sort of questions to ask the patient (or to ask yourself about the patient) and may be rephrased in your own words. See Box 2.1 for advice on personal safety.

Box 2.1 Always consider your personal safety when interviewing

There is a risk of aggression or violence in only a small minority of psychiatric patients. In the vast majority of patients, the only risk of violence is towards themselves. However, the fact that violence is rare can lead to doctors putting themselves at risk due to thoughtlessness. To combat this, it is important to think about the risk of violence before every consultation with a new patient or with a familiar patient with new symptoms.

Before interviewing a patient, particularly for the first time, consider: who you are interviewing, where you are interviewing, and with whom. Ensure that the nursing staff have this information.

- If possible, review the patient's records, noting previous symptomatology and episodes of previous violence (the best predictor of future violence).
- A number of factors will increase the risk of violence, including: a previous history of violence, psychotic illness, intoxication with alcohol or drugs, frustration, feeling of threat (which may be delusional or relate to real-world concerns).
- The ideal interview room has two doors, one for you and one for the patient. If this is not available, sit so that the patient is not between you and the door. Remove all potential weapons from the interview room.
- Familiarize yourself with the ward's panic alarm system before you first need to use it.
- If your hospital organizes break-away or aggression management training courses, attend these regularly to keep your skills up-to-date.

Setting the scene

Introductions

Observe the normal social forms when meeting someone for the first time. Introduce yourself and any accompanying staff members by name and status. Ensure that you know the names and relationships of any people accompanying the patient (and ask the patient if they wish these persons to be present during the interview). It is best to introduce yourself by title and surname and refer to the patient by title and surname. Do not use the patient's first name, except at their request.

Seating

The traditional consultation room, with the patient facing the doctor across a desk, is inappropriate in psychiatry. Use two or more comfortable chairs, of the same height, orientated to each other at an angle. This is less confrontational but allows direct eye contact, as necessary. A clipboard will allow you to write notes as you go along.

Explanation

Inform the patient of your status and specialty, and explain the purpose of the interview. Explain the reasons for referral as you understand them, and inform the patient of the information you have been told by the referrer. Patients often imagine you know more about them than you do. It is helpful to indicate to the patient how long the interview will last; this will allow both of you to plan your time, so as not to omit vital topics. Advise them that you may wish to obtain further information after the interview from other sources, and obtain their consent to talk to any informants accompanying them if this would add to your assessment.

Documentation

For all episodes of clinical contact, a handwritten or electronic record is crucial, both as a way of recording and communicating information and as a medico-legal record. It is best to write or type the account at the time, or very shortly afterwards. The record should be legible, dated, and signed and ordered in a standard fashion. Initially, you may find it helpful to write out the standard assessment headings on sheets of paper beforehand.

Interviewing non-English-speaking patients

Where the doctor and the patient do not speak a common language, an interpreter is essential. Even in situations where the patient appears to speak some English, sufficient for day-to-day conversation, an interpreter is still highly desirable because idiomatic language and culturally specific interpretations of psychological phenomena may confuse understanding. Where possible, the interpreter should share not only a language, but also a cultural background with the patient, as many descriptions of psychiatric symptoms are culture-specific. Do not use members of a patient's family as interpreters, except where unavoidable (e.g. in emergency situations). It is unethical to use children as interpreters.

Interviewing psychiatric patients

Interview structure

The exact internal structure of the interview will be decided by the nature of the presenting complaint. However, the interview will generally go through a number of more or less discrete phases:

Initiation Introduce yourself, and explain the nature and purpose of the interview. Describe how long the interview will last and what you know about the patient already.

Patient-led history Invite the patient to tell you about their presenting complaint. Use general opening questions, and prompt for further elaboration. Let the patient do most of the talking—your role is to help them to tell the story in their own words. During this phase, you should note down the major observations in the MSE. Having completed the history of the presenting complaint and the MSE, you will be able to be more focused when taking the other aspects of the history.

Doctor-led history Clarify the details in the history thus far with appropriate questions. Clarify the nature of diagnostic symptoms

(e.g. are these true hallucinations? Is there diurnal mood variation?). Explore significant areas not mentioned spontaneously by the patient.

Background history Complete the history by direct enquiry. This is similar to standard medical history-taking, with the addition of a closer enquiry into the patient's personal history.

Summing-up Recount the history, as you have understood it, back to the patient. Ensure there are no omissions or important areas uncovered. Indicate if you would like to obtain other third-party information, emphasizing that this would add to your understanding of the patient's problems and help you in your diagnosis.

Questioning techniques

Open vs closed questions An open question does not suggest the possible answers; a closed question expects a limited range of replies (cf. 'can you tell me how you are feeling?' and 'is your mood up or down at the moment?'). In general, begin the interview with open questions, turning to more closed questions to clarify details or factual points.

Non-directive vs leading questions A leading question directs a patient towards a suggested answer (e.g. 'is your mood usually worse in the mornings?', rather than 'is your mood better or worse at any time of day?'). Just as lawyers are reprimanded for 'leading a witness', we should, in general, avoid leading our patients to certain replies, as the desire to please the doctor can be a very powerful one.

Giving advice

Aim to leave at least the last quarter of the available interview time for discussion of the diagnosis, your explanation to the patient of your understanding of the nature and cause of their symptoms, and your detailing of your plans for treatment or further investigation or referral, as indicated. The patient's confidence in your diagnosis will be improved by their belief that you really understand 'what is going on', and spending time detailing exactly what you want them to do will pay dividends in  compliance. As a junior trainee, you may have to break at the end of the history-taking segment, in order to present the case to your senior and get advice on management.

After the interview

The process of assessment does not, of course, end with the initial clinical interview. In psychiatry, all diagnoses are, to some extent, provisional. You should follow your initial interview by gathering information from relatives, the general practitioner (GP), and previous case records and clarifying symptoms observed by nursing staff. In an emergency situation, a modification of this technique, focusing mainly on the acute problem, is more appropriate, with re-interviewing later to fill in the blanks, if required.

Discussing management

In psychiatry, more than any other specialty, it is essential for successful management that the patient has a good understanding of their disorder and its treatment. There is no equivalent in psychiatry of the simple fracture where all that is required of the patient is to 'lie back and take the medicine'. The treatment of any psychiatric disorder begins at the initial interview where, in addition to the assessment, the doctor should aim to establish a therapeutic alliance, effectively communicate the management plan, instil a sense of hope in the patient, and encourage self-help strategies.

Establish a therapeutic relationship

- Aim to listen more than you speak (especially initially).
- Show respect for the patient as an individual (e.g. establish their preferred mode of address; ask permission for anyone else to be present at the interview).
- Explicitly make your actions for the benefit of the patient.
- Do not argue; agree to disagree if consensus cannot be reached.
- Accept that, in some patients, trust may take time to develop.

Communicate effectively

- *Be specific*—explain what you think the diagnosis is and what the management should be.
- *Avoid jargon*—use layman's language, or explain specialist terms which you use.
- *Avoid ambiguity*—clarify precisely what you mean and what your plans are. Be explicit in your statements to patients (e.g. say 'I will ask one of our nurses to visit you at home on Monday morning', rather than 'I'll arrange some community support for you').
- *Connect the advice to the patient*—explain why you think what you do and what it is about the patient's symptoms that suggest the diagnosis to you.
- *Use repetition and recapitulation*—use the 'primacy/recency' effect to your advantage. Restate the important information first, and repeat it at the end.
- *Break up/write down*—most of what is said to patients in medical interviews is rapidly forgotten or distorted. Make the information easier to remember by breaking it up into a numbered list. Consider providing personalized written information, in addition to any advice leaflets, etc. that you give the patient. This is imperative if the advice is complex and specific (e.g. dosage regimes for medication).

Instil hope

- Patients with mental health problems often feel extremely isolated and cut off from others, and they may feel that they are the only people ever to experience their symptoms. Reassure them that you recognize their symptoms as part of a pattern representing a treatable illness.
- Convey to the patient your belief that this illness is understandable and that there are prospects for recovery.

- Counteract unrealistic beliefs (e.g. the fear of 'losing my mind' or of 'being locked away forever').
- Where cure is not possible, emphasize that there is still much that can be done to manage the illness and ameliorate symptoms.

Encourage self-help

- Be clear to the patient what they can do to help themselves, e.g. maintain treatment adherence (Medication adherence, p. 994), avoid exacerbating factors (e.g. drug or alcohol misuse), consider lifestyle changes (e.g. house move, relationship counselling).
- Provide written self-help materials appropriate to the current disorder (Resources for patients, p. 1072).
- Where appropriate, encourage contact/attendance at voluntary treatment organizations, self-help groups, or patient organizations (Resources for patients, p. 1072). Develop knowledge of, and links with, local resources and aim to have their contact numbers and location information available at the consultation.

History

The history should, as far as possible, be gathered in the standard order presented here. This provides structure and logical coherence to the questioning, both for the doctor and the patient, and it is less likely that items will be omitted.

Basic information

Name, age, and marital status. Current occupation. Route of referral. Current legal status (detained under the Mental Health Act?).

Presenting complaints

Number and brief description of presenting complaints. Which is the most troublesome symptom?

History of presenting complaints

For each individual complaint, record its nature (in the patient's own words as far as possible), chronology, severity, associated symptoms, and associated life events occurring at or about the same time. Note precipitating, aggravating, and relieving factors. Have these or similar symptoms occurred before? To what does the patient attribute their symptoms?

Past psychiatric and medical history

Previous psychiatric diagnoses. Chronological list of episodes of psychiatric inpatient, day hospital, and outpatient care. Current medical conditions. Chronological list of episodes of medical or surgical illness. Episodes of symptoms for which no treatment was sought. Any illnesses treated by the GP.

Drug history

List names and doses of current medication (have they been taking it?) Previous psychiatric drug treatments. History of adverse reactions or drug allergy. Any non-prescribed or alternative medications taken.

Family history

Family tree (see Fig. 2.1) detailing names, ages, relationships, and illnesses of first- and second-degree relatives. Are there any familial illnesses?

Personal history

Childhood Were there problems during their pregnancy or delivery? Did they reach development milestones normally? Was their childhood happy? In what sort of family were they raised?

Education Which primary and secondary schools did they attend? If more than one of each, why was this? Did they attend mainstream or specialist schools? Did they enjoy school—if not, why? At what age did they leave school and with what qualifications? Type of further education and qualifications attained. If they left higher education before completing the course, why was this?

Employment

Chronological list of jobs. Which job did they hold for the longest period? Which job did they enjoy most? If the patient has had a series of jobs—why did they leave each? Account for periods of unemployment in the patient's history. Is the type of job undertaken consistent with the patient's level of educational attainment?

Relationships

Sexual orientation. Chronological account of major relationships. Reasons for relationship breakdown. Are they currently in a relationship? Do they have any children from the current or previous relationships? With whom do the children live? What relationship does the patient have with them?

Forensic

(Assessing risk of violence, p. 748; Suggested format for criminal court report, p. 770). Have they been charged or convicted of any offences? What sentence did they receive? Do they have outstanding charges or convictions at the moment?

Social background information

Current occupation. Are they working at the moment? If not, how long have they been off work and why? Current family/relationship situation. Alcohol and illicit drug use (Assessment of the patient with alcohol problems, p. 584; Assessment of the drug user, p. 630). Main recreational activities.

Premorbid personality

How would they describe themselves before they became ill? How would others have described them?

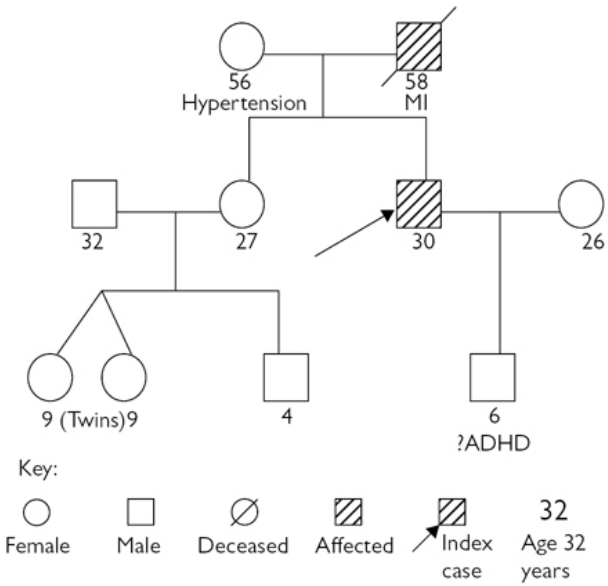

Fig. 2.1 A family tree diagram.

Mental state examination

The MSE is an ordered summary of the examining doctor's observations as to the patient's mental experiences and behaviour at the time of interview. Its purpose is to suggest evidence for and against a diagnosis of mental disorder and, if a mental disorder is present, to record the current type and severity of symptoms. The information obtained should, together with the psychiatric history, enable a judgement to be made regarding the presence and severity of any mental disorder and the risk of harm to self or others.

The required information can be obtained during the course of history-taking or in a systematic fashion afterwards. The MSE should be recorded and presented in a standardized format, although the information contained may derive from material gained in different ways. It is helpful to record the patient's description of significant symptoms, word for word.

Appearance

- Apparent age.
- Racial origin.
- Style of dress.

- Level of cleanliness.
- General physical condition.
- Abnormal involuntary movements, including tics, grimaces, stereotypies, dyskinetic movements, tremors, etc.

Behaviour

- Appropriateness of behaviour.
- Level of motor activity.
- Apparent level of anxiety.
- Eye contact.
- Rapport.
- Abnormal movement or posture.
- Episodes of aggression.
- Distractibility.

Speech

- Volume, rate, and tone.
- Quantity and fluency.
- Abnormal associations, clang, and punning.
- Flight of ideas.

Mood

- Subjective and objective assessment of mood.
- Mood evaluation should include the quality, range, depth, congruence, appropriateness, and communicability of the mood state.
- Anxiety and panic symptoms.
- Obsessions and compulsions.

Perception

- Hallucinations and pseudo-hallucinations.
- Depersonalization and derealization. Illusions and imagery.

Thought form

- Linearity.
- Goal-directedness.
- Associational quality.
- Formal thought disorder.

Thought content

- Delusions.
- Over-valued ideas.
- Preoccupations.
- Obsessive thoughts, ideas, and impulses.
- Thoughts of suicide or deliberate self-harm.
- Thoughts of harm to others. Assess intent, lethality of intent, plan, and inimicality. Does the patient show any urge to act upon the plan?

Cognition

- Attention and concentration.
- Orientation to time, place, and person.
- Level of comprehension.
- Short-term memory.

Insight

- Does the patient feel his experiences are as a result of illness?
- Will he accept medical advice and treatment?

Case summary

The written and oral presentation of the results of a clinical interview should follow a standard format: history, MSE, results of physical examination, and case summary. The case summary can take a variety of forms, but the structure suggested here is suitable for most situations. You should include a brief synopsis of the case, a differential diagnosis with your favoured working diagnosis, and a comment on the aetiological factors in this patient.

Synopsis

This should be a short paragraph summarizing the salient points of the preceding information and covering:

- Basic personal information.
- Previous psychiatric diagnosis.
- Description of the presentation.
- Description of current symptoms.
- Positive features on MSE.
- Suicide risk.
- Attitude to illness.

Differential diagnosis

This will usually be a short list of two or three possibilities. In an exam situation, mention other less likely possibilities you would consider in order to exclude. Your presentation should have directed you towards choosing one as your working diagnosis.

Formulation

For general psychiatric patients, the formulation should include comments on why the person has become ill and why now. You should identify the 'three Ps': predisposing, precipitating, and perpetuating factors for the current illness. This information will be important in guiding a suitable management plan. So, for example, in a patient with depressed mood following the birth of a baby, predisposing factors could be a family history of depressive illness, ♀ sex; precipitating factors could be the postnatal period, job loss, a change of role, and feelings of inadequacy; and prolonging factors could be disturbed sleep and an unsupportive partner.

Management plan

Following the presentation of history, MSE, physical examination, and formulation, you would normally go on to present or to document your initial management plan, including recommended investigations, initial drug treatment, comment on risk management, and advice to other healthcare professionals involved with the patient's care.

Observations of appearance and behaviour

The greater part of the MSE consists of empathic questioning about the patient's internal experiences. Nonetheless, important information regarding the mental state can be obtained from careful observation of the patient's appearance, behaviour, and manner, both during the interview and, in some cases, later on the ward. This is particularly important in some situations, e.g. with a patient who may be concealing the presence of psychotic symptoms or where there is reason to doubt the patient's account.

Take time to observe the patient during the interview, and ask yourself the following questions. If possible, ask nursing staff about behaviour on the ward (e.g. does he have any abnormal movements or mannerisms? How does he interact with other patients? Does he appear to be responding to unseen voices or commands?).

What is the patient's appearance?

Describe the patient's physical appearance and racial origin. Compare what age they appear with their actual age (i.e. biological vs chronological age). What is their manner of dress? Patients with manic illnesses may dress in an excessively formal, flamboyant, or sexually inappropriate manner. Patients with cognitive impairment may have mismatched or wrongly buttoned clothing.

What is the patient's behaviour during the interview?

Are there episodes of tearfulness? Do they attend to the interview or do they appear distracted? Do they maintain an appropriate level of eye contact? Do you feel that you have established rapport?

What is the patient's level of activity during the interview?

Does the patient appear restless or fidgety? Do they settle to a chair or pace during interview? Is there a normal level of gesticulation during conversation?

Is there any evidence of self-neglect?

Does the patient have lower-than-normal standards of self-care and personal hygiene? Are they malodorous, unshaven, or dishevelled? Are their clothes clean? Are there cigarette burns or food stains on their clothes?

Is the patient's behaviour socially inappropriate?

Is there embarrassing, overly familiar, or sexually forward behaviour? All are seen in manic illness or where there is cognitive impairment.

Is the patient's behaviour threatening, aggressive, or violent?

In manner or in speech, does the patient appear hostile or threatening? Do you feel at risk? Is there aggressive or violent behaviour on display during the interview? What prompts it?

Are there any abnormal movements?

Does the patient have repetitive or rocking movements or bizarre posturing (stereotypies)? Do they perform voluntary, goal-directed activities in a bizarre way (mannerisms)? What is their explanation

for this? For patients on neuroleptic medication, is there evidence of side effects (e.g. stiffness, rigidity, tremor, akathisia)?

Is the patient distractible or appearing to be responding to hallucinations?

Does the patient appear to be attending to a voice other than yours? Are they looking around the room as if for the source of a voice? Are they murmuring or mouthing soundlessly to themselves? Are there episodes of giggling, verbal outbursts, or other unexplained actions?

Speech

The content of the patient's speech (i.e. what they say) will be our major source of information for their history and mental state. The form of their speech (i.e. how they say it) is abnormal in a number of mental disorders and should be observed and commented upon.

Is there any speech at all?

A small number of patients are mute during interview. Here the doctor should aim to comment on the apparent level of comprehension (does the patient appear to understand what is said, e.g. shakes or nods their head appropriately), the level of alternate communication (can they write answers down, do they point or use gestures?), and the level of structural impairment of the organs of speech (a patient who can cough on demand is demonstrably able to oppose both vocal cords normally).

What is the quantity of speech?

Are answers unduly brief or monosyllabic? Conversely, are they inappropriately prolonged? Does the speech appear pressured, i.e. is there copious, rapid speech, which is hard to interrupt?

What is the rate of speech?

There is a wide variation in normal rates of speech across even the regions of the UK. Is the patient's speech unusually slow or unusually rapid, given the expected rate? This may reflect acceleration or deceleration in the speed of thought in affective illnesses.

What is the volume and quality of speech?

Does the patient whisper or speak inappropriately loudly? Is there stuttering or slurring of speech?

What is the tone and rhythm of speech?

Even in a non-tonal language like English, normal speech has a musical quality, with the intonation of the voice and rhythm of the sentences conveying meaning (i.e. the rise in tone at the end of a question). Loss of this range of intonation and rhythmic pattern is seen in chronic psychotic illnesses.

How appropriate is the speech?

Is the content of speech appropriate to the situation? Does the patient answer questions appropriately? Are there inappropriate or

pointless digressions? Can the meaning of the speech always be followed?

Is there abnormal use of language?

Are there word-finding difficulties, which may suggest an expressive dysphasia? Are there neologisms (i.e. made-up words or normal words used in an idiosyncratic manner)?

Abnormal mood

In describing disorders of mood, we draw a distinction between affect (the emotional state prevailing at a given moment) and mood (the emotional state over a longer period). To use a meteorological analogy, affect represents the weather, whereas mood is the climate. Variations in affect—from happiness to sadness, irritability to enthusiasm—are within everyone's normal experience. Assessment of pathological abnormality of affect involves assessing the severity, longevity, and ubiquity of the mood disturbance and its association with other pathological features suggestive of a mood disorder.

Depressed mood is the most common symptom of the mood disorders and, in its milder forms, has been experienced by most people at some point. Its experience is personal and is described in a variety of ways by different people—as a profound lowering of spirits, subjectively different from normal unhappiness; as an unpleasant absence of emotions or emotional range; and as a more physical symptom of 'weight' or 'blackness' weighing down on the head or chest. Increasingly, severe forms of depressed mood are indicated by the patient's rating of greater severity, as compared with previous experience, ↑ pervasiveness of the low mood to all situations, and ↓ reactivity of mood (i.e. ↓ ability of the mood to be lightened by pleasurable or encouraging events).

The two central clinical features of depressive illness are: (1) pervasively depressed and unreactive mood; and (2) anhedonia—the loss of pleasure in previously pleasurable activities. The clinical picture also includes the 'biological features of depression', thoughts of self-harm, and, in more severe cases, mood-congruent psychotic features. The biological features include disturbance of sleep [particularly early morning wakening (EMW) and difficulty getting off to sleep], reduced appetite, loss of libido, reduced energy levels, and subjective impression of poorer concentration and memory. Many depressed patients will have thoughts of deliberate self-harm or ending their lives as a way of ending their suffering. With increasingly severe depressed mood, there are increasingly frequent and formed plans of suicide. The development of a sense of hopelessness about the future is a worrying sign.

Mania and depression are often thought of as two extremes of illness, with normality or euthymia in the middle. Morbid change in mood (either elevation or depression) can more accurately be

considered as being on one side of a coin, with normality on the other. Some patients display both manic and depressive features in the one episode—a mixed affective state. Manic and depressive illnesses have, in common, ↑ lability (i.e. susceptibility to change) of mood, ↑ irritability, ↓ sleep, and an increase in subjective anxiety.

The core features of manic illnesses are sustained, inappropriate elevation in mood (often described as feeling on top of the world) and a distorted or inflated estimate of one's importance and abilities. The clinical picture also includes ↑ lability of mood, ↑ irritability, ↑ activity levels, disturbed sleep pattern with a sense of diminished need for sleep, and subjectively improved memory and concentration despite an objective deterioration in these skills. With increasingly severe episodes of manic illness, there is loss of judgement, an increase in inappropriate and risky behaviour, and the development of mood-congruent delusions.

Asking about depressed mood

'How has your mood been lately?'

Patients vary in their ability to introspect and assess their mood. Beginning with general questioning allows a more unbiased account of mood problems. Report any description of depression in the patient's own words. Ask the patient to assess the depth of depression (e.g. 'on a scale of 1 to 10, where 10 is normal and 1 is as depressed as you have ever felt, how would you rate your mood now?'; how long has the mood been as low as this?). Note any discrepancy between the patient's report of mood and the objective signs of mood disturbance.

'Does your mood vary over the course of a day?'

Clarify if the mood varies as the day goes on. If mood improves in the evening, does it return completely to normal? Does anything else change as the day goes on, to account for the mood change (e.g. more company in the evenings)?

'Can you still enjoy the things you used to enjoy?'

By this point of the interview, you should have some idea about the activities the patient formerly enjoyed. Depressed patients describe a lack of interest in their previous pursuits, ↓ participation in activities, and a sense of any participation being more of an effort.

'How are you sleeping?'

Many patients will simply describe their sleep as 'terrible'. They should be asked further about time to bed, time falling asleep, wakefulness throughout the night, time of waking in the morning, quality of sleep (is it refreshing?), and any daytime napping.

'What is your appetite like at the moment?'

Patients reporting a change in their appetite should be asked about the reasons for this (loss of interest in food, loss of motivation to prepare food, or swallowing difficulties?). Has there been recent weight loss? Do their clothes still fit?

'How is your concentration?'

Clarify any reported decline by asking about the ability to perform standard tasks. Can they read a newspaper? Can they watch a TV show? Ask about work performance.

'What is your memory like at the moment?'

Again, clarify any reported decline.

'How is the sexual side of your relationship?'

Potentially embarrassing topics are best approached in a professional and matter-of-fact way. It is important to enquire about this directly, as the symptom of loss of libido can cause considerable suffering for the patient and partner and is less likely than other symptoms to be mentioned spontaneously. During treatment, this symptom should again be asked about, as many psychotropic drugs negatively affect sexual performance.

'Do you have any worries on your mind at the moment?'

Depressed patients tend to preferentially dwell on negative issues.

'Do you feel guilty about anything at the moment?' Patients with depressive illnesses often report feelings of guilt or remorse about current or historical events. In severe illnesses, these feelings can become delusional. Aim to assess the presence and nature of guilty thoughts.

Asking about thoughts of self-harm

Completed suicide is an unfortunately common outcome in many psychiatric conditions. Thoughts of self-harm occur commonly and should always be enquired about. Many patients with a mental illness of any severity will have had such thoughts at some stage. It should be emphasized that asking about self-harm does not 'put the idea in their head', and patients may welcome the chance to discuss such worrying thoughts.

The assessment is not only of the presence of suicidal thoughts, but also of their severity, frequency, and the likelihood of them being followed by suicidal action. One suggested method involves asking about behaviours and thoughts associated with increasing suicide risk. This tactful enquiry can be made, in addition to an estimate of risk. The aim is not to trap the patient into an unwanted disclosure, but to assess the severity of suicidal intent, and hence the attendant risk of completed suicide.

'How do you feel about the future?'

Patients often remain optimistic of improvement despite severe symptoms. Hopelessness about the future and a feeling that things will never get better are worrying.

'Have you ever thought that life was not worth living?'

A consequence of hopelessness is the feeling that anything, even nothingness, would be better.

'Have you ever wished you could go to bed and not wake up in the morning?'

Passive thoughts of death are common in mental illness and can also be found in normal elderly people towards the end of life, particularly after the deaths of spouses and peers.

'Have you had thoughts of ending your life?'

If yes, enquire about the frequency of these thoughts—are they fleeting and rapidly dismissed, or more prolonged? Are they becoming more common?

'Have you thought about how you would do it?'

Ask about methods of suicide the patient has considered. Particularly worrying are violent methods that are likely to succeed (e.g. shooting, hanging, or jumping from a height).

'Have you made any preparations?'

Aim to establish how far the patient's plans have progressed from ideas to action. Have they considered a place, bought pills, carried out a final act (e.g. suicide note, or begun putting their affairs in order)?

'Have you tried to take your own life?'

Further assessment may be needed if there has been a recent concealed attempt (e.g. overdose).

Self-injurious behaviours

Some patients report causing harm to themselves, sometimes repeatedly, without reporting a desire to die (e.g. lacerate their arms, legs, or abdomen; burn themselves with cigarettes). In these cases, enquire about the reasons for this behaviour, which may be obscure, even to the person concerned. In what circumstances do they harm themselves? What do they feel and think before harming themselves? How do they feel afterwards?

Asking about elevated mood

'How has your mood been lately?'

As for enquiries about depressed mood, begin with a very general question. Report the patient's description of their mood in their own words. Clarify what the patient means by general statements such as 'on top of the world'.

'Do you find your mood is changeable at the moment?'

Besides general elevation in mood, patients with mania often report lability of mood, with tearfulness and irritability, as well as elation. The pattern and type of mood variation should be noted, if present.

'What is your thinking like at the moment?'

Patients with mania often report a subjective increase in the speed and ease of thinking, with many ideas occurring to them, each with

a wider variety of associated thoughts than normal. This experience, together with the nature of their ideas, should be explored and described.

'Do you have any special gifts or talents?'

A characteristic feature of frank mania is the belief that they have exceptional abilities of some kind (e.g. as great writers or painters) or that they have some particular insight to offer the world (e.g. the route to achieving world peace). These beliefs may become frankly delusional, with the patient believing they have special or magical powers. The nature of these beliefs and their implications and meaning for the patient should be described.

'How are you sleeping?'

Manic patients describe finding sleep unnecessary or a distraction from their current plans. Enquire about the length and quality of sleep.

'What is your appetite like at the moment?'

Appetite is variable in manic illnesses. Some patients describe having no time or patience for the preparation of food; others eat excessively and spend excessively on food and drink. Ask about recent weight gain or loss and about a recent typical day's food intake.

'How is your concentration?'

Typically, manic patients have impaired concentration and may report this; in this case, the complaint should be clarified by examples of impairment. Some manic patients overestimate their concentration, along with other subjective estimates of ability. Report on objective measures of concentration (e.g. attention to interview questioning or ability to retain interest in newspapers or TV while on the ward).

'How is the sexual side of your relationship?'

Again, this topic should be broached directly and straightforwardly.

Manic patients sometimes report ↑ interest in sexual activity. Clarify the patient's estimate of his or her own sexual attractiveness and recent increase in sexual activity or promiscuity.

Anxiety symptoms

Anxiety symptoms are the most common type of symptoms seen in patients with psychiatric disorders. They are the core clinical features of the ICD-10 neurotic disorders (which are indeed called anxiety disorders in DSM-5) and are also prominent clinical features in psychotic illnesses, affective illness, organic disorders, and drug and alcohol use and withdrawal.

Anxiety has two components: *psychic anxiety*—an unpleasant effect in which there is subjective tension, ↑ arousal, and fearful apprehension; and *somatic anxiety*—bodily sensations of palpitations, sweating, dyspnoea, pallor, and abdominal discomfort.

The sensations of anxiety are related to autonomic arousal and cognitive appraisal of threat, which were adaptive primitive survival reactions.

Anxiety symptoms are part of normal healthy experience, particularly before novel, stressful, or potentially dangerous situations. Moderate amounts of anxiety can optimize performance (the so-called 'Yerkes–Dobson' curve—plotting performance level against anxiety shows an inverse U shape). They become pathological when they are abnormally severe or abnormally prolonged, or if they are present at a level out of keeping with the real threat of the situation.

Anxiety symptoms may be present at a more or less constant level—*generalized anxiety*; or they may occur only episodically—*panic attacks*. Anxiety symptoms may or may not have an identifiable stimulus. Where a stimulus can be identified, it may be very specific, as in a simple phobia (e.g. fear of cats or spiders), or it may be more generalized, as in social phobia and agoraphobia. In phobias of all kinds, there is avoidance of the feared situation. Because this avoidance is followed by a reduction in unpleasant symptoms, it is reinforced and is liable to be repeated. Breaking of this cycle is the basis of desensitization methods of treating phobias (Behaviour therapy, p. 908).

The repetition of behaviours in order to achieve reduction in the experience of anxiety is also seen in the symptoms of *obsessions* and *compulsions*. Here, the patient regards the thoughts (obsessions) and/or actions (compulsions) as purposeless but is unable to resist thinking about them or carrying them out. Resistance to their performance produces rising anxiety levels, which are diminished by repeating the resisted behaviour.

Asking about anxiety symptoms

In enquiring about anxiety symptoms, aside from the nature, severity, and precipitants of the symptoms, it is important to establish in all cases the impact they are having on the person's life. Record what particular activities or situations are avoided because of their symptoms and, in the case of obsessional symptoms, note how much time the patient spends on them.

'Would you say you were an anxious person?' There is a wide variation in the normal level of arousal and anxiety. Some people are inveterate 'worriers', while others appear relaxed at all times.

'Recently, have you been feeling particularly anxious or on edge?' Ask the patient to describe when the symptoms began. Was there any particular precipitating event or trauma?

'Do any particular situations make you more anxious than others?' Establish whether the symptoms are constant or fluctuating. If the latter, enquire about those situations that cause worsening or improvement.

'Have you ever had a panic attack?' Ask the patient to describe to you what they mean by this. A classical panic attack is described as sudden in onset, with gradual resolution over 30–60min. There

are physical symptoms of dyspnoea, tachycardia, sweating, chest tightness/chest pain, and paraesthesiae (related to over-breathing); coupled with psychological symptoms of subjective tension and apprehension that 'something terrible is going to happen'.

'Do any thoughts or worries keep coming back to your mind, even though you try to push them away?'

'Do you ever find yourself spending a lot of time doing the same thing over and over—like checking things or cleaning—even though you've already done it well enough?' Besides identifying the type of repetitive thought or action involved, it is important to establish that the thoughts or impulses are recognized as the person's own (in contrast with thought insertion in psychotic illness) and that they are associated with resistance (although active resistance may diminish in chronic OCD). Patients with obsessional thoughts often worry that they are 'losing their mind' or that they will act on a particular thought (e.g. a mother with an obsessional image of smothering her baby). Where the symptom is definitively that of an obsession, the patient can be reassured that they will not carry it out.

Abnormal perceptions

Abnormal perceptual experiences form part of the clinical picture of many mental disorders. Equally, the range of normal perceptual experience is very wide. Patients vary in their ability to explain their subjective perceptual experiences.

The brain constantly receives large amounts of perceptual information via the five special senses—vision, hearing, touch, taste, and smell; the muscle, joint, and internal organ proprioceptors, and the vestibular apparatus. The majority of this information is processed unconsciously, and only a minority reaches conscious awareness at any one time. An *external object* is represented internally by a *sensory percept* that combines with memory and experience to produce a *meaningful internal percept* in the conscious mind. In health, we can clearly distinguish between percepts which represent real objects and those which are the result of internal imagery or fantasy, which may be vividly experienced in the mind but are recognized as not real.

Abnormal perceptual experiences may be divided into two types:

- Altered perceptions—including sensory distortions and illusions—in which there is a distorted internal perception of a real external object.
- False perceptions—including hallucinations and pseudo-hallucinations—in which there is an internal perception without an external object.

Sensory distortions are changes in the perceived intensity or quality of a real external stimulus. They are associated with organic conditions and with drug ingestion or withdrawal. *Hyperacusis* (experiencing sounds as abnormally loud) and *micropsia* (perceiving objects as smaller and further away, as if looking through the wrong end of a telescope) are examples of sensory distortions.

Illusions are altered perceptions in which a real external object is combined with mental imagery to produce a false internal percept. Both lowered attention and heightened affect will predispose to experiencing illusions.

Affect illusions occur at times of heightened emotion (e.g. while walking through a dangerous area late at night, a person may see a tree blowing in the wind as an attacker lunging at them).

Completion illusions rely on our brain's tendency to 'fill in' presumed missing parts of an object to produce a meaningful percept and are the basis for many types of optical illusion. Both these types of illusions resolve on closer attention.

Pareidolic illusions are meaningful percepts produced when experiencing a poorly defined stimulus (e.g. seeing faces in a fire or in clouds).

Hallucinations A hallucination is defined as 'a percept without an object' (Esquirol, 1838). As symptoms of major mental disorders, hallucinations are the most significant type of abnormal perception. It is important to appreciate that the subjective experience of hallucination is that of experiencing a normal percept in that modality of sensation. A *true hallucination* will be perceived as being in external space, distinct from imagined images, outside conscious control, and as possessing relative permanence. A *pseudo-hallucination* will lack one or all of these characteristics and be subjectively experienced as internal or 'in my head'. The only characteristic of true perceptions which true hallucinations lack is publicness; hallucinating patients may accept that their experiences are not shared by others around them in the same way as a normal sensory experience.

Auditory hallucinations are most frequently seen in functional psychoses. Three experiences of auditory hallucinations are first-rank symptoms in schizophrenia. These are:

- Hearing a voice speak one's thoughts aloud.
- Hearing a voice narrating one's actions.
- Hearing two or more voices arguing.

Visual hallucinations are associated with organic disorders of the brain and with drug and alcohol intoxication and withdrawal. They are very rarely seen in psychotic illness alone but are reported in association with dementias, cortical tumours, and stimulant and hallucinogen ingestion, and, most commonly, in delirium tremens. The visual hallucinations seen in delirium tremens are characteristically 'Lilliputian hallucinations' of miniature animals or people.

Olfactory and gustatory hallucinations may be difficult to distinguish and occur in a wide range of mental disorders. Olfactory hallucinations occur in epileptic auras, in depressive illnesses (where the smell is described as unpleasant or repulsive to others), and in schizophrenia. They may also occur in association with a persistent delusion of malodorousness.

Hypnagogic/hypnopompic hallucinations are transient false perceptions which occur on falling asleep (hypnagogic) or on waking (hypnopompic). They may have the characteristics of true

or pseudo-hallucinations and are most commonly visual or auditory. While they are sometimes seen in narcolepsy and affective illnesses, they are not indicative of ill health and are frequently reported by healthy people.

Elemental hallucinations are the hallucinatory experience of simple sensory elements such as flashes of light or unstructured noises. They are associated with organic states.

Extracampine hallucinations are those false perceptions where the hallucination is of an external object beyond the normal range of perception of the sensory organs.

Functional hallucinations are hallucinations of any modality that are experienced simultaneously with a normal stimulus in that modality (e.g. a patient who only experiences auditory hallucinations when he hears the sound of the ward's air conditioning).

Reflex hallucinations are hallucinations in one modality of sensation experienced after experiencing a normal stimulus in another modality of sensation.

Asking about abnormal perceptions

Asking patients about their experience of abnormal perceptions and abnormal beliefs (e.g. hallucinations and delusions) presents a number of problems for the examiner. Unlike symptoms such as anxiety, these symptoms are not part of normal experience, and so the examiner will not have the same degree of empathic understanding. Patients will often fear the reaction of others to the revelation of psychotic symptoms (fear of being thought 'mad') and so conceal them. When such symptoms are not present, patients may resent such questioning or regard it as strange or insulting.

As with most potentially embarrassing topics, the best approach is frankness, lack of embarrassment, and straightforwardness. If the interview thus far has not led to report of psychotic symptoms, the examiner should begin by saying something like the following.

'Now I want to ask you about some experiences which sometimes people have but find difficult to talk about. These are questions I ask everyone.' This makes clear that these questions are not as a result of suspicion in the examiner's mind or an indicator of how seriously they regard the patient's problems.

'Have you ever had the sensation that you were unreal—or that the world had become unreal?' The symptoms of depersonalization and derealization are non-specific symptoms in a variety of affective and psychotic conditions. Many patients find them difficult or impossible to explain clearly, commonly describing the experience as 'like being in a play'. Patients often worry about these experiences, fearing they presage 'going mad'. They may therefore be reluctant to mention them spontaneously.

'Have you ever had the experience of hearing noises or voices when there was no one about to explain it?' If the patient agrees, then this experience should be further clarified: When did this occur? Was the patient fully awake? How often? Where did the

sound appear to come from? If a voice was heard, what did it say? Did the patient recognize the voice? Was there more than one? How did the voice refer to the patient (e.g. as 'you' or 'him')? Can the patient give examples of the sort of things the voice said?

'Have you seen any visions?' Again, clarify when and how often the experience occurred. What were the circumstances? Was the vision seen with the 'mind's eye' or perceived as being in external space? Was it distinct from the surroundings or seen as part of the wallpaper or curtain pattern?

'Do you ever notice smells or tastes that other people aren't bothered by?' Again, clarify the details surrounding any positive response. Aim to distinguish olfactory hallucinations (where there is the experience of an abnormal odour) from a patient who has a delusion that he is malodorous.

Abnormal beliefs

Examination of the patient's ideas and beliefs will form an important part of the MSE. Abnormal or false beliefs include primary and secondary delusions and over-valued ideas. More so than other symptoms of mental ill health, a patient with delusions fits the common preconceptions of 'madness'. Delusions are important symptoms in the diagnosis of the major psychoses.

Delusions

A delusion is a pathological belief which has the following characteristics:

- It is held with absolute subjective certainty and cannot be rationalized away.
- It requires no external proof and may be held in the face of contradictory evidence.
- It has personal significance and importance to the individual concerned.
- It is not a belief which can be understood as part of the subject's cultural or religious background.

Note: although the content of the delusion is usually demonstrably false and bizarre in nature, this is not invariably so.

A *secondary delusion* is one whose development can be understood in the light of another abnormality in the mental state (e.g. the development of delusions of poverty in a severely depressed patient).

A *primary delusion* cannot be understood in this way and must be presumed as arising directly from the pathological process. Delusions can be categorized by their content or by the manner in which they are perceived as having arisen.

Over-valued ideas

An over-valued idea is a non-delusional, non-obsessional abnormal belief. Here, the patient has a belief which is, in itself, acceptable and comprehensible but which is preoccupying and comes to dominate their thinking and behaviour. The idea is not perceived as external or senseless but will generally have great significance to

the patient. Over-valued ideas may have a variety of contents in different disorders (e.g. concern over physical appearance in dysmorphophobia; concern over weight and body shape in anorexia nervosa; concern over personal rights in paranoid personality disorder).

Asking about abnormal beliefs

Both at the initial interview and during subsequent treatment, professional staff dealing with a deluded patient should avoid colluding in the delusional belief system. The doctor should not be drawn into arguments about the truth of the delusion—by their nature, delusions cannot be argued or rationalized away, and arguments of this type can damage rapport. Nonetheless, the doctor should always make clear to the patient that he regards the delusional symptom as a symptom of mental ill health, albeit one which is very real and important to the patient concerned.

Delusional ideas vary in their degree of detail and in their intensity over the course of an illness episode. In evolving psychotic illness, there will often be a perplexing sense of 'something not being right' and ill-formed symptoms such as a vague sense that they are being spied upon or persecuted in some way. As the delusion becomes more fully formed, it comes to dominate the person's thinking and becomes more *elaborated*—more detailed and with more 'evidence' produced to support the belief. With treatment, the delusion will hopefully fade in importance and the person may come to appreciate the belief as false or, despite holding to its initial truth, will regard it as no longer important.

'Do you have any particular worries preying on your mind at the moment?' Beginning with a very general question like this offers the patient an opportunity to broach a topic which may have been concerning them but which they have been putting off mentioning.

'Do you ever feel that people are watching you or paying attention to what you are doing?' Ask the patient to describe this sensation and an episode of its occurrence. Distinguish normal self-consciousness or a patient's awareness of a genuinely notable abnormality from referential delusions. A delusion will generally have further elaboration of the belief—there will be some 'reason' why the reported events are happening. Elaboration may take the form of other beliefs about cameras, bugs, etc.

'When you watch television or read the newspapers, do you ever feel that the stories refer to you directly or to things that you have been doing?' Invite the patient to elaborate further on a positive response. Again, probe for further elaboration of the belief and seek examples of when it has occurred.

'Do you ever feel that people are trying to harm you in any way?' Persecutory delusions are among the most common features of psychotic illness. There is potential for diagnostic confusion with paranoid personality traits, with suspicion and resentfulness towards medical and nursing staff and with genuine fears, understandable in the context of the patient's lifestyle (e.g. of

retribution from drug dealers or money lenders). Explore the nature and basis of the beliefs and the supporting evidence that the patient advances for them.

'Do you feel that you are to blame for anything, that you are responsible for anything going wrong?' Delusions of guilt are seen in psychotic depression, in addition to the psychotic disorders. The affected individual may believe that they are responsible for a crime, occasionally one which has been prominently reported. On occasions, these individuals may 'turn themselves in' to the police, rather than seeking medical help.

'Do you worry that there is anything wrong with your body or that you have a serious illness?' Hypochondriacal delusions show diagnostic overlap with normal health concerns, hypochondriacal over-valued ideas, and somatization disorder. Clarify this symptom by examining the patient's evidence for this belief and the firmness with which it is held.

Asking about the first-rank symptoms of schizophrenia

The first-rank symptoms are a group of symptoms which have special significance in the diagnosis of schizophrenia. There is no symptom that is pathognomonic of schizophrenia. The first-rank symptoms are useful because they occur reasonably often in schizophrenia and more rarely in other disorders, and it is not too difficult to tell whether they are present or not. They can all be reported in other conditions (e.g. organic psychoses, manic illnesses). They do not give a guide to severity or prognosis of illness (i.e. a patient with many first-rank symptoms is not 'worse' than one with few), and they may not occur at all in a patient who undoubtedly has schizophrenia. There are eleven first-rank symptoms, organized into four categories according to type.

Auditory hallucinations

- 'Voices heard arguing'.
- Thought echo.
- 'Running commentary'.

Delusions of thought interference

- Thought insertion.
- Thought withdrawal.
- Thought broadcasting.

Delusions of control

- Passivity of affect.
- Passivity of impulse.
- Passivity of volitions.
- Somatic passivity.

Delusional perception

- A primary delusion of any content that is reported by the patient as having arisen, following the experience of a normal perception.

'Do you ever hear voices commenting on what you are doing? Or discussing you between themselves? Or repeating your own thoughts back to you?' For this symptom to be considered first-rank, the experience must be that of a true auditory hallucination where the hallucinatory voice refers to the patient in the third person (i.e. as 'him' or 'her', rather than 'you'). Distinguish these experiences from internal monologues.

'Do you ever get the feeling that someone is interfering with your thoughts—that they are putting thoughts into your head or taking them away? Or that your thoughts can be transmitted to others in some way?' It is the experience itself that renders this symptom first-rank. The patient may describe additional delusional elaboration (e.g. involving implanted transmitters or radio waves). The important point to clarify with the patient is that the experience is really that of thoughts being affected by an external agency and that it is not simple distraction or absent-mindedness. For thought broadcasting, ensure that the patient is not simply referring to the fact that they are 'easily read' or that they give away their emotions or thoughts by their actions.

'Do you ever get the feeling that you are being controlled? That your thoughts or moods or actions are being forced on you by someone else?' Again, there may be delusional elaboration of this symptom, but it is the experience itself of an external controller affecting things which are normally experienced as totally under one's own control which makes this symptom first-rank. Clarify that the actions are truly perceived as controlled by an outside agency, rather than, for example, being directed by auditory hallucinations.

Disorders of the form of thought

In describing psychopathology, we draw a distinction between the content and the form of thought.

Content and form

Content describes the meaning and experience of belief, perception, and memory as described by patients, while form describes the structure and process of thought. In addition to abnormalities of perception and belief, mental disorders can produce abnormality in the normal form of thought processes. This may be suggested by abnormalities in the form of speech, the only objective representation of the thoughts, or may be revealed by empathic questioning designed to elicit the patient's subjective experiences. When patients mutter to themselves, listen closely to see if it is comprehensible or not. The latter is usually indicative of a disorder of form of thinking. See Box 2.2 for methods of assessing symptoms of thought disorder.

Box 2.2 Assessing symptoms of thought disorder

Patients will rarely directly complain of the symptoms of thought disorder. In assessing the first-rank symptoms of schizophrenia, the doctor will have enquired about delusions of control of

thought and about passivity delusions. Both these symptom areas require the patient to introspect their thought processes; however, more rarely, they will be aware of disorders which affect the form, as opposed to the content, of their thoughts. They can be asked directly about the symptoms of acceleration and deceleration of thought, and these symptoms may be directly observable in acceleration or deceleration of speech. Observation and recording of examples of abnormal speech is the method by which a formal thought disorder is assessed. Record examples of the patient's speech as verbatim quotes, particularly sentences where the meaning or the connection between ideas is not clear to you during the interview. Following recovery, patients can sometimes explain the underlying meaning behind examples of schizophrenic speech.

Thought disorder

Among the psychiatric symptoms that are outside normal experience, thought disorder is challenging to understand and perhaps the most difficult for the clinician to have empathy with. Consider a model of normal thought processes, and use this to simplify discussions of abnormalities. In this model, we visualize each thought, giving rise to a constellation of associations (i.e. a series of related thoughts). One of these is pursued, which gives rise to a further constellation and so on. This sequence may proceed towards a specific goal driven by a determining tendency (colloquially the 'train of thought') or may be undirected as in daydreaming. Disturbances in the form of thought may affect the rate or internal associations of thought.

Accelerated tempo of thought

Accelerated tempo of thought is called flight of ideas. It may be reflected in the speech as pressure of speech or may be described by the patient. The sensation is of the thoughts proceeding more rapidly than can be articulated and of each thought giving rise to more associations than can be followed up. Flight of ideas can be a feature of a manic episode. In the majority of cases of flight of ideas, some form of association of each thought can be discerned. For example, it could be a superficial clang association, alliteration, and punning that proceeds like a game of dominoes where the last move determines the next move. In milder forms, called prolixity, the rate is slow and eventually reaches the goal if allowed adequate time.

Decelerated tempo of thought

Decelerated tempo of thought, or psychic retardation, occurs in depressive illnesses. Here the subjective speed of thought and the range of associations are d. There may be ↓ rate of speech and absence of spontaneous speech. In addition, the remaining thoughts tend towards gloomy themes. In both accelerated and decelerated thought, there may be an ↑ tendency for the

determining tendency of thought to be lost (referred to as distractibility).

Schizophrenic thought disorder

Disturbances of the associations between the thoughts are closely associated with schizophrenia and may be referred to as *schizophrenic thought disorder*. Four disturbances are classically described: snapping off (*entgleiten*), fusion (*verschmelzung*), muddling (*faseln*), and derailment (*entgleisen*).

- Snapping off or thought blocking describes the subjective experience of the sudden and unintentional stop in a chain of thought. This may be unexplained by the patient or there may be delusional elaboration (e.g. explained as *thought withdrawal*).
- Derailment or *knight's move thinking* describes a total break in the chain of association between the meanings of thoughts.
- Fusion is when two or more related ideas from a group of associations come together to form one idea.
- Muddling is a mixture of elements of fusion and derailment. *Drivelling* refers to the resulting speech.
- In mild forms, the determining tendency in the thoughts can be followed (follow-up of side associations is referred to as circumstantiality).

Abnormal cognitive function

All mental disorders affect cognition as expressed in affect, beliefs, and perceptions. The organic mental illnesses directly affect the higher cognitive functions of conscious level, clarity of thought, memory, and intelligence.

Level of consciousness

This can range from full alertness through to clouding of consciousness, sopor, and coma (*pathological unconsciousness*), or from full alertness through to drowsiness, shallow sleep, and deep sleep (*physiological unconsciousness*).

Confusion

Milder forms of brain insult are characterized by a combination of disorientation, misinterpretation of sensory input, impairment in memory, and loss of the normal clarity of thought—together referred to as confusion. It is the main clinical feature of delirium (Acute confusional state (delirium), p. 854) and is also present during intoxication with psychotropic substances and occasionally as part of the clinical picture of acute psychotic illnesses.

- *Disorientation*—an unimpaired individual is aware of who he is and has a constantly updated record of where he is and when it is. With increasing impairment, there is disorientation for time, then place, and lastly, with more severe confusion, for person.
- *Misinterpretation*—with confusion, there is impairment of the normal ability to perceive and attach meaning to sensory stimuli.

In frank delirium, there may be hallucinations, particularly visual, and secondary delusions, particularly of a persecutory nature.

- *Memory impairment*—with confusion, there is impairment in both the registration of new memories (anterograde amnesia) and recall of established memories (retrograde amnesia). Events occurring during the period of confusion may be unable to be recalled or may be recalled in a distorted fashion, indicating a failure of registration.
- *Impaired clarity of thought*—the layman's 'confusion'. A variable degree of impairment in the normal process of thought with disturbed linkages between meaning, subjective and objective slowing of thought, impaired comprehension, and bizarre content.

Memory

Beyond the ephemeral contents of our minds, containing our current thoughts and current sensorium, our memory contains all records of our experience and personality.

- *Working memory*—synonymous with short-term memory, which is responsible for the immediate recall of small amounts of verbal (as in digit span) or visuospatial information. Used for such purposes as holding a telephone number while dialling it. Most people have between 5 and 9 'spaces' available, with an average of 7 (the 'magic number'). New information will enter at the expense of the old. It has been traditionally held that storage of information in long-term memory is dependent on short-term memory. This is now no longer thought to be true; rather, these two memory components are thought to function independently of each other. For example, patients with even severe impairment of episodic memory (e.g. persons with Korsakoff's syndrome) can present with normal short-term memory.
- *Long-term memory*—system for storage of permanent memories, with apparently unlimited capacity. There appear to be separate storage systems for different types of information: memory for events (*episodic memory*), learnt skills (*procedural memory*), and memory of concepts and ideas unrelated to personal experience (*semantic memory*), which can be differentially affected by disease process.

Intelligence

A person's intelligence refers to their ability to reason, solve problems, apply previous knowledge to new situations, learn new skills, think in an abstract way, and formulate solutions to problems by internal planning. It is stable through adult life, unless affected by a disease process. Intelligence is measured by the IQ, a unitary measure with a population mean of 100 and a normal distribution. There is a 'hump' on the left-hand side of the population curve for IQ representing those individuals with congenital or acquired lowered IQ. No pathological process produces heightened IQ.

Acute vs chronic brain failure

Despite its great complexity, the brain tends to respond to insults, whatever their source, in a variety of stereotyped ways (e.g.

delirium, seizure, coma, dementia). These present as clinically similar or identical, whatever their underlying cause. Acute brain failure (delirium) and chronic brain failure (dementia) are two characteristic and stereotyped responses of the brain to injury. In common with other organ failure syndromes, there is an 'acute-on-chronic' effect where patients with established chronic impairment are susceptible to developing acute impairment, following an insult which would not cause impairment in a normal brain [e.g. the development of florid delirium in a woman with mild dementia who develops a urinary tract infection (UTI)].

Assessing cognitive function 1

Assessing level of consciousness

The Glasgow Coma Scale (GCS) is a rapid clinical measure of the conscious level (see Box 2.3). In delirium, both the conscious level and the level of confusion may vary rapidly on an hour-by-hour basis and may present as apparently 'normal' on occasions. Patients with symptoms suggestive of delirium should therefore be re-examined regularly.

Assessing confusion

Assess orientation by direct questioning. Some degree of uncertainty as to the date and time can be expected in the hospitalized individual who is away from their normal routine. Directly enquire about episodes of perceptual disturbance and their nature. Document examples of confused speech, and comment on the accompanying affect.

Assessing memory

Working memory can be assessed by giving the patient a fictitious address containing six components, asking them to repeat it back, or by testing digit span, spelling of WORLD backwards, etc. Clinicians traditionally used the term 'short-term memory' to reflect material held over a short period (e.g. 5–30mins) or some time to refer to retention over the ensuing days or week. There is no evidence, however, from a neuropsychological perspective of a memory system with these characteristics, and one is better occupied in thinking of memory as defined here, and thereafter considering anterograde and retrograde aspects of the same.

Level of intelligence

In most cases, formal IQ testing will not be used and the IQ is assessed clinically. Clinical assessment of IQ is by consideration of the highest level of educational achievement reached and by assessment of the patient's comprehension, vocabulary, and level of understanding in the course of the clinical interview. To some extent, this technique relies upon experience, giving the doctor a suitable cohort of previous patients for comparison, and allowance should be made for apparent impairment that may be secondary to other abnormalities of the mental state. In any case, if there is

significant doubt about the presence of mental impairment, more formal neuropsychological testing should be carried out.

Box 2.3 Glasgow coma scale (GCS)

The GCS is scored between 3 and 15, 3 being the worst (you cannot score 0) and 15 the best. It is composed of three parameters:
[E] Best eye response (maximum score = 4)

1. No eye opening.
2. Eye opening to pain.
3. Eye opening to verbal command.
4. Eyes open spontaneously.

[V] Best verbal response (maximum score = 5)

1. No verbal response.
2. Incomprehensible sounds.
3. Inappropriate words.
4. Confused but converses.
5. Orientated and converses.

[M] Best motor response (maximum score = 6)

1. No motor response.
2. Extension to pain.
3. Flexion to pain.
4. Withdrawal from pain.
5. Localizing pain.
6. Obeys commands.

Notes:

- The phrase 'GCS score of 11' is essentially meaningless; the figure should be broken down into its components (e.g. quadraplegia + tracheostomy = E4 V1 M1 = GCS score 5, fully conscious).
- A GCS score of 13 or more correlates with mild brain injury, 9–12 with moderate injury, and 8 or less with severe brain injury.

Reproduced from Teasdale G, Jennett B (1974) Assessment of coma and impaired consciousness. A practical scale. *Lancet* **304**(7872): 81–4, with kind permission from Elsevier.

Assessing cognitive function 2

A wide range of standardized instruments are available for use in screening for cognitive impairment and for measuring severity and progression in established cases of dementia. There is currently no clear consensus on the best screening instrument, but in general, shorter screening tests are favoured in primary care or general medical settings.

Bedside cognitive testing

Six-item Cognitive Impairment Test (6CIT) (Katzman, 1983) A 6-question, abbreviated form of the older Blessed Information

Memory Concentration Scale (BIMC) (1968), which examines orientation, memory, and concentration. Its usage is increasing, following its use as one component in a standardized assessment (Easycare©) recognized by the Royal College of General Practitioners. A computerized version is also available (Kingshill Version 2000). It is inversely scored and weighted, so that a score of 8 or more out of 28 is suggestive of significant cognitive impairment (sensitivity 78–90%, specificity 100%).

Abbreviated Mental Test (AMT) (Hodkinson, 1972) A 10-item questionnaire testing orientation, memory, and concentration, originally developed by geriatricians as an abbreviated form of the mental test score from the BIMC. Useful for rapid screening for cognitive impairment—indicated by a score of 7 or less out of 10 (sensitivity 70–80%, specificity 71–90%).

Mini Mental State Examination (MMSE) (Folstein, 1975) A 30-item questionnaire frequently used in psychiatric settings to screen for, and measure, cognitive impairment. It is included in many guidelines for dementia diagnosis, and there is a large body of research providing reference ranges for a variety of clinical situations and premorbid levels of functioning. A low sensitivity makes it less suitable as a screening test in primary care, but it is often used as a relatively short test to monitor changes in cognitive function over time, particularly in response to treatment. It should be remembered that the MMSE is based almost entirely on verbal assessment of memory and attention. It is insensitive to frontal executive dysfunction and visuospatial deficits. A score of 23–25 or less out of 30 is considered impaired; however, note the low sensitivity and clinical experience which finds, not uncommonly, cognitive impairment in individuals with scores of 30/30 (sensitivity 30–60%, specificity 92–100%).

Montreal Cognitive Assessment (MoCA) (Nasreddine, 2005) A 30-item questionnaire, increasingly used in preference to the MMSE, due to its assessment of a broader range of cognitive domains and its greater sensitivity and specificity for mild cognitive impairment. A score of below 26 suggests impairment. It is available in a range of languages and in electronic form.

Addenbrooke's Cognitive Examination, third edition (ACE-III) (Mathuranath, 2000) When time permits, or the clinical presentation is more complex, the ACE-III provides a more detailed, 100-item, clinician-administered bedside test of cognitive function. Questions cover five areas of function: attention and orientation, memory, verbal fluency, language, and visuospatial awareness. Detailed data are available to allow interpretation of scoring, and specific training on administration of the test is recommended. The ACE-III has a reported sensitivity of 94% and a specificity of 89% for dementia, with a cut-off score of 88/100.

Collateral information

It is always useful to have third-party information when assessing cognitive function—usually from a spouse, partner, family member, or carer. Third-party information can be more formally assessed

using standardized instruments, e.g. the Informant Questionnaire on Cognitive Decline (IQCODE).

Further reading

Hodges JR (2007) *Cognitive Assessment for Clinicians*, 2nd edn. Oxford: Oxford University Press.

Supplementary tests of cerebral functioning

Where there is clinical suspicion of specific functional impairment, it is often useful to directly test the functioning of the different cerebral lobes. This provides more detailed supplementary information to the MMSE (which is essentially a screening test). More formal neuropsychological assessment may be required with additional, well-established psychological tests, although these will usually be administered by psychologists.

Frontal lobe functioning

Frontal assessment battery (FAB) A brief (10-min) test of executive function, which essentially regroups tests often used when testing executive function at the bedside. These tests are associated with specific areas of the frontal lobes (i.e. conceptualization with dorsolateral areas; word generation with medial areas) and inhibitory control with orbital or medial areas. The maximum score is 18, and a cut-off score of 12 in patients with dementia has been shown to have a sensitivity of 79% for frontotemporal dementia vs Alzheimer's disease. However, any performance below 17 may indicate frontal lobe impairment.

The Wisconsin card sorting task The patient has to determine the rule for card allocation and allocate cards accordingly. When the rule changes, a patient with frontal lobe dysfunction is likely to make more errors (tests response inhibition and set shifting).

Digit span Short-term verbal memory is tested with progressively longer number sequences, first forwards (normal maximum digit span 6 ± 1) and subsequently in reverse order (normal maximum 5 ± 1).

Trail-making test A 'join the dots' test of visuomotor tracing, testing conceptualization and set shifting. Test A is a simple number sequence; Test B is of alternating numbers and letters (more sensitive for frontal lobe dysfunction).

Cognitive estimate testing The patient is asked a question that requires abstract reasoning and cannot be answered by general knowledge alone (e.g. 'how many camels are there in the UK?').

Testing of interpretation of proverbs can be helpful in uncovering concreteness of thought, e.g. 'People in glass house shouldn't throw stones'—asking the patient 'Are you aware of this proverb?', 'Can you tell me what this means?', and 'Give me a life scenario in which this would apply?' It is important to note that persons with more orbito-medial frontal lobe damage may present with completely normal neurocognitive assessment, but clinically with histories that are consistent with frontotemporal dementia–behavioural variant.

Parietal lobe functioning

Tests for dominant lesions

Finger agnosia Patient cannot state which finger is being touched, with their eyes closed.

Astereoagnosia Patient unable to recognize the feel of common objects (e.g. coin, pen), with their eyes closed.

Dysgraphaesthesia Inability to recognize letters or numbers written on the hand.

Note: although of disputed clinical value, Gerstmann syndrome is classically described as right–left disorientation, finger agnosia, dysgraphia, and dyscalculia, due to a lesion of the dominant (usually left) parietal lobe.

Tests for non-dominant lesions

Asomatognosia Patient does not recognize parts of their body (e.g. hand, fingers).

Constructional dyspraxia Inability to draw shapes or construct geometrical patterns.

Other problem areas

- Visual fields (as optic tracts run through the parietal lobe to reach the occipital lobe).
- Speech—alexia, receptive dysphasia (Wernicke's area); conduction aphasia (cannot repeat a phrase but does understand the meaning).
- Reading/writing (angular gyrus lesions).

Insight

The question of whether the patient has insight into the nature of their symptoms tends only to arise in psychiatric illnesses. In general, a patient with physical illness knows that their symptoms represent abnormality and seeks their diagnosis and appropriate treatment. In contrast, a variety of psychiatric illnesses are associated with impairment of insight and the development of alternative explanations by the patient as to the cause of their symptoms, e.g.:

- An elderly man with early dementia who is unable to recall where he leaves objects and attributes this to someone stealing them. He angrily accuses his son of the 'crime'.
- An adolescent, with developing schizophrenia, who believes his auditory hallucinations and sense of being watched are caused by a neighbour who has planted cameras and loudspeakers in his flat. He repeatedly calls the police and asks them to intervene.
- A middle-aged woman with worsening depression who develops the delusion that she is bankrupt and is shortly to be evicted from her home in disgrace.

Impairment of insight is not specific to any one psychiatric condition and is not generally a diagnostically important symptom. It tends to occur in psychotic and organic illnesses and the more severe forms of depressive illness. Neurotic illnesses and personality disorders are generally not associated with impairment

of insight. Impairment of insight can give a crude measure of severity of psychotic symptoms. Regaining of insight into the pathological nature of psychotic beliefs can give a similarly crude measure of improvement with treatment.

Insight can be defined succinctly as 'the correct attitude to morbid change in oneself'. It is a deceptively simple concept that includes a number of beliefs about the nature of the symptoms, their causation, and the most appropriate way of dealing with them. Insight is sometimes reported as an all-or-nothing measure—as something an individual patient either does or does not have. In fact, insight is most usefully inquired about and reported as a series of health beliefs:

- Does the patient believe that their abnormal experiences are symptoms?
- Does the patient believe their symptoms are attributable to illness?
- Do they believe that the illness is psychiatric?
- Do they believe that psychiatric treatment might benefit them?
- Would they be willing to accept advice from a doctor regarding their treatment?

Beyond the simple question of whether the patient has impairment of insight or not, it is vital to understand how the patient views their symptoms, as this will tend to influence their compliance and future help-seeking behaviour. It is important to emphasize that disagreement with the doctor as to the correct course of action does *not* necessarily indicate lack of insight. A patient may very well not agree to be admitted to hospital or to take a particular medication, despite having full insight into the nature of their symptoms. In these cases, the doctor should be sure to clarify that the patient has all the necessary information to make a suitable decision before considering the possible need for compulsory treatment.

Physical examination

Examination of the patient's physical condition is an integral part of a comprehensive psychiatric assessment. There are five main reasons why this is so:

- Physical symptoms may be a direct result of psychiatric illness [e.g. alcohol dependency (Medical complications of alcohol misuse, p. 608); eating disorders (Anorexia nervosa 3: assessment, p. 414); physical neglect in severe depression, schizophrenia, etc.].
- Psychiatric drugs may have physical side effects [e.g. extra-pyramidal side effects (EPSEs) and antipsychotics, hypothyroidism, and lithium, withdrawal syndromes].
- Physical illnesses can cause or exacerbate mental symptoms.
- Occult physical illness may be present.
- In the case of later development of illness (or, more rarely, medico-legal issues), it is helpful to have baseline physical

findings documented.

Physical examination is all too often deferred and then not done, or not done as thoroughly as is indicated. It may well be acceptable to defer full examination on occasions (e.g. a distressed and paranoid man seen in the Emergency Department), but a minimal investigation can be done and completed as the situation allows.

A routine physical examination has the aim of documenting the patient's baseline physical state, noting the presence or absence of abnormal signs which could be associated with mental or physical illness and highlighting areas requiring further examination or investigation (see Table 2.1).

General condition

Note the height and weight. Does the patient look well or unwell? Are they underweight or are there signs of recent weight loss? Note bruising or other injuries, and estimate their age.

Cardiovascular

Radial pulse—rate, rhythm, and character. Blood pressure. Carotid bruits? Heart sounds. Pedal oedema.

Respiratory

Respiratory rate. Expansion. Percussion note. Breath sounds to auscultation.

Abdominal

Swelling or ascites. Masses. Bowel sounds. Hernias.

Neurological

Pupillary response and other cranial nerves. Wasting. Tone. Power. Sensation. Reflexes. Gait. Involuntary movements.

Table 2.1 Some physical signs in psychiatric illness and possible causes

General examination	
Parkinsonian facies	Antipsychotic drug treatment
	Psychomotor retardation (depression)
Abnormal pupil size	Opiate use
Argyll–Robertson pupil	Neurosyphilis
Enlarged parotids ('hamster face')	Bulimia nervosa (secondary to vomiting)
Hypersalivation	Clozapine treatment
Goitre	Thyroid disease
Multiple forearm scars	Borderline personality disorder
Multiple tattoos	Dissocial personality disorder
Needle tracks/phlebitis	Intravenous drug use
Gynaecomastia	Antipsychotic drug treatment
Russell's sign (knuckle callus)	Alcoholic liver disease
Lanugo hair	Bulimia nervosa (secondary to inducing vomiting)
Piloerection ('goose flesh')	
Excessive thinness	Anorexia nervosa
	Opiate withdrawal
	Anorexia nervosa
Cardiovascular	
Rapid/irregular pulse	Anxiety disorder
Slow pulse	Drug/alcohol withdrawal
	Hyperthyroidism
	Hypothyroidism
Abdominal	
Enlarged liver	Alcoholic liver disease
Multiple surgical scars ('chequerboard' abdomen)	Hepatitis
	Somatization disorder
Multiple self-inflicted scars	Borderline personality disorder
Neurological	
Resting tremor	sympathetic drive (anxiety, drug/alcohol misuse)
Involuntary movements	Antipsychotic drug treatment
	Lithium treatment

Abnormal posturing	Antipsychotic drug treatment
	Tic disorder
	Huntingtons's/Sydenham's chorea
Festinant (shuffling) gait	Antipsychotic-induced dystonia
	Catatonia
Broad-based gait	Antipsychotic drug treatment
	Cerebellar disease (alcohol, lithium toxicity)

Clinical investigation

Clinical investigations, including blood testing, imaging techniques, and karyotyping, play a smaller role in psychiatry than in other medical specialties. They are mainly carried out to exclude medical conditions which may be part of the differential diagnosis (such as hypothyroidism as a cause of lethargy and low mood) or which may be comorbid. They should generally be carried out as a result of positive findings in the history or physical examination or in order to exclude serious and reversible occult disorders (such as syphilis as a cause of dementia).

Routine investigations may be carried out to assess general physical health and to provide a baseline measure prior to commencing medication known to have possible adverse effects, e.g. full blood count (FBC), liver function tests (LFTs), and antipsychotic medication; and urea and electrolytes (U&Es), creatinine clearance, and thyroid function tests (TFTs) prior to lithium therapy. Specific screening and monitoring tests are detailed in specific sections. It is good practice to screen new patients with some standard tests, and the usual test battery will include: FBC (and differential), U&Es, LFTs, TFTs, and glucose. Where there is suspicion of drug or alcohol misuse/dependency, mean corpuscular volume (MCV), B12/folate, and toxicology screening may be added.

Other physical investigations are rarely requested (with perhaps the exception of ECG for patients on specific or high-dose antipsychotics), unless clinical examination indicates the possibility of an underlying (undiagnosed) physical disorder. Performance of an LP, for example, is reserved for situations where there is clear evidence to suggest a neurological disorder presenting with psychiatric symptoms (e.g. suspected meningitis or encephalitis; multiple sclerosis) and, more often than not, in these circumstances, a referral will be made for a medical review.

Use of other tools, such as EEG, CT, or MRI (and SPECT or PET where available) requires justification on the grounds of diagnostic need. EEG is frequently overused by psychiatrists and may be difficult to interpret, as psychotropic medications may 'muddy the waters'. EEG may be useful where epilepsy is suspected (on clinical grounds), to monitor some acute (toxic) confusional states,

to assess atypical patterns of cognitive impairment, to aid the diagnosis in certain dementias [e.g. HIV, variant Creutzfeldt–Jakob disease (vCJD)], to evaluate particular sleep disorders, or as the gold standard for seizure monitoring during ECT. EEG should not be used as a general screening tool.

Similarly, brain imaging adds little to the diagnosis of primary psychiatric disorders and should only be used where there is good evidence for possible neurological problems (e.g. history of significant head injury, epilepsy, multiple sclerosis, previous neurosurgery) or where history and clinical examination indicate the possibility of a space-occupying lesion (e.g. localizing neurological signs, unexplained fluctuating level of consciousness, severe headache, marked and unexplained acute behavioural change). With the exception of organic disorders (e.g. the dementias where diagnostic imaging techniques may add useful information to inform diagnosis, management, and prognosis), the sensitivity and specificity of imaging findings for most psychiatric conditions have yet to be established.

As a general rule, comorbid or causative disorders will be suspected due to other symptoms and signs or by the atypical nature of the psychiatric picture, and the likelihood of revealing a totally unexpected diagnosis is small.

Common assessment instruments 1

The diagnosis of psychiatric disorders is largely clinical, although assessment tools are increasingly used for both clinical and research purposes. A huge variety of assessment tools is available for the diagnosis and assessment of severity of individual disorders and for the monitoring of progress and treatment response in established cases.

Their primary use is as an aid in diagnosis and to provide an objective measurement of treatment response. They should not be considered as a primary means of diagnosis. A secondary use is in research, in order to ensure heterogenous patient groupings and reliably standardized diagnosis.

Scales are often available in several versions, are either clinician- or patient-administered, and vary in required skill and experience of the administrator. Some are available for free by searching on the Internet, while others are copyrighted and available from purchase from the manufacturer. Examples of the more commonly found general and specific tests are given here.

General

General Health Questionnaire (GHQ) Self-rated questionnaire used as a screening instrument for the presence of psychiatric illness. The patient is asked to report the presence of a list of symptoms in the preceding weeks. Four versions are available, using 12, 28, 30, and 60 items.

Diagnostic Interview Schedule (DIS) Can be used by non-clinicians to administer a fully structured interview, to diagnose the major psychiatric illnesses for research purposes.

Global Assessment of Functioning Scale (GAF) A 100-item, self-report rating scale measuring overall psychosocial functioning.

Minnesota Multiphasic Personality Inventory (MMPI) Self-report questionnaire consisting of 567 questions covering eight areas of psychopathology and two additional areas of personality type, and three scales assessing truthfulness. Results are compared with normative data from non-clinical populations. Results generate information useful for a broad range of clinical applications.

Primary Care Evaluation of Mental Disorders (PRIME-MD) One-page patient-completed questionnaire focusing on psychiatric illness commonly encountered in primary care. Has a corresponding Clinician Evaluation Guide.

Quality of Life Interview (QOLI) Non-clinician-administered, fully structured interview, available in full and brief versions with 158 and 78 items, respectively. Suitable for assessment of quality of life in those with enduring and severe mental illnesses.

Structured Clinical Interview for DSM-IV (SCID-I/SCID-II) Clinician-administered semi-structured interview for use in patients in whom a psychiatric diagnosis is suspected. Primarily used in research with trained interviewers, to inform the operationalized diagnosis of Axis I and II disorders. The Research Version of the SCID-I for DSM-5 was released in November 2014 (SCID-5-RV).

Mood disorders

Beck Depression Inventory (BDI) Self-rated questionnaire containing 21 statements, with four possible responses for each. The total score is quoted, with >17 indicating moderate and >30 indicating severe depression.

Hospital Anxiety and Depression Scale (HADS) A 14-item, self-rated questionnaire, producing an anxiety and a depression subscore.

Hamilton Rating Scale for Depression (HAM-D) An interviewer-rated, 17-item rating scale for depressive illness. Not a diagnostic instrument; used to measure changes (e.g. as a result of drug treatment); 17 items scored according to severity, producing the total score.

Montgomery-Asberg Depression Rating Scale (MADRaS) A 10-item observer-rated scale. Each item rated 0–6, with a total score obtained.

Mood Disorders Questionnaire (MDQ) A self-rated screen for bipolar disorder. 13 yes/no questions, and two others. Positive screen is ‘yes’ 7/13, and ‘yes’ to question 2, moderate/serious to question 3.

Young Mania Rating Scale (YMRS) Assesses mania symptoms and weighted severity over the past 48hr.

Anxiety spectrum

Hamilton Anxiety Rating scale (HAM-A) A clinician-administered rating scale for generalized anxiety disorder; 14 items rated on a 5-point scale.

Yale–Brown Obsessive–Compulsive Scale (Y-BOCS) A clinician-administered semi-structured interview allowing the rating of

severity in patients with a pre-existing diagnosis of OCD.

Schizophrenia

Brief Psychiatric Rating Scale (BPRS) Measures major psychotic and non-psychotic symptoms, primarily used for schizophrenia patients. Clinician-rated, based on observation.

Positive and Negative Symptom Scale (PANSS) A clinician-administered rating scale for the assessment of severity and monitoring of change of symptoms in patients with a diagnosis of schizophrenia. Items covering positive symptoms, negative symptoms, and general psychopathology.

Scale for the Assessment of Positive/Negative Symptoms (SAPS/SANS) Administered together and completed from history and clinician observation. It breaks down into three divisions: psychoticism, negative symptoms, and disorganization.

Abnormal Involuntary Movement Scale (AIMS) A clinician-administered scale for assessing the severity of antipsychotic side effects; 12 items rated 0–4.

Common assessment instruments 2

Substance use

Cut down? Annoyed? Guilty? Eye opener? (CAGE) A brief screening test for alcohol problems, consisting of four yes/no questions, with a score of 2 or more indicating the need for further assessment.

Alcohol Use Disorders Identification Test (AUDIT) Completed by a skilled clinician to reveal if there is a need for further evaluation. Questions cover the quantity and frequency of alcohol use, drinking behaviours, adverse psychological symptoms, and alcohol-related problems.

Assessment instruments specific to children

Attention-deficit/hyperactivity disorder (ADHD) (SNAP, Vanderbilt, Conners' Rating Scale) Used to assess the presence and severity of ADHD symptoms in multiple settings. Completed by adults who know the child well (parents, teachers). Also have subscales to measure other symptoms such as disruptive behaviour.

Anxiety Screen for Child Anxiety-Related Emotional Disorders (SCARED) A self-report instrument designed to measure anxiety symptoms in children.

Autism Spectrum Childhood Autism Rating Scale (CARS) Ages 2 and up, scored by clinicians based on observation. *Gilliam Autism Rating Scale (GARS)* Ages 3–22, scored by teachers and parents, as well as clinicians. *Autism Diagnostic Observation Schedule (ADOS)* A semi-structured and lengthy diagnostic interview given by specially trained clinicians. It uses standardized data to aid in the diagnosis of pervasive developmental disorders.

Children's Depression Inventory (CDI) A self-report of depression symptoms for ages 7–17 (first-grade reading level).

Structured interviews (such as KSADS-PL) Semi-structured diagnostic interviews covering the spectrum of psychiatric illness in

children and administered by trained clinicians only.

Older adults

Geriatric Depression Scale (GDS) A self-reported screen for depression, using a series of yes/no questions.

Instrumental Activities of Daily Living (IADL) Used to evaluate the day-to-day living skills in an older population. It can be used to evaluate treatment effectiveness or help identify placement needs of the individual.

Further reading

Sajatovic M, Ramirez L, Ramirez LF (2003) *Rating Scales in Mental Health*, 2nd edn. Hudson, OH: Lexicomp.

Chapter 3

Symptoms of psychiatric illness

Symptoms of psychiatric illness

In general medicine, *symptom* refers to an abnormality reported by the patient, while *sign* refers to an abnormality detected by the doctor by observation or clinical examination. In psychiatry, the terms symptom and sign tend to be used synonymously because abnormalities of mental state can only be elicited by exploring, with the patient, their internal experiences.

Psychopathology is the study of abnormalities in mental state and is one of the core sciences in clinical psychiatry. *Descriptive psychopathology* is one method for describing the subjective experience and behaviour of patients and is the basis for our current clinical descriptions of mental disorder. It is atheoretical and does not rest on any particular explanation for the cause of the abnormal mental state. In this, it contrasts with *dynamic (Freudian) psychopathology*, which attempts to describe, and then to explain, these states.

Descriptive psychopathology includes close observation of the patient's behaviour and empathic exploration of their subjective experience. The latter is called *phenomenology*. The following general terms are used as qualifiers for symptoms described in the following pages:

- *Subjective vs objective*—objective signs are those noted by an external observer; subjective signs are those reported by the patient.
- *Form vs content*—a distinction is drawn between the *form* and *content* of abnormal internal experiences. For example, a patient may believe that he is continually under surveillance by agents of MI5 who are plotting to frame him for another's crimes. Here, the *content* of the symptom is the belief about the name and methods of the persecutor; the *form* is that of a persecutory delusion. *Content* is culture- and experience-related, whereas *form* is attributable to the type of underlying mental illness.
- *Primary vs secondary*—primary symptoms are considered as arising directly from the pathology of the mental illness; secondary symptoms arise as an understandable response to some aspect of the disordered mental state (e.g. a patient with severe depression developing a *secondary delusion* of being wicked and deserving punishment). Secondary symptoms can be understood in the light of knowledge of the patient's symptoms;

primary symptoms can be empathized with, but not fully understood.

- *Endogenous vs reactive*—these terms have been largely made redundant by developments in understanding of mental disorders but are still seen occasionally. It was formerly thought that some conditions arose in response to external events (e.g. depression arising after job loss) (*reactive*), while others arose spontaneously from within (*endogenous*).
- *Psychotic vs neurotic*—in present classifications, these terms are used purely descriptively to describe two common types of symptoms that may occur in a variety of mental disorders. Previously, they were used to distinguish those disorders characterized by impairment of insight, abnormal beliefs, and abnormal perceptual experiences from those where there was preserved insight but abnormal affect.
- *Congruent vs incongruent*—this is an observation made regarding the apparent appropriateness of a patient's affect towards their symptoms or their symptoms to their mood. A patient with apparent cheerfulness despite persecutory beliefs is described as having *incongruent* affect; a patient with profoundly depressed mood developing a delusion that they were mortally ill is described as possessing a *mood-congruent* delusion.
- *Structural vs functional*—a distinction formerly made between those brain disorders with observable structural abnormalities on post-mortem (e.g. Alzheimer's disease) and those without (e.g. schizophrenia). This usage has diminished since the discovery of definite observable brain changes in those disorders formerly called *functional psychoses*. Nowadays, the term is more often used in neurology/neuropsychiatry to distinguish syndromes which generally have abnormal investigation findings (e.g. multiple sclerosis) from those without (e.g. dissociative paralysis).

Dictionary of psychiatric symptoms

Abnormal beliefs A category of disturbance which includes **delusions** and **overvalued ideas**.

Abnormal perceptions A category of disturbance which includes **sensory distortions** and **false perceptions**.

Acute confusional state See **Delirium**.

Affect The emotional state prevailing in a patient at a particular moment and in response to a particular event or situation. Contrasted with **mood** which is the prevailing emotional state over a longer period of time.

Affect illusion See **Illusion**.

Agitated depression A combination of depressed **mood** and **psychomotor agitation**, contrasting with the more usual association of depressed mood with **psychomotor retardation**. A common presentation of depressive illness in the elderly.

Agitation See **Psychomotor agitation**.

Agoraphobia A generalized **phobia** in which there is a fear of open spaces, social situations, crowds, etc. Associated with

avoidance of these stimuli.

Akathisia A subjective sense of uncomfortable desire to move, relieved by repeated movement of the affected part (usually the legs). A side effect of treatment with neuroleptic drugs.

Alexithymia Inability to describe one's subjective emotional experiences verbally. May be a personality characteristic but is also associated with **somatization**.

Alogia Poverty of thoughts, as observed by absence of spontaneous speech. A **negative symptom** of schizophrenia and a symptom of depressive illness.

Ambitendency A **motor symptom** of schizophrenia in which there is an alternating mixture of **automatic obedience** and **negativism**.

Amnesia Loss of ability to recall memories for a period of time. May be **global** (complete memory loss for the time period) or **partial** (patchy memory loss with 'islands' of preserved memory).

Anergia The subjective feeling of lack of energy and a sense of effort required to carry out tasks. Associated with depressive illness.

Anhedonia The feeling of absent or significantly diminished enjoyment of previously pleasurable activities. A core symptom of depressive illness, also a **negative symptom** of schizophrenia.

Anorexia Loss of appetite for food. Seen in depressive illness and many general medical conditions. Interestingly, patients with anorexia nervosa often do not have anorexia as so defined. They commonly describe themselves as very hungry—controlling their desire for food by supreme effort in order to control their weight.

Anterograde amnesia The period of **amnesia** between an event (e.g. head injury) and the resumption of continuous memory. The length of anterograde amnesia is correlated with the extent of brain injury.

Anxiety A normal and adaptive response to stress and danger which is pathological if prolonged, severe, or out of keeping with the real threat of the external situation. Anxiety has two components: psychic anxiety, which is an affect characterized by arousal, apprehension, a sense of vulnerability, and **dysphoria**; and somatic anxiety in which there are bodily sensations of palpitations, sweating, dyspnoea, pallor, and abdominal discomfort.

Aphonia Loss of the ability to vocalize. May occur with structural disease affecting the vocal cords directly, the ninth cranial nerve, or higher centres. May also occur in functional illness where the underlying vocal cord function is normal. This can be demonstrated by asking the patient to cough—a normal cough demonstrates the ability of the vocal cords to oppose normally.

Asyndesis Synonym for **loosening of associations**.

Ataxia Loss of coordination of voluntary movement. Seen in drug and alcohol intoxication and organic disorders, particularly cerebellar.

Athetosis Sinuous, writhing involuntary movements.

Aura Episode of disturbed sensation occurring before an epileptic event. Wide range of manifestations, although usually stereotyped for each individual.

Autistic thinking An abnormal absorption with the self, distinguished by interpersonal communication difficulties, a short attention span, and an inability to relate to others as people.

Autochthonous delusion A primary **delusion** which appears to arise fully formed in the patient's mind without explanation (e.g. a patient suddenly becomes aware that he has inherited a large estate in the Scottish Highlands and will thus have the funds to settle scores with all those who have ever wronged him).

Automatic obedience A **motor symptom** of schizophrenia in which the patient obeys the examiner's instructions unquestioningly. This cooperation may be 'excessive', with the patient going beyond what is asked (e.g. raising both arms and both legs when asked to raise an arm).

Automatism Behaviour which is apparently conscious in nature, occurring in the absence of full consciousness (e.g. during a temporal lobe seizure).

Autoscopy The experience of seeing a visual **hallucination** or **pseudo-hallucination** of oneself. Also known as 'phantom mirror image'. Uncommon symptom reported in schizophrenia and temporal lobe epilepsy.

Autotopagnosia Condition where one cannot identify or describe their own body parts. Individuals can dress and move appropriately but cannot talk about their bodies.

Avoidance The action of not exposing oneself to situations which generate anxiety, e.g. a patient with **agoraphobia** remaining at home or a patient with post-traumatic stress disorder (PTSD), following a road traffic accident, refusing to drive. Can be understood in terms of an operant conditioning model where actions with reward—in this case, reduction of anxiety—are repeated.

Belle indifférence A surprising lack of concern for, or denial of, apparently severe functional disability. It is part of classical descriptions of hysteria and continues to be associated with operational descriptions of conversion disorder. It is also seen in medical illnesses (e.g. following a cerebrovascular accident) and is a rare and non-specific symptom of no diagnostic value.

Biological features of depression Symptoms of moderate to severe depressive illness which reflect disturbance of core vegetative function. They are **depressive sleep disturbance, anorexia, loss of libido**, anergia, and subjective impression of deterioration in memory and concentration.

Blunting of affect Loss of the normal degree of emotional sensitivity and sense of appropriate emotional response to events. A **negative symptom** of schizophrenia.

Broca's dysphasia A type of **expressive dysphasia** due to damage to the posterior part of the inferior frontal gyrus of the dominant hemisphere (Broca's language area).

Bulimia  appetite and desire for food and/or excessive, impulsive eating of large quantities of usually high-calorie food. Core symptom of bulimia nervosa and may also be seen in mania and in some types of learning disability.

Capgras syndrome A type of **delusional misidentification** in which the patient believes that a person known to them has been replaced by a 'double' who is to all external appearances identical, but is not the 'real person'.

Catalepsy A rare **motor symptom** of schizophrenia. Describes a situation in which the patient's limbs can be passively moved to any posture, which will then be held for a prolonged period of time. Also known as **waxy flexibility** or **flexibilitas cerea**. See also **Psychological pillow**.

Cataplexy Symptom of narcolepsy in which there is sudden loss of muscle tone, leading to collapse. Usually occurs following emotional stress.

Catastrophic reaction Response occasionally seen in patients with **dementia** who are asked to perform tasks beyond their, now impaired, performance level. There is sudden agitation, anger, and occasionally violence.

Catatonia  resting muscle tone which is not present on active or passive movement (in contrast to the rigidity associated with Parkinson's disease and **extra-pyramidal side effects**). A **motor symptom** of schizophrenia.

Chorea Sudden and involuntary movement of several muscle groups, with the resultant action appearing like part of a voluntary movement.

Circumstantial thinking A disorder of the form of thought where irrelevant details and digressions overwhelm the direction of the thought process. This abnormality may be reflected in the resultant speech. It is seen in mania and in anankastic personality disorder.

Clang association An abnormality of speech where the connection between words is their sound, rather than their meaning. May occur during manic **flight of ideas**.

Clouding of consciousness Conscious level between full consciousness and coma. Covers a range of increasingly severe loss of function with drowsiness and impairment of concentration and perception.

Command hallucination An auditory hallucination of a commanding voice, instructing the patient towards a particular action. Also known as **teleological hallucination**.

Completion illusion See **Illusion**.

Compulsion A behaviour or action which is recognized by the patient as unnecessary and purposeless, but which he cannot resist performing repeatedly (e.g. hand washing). The drive to perform the action is recognized by the patient as his own (i.e. there is no sense of 'possession' or passivity), but it is associated with a subjective sense of need to perform the act, often in order to avoid the occurrence of an adverse event. The patient may resist

carrying out the action for a time, at the expense of mounting **anxiety**.

Concrete thinking The loss of the ability to understand abstract concepts and metaphorical ideas, leading to a strictly literal form of speech and the inability to comprehend allusive language. Seen in schizophrenia and dementing illnesses.

Confabulation The process of describing plausibly false memories for a period for which the patient has **amnesia**. Occurs in Korsakoff's syndrome, in dementing illnesses, and following alcoholic **palimpsest**.

Confusion The core symptom of delirium or acute confusional state. There is **disorientation, clouding of consciousness**, and deterioration in the ability to think rationally, lay down new memories, and understand sensory input.

Conversion Development of features suggestive of physical illness but which are attributed to psychiatric illness or emotional disturbance, rather than organic pathology. Originally described in terms of psychoanalytic theory where the presumed mechanism was 'conversion' of unconscious distress to physical symptoms, rather than allowing its expression in conscious thought.

Coprolalia A 'forced' vocalization of obscene words or phrases. The symptom is largely involuntary but can be resisted for a time, at the expense of mounting **anxiety**. Seen in Gilles de la Tourette's syndrome.

Cotard syndrome A presentation of psychotic depressive illness seen particularly in elderly people. There is a combination of severely depressed mood with **nihilistic delusions** and/or **hypochondriacal delusions**. The patient may state that he is already dead and should be buried, that his insides have stopped working and are rotting away, or that he has stopped existing altogether.

Couvade syndrome A **conversion** symptom seen in partners of expectant mothers during their pregnancy. The symptoms vary but mimic pregnancy symptoms and so include nausea, vomiting, abdominal pain, and food cravings. It is not delusional in nature; the affected individual does not believe they are pregnant (cf. **pseudocyesis**). This behaviour is a cultural norm in some societies.

Craving A subjective sense of the need to consume a particular substance (e.g. drugs or alcohol) for which there may be **dependence**.

Cyclothymia A personality characteristic in which there is cyclical mood variation, to a lesser degree than in bipolar disorder.

De Clérambault syndrome A form of **delusion of love**. The patient, usually ♀, believes that another, higher-status individual is in love with them. There may be an additional **persecutory delusional** component where the affected individual comes to believe that individuals are conspiring to keep them apart. The object may be an employer or a doctor or, in some cases, a prominent public figure or celebrity.

Déjà vu A sense that events being experienced for the first time have been experienced before. An everyday experience, but also a non-specific symptom of a number of disorders, including temporal lobe epilepsy, schizophrenia, and anxiety disorders.

Delirium A clinical syndrome of **confusion**, variable degree of **clouding of consciousness**, visual **illusions**, and/or visual **hallucinations**, **lability of affect**, and disorientation. The clinical features can vary markedly in severity, hour by hour. Delirium is a stereotyped response by the brain to a variety of insults and is similar in presentation, whatever the primary cause.

Delirium tremens The clinical picture of acute confusional state secondary to alcohol withdrawal. Comprises **confusion**, **withdrawals**, visual **hallucinations,** and occasionally **persecutory delusions** and **Lilliputian hallucinations**.

Delusion An abnormal belief which is held with absolute subjective certainty, which requires no external proof, which may be held in the face of contradictory evidence, and which has personal significance and importance to the individual concerned. Excluded are those beliefs which can be understood as part of the subject's cultural or religious background. While the content is usually demonstrably false and bizarre in nature, this is not invariably so.

Primary delusions are the direct result of psychopathology, while *secondary* delusions can be understood as having arisen in response to other primary psychiatric conditions (e.g. a patient with severely depressed mood developing delusions of poverty or a patient with progressive memory impairment developing a delusion that people are entering his house and stealing or moving items). Primary delusions can be subdivided by the method by which they are perceived as having arisen or into broad classes based on their content.

If the patient is asked to recall the point when they became aware of the delusion and its significance to them, they may report that the belief arose: 'out of the blue' (**autochthonous delusion**), on seeing a normal percept (**delusional perception**), on recalling a memory (**delusional memory**), or on a background of anticipation, odd experiences, and  awareness (**delusional mood**).

Based on their content, 12 types of primary delusion are commonly recognized: persecutory, grandiose, delusions of control, of thought interference, of reference, of guilt, and of love, delusional misidentification, jealousy, hypochondriacal delusions, nihilistic delusions, and delusions of infestation.

Delusional atmosphere Synonym for delusional mood.

Delusional elaboration Secondary delusions which arise in a manner which is understandable as the patient attempting to find explanations for primary psychopathological processes (e.g. a patient with persistent auditory hallucinations developing a belief that a transmitter has been placed in their ear).

Delusional jealousy A delusional belief that one's partner is being unfaithful. This can occur as part of a wider psychotic illness, secondary to organic brain damage (e.g. following the 'punch drunk

syndrome' in boxers), associated with alcohol dependence, or as a monosymptomatic delusional disorder ('**Othello syndrome**'). Whatever the primary cause, there is a strong association with violence, usually towards the supposedly unfaithful partner. For this type of delusion, the content is not bizarre or inconceivable and the central belief may even be true.

Delusional memory A primary **delusion** which is recalled as arising as a result of a memory (e.g. a patient who remembers his parents taking him to hospital for an operation as a child becoming convinced that he had been implanted with control and monitoring devices which have become active in his adult life).

Delusional misidentification A delusional belief that certain individuals are not who they externally appear to be. The delusion may be that familiar people have been replaced with outwardly identical strangers (**Capgras syndrome**) or that strangers are 'really' familiar people (**Frégoli syndrome**). A rare symptom of schizophrenia or of other psychotic illnesses.

Delusional mood A primary **delusion** which is recalled as arising following a period when there is an abnormal mood state characterized by anticipatory anxiety, a sense of 'something about to happen', and an  sense of the significance of minor events. The development of the formed delusion may come as a relief to the patient in this situation.

Delusional perception A primary **delusion** which is recalled as having arisen as a result of a perception (e.g. a patient who, on seeing two white cars pull up in front of his house, became convinced that he was therefore about to be wrongly accused of being a paedophile). The percept is a real external object, not a hallucinatory experience.

Delusions of control A group of delusions which are also known as **passivity phenomena** or delusions of bodily passivity. They are considered **first-rank symptoms** of schizophrenia. The core feature is the delusional belief that one is no longer in sole control of one's own body. The individual delusions are that one is being forced by some external agent to feel emotions, to desire to do things, to perform actions, or to experience bodily sensations. Respectively, these delusions are called: **passivity of affect, passivity of impulse, passivity of volition**, and **somatic passivity**.

Delusions of guilt A delusional belief that one has committed a crime or other reprehensible act. A feature of psychotic depressive illness (e.g. an elderly woman with severe depressive illness who becomes convinced that her child, who died by cot death many years before, was in fact murdered by her).

Delusions of infestation A delusional belief that one's skin is infested with multiple tiny, mite-like animals. As a monosymptomatic delusional disorder, this is called **Ekbom syndrome**. It is also seen in acute confusional states (particularly secondary to drug or alcohol withdrawal), in schizophrenia, in

dementing illnesses, and as **delusional elaboration** of tactile hallucinatory experiences.

Delusions of love A delusion where the patient believes another individual is in love with them and that they are destined to be together. A rare symptom of schizophrenia and other psychotic illnesses—one particular subtype of this delusion is **de Clérambault syndrome**.

Delusions of reference A delusional belief that external events or situations have been arranged in such a way as to have particular significance for, or to convey a message to, the affected individual. The patient may believe that television news items are referring to them or that parts of the Bible are about them directly.

Delusions of thought interference A group of delusions which are considered **first-rank symptoms** of schizophrenia. They are **thought insertion**, **thought withdrawal**, and **thought broadcasting**.

Dementia Chronic brain failure—in contrast with delirium (which is acute brain failure). In dementia, there is progressive and global loss of brain function. It is usually irreversible. Different dementing illnesses will show different patterns and rate of functional loss, but in general, there is impairment of memory, loss of higher cognitive function, perceptual abnormalities, **dyspraxia**, and disintegration of the personality.

Dependence The inability to control the intake of a substance to which one is addicted. The dependence syndrome (The dependence syndrome, p. 574) is characterized by primacy of drug-seeking behaviour, the inability to control the intake of a substance once consumption has started, use of the substance to avoid **withdrawals**, tolerance to the intoxicating effects of the substance, and re-instigation of the pattern of use after a period of abstinence. Dependence has two components: **psychological dependence**, which is the subjective feeling of loss of control, cravings, and preoccupation with obtaining the substance; and **physiological dependence**, which is the physical consequences of withdrawal and is specific to each drug. For some drugs (e.g. alcohol), both psychological and physiological dependence occur; for others (e.g. LSD), there are no marked features of physiological dependence.

Depersonalization An unpleasant subjective experience where the patient feels as if they have become 'unreal'. A non-specific symptom occurring in many psychiatric disorders, as well as in normal people.

Depressed mood The core feature of depressive illness. Milder forms of depressed mood are part of the human experience, but in its pathological form, it is a subjective experience. Patients describe variously: an unremitting and pervasive unhappiness; a loss of the ability to experience the normal range of positive emotions ('feeling of a lack of feeling'); a sense of hopelessness and negative thoughts about themselves, their situation, and the future; somatic

sensations of ‘a weight’ pressing down on the head and body; and a sort of ‘psychic pain’ or wound.

Depressive sleep disturbance Characteristic pattern of sleep disturbance seen in depressive illness. It includes **initial insomnia** and **early morning waking**. In addition, sleep is described as more shallow, broken, and less refreshing. There is  rapid eye movement (REM) latency where the patient enters REM sleep more rapidly than normal, and REM sleep is concentrated in the beginning, rather than the end, of the sleep period.

Derailment A symptom of **schizophrenic thought disorder** in which there is a total break in the chain of association between the meaning of thoughts. The connection between two sequential ideas is apparent neither to the patient nor to the examiner.

Derealization An unpleasant subjective experience where the patient feels as if the world has become unreal. Like **depersonalization**, it is a non-specific symptom of a number of disorders.

Diogenes syndrome Hoarding of objects, usually of no practical use, and neglect of one’s home or environment. May be a behavioural manifestation of an organic disorder, schizophrenia, a depressive disorder, or OCD; or may reflect a reaction late in life to stress in a certain type of personality.

Disinhibition Loss of the normal sense of which behaviours are appropriate in the current social setting. Symptom of manic illnesses and occurs in the later stages of dementing illnesses and during intoxication with drugs or alcohol.

Disorientation Loss of the ability to recall and accurately update information as to the current time, place, and personal identity. Occurs in delirium and dementia. With increasing severity of illness, orientation for time is lost first, then orientation for place, with orientation for person usually preserved until dysfunction becomes very severe.

Dissociation The separation of unpleasant emotions and memories from consciousness awareness, with subsequent disruption to the normal integrated function of consciousness and memory. **Conversion** and **dissociation**are related concepts. In conversion, the emotional abnormality produces physical symptoms, while in dissociation, there is impairment of mental functioning (e.g. in **dissociative fugue** and **dissociative amnesia**).

Distractibility Inability to maintain attention or loss of vigilance on minimal distracting stimulation.

Diurnal variation Variation in the severity of a symptom, depending on the time of day (e.g. depressed mood experienced as most severe in the morning and improving later in the day).

Double depression A combination of **dysthymia** and depressive illness.

Dysarthria Impairment in the ability to properly articulate speech. Caused by lesions in the brainstem, cranial nerves, or pharynx.

Distinguished from **dysphasia** in that there is no impairment of comprehension, writing, or higher language function.

Dyskinesia Impairment of voluntary motor activity by superimposed involuntary motor activity.

Dyslexia Inability to read at a level normal for one's age or intelligence level.

Dysmorphophobia A type of **over-valued idea** where the patient believes one aspect of his body is abnormal or conspicuously deformed.

Dysphasia Impairment in producing or understanding speech (**expressive dysphasia** and **receptive dysphasia**, respectively) related to cortical abnormality, in contrast with **dysarthria** where the abnormality is in the organs of speech production.

Dysphoria An emotional state experienced as unpleasant. Secondary to a number of symptoms (e.g. **depressed mood**, **withdrawals**).

Dyspraxia Inability to carry out complex motor tasks (e.g. dressing, eating), although the component motor movements are preserved.

Dysthymia Chronic, mildly depressed mood and diminished enjoyment, not severe enough to be considered depressive illness.

Early morning wakening (EMW) Feature of **depressive sleep disturbance**. The patient wakes in the very early morning and is unable to return to sleep.

Echo de la pensée Synonym for **thought echo**.

Echolalia The repetition of phrases or sentences spoken by the examiner. Occurs in schizophrenia and mental retardation.

Echopraxia Motor symptom of schizophrenia in which the patient mirrors the doctor's body movements. This continues after being told to stop.

Eidetic imagery Particular type of exceptionally vivid visual memory. Not a hallucination. More common in children than adults (cf. flashbacks).

Ekbom syndrome A monosymptomatic delusional disorder where the core delusion is a **delusion of infestation**.

Elation Severe and prolonged **elevation of mood**. A feature of manic illnesses.

Elemental hallucination A type of hallucination where the false perceptions are of very simple form (e.g. flashes of light or clicks and bangs). Associated with organic illness.

Elevation of mood The core feature of manic illnesses. The mood is preternaturally cheerful; the patient may describe feeling 'high', and there is subjectively ↑ speed and ease of thinking.

Entgleisen Synonym for **derailment**.

Entgleiten Synonym for **thought blocking** or **snapping off**.

Erotomania Synonym for **delusions of love**.

Euphoria Sustained and unwarranted cheerfulness. Associated with manic states and organic impairment.

Euthymia A 'normal' mood state, neither depressed nor manic.

Expressive dysphasia Dysphasia affecting the production of speech. There is impairment of word-finding, sentence construction, and articulation. Speech is slow and 'telegraphic', with substitutions, null words, and **perseveration**. The patient characteristically exhibits considerable frustration at his deficits. Writing is similarly affected. Basic comprehension is largely intact, and emotional utterances and rote-learnt material may also be surprisingly preserved.

Extracampine hallucination A hallucination where the percept appears to come from beyond the area usually covered by the senses (e.g. a patient in Edinburgh 'hearing' voices seeming to come from a house in Glasgow).

Extra-pyramidal side effects (EPSEs) Side effects of rigidity, tremor, and dyskinesia caused by the anti-dopaminergic effects of psychotropic drugs, particularly neuroleptics. Unlike in idiopathic Parkinson's disease, bradykinesia is not prominent.

Ey syndrome Synonym for **Othello syndrome**.

False perceptions *Internal* perceptions which do not have a corresponding object in the external or 'real' world. Includes **hallucinations** and **pseudo-hallucinations**.

Faseln Synonym for **muddling**.

First-rank symptoms (of schizophrenia) A group of symptoms, originally described by Schneider, which are useful in the diagnosis of schizophrenia. They are neither pathognomonic for, nor specific to, schizophrenia and are also seen in organic and affective psychoses. There are 11 symptoms in four categories:

- **Auditory hallucinations**
  - 'Voices heard arguing'.
  - Thought echo.
  - 'Running commentary'.
- **Delusions of thought interference**
  - Thought insertion.
  - Thought withdrawal.
  - Thought broadcasting.
- **Delusions of control**
  - Passivity of affect.
  - Passivity of impulse.
  - Passivity of volitions.
  - Somatic passivity.
- **Delusional perception**
  - A primary delusion of any content that is reported by the patient as having arisen following the experience of a normal perception.

Flashbacks Exceptionally vivid and affect-laden re-experiencing of remembered experiences. Flashbacks of the initial traumatic event occur in PTSD, and flashbacks of abnormal perceptual experiences initially experienced during LSD intoxication can occur many years after the event.

Flattening of affect Diminution of the normal range of emotional experience. A **negative symptom** of schizophrenia.

Flexibilitas cerea Synonym for **catalepsy**.

Flight of ideas Subjective experience of one's thoughts being more rapid than normal, with each thought having a greater range of consequent thoughts than normal. Meaningful connections between thoughts are maintained.

Folie à deux Describes a situation where two people with a close relationship share a delusional belief. This arises as a result of a psychotic illness in one individual with the development of a delusional belief, which comes to be shared by the second. The delusion resolves in the second person on separation; the first should be assessed and treated in the usual way.

Formal thought disorder A term which is confusingly used for three different groups of psychiatric symptoms:

- To refer to all pathological disturbances in the form of thought.
- As a synonym for **schizophrenic thought disorder**.
- To mean the group of first-rank symptoms which are delusions regarding thought interference (i.e. **thought insertion**, **thought withdrawal**, and **thought broadcasting**).

The first of these uses is to be preferred.

Formication A form of tactile **hallucination** in which there is the sensation of numerous insects crawling over the surface of the body. Occurs in alcohol or drug withdrawal, particularly from cocaine.

Free-floating anxiety Anxiety occurring without any identifiable external stimulus or threat (cf. **Phobia**).

Frégoli syndrome A type of **delusional misidentification**, in which the patient believes that strangers have been replaced with familiar people.

Fugue A **dissociative** reaction to unbearable stress. Following a severe external stressor (e.g. marital break-up), the affected individual develops global **amnesia** and may wander to a distant location. Consciousness is unimpaired. Following resolution, there is amnesia for the events which occurred during the fugue.

Functional hallucination A hallucination experienced only when experiencing a normal percept in that modality (e.g. hearing voices when the noise of an air conditioner is heard).

Fusion A symptom of **schizophrenic thought disorder**, in which two or more unrelated concepts are brought together to form one compound idea.

Ganser symptom The production of 'approximate answers'. Here the patient gives repeated wrong answers to questions, which are nonetheless 'in the right ballpark' (e.g. 'what is the capital of Scotland?'—'Paris'). Occasionally associated with organic brain illness, it is much more commonly seen as a form of **malingering** in those attempting to feign mental illness (e.g. in prisoners awaiting trial).

Gedankenlautwerden Synonym for **thought echo**.

Globus hystericus The sensation of a 'lump in the throat' occurring without an oesophageal structural abnormality or motility problems. A symptom of anxiety and somatization disorders.

Glossolalia 'Speaking in tongues'. Production of non-speech sounds as a substitute for speech. Seen in dissociative and

neurotic disorders and accepted as a subcultural phenomenon in some religious groups.

Grandiose delusion A delusional belief that one has special powers or is unusually rich or powerful, or that one has an exceptional destiny (e.g. a man who requested admission to hospital because he had become convinced that God had granted him 'the greatest possible sort of mind' and that coming into contact with him would cure others of mental illnesses). Can occur in all psychotic illnesses, but particularly in manic illnesses.

Grandiosity An exaggerated sense of one's own importance or abilities. Seen in manic illnesses.

Hallucination An internal percept without a corresponding external object. The subjective experience of hallucination is that of experiencing a normal percept in that modality of sensation. A true hallucination will be perceived as in external space, distinct from imagined images, outside conscious control, and as possessing relative permanence. A **pseudohallucination** will lack one or all of these characteristics.

Hallucinations are subdivided, according to their modality of sensation, and may be auditory, visual, gustatory, tactile, olfactory, or kinaesthetic. Auditory hallucinations, particularly of voices, are characteristic of schizophrenic illness, while visual hallucinations are characteristic of organic states.

Hemiballismus Involuntary, large-scale 'throwing' movements of one limb or one body side.

Hypersomnia Excessive sleepiness with  length of nocturnal sleep and daytime napping. Occurs as a core feature of narcolepsy and in atypical depressive states.

Hypnagogic hallucination A transient false perception experienced while on the verge of falling asleep (e.g. hearing a voice calling one's name which then startles you back to wakefulness to find no one there). The same phenomenon experienced while waking up is called **hypnopompic hallucination**. Frequently experienced by healthy people, and so not a symptom of mental illness.

Hypnopompic hallucination See **Hypnagogic hallucination**.

Hypochondriacal delusion A delusional belief that one has a serious physical illness [e.g. cancer, acquired immune deficiency syndrome (AIDS)]. Most common in psychotic depressive illnesses.

Hypochondriasis The belief that one has a particular illness despite evidence to the contrary. Its form may be that of a primary **delusion**, an **over-valued idea**, a **rumination**, or a **mood-congruent** feature of depressive illness.

Hypomania Describes a mild degree of mania where there is elevated mood, but no significant impairment of the patient's day-to-day functioning.

Illusion A type of false perception in which the perception of a real-world object is combined with internal imagery to produce a false internal percept. Three types are recognized: **affect, completion**, and **pareidolic illusions**. In **affect illusion**, there is a

combination of heightened emotion and misperception (e.g. while walking across a lonely park at night, briefly seeing a tree moving in the wind as an attacker). **Completion illusions** rely on our brain's tendency to 'fill in' presumed missing parts of an object to produce a meaningful percept and are the basis for many types of optical illusion. Both these types of illusions resolve on closer attention. **Pareidolic illusions** are meaningful percepts produced when experiencing a poorly defined stimulus (e.g. seeing faces in a fire or clouds).

Imperative hallucination A form of **command hallucination** in which the hallucinatory instruction is experienced as irresistible, a combination of **command hallucination** and **passivity of action**.

Impotence Loss of the ability to consummate sexual relationships. Refers to the inability to achieve penile erection in men and a lack of genital preparedness in women. It may have a primary medical cause, may be related to psychological factors, or can be a side effect of many psychotropic medications.

Incongruity of affect Refers to the objective impression that the displayed affect is not consistent with the current thoughts or actions (e.g. laughing while discussing traumatic experiences). Occurs in schizophrenia.

Initial insomnia Difficulty getting off to sleep. Seen as a symptom of primary insomnia, as well as in **depressive sleep disturbance**.

Insightlessness See **Lack of insight**.

Irritability Diminution in the stressor required to provoke anger or verbal or physical violence. Seen in manic illnesses, organic cognitive impairment, psychotic illnesses, and drug and alcohol intoxication. Can also be a feature of normal personality types and of personality disorder.

Jamais vu The sensation that events or situations are unfamiliar, although they have been experienced before. An everyday experience, but also a non-specific symptom of a number of disorders, including temporal lobe epilepsy, schizophrenia, and anxiety disorders.

Knight's move thinking Synonym for **derailment**.

Lability of mood Marked variability in the prevailing affect.

Lack of insight Loss of the ability to recognize that one's abnormal experiences are symptoms of psychiatric illness and that they require treatment.

Lilliputian hallucination A type of visual **hallucination** in which the subject sees miniature people or animals. Associated with organic states, particularly delirium tremens.

Logoclonia Symptom of Parkinson's disease where the patient gets 'stuck' on a particular word of a sentence and repeats it.

Logorrhoea Excess speech or 'verbal diarrhoea'. Symptom of **mania**.

Loosening of associations A symptom of **formal thought disorder**, in which there is a lack of meaningful connection between sequential ideas.

Loss of libido Loss of the desire for sexual activity. Common in depressive illness and should be inquired about directly, as it is usually not mentioned spontaneously. Should be distinguished from **impotence**.

Magical thinking A belief that certain actions and outcomes are connected, although there is no rational basis for establishing a connection (e.g. 'if you step on a crack, your mother will break her back'). Magical thinking is common in normal children and is the basis for most superstitions. A similar type of thinking is seen in psychotic patients.

Malingering Deliberately falsifying the symptoms of illness for a secondary gain (e.g. for compensation, to avoid military service, or to obtain an opiate prescription).

Mania A form of mood disorder initially characterized by **elevated mood**, **insomnia**, loss of appetite, ↑ libido, and **grandiosity**. More severe forms develop **elation** and **grandiose delusions**.

Mannerism Abnormal and occasionally bizarre performance of a voluntary, goal-directed activity (e.g. a conspicuously dramatic manner of walking. Imagine John Cleese's 'minister of silly walks').

Mental retardation Diminished intelligence below the second standard deviation (IQ <70). Increasing severity of retardation is associated with ↓ ability to learn, to solve problems, and to understand abstract concepts. Subdivided as: mild: 50–69; moderate 35–49; severe 20–34; and profound 0–19.

Micrographia Small, 'spidery' handwriting seen in patients with Parkinson's disease; a consequence of being unable to control fine movements. This is most easily recognized by comparing their current signature with one from a number of years previously.

Middle insomnia Wakefulness and inability to return to sleep occurring in the middle part of the night.

Mirror sign Lack of recognition of one's own mirror reflection, with the perception that the reflection is another individual who is mimicking your actions. Seen in **dementia**.

Mitgehen An extreme form of **mitmachen** where the patient's limbs can be moved to any position by very slight or fingertip pressure ('angle-poise lamp sign').

Mitmachen A **motor symptom** of schizophrenia where the patient's limbs can be moved without resistance to any position (cf. mitgehen). The limbs return to their resting state once the examiner lets go, in contrast with **catalepsy** where the limbs remain in their set positions for prolonged periods.

Mood The subjective emotional state over a period of time, in contrast to **affect** which describes the emotional response to a particular situation or event.

Mood-congruent A secondary symptom which is understandable in the light of an abnormal mood state (e.g. a severely depressed patient developing a **delusion** that they are in

severe debt, or a manic patient developing a delusion that they are exceptionally wealthy).

Morbid jealousy Synonym for **delusional jealousy**.

Motor symptoms of schizophrenia Schizophrenic illness is associated with a variety of soft neurological signs and motor abnormalities. In the modern era, many motor abnormalities will be attributed to the side effects of neuroleptic drugs, but all were described in schizophrenic patients prior to the introduction of these drugs in 1952.

Recognized motor symptoms in schizophrenia include: **catatonia, catalepsy, automatic obedience, negativism, ambitendency, mitgehen, mitmachen, mannerism, stereotypy, echopraxia**, and **psychological pillow**.

Muddling A feature of **schizophrenic thought disorder** caused by simultaneous **derailment** and **fusion**. The speech so produced may be very bizarre.

Multiple personality The finding of two or more distinct 'personalities' in one individual. These personalities may answer to different names, exhibit markedly different behaviours, and describe amnesia for periods when other personalities were active. This symptom is most probably an iatrogenic condition produced during exploratory psychotherapy in suggestible individuals.

Mutism Absence of speech without impairment of consciousness.

Negative symptoms (of schizophrenia) Symptoms of schizophrenia which reflect impairment of normal function. They are: lack of volition, lack of drive, apathy, **anhedonia**, **flattening of affect**, **blunting of affect**, and **alogia**. Believed to be related to cortical cell loss.

Negativism A **motor symptom** of schizophrenia where the patient resists carrying out the examiner's instructions and his attempts to move or direct the limbs.

Neologism A made-up word or normal word used in an idiosyncratic way. Neologisms are found in schizophrenic speech.

Nihilistic delusion A delusional belief that the patient has died or no longer exists or that the world has ended or is no longer real. Nothing matters any longer, and continued effort is pointless. A feature of psychotic depressive illness.

Nystagmus Involuntary oscillating eye movements.

Obsession An idea, image, or impulse which is recognized by the patient as their own but which is experienced as repetitive, intrusive, and distressing. The return of the obsession can be resisted for a time, at the expense of mounting anxiety. In some situations, the **anxiety** accompanying the obsessional thoughts can be relieved by associated **compulsions** (e.g. a patient with an obsession that his wife may have come to harm feeling compelled to phone her constantly during the day to check she is still alive).

Othello syndrome A monosymptomatic delusional disorder where the core delusion has the content of **delusional jealousy**.

Over-valued ideas A form of **abnormal belief**. These are ideas which are reasonable and understandable in themselves but which

come to unreasonably dominate the patient's life.

Palimpsest Episode of discrete amnesia related to alcohol or drug intoxication. The individual has no recall for a period when, although intoxicated, he appeared to be functioning normally. This is also commonly known as 'blackout', but the term palimpsest is preferable as it avoids confusion with episodes of loss of consciousness.

Panic attack Paroxysmal, severe **anxiety**. May occur in response to a particular stimulus or occur without apparent stimulus.

Paranoid delusion Strictly speaking, this describes self-referential delusions (i.e. **grandiose delusions** and **persecutory delusions**). It is, however, more commonly used as a synonym for **persecutory delusion**.

Paraphasia The substitution of a non-verbal sound in place of a word. Occurs in organic lesions affecting speech.

Passivity phenomena Synonym for **delusions of control**.

Persecutory delusion A delusional belief that one's life is being interfered with in a harmful way.

Perseveration Continuing with a verbal response or action which was initially appropriate after it ceases to be apposite (e.g. 'Do you know where you are?'—'In the hospital'; 'Do you know what day it is?'—'In the hospital'). Associated with organic brain disease and is occasionally seen in schizophrenia.

Phantom mirror image Synonym for **autoscopy**.

Phobia A particular stimulus, event, or situation which arouses **anxiety** in an individual and is therefore associated with **avoidance**. The concept of 'biological preparedness' is that some fears (e.g. of snakes, fire, heights) had evolutionary advantage, and so it is easier to develop phobias for these stimuli than other more evolutionarily recent threats (e.g. of guns or electric shock).

Physiological dependence See **Dependence**.

Pica The eating of things which are not food or of food items in abnormal quantities.

Positive symptoms (of schizophrenia) The symptoms of schizophrenia which are qualitatively different from normal experience (i.e. **delusions, hallucinations, schizophrenic thought disorder**). Believed to be related to neuro-chemical abnormalities.

Posturing The maintenance of bizarre and uncomfortable limb and body positions. Associated with psychotic illnesses and may have **delusional** significance to the patient.

Pressure of speech The speech pattern consequent upon **pressure of thought**. The speech is rapid and difficult to interrupt, and, with increasing severity of illness, the connection between sequential ideas may become increasingly hard to follow. Occurs in manic illness.

Pressure of thought The subjective experience of one's thoughts occurring rapidly, each thought being associated with a wider range of consequent ideas than normal and with the inability

to remain on one idea for any length of time. Occurs in manic illness.

Priapism A sustained and painful penile erection, not associated with sexual arousal. A rare side effect of antidepressant medication. If not relieved, can cause permanent penile damage.

Pseudocyesis A false pregnancy. May be hysterical or delusional in nature and can occur in both sexes, although more commonly in women. The belief in the false pregnancy may be accompanied by abdominal distension, lumbar lordosis, and amenorrhoea.

Pseudodementia A presentation of severe depression in the elderly where the combination of **psychomotor retardation**, apparent cognitive deficits, and functional decline causes diagnostic confusion with **dementia**.

Pseudo-hallucination A false **perception** which is perceived as occurring as part of one's internal experience, not as part of the external world. It may be described as having an 'as if' quality or as being seen with the mind's eye. Additionally, hallucinations experienced as true hallucinations during the active phase of a patient's illness may become perceived as pseudo-hallucinations as they recover. They can occur in all modalities of sensation and are described in psychotic, organic, and drug-induced conditions, as well as occasionally in normal individuals. (The hallucinations of deceased spouses commonly described by widows and widowers may have a form of a pseudo-hallucination.)

Pseudologica fantastica The production of convincing false accounts, often with apparent sincere conviction. There may be a grandiose or an over-exaggerated flavour to the accounts produced. A feature of Munchausen's disease.

Psychic anxiety See **Anxiety**.

Psychogenic polydipsia Excessive fluid intake without organic cause.

Psychological dependence See **Dependence**.

Psychological pillow A **motor symptom** of schizophrenia. The patient holds their head several inches above the bed, while lying, and can maintain this uncomfortable position for prolonged periods of time.

Psychomotor agitation A combination of **psychic anxiety** and excess and purposeless motor activity. A symptom common to many mental illnesses and found in normal individuals in response to stress.

Psychomotor retardation ↓ spontaneous movement and slowness in instigating and completing voluntary movement. Usually associated with a subjective sense of actions being more of an effort and with subjective retardation of thought. Occurs in moderate to severe depressive illness.

Punding A form of stereotyped motor behaviour in which there is an apparent fascination with repetitive mechanical tasks such as arranging items or dismantling and reassembling mechanical objects. It is seen as a side effect of anti-Parkinsonian medication

and in some individuals taking methamfetamine. It bears some similarity to behaviours seen in individuals with autism.

Receptive dysphasia Dysphasia affecting the understanding of speech. There is impairment in understanding spoken commands and repeating back speech. There are also significant abnormalities in spontaneous speech with word substitutions, defects in grammar and syntax, and **neologisms**. The abnormal speech so produced is, however, fluent (cf. **expressive dysphasia**), and the patient may be unconcerned by his deficits.

Reflex hallucination The experience of a real stimulus in one sensory modality triggering a hallucination in another.

Retrograde amnesia The period of **amnesia** between an event (e.g. head injury) and the last continuous memory before the event.

Rumination A **compulsion** to engage in repetitive and pointless consideration of phrases or ideas, usually of a pseudo-philosophical nature. May be resisted for a period, with consequent mounting **anxiety**.

'Running commentary' A type of **third-person auditory hallucination**, which is a **first-rank symptom** of schizophrenia. The patient hears one or more voices providing a narrative of their current actions—'he's getting up … now he's going towards the window'.

Russell sign Skin abrasions, small lacerations, and calluses on the dorsum of the hand overlying the metacarpophalangeal and interphalangeal joints found in patients with symptoms of bulimia. Caused by repeated contact between the incisors and the skin of the hand, which occurs during self-induced vomiting.

Schizophasia Synonym for **word salad**.

Schizophrenic speech disorder This includes abnormalities in the form of speech consequent upon a **schizophrenic thought disorder** and those abnormalities in the use of language characteristic of schizophrenia such as use of **neologisms** and **stock words/phrases**.

Schizophrenic thought disorder A group of abnormalities in the subjective description of the form of thought which occurs in schizophrenia. The abnormalities include: **loosening of associations, derailment, thought blocking, fusion**, and **muddling**.

Sensory distortions Changes in the perceived intensity or quality of a real external stimulus. Associated with organic conditions and with drug ingestion or withdrawals. Examples include: hyperacusis (hearing sounds as abnormally loud), micropsia ('wrong end of the telescope' effect, perceiving objects which are close as small and far away).

Snapping off Synonym for **thought blocking**.

Somatic anxiety See **Anxiety**.

Somatization The experience of bodily symptoms with no, or no sufficient, physical cause for them, with presumed psychological causation.

Splitting of perception Loss of the ability to simultaneously process complementary information in two modalities of sensation

(e.g. sound and pictures on television). Rare symptom of schizophrenia.

Stereotypy A repetitive and bizarre movement which is not goal-directed (in contrast to **mannerism**). The action may have delusional significance to the patient. Seen in schizophrenia.

Stock phrases/stock words Feature of **schizophrenic speech disorder**. Use of particular words and phrases more frequently than in normal speech and with a wider variety of meanings than normal.

Stupor Absence of movement and **mutism** where there is no impairment of consciousness. Functional stupor occurs in a variety of psychiatric illnesses. Organic stupor is caused by lesions in the midbrain (the 'locked-in' syndrome).

Synaesthesia A stimulus in one sensory modality is perceived in a fashion characteristic of an experience in another sensory modality (e.g. 'tasting' sounds or 'hearing' colours). Occurs in hallucinogenic drug intoxication and in epileptic states.

Tangentiality Producing answers which are only very indirectly related to the question asked by the examiner.

Tardive dyskinesia A movement disorder associated with long-term treatment with neuroleptic drugs (although it was described in psychotic patients before the use of these drugs in clinical practice). There is continuous involuntary movement of the tongue and lower face. More severe cases involve the upper face and have choreoathetoid movements of the limbs.

Teleological hallucination Synonym for **command hallucination**.

Terminal insomnia Synonym for **early morning wakening**.

Third-person auditory hallucinations Auditory hallucinations characteristic of schizophrenia where voices are heard referring to the patient as 'he' or 'she', rather than 'you'. The **first-rank symptoms** of **'voices heard arguing'** and **'running commentary'** are of this type.

Thought blocking A symptom of **schizophrenic thought disorder**. The patient experiences a sudden break in the chain of thought. It may be explained as due to **thought withdrawal**. In the absence of such **delusional elaboration**, it is not a **first-rank symptom**.

Thought broadcasting The delusional belief that one's thoughts are accessible directly to others. A **first-rank symptom** of schizophrenia.

Thought disorder See **Formal thought disorder**.

Thought echo The experience of an auditory **hallucination** in which the content is the individual's current thoughts. A **first-rank symptom** of schizophrenia. Also known as **gedankenlautwerden** or **echo de la pensée**.

Thought insertion The delusional belief that thoughts are being placed in the patient's head from outside. A **first-rank symptom** of schizophrenia.

Tic Sudden twitches of a single muscle or muscle group.

Trichotillomania The **compulsion** to pull one's hair out.

Verbigeration Repetition of words or phrase while unable to articulate the 'next' word in the sentence. Seen in **expressive dysphasia**.

Verschmelzung Synonym for **fusion**.

'Voices heard arguing' A type of auditory **hallucination** which is a **first-rank symptom** of schizophrenia. The patient hears two or more voices debating with one another, sometimes about a matter over which the patient is agonizing (e.g. 'he should take the medication, it's worked before', 'no, not again, he'll not take it this time').

Vorbeigehen Synonym for **Ganser symptom**.

Vorbeireden Synonym for **Ganser symptom**.

Waxy flexibility Synonym for **catalepsy**.

Wernicke's dysphasia A type of **receptive dysphasia** due to cortical lesions in or near the posterior portion of the left first temporal convolution (superior temporal gyrus)—known as the Wernicke area.

Withdrawals The physical sequelae of abstinence from a drug to which one is **dependent**. These are individual to the drug concerned (e.g. sweating, tachycardia, and tremor for alcohol; dilated pupils, piloerection, abdominal pain, and diarrhoea for opiates).

Word salad The most severe degree of **schizophrenic thought disorder**, in which no connection of any kind is understandable between sequential words and phrases the patient uses. Also called **schizophasia**.

Chapter 4

Neuropsychiatry

A brief history of neuropsychiatry

> ' … from nothing else but the brain come joys, delights, laughter and sports, and sorrows, griefs, despondency, and lamentations … And by the same organ we become mad and delirious, and fears and terrors assail us … '
>
> From '*On the Sacred Disease*' Hippocrates (c.400 BC)

Wilhelm Griesinger (1817–1868) is often referred to as the 'founding father of neuropsychiatry' (perhaps more accurately the first 'biological psychiatrist'). It is to him that the (apocryphal)

quotation has been attributed that all mental diseases are just diseases of the brain.[1] Griesinger was a physician (the concept of psychiatrist did not exist at the time), and there is no doubt that his textbook *Pathologie und Therapie der Psychischen Krankheiten* [*Textbook of Mental Pathology and Therapeutics*] (1845) was hugely influential. He established the journal *Archiv für Psychiatrie und Nervenkrankheiten* [*Archives of Psychiatry and Nervous Diseases*], which, in the hands of Meyer and Wetsphal, became the leading research journal in psychiatry internationally.

The philosophical roots of modern neuropsychiatry are to be found in the earlier new materialism of the nineteenth century. Étienne-Jean George[2] (1795–1828), a disciple of Pinel and Esquirol, emphasized the organic aetiology of mental disorder. Antoine Laurent Bayle (1799–1858) challenged the dualist view of the time with a unitary view of general paralysis—that dementia and mental disorder are both features of the same disease. However, it was Griesinger's works that had the greatest influence on many European neuropsychiatrists, including Meyer, Meynert, Liepmann, Pick, Oppenheim, Charcot, Korsakoff, von Monakow, Babinski, Janet, Freud, Jackson, Bleuler, Kraepelin, Bonhoeffer, and Alzheimer.

In the UK, the most important psychiatrist at the time Henry Maudsley (1835–1918) had views very close to those of Griesinger.[3] It was Meynert's disciple Karl Wernicke (1848–1905)[4] who further advanced Griesinger's ideas, proposing: a model to encompass all brain-related diseases (whether so-called psychiatric or neurological); the development of a pathophysiological model to mediate between the brain and behaviour; and the introduction of the first 'neuropsychological approach' to mental symptoms. Other important figures include Jackson (1834–1911), von Monakow (1853–1930), Goldstein (1878–1965), and Guiraud (1882–1974). In the early 1900s, neuropsychiatry was an emerging discipline in the German- and French-speaking world, and to an extent in the USA.

All was to change when the rise of psychodynamic thinking led many psychiatrists to embrace a new 'mentalistic' approach, and a separation from neurology began. There was resistance. Notably, Sir Charles Symonds (1890–1978), the doyen of British neurologists, fought to prevent psychiatry's drift away from neurology and neuroscience.[5] However, after World War II, the division between neurology and psychiatry widened, symbolized by *The Archives of Neurology and Psychiatry* (first published in 1919) separating into two journals. In many countries, separate departments of neurology and psychiatry were formed, with separate training programmes.

However, from the mid-twentieth century onwards, developments in neuropsychopharmacology led to the emergence of what has been called the 'second biological psychiatry'. There was a real explosion of research in neurosciences, a 'remedicalization' of psychiatry, and a decline in the dominance of psychodynamism. By the 1980s, even the nosology of psychiatry was changing, with the

publication of ICD-9 (1978) and DSM-III (1980), when the neuroses were rejected in favour of a biological medical model. With the development of functional imaging techniques, including CT, MRI, and PET/SPECT, and rapid advances in molecular genetics, research of neurologists, psychiatrists, psychologists, and cognitive neuroscientists increasingly overlapped. In the UK, the British Neuropsychiatry Association (BNPA) was founded in October 1987, chaired by Professor Lishman,[6] and all clinical neuroscience professionals were welcome to join. In the USA, the American Neuropsychiatric Association (ANPA) was founded in 1988 and the first joint meeting with the BNPA was in 1991.

At the turn of the millennium, there were calls for a rapprochement of neurology and psychiatry.[7] The Royal College of Psychiatrists established a Special Interest Group in Neuropsychiatry in 2001, and this led to a Section of Neuropsychiatry in 2008 and a Faculty of Neuropsychiatry in 2014, with emphasis on training, standards, service development, and academic/research links. It is likely that over the next decade, we will see the disciplines of neurology and psychiatry becoming closer still. Early signs are in proposals for ICD-11 where 'Dissociative neurological symptom (previously conversion) disorders' may be listed with other 'Diseases of the nervous system'.[8]

What is neuropsychiatry?

> 'Psychiatry is a protean discipline and neuropsychiatry is one of its incarnations.'
>
> Berrios and Markova (2002)[9]

To many psychiatrists, neuropsychiatry is synonymous with psychiatry as both are concerned with 'the functional or organic disturbances of the central nervous system that give rise to, contribute to, or are associated with mental and emotional disorders.'[10] The history of (neuro)psychiatry (A brief history of neuropsychiatry, p. 122) is populated by figures like Emil Kraepelin (1856–1926) and Alois Alzheimer (1864–1915) who practised psychiatry but hoped to discover the basis of psychiatric diseases through histological and neuropathological research. These days, the term neuropsychiatry can be applied in many ways. In the scientific field, neuropsychiatry may refer broadly to any endeavour by a scientist, educator, clinician, policymaker, or individual who seeks to advance our understanding of the neurological basis of psychiatric disorders, the psychiatric manifestations of neurological disorders, and the evaluation and care of those with neurologically based behavioural disturbances. When referring specifically to a medical subspecialty, it may mean one or the other of two parallel,

but historically distinct, clinical disciplines: behavioural neurology and neuropsychiatry.

Behavioural neurology (also known as behavioural neuroscience and brain sciences) is essentially a branch of neurology that links normal and abnormal behaviours to functioning of specific areas or functional networks of the brain. The origins of this approach arise in research and early localization theories of Franz Gall (1758 – 1828),[11] followed in the mid-nineteenth century by neuroanatomical lesion studies in aphasias by Paul Broca (1824–1880) and Carl Wernicke (1848–1905). Research in this area peaked in the late nineteenth and early twentieth centuries, with work extending into the clinical descriptions of dementias by Alzheimer and Arnold Pick (1851–1924). It was not until 1972 that the 'father of behavioural neurology' Norman Geschwind (1926–1984) coined the name at a meeting of the American Academy of Neurology, and in 1982, the Behavioural Neurology Society was founded (now the Society for Behaviour and Cognitive Neurology).[12] In the USA, Geschwind and colleagues were responsible for a renaissance of behavioural neuroscience, not only because of their work on disconnection syndromes, aphasia, and behavioural syndromes of limbic epilepsy (the eponymous Geschwind syndrome), but also the legacy of training generations of behavioural neurologists (including such luminaries as Kenneth Heilman[13] and Antonio Damasio[14]). With the advent of *in vivo* neuroimaging from the 1980s onwards, the cognitive neurosciences have capitalized on having new tools to explore lesion, structural, and functional correlations with behavioural dysfunction in living people.

The interwoven history of neuropsychiatry is outlined briefly on pp. 122–123. It is worth noting that historically neuropsychiatry is a distinct discipline from biological psychiatry, which emerged along with biological treatments of psychiatric disorders in the late 1930s to early 1950s. The term biological psychiatry was coined in 1946 after a meeting on 'the biological basis of behaviour', organized by Johannes M Nielsen (1890–1969), Professor of Neurology at the University of Southern California, and George N Thompson (1909–), Chief Psychiatrist at the Los Angeles General Hospital. From this meeting arose the Society of Biological Psychiatry, the membership of which comprised many of the elite of the American neuroscience establishment. Neilsen and Thompson published the first textbook of biological psychiatry *The Engrammes of Psychiatry* in 1947. Biological psychiatry developed to encompass the expanding fields of brain biochemistry, neuroendocrinology, cellular and molecular medicine, and genetics, as they applied to mental disorders. Due to the cross-fertilization of the neurosciences over the last 70 years, it has become increasingly difficult to distinguish biological psychiatry from other clinical and academic neurosciences. Indeed the term is sometimes used in a pejorative way to suggest overly reductive thinking. The same allegations have been levelled at neuropsychiatry.

Developments in our understanding of the interaction between genes and the environment, together with the rise of biological psychology, neuropsychology, and more recently cognitive neuropsychiatry,[15] also mean that if we are ever to have a more complete understanding of how the brain functions in health and disease, then further integration is vital. In clinical practice, ignoring psychological and social aspects is at best inconsiderate and at worst negligent.

The current practice of both neuropsychiatry and behavioural neurology is focused on better understanding the links between neuroscience and behaviour, with an emphasis on the care of individuals with neurologically based behavioural disturbances. Whether trained primarily in psychiatry, neurology, or both, practitioners require specific experience in the evaluation, differential diagnosis, prognosis, pharmacological treatment, psychosocial management, and neurorehabilitation of persons with complex neuropsychiatric and neurobehavioural conditions.

Psychiatric presentations of organic illness

All psychiatric illnesses are, by their nature, organic, i.e. they involve abnormalities of normal brain structure or function. The term 'organic illness' in modern psychiatric classification, however, refers to those conditions with demonstrable aetiology in central nervous system (CNS) pathology. Organic disorders related to substance misuse are dealt with in Chapter 14. This chapter deals with those disorders that are caused by degenerative, traumatic, inflammatory, infective, autoimmune, and metabolic conditions.

Organic illnesses are included in the lists of differential diagnoses for most psychiatric syndromes. For this reason, most patients presenting with psychiatric symptomatology merit a thorough physical examination (including neurological examination and, in some cases, special investigations) before a diagnosis of primary psychiatric illness is made. While psychiatrists do not have to be expert neurologists, a sound knowledge of those conditions that bridge neurology and psychiatry is essential.

Listed here are common organic causes of psychiatric syndromes (delirium, dementia, and amnestic disorders are discussed later).

Organic causes of psychosis

- Neurological [encephalitis, e.g. herpes simplex virus (HSV); epilepsy; dementia; brain injury; brain tumour; HIV; neurosyphilis; intracerebral abscess; stroke).
- Endocrine (hyper-/hypothyroidism; Cushing's; hyperparathyroidism; Addison's disease).
- Metabolic (uraemia; sodium imbalance; porphyria).
- Autoimmune (systemic lupus erythematosus (SLE) ('lupus psychosis'); autoimmune encephalitis).
- Medications [steroids; levodopa (L-dopa); isoniazid; anticholinergics; antihypertensives; anticonvulsants;

methylphenidate].
- Drugs of abuse [novel psychoactive substances (NPS); amphetamines; cocaine; LSD; cannabis; phencyclidine (PCP); opioids].
- Toxins.

Organic causes of depression

- Neurological [stroke; epilepsy; Parkinson's disease; brain tumour; dementia; multiple sclerosis (MS); Huntington's disease; brain injury]. Cerebellar disease is associated with a cognitive-affective syndrome with depressed mood or labile affect.
- Infectious [HIV; Epstein–Barr virus (EBV)/infectious mononucleosis; brucellosis).
- Endocrine and metabolic [hypothyroidism; Cushing's; Addison's disease; parathyroid disease; vitamin deficiency (B12 and folate); porphyria].
- Cardiac disease [myocardial infarction (MI); congestive cardiac failure (CCF)].
- SLE.
- Rheumatoid arthritis.
- Cancer.
- Medications [analgesics; antihypertensives; levodopa; anticonvulsants; antibiotics; steroids; combined oral contraceptive (OCP); cytotoxics; cimetidine; salbutamol).
- Drugs of abuse [alcohol; benzodiazepines (BDZs); cannabis; cocaine; opioids].
- Toxins.

Organic causes of mania

- Neurological (stroke; epilepsy; brain tumour; brain injury; MS).
- Endocrine (hyperthyroidism).
- Medications (steroids; antidepressants; mefloquine; interferon, isoniazid; cytotoxics).
- Drugs of abuse (cannabis; cocaine; amphetamines).
- Toxins.

Organic causes of anxiety

- Neurological (TLE; dementia; brain injury; stroke; brain tumour; MS; Parkinson's disease].
- Pulmonary [chronic obstructive airways disease (COAD)].
- Cardiac (arrhythmias; CCF; angina; mitral valve prolapse).
- Endocrine (hyperthyroidism; phaeochromocytoma).
- Medications (antidepressants; antihypertensives; flumazenil; yohimbine; fenfluramine).
- Drugs of abuse [alcohol (withdrawal); BDZs (withdrawal); caffeine; cannabis; cocaine; LSD; MDMA (ecstasy); amphetamines, NPS].

Neurological examination in psychiatry

A neurological examination should ideally be performed in all patients presenting with psychiatric symptoms—urgently where there is suspicion of an 'organic' disorder. With practice, the feeling

of ‘normal’ (tone, reflexes, optic discs, tandem gait) becomes more firmly established and it becomes possible to pick up minor abnormalities which may be diagnostically helpful.

Examination routine

- *General observation*—of the patient walking into the examination room (or lying in bed) gives an impression of the conscious level, demeanour, mood, gait, and the presence of movement disorders (Movement disorders in psychiatry, p. 132).
- **Gait** Ask the patient to walk to the end of the room and turn round.
- *Tandem gait*—ask the patient to walk heel-to-toe across the room.
- *Romberg’s sign*—with the examiner’s hands on either side and ready to support the patient, should they lose balance, ask the patient to stand with their feet together and eyes closed. The test is positive, suggesting impaired proprioception, if the patient loses balance.
- *Cranial nerves*—with the patient seated on a chair or an examination couch, cranial nerves I–XII may be quickly assessed using this routine:
  - I: not routinely clinically tested, but ask about the sense of smell—often lost (anosmia) after brain injury and in Parkinson’s disease.
  - II: test visual acuity using the Snellen chart; visual fields with a ‘wiggling finger’ or a red pin; and optic discs via fundoscopy. Test pupillary reactions to light and accommodation.
  - III, IV, and VI: test eye movements and observe any ptosis.
  - V: test facial sensation in all three branches of the trigeminal nerve, using cotton wool. Test jaw clench.
  - VII: test facial movements, asking the patient to copy the examiner—raise the eyebrows, close the eyes, and bare the teeth.
  - VIII: test hearing by whispering in each ear.
  - IX: gag reflex—not routinely tested.
  - X: ask the patient to swallow and cough.
  - XI: ask the patient to elevate their shoulders and to turn their head left and right against resistance.
  - XII: ask the patient to stick out their tongue.
- *Muscle tone*—with the patient seated or reclined on the examination couch, test muscle tone in upper and lower limbs. If tone is suspected, test for ankle clonus by rapidly dorsiflexing the foot at the ankle.
- *Muscle power*—test power in upper and lower limbs.
- *Reflexes*—test deep tendon reflexes at the knees, ankles, and elbows. The plantar reflex (Babinski) rewards the inconvenience of removing shoes with the reassurance that there is no significant upper motor neuron lesion.
- *Sensation*—finally, an attempt at sensory examination may be made using cotton wool (light touch), a tuning fork (temperature

and vibration), and proprietary sensory-testing sharps (e.g. 'Neurotip™'); note that sensory testing relies entirely on the patient's subjective report.

Examination findings in neuropsychiatric conditions

Some or all of the following signs may be observed or elicited on examination, aiding diagnosis.

- *Vascular neurocognitive disorder (vascular dementia)*—pyramidal weakness with ↑ tone and brisk reflexes, dysphasia, hurried shuffling gait (marche à petit pas).
- *Parkinson's disease*—shuffling gait with stooped posture, bradykinesia, asymmetrical pill-rolling tremor, cogwheel rigidity, dysdiadochokinesia, positive glabellar tap test.
- *Drug-induced Parkinsonism*—similar to Parkinson's disease, but posture less stooped and rigidity and tremor are symmetrical.
- *Functional neurological disorders*—Hoover's sign, intermittent 'give way' weakness, tight-roping (excessive, successfully corrected overbalancing) on tandem gait, non-anatomical sensory loss, tubular visual field defect, tremor 'entrains' to rhythm of repeated voluntary movements in another limb.
- *Raised intracranial pressure*—papilloedema, drowsiness. There may be signs of a localizing lesion (e.g. hemiparesis or aphasia due to tumour). Idiopathic intracranial hypertension is associated with papilloedema and most common in obese young women.
- *Normal pressure hydrocephalus (NPH)*—hypokinetic gait—the patient looks 'glued to the floor'. Ataxia.
- *Advanced dementia*—long tract signs, including brisk reflexes and upgoing plantars, may be present. Primitive reflexes are less specific.
- *Amyotrophic lateral sclerosis (ALS)/motor neuron disease (MND)*—muscle wasting, fasciculation, dysarthria.
- *Progressive supranuclear palsy*—characteristic loss of downgaze, followed by loss of upgaze. Unsteady gait, dysarthria.
- *Creutzfeldt–Jakob disease (CJD)*—ataxia, myoclonus, visual impairment (blurred vision, visual agnosia, or cortical blindness).
- *Wilson's disease*—Kayser–Fleischer rings, ataxia, masked facial appearance, dysarthria, late dystonia, rigidity, spasticity, and flexion contractures.
- *Subacute combined degeneration of the cord*—(caused by B12 deficiency and associated with a dementia syndrome) Spasticity in the legs with extensor plantars, but hyporeflexia at the knees and ankles. Peripheral sensory loss (especially to pain and temperature) and optic atrophy (pale discs).
- *Neurosyphilis*—ataxia, signs of stroke, reduced visual acuity, optic atrophy, Argyll Robertson pupils (small; accommodate but do not react), hearing loss, hypotonia and hyporeflexia, loss of proprioception and vibration sense, positive Romberg's test.

Neurological investigations in psychiatry

Basic observations and blood tests to exclude reversible causes or comorbid physical illness should be routinely performed in all new presentations of psychiatric illness.

Standard blood tests in psychiatric practice

- FBC, U&Es, LFTs [including gamma glutamyl transferase (GGT) which is sensitive to alcohol excess], inflammatory marker [C-reactive protein (CRP) or erythrocyte sedimentation rate (ESR)], thyroid function, bone profile (calcium, phosphate).
- B12 and folate.
- Tests for relevant infections: HIV (+ viral hepatitis) where risk factors; HIV and syphilis in subacute dementia.
- Blood or urine toxicology.

In certain circumstances, more invasive and/or expensive investigations may be useful, as follows.

Additional blood tests

- *Autoimmune encephalitis antibodies* —aypical psychosis (e.g. with alteration of consciousness or cognition, seizures, or movement disorder).
- *Genetic tests for specific mutations*—consider where history of early-onset and strong family history of dementia, e.g. dementia of the Alzheimer type (DAT) (Alzheimer's disease 1, p. 156), fronto-temporal disease (FTD) (Fronto-temporal dementia, p. 160). Note ethical issues in testing for Huntington's disease, which has implications for other family members (Huntington's disease, p. 166).

Imaging

- *CT brain*—is usually performed in the investigation of cognitive impairment, in order to exclude tumour/space-occupying lesion (SOL) or NPH and to assess the extent of cerebrovascular disease and global and focal areas of atrophy.
- *MRI brain*—may be suggested to allow abnormalities on CT to be assessed in higher resolution or where the CT scan appears normal, but abnormalities are suspected. Changes after brain injury, in encephalitis, and after stroke may be evident on MRI, but not CT. Pacemakers and other metal implants are contraindications to MRI.
- *PET/SPECT/dopamine active transporter (DAT)*—radioisotope scans can be used to assess function. SPECT is helpful in discriminating DAT from FTD, and DAT can help with early diagnosis of Parkinson's disease and Lewy body dementia.

Electroencephalography[16]

- *Interictal EEG*—in general, has a limited role in the differential diagnosis of epilepsy. A normal EEG does not exclude epilepsy, and epileptiform discharges are found in 1% of the general population and between 10% and 30% of people with other cerebral pathology or on psychotropic medication. In conditions

other than epilepsy, the EEG is often non-specific—showing similar patterns in most types of encephalopathy. However, there are notable exceptions where the EEG is distinctive: non-convulsive status epilepticus, CJD, and subacute sclerosing panencephalitis (SSPE). EEG can be useful in distinguishing functional/psychogenic coma from organic causes of unconsciousness.
- *Video EEG/video telemetry*—can aid the diagnosis of epilepsy and dissociative (non-epileptic) seizures by recording a typical event, but only if an event is captured during recording.

Cerebrospinal fluid sampling (lumbar puncture)

- LP and analysis of cerebrospinal fluid (CSF) for protein, blood, and cytology should be considered where encephalitis (infective or autoimmune) is suspected.
- Oligoclonal bands in CSF which are not matched in the plasma (unpaired oligoclonal bands) suggest CNS inflammation.
- Test for CSF 14-3-3 protein in suspected CJD.

Movement disorders in psychiatry

Movement disorders occur in three contexts within psychiatry: neurodegenerative disorders with psychiatric symptoms (e.g. Parkinson's disease), psychiatric disorders with abnormal movements (stereotypies, tics), and medication-induced movement disorders (e.g. EPSEs).

Pathophysiology

Movement disorders commonly involve a disequilibrium of neurotransmitters, such as dopamine (DA), acetylcholine (ACh), and gamma-aminobutyric acid (GABA), within the circuits of the basal ganglia. Levels of DA and ACh tend to be inversely related. For example, in Parkinsonism, there is ↓ DA with ↑ ACh; conversely, chorea is characterized by ↑ DA and ↓ ACh.

Parkinsonism

A syndrome characterized by four core symptoms: slow, 'pill-rolling' tremor (4Hz); rigidity; bradykinesia; and postural abnormalities.

Aetiology

- *Degenerative diseases*—idiopathic Parkinson's disease (85% cases) and Lewy body dementia; progressive supranuclear palsy (PSNP); multisystem atrophy (MSA); corticobasal degeneration (CBD).
- *Medication*—antipsychotics; metoclopramide; domperidone.
- *Toxins*—cobalt; manganese; magnesium; organophosphates.
- *Infections*—encephalitis lethargica (post-influenza); CJD.
- *Miscellaneous*—cerebrovascular disease involving the basal ganglia; trauma of the basal ganglia; NPH; neoplasia of the basal ganglia; dementia pugilistica (punch-drunk syndrome).

Tic disorders

Tics are spontaneous, repetitive, rhythmic movements that can be motor or vocal and usually involve ↑DA in the basal ganglia. They are semi-voluntary and can only be resisted for a short time with difficulty. Tics are classified as primary or secondary and occur in:

- *Tourette's syndrome*—multiple motor, and at least one vocal, tics many times per day for >1yr (Tic disorders, p. 676).
- *Chronic tic disorder*—motor or vocal tics, but not both.
- *Provisional tic disorder*—childhood tics present for <1yr.
- *Infection*—CJD; Sydenham's chorea; encephalitis.
- *Drugs*—levodopa; methylphenidate; cocaine; amphetamines.
- *Other*—carbon monoxide (CO) poisoning; stroke/trauma (rare).

Tremor

- *Exaggerated physiological tremor*—(8–12Hz); occurs at rest and with action; causes: stress, anxiety, caffeine, medications.
- *Essential tremor*—(6–12Hz); at rest, with action and postural; most noticeable symmetrically in upper limbs.
- *Extra-pyramidal*—(4Hz); resting tremor; e.g. Parkinsonism.
- *Cerebellar, midbrain, or red nucleus*—(4–6Hz); intention tremor; causes: trauma, vascular, MS, tumour.

Catatonia

(The catatonic patient, p. 1054)

- A motor syndrome with several causes, diagnosed (DSM-5) by the presence of three or more of the following:
  - Stupor (no psychomotor activity).
  - Catalepsy (passive induction of a posture held against gravity).
  - 'Waxy flexibility'.
  - Mutism.
  - Negativism (opposition/no response to instructions or stimuli).
  - Posturing (active maintenance of postures against gravity).
  - Mannerism.
  - Stereotypy.
  - Agitation (motor excitement not influenced by external stimuli).
  - Echolalia and echopraxia.
- *Treatment*—BDZs, ECT.

Chorea

Brief, irregular, 'dance'-like, unpredictable movements, which, in mild cases, may appear voluntary. There are many causes, including pregnancy, Sydenham's chorea, drugs (antipsychotics, levodopa, OCP), and Huntington's disease. *Treatment*—antipsychotics, BDZs, or tetrabenazine have been tried.

Hemiballismus

A rare and dramatic movement disorder. An extreme version of chorea in which a structural lesion or metabolic damage to the subthalamic nucleus causes involuntary flailing, ballistic movements of the limbs. *Causes*—include stroke and non-ketotic

hyperglycaemia. *Treatment*—antipsychotics or tetrabenazine may help.

Alien hand syndrome

A complex movement disorder associated with a sense of loss of limb ownership. The patient's hand performs complex, meaningful movements without being guided by the intention of the patient, who is unable to stop the hand from grasping objects. It occurs in 60% of patients with corticobasal degeneration[17] and has also been described after stroke.

Encephalitis lethargica

Roughly 20yrs after the great influenza epidemic of the 1920s, large numbers of patients who had suffered from influenza encephalitis during the epidemic developed this disorder (also called post-encephalitic Parkinsonism), now thought to be an autoimmune condition. *Clinical findings*—Parkinsonism; oculogyric crises; pupillary abnormalities; psychosis. The disorder was the subject of the book (and film) by Oliver Sacks, entitled *Awakenings*.

Functional neurological symptoms

Epidemiology

Functional neurological symptoms (also historically called hysterical, conversion, psychogenic, or medically unexplained) account, in whole or part, for up to 30% of presentations to neurology outpatient clinics.[18] Patients experience similar levels of disability to those with conditions such as MS, but greater levels of psychiatric comorbidity and emotional distress; up to 70% have depression or anxiety disorders. Rates of misdiagnosis are low[19]

(see also Medically unexplained symptoms 1: introduction, p. 858; Medically unexplained symptoms 2: clinical presentations, p. 860; Medically unexplained symptoms 3: management principles, p. 862).

Clinical features

Symptoms often have a sudden onset, which may or may not follow a recent traumatic event, injury, illness (migraine is a common trigger), medical intervention, or anaesthetic. Symptoms may closely mimic those of neurological disease: weakness, sensory loss, dysphonia or dysarthria, muscle jerks, or seizures. Diagnosis requires positive clinical features of functional disorder (see Box 4.1). Aetiology is unclear; current research suggests that abnormal attentional focus may generate symptoms, and functional MRI (fMRI) studies show abnormal activation of the prefrontal cortex during attempted movement; dissociative seizures may relate to panic (although most patients do not experience typical anxiety symptoms). A history of prior trauma is no longer required for

diagnosis (DSM-5); recent reviews suggest many, but importantly not all, patients have a history of stressful life events.

Box 4.1 Positive clinical features of functional neurological disorder

- **Leg weakness and gait disturbance**—Hoover's sign, marked inconsistency on examination (e.g. able to walk but unable to move the leg during examination).
- **Tremor**—'entrains' to a rhythm tapped with the opposite hand or with the foot; disappears when distracted.
- **Sensory symptoms**—sharply demarcated and non-anatomical distribution of sensory loss, e.g. with a sharp midline boundary. Tubular visual field defect.
- **Dissociative seizures**—long duration, fluctuating course, asynchronous movements, side-to-side head and body movements, eyes closed, and ictal crying.
- **Cognitive symptoms**—detailed recall of 'forgetting' events; gross inconsistency in test performance vs observed or reported level of function; attending clinic alone.

Prognostic factors

Symptoms with a short history and acute onset often get better within days or weeks; however, commonly, symptoms run a chronic course, with high levels of disability and distress ongoing after many years. Perpetuating factors may include: fear of neurological disease, avoidance of movement and normal activity, secondary anxiety or depression, and social adversity. As with most psychiatric and neurological conditions, litigation is the strongest predictor of poor outcome.

Investigations

Even in the presence of positive clinical evidence of a functional disorder, it is generally sensible to perform relevant investigations—CT head, CT spine, neurophysiology—to be sure no organic pathology has been missed and to reassure the patient that their concerns have been taken seriously. Where it is not possible to witness or obtain a good witness account of dissociative seizures, video EEG can be extremely helpful.

Management

- Explanation: where the diagnosis is clear, it can and should be confidently explained that this is a positive diagnosis, and not one of exclusion, and that the condition is familiar, common in neurology clinics, and not a 'medical mystery'.
- The condition may be described as a disturbance of function, but not structure; some use the basic analogy of a 'software', rather than 'hardware', problem; other patients may be able to engage with an explanation of abnormal attentional focus disturbing processes which are usually automatic.
- If present, positive clinical signs, such as the Hoover's sign or entrainment of tremor, can be positively used to demonstrate to

the patient the unhelpful role of attention and therefore potential for recovery.[20]
- For patients who do not improve after a clear explanation of diagnosis, physiotherapy (ideally from a therapist with interest or experience in functional disorders),[21] or CBT may be effective. Treat comorbid depression or anxiety.
- Follow-up for those with widespread symptoms may help to prevent iatrogenic harm from over-investigation or from treatments that are likely to be unhelpful. BDZs and opiates, in particular, can worsen symptoms of dissociation and fatigue.

Neurodevelopmental disorders in adulthood

As the rates of diagnosis of neurodevelopmental disorders in children have ↑ in recent years, there is increasing recognition of the lifelong impact of neurodevelopmental disorders (
Attention-deficit/hyperactivity disorder, pp. 668–672). Individuals, often without a previous diagnosis, may present complaining of difficulties associated with core symptoms of these disorders or due to associated psychopathology and social difficulties. Parents may recognize their own symptoms and seek diagnosis following the diagnosis in a child.

Attention-deficit/hyperactivity disorder

Epidemiology

The estimated prevalence of ADHD in adults in the USA is 4.4%, and in the UK 2.3%. ♂:♀ 2:1. Some symptoms of childhood ADHD persist in adulthood in 50–65%, with the full syndrome persisting in 15%.

Clinical features

Social problems as a result of inattentive and impulsive behaviours include:
- Difficulty maintaining relationships and employment.
- Poor engagement with medical care.
- Criminal behaviours. ADHD is common in prisons and young offender institutions.
- Substance misuse and addiction, particularly with stimulants, reflecting a combination of social disadvantage and self-medication. It may be difficult to disentangle symptoms of ADHD from symptoms of intoxication, withdrawal, or complications such as drug-induced psychosis.

Diagnosis

Symptoms of inattention and/or hyperactivity-impulsivity:
- Impaired function.
- Present in different settings (e.g. home and work).
- Present from childhood, evidenced by collateral history from parent ± school reports.

- Must not be explained by another mental disorder, although the presence of secondary mood, anxiety, or substance misuse disorders may make this difficult to establish.

Treatment

(See NICE guidelines, 2008.)[22]
- Atomoxetine, methylphenidate, or dexamfetamine.
- Full medical examination and history, including assessment of cardiac risk factors prior to treatment.
- Atomoxetine may cause agitation, suicidality, and idiosyncratic liver reactions but is safest if there is a risk of diversion or misuse and is less likely to cause psychosis.
- Monitor weight (risk of weight loss), blood pressure (BP), and pulse on all stimulants.
- Offer CBT to those unable or unwilling to take medication.

Autism spectrum disorders

(See also Pervasive developmental disorders, p. 820; Autism spectrum disorders, p. 674.)

Clinical features

The core features are:
- Deficits in reciprocal social interaction.
- Restricted and repetitive behaviours and interests.
- Communication impairments.

In adolescence and adulthood, communication skills often improve, but social deficits can be more problematic, perhaps reflecting the more complex demands of adult relationships.[23] Adults without a prior diagnosis of ASD may present with secondary anxiety or mood disorders.

Diagnosis

Requires collateral history or supporting information (e.g. school reports) evidencing that deficits have been present since early childhood. The Autism Spectrum Quotient (AQ) questionnaire can be helpful as a screening tool.

Treatment

Supportive, including direction to available support agencies. Secondary mood disorders or anxiety disorders should be treated as for those without mood or anxiety disorders, including with psychological treatment where available.

Psychiatric aspects of epilepsy 1

An epileptic seizure is a transient occurrence of signs and/or symptoms due to abnormal excessive or synchronous neuronal activity in the brain. Epilepsy is a disease of the brain, characterized by an enduring predisposition to epileptic seizures. The prevalence of active epilepsy in the UK is estimated to be 5–10/1000. The clinical manifestation of a seizure depends on: the cause of epilepsy, the location of the epileptic focus, and the spread

of the epileptic discharge within the brain. Seizures are broadly classified as generalized when arising in diffuse bilateral networks or focal when arising from specific areas of the brain. Epilepsy carries significant disease burden and is associated with an ↑ risk of psychiatric disorders, the most common being depression and anxiety which affect up to 30% of people with epilepsy.

Psychological consequences of diagnosis

People with epilepsy have a significantly poorer health-related quality of life, when compared with the general population, associated with frequent seizures, medication side effects, social disability, and stigma, as well as cognitive and mood problems.

Neuropsychiatric effects of treatment

All antiepileptic drugs can induce psychiatric symptoms in people with epilepsy. Mood disorders are the most prevalent, followed by behavioural disturbances and, rarely, psychosis. Patients with a previous psychiatric history are at higher risk of developing these side effects. Specifically, phenobarbital, vigabatrin, tiagabine, topiramate, levetiracetam and zonisamide have been reported to trigger symptoms of depression, and vigabatrin, tiagabine, topiramate, and levetiracetam have been associated with psychosis. Aggressive behaviour and irritability have also been reported as a side effect of some antiepileptic drugs, particularly levetiracetam, perampanel, and topiramate.

Cognitive problems

Cognitive problems are common with multifactorial aetiology, depending on the underlying epilepsy-causing pathology, the frequency and localization of the seizures, the effects of medication, and psychiatric comorbidity. Early onset of seizures, long duration of epilepsy, and high frequency of seizures are associated with poorer cognitive outcome. Clinically, the most common presentation is of memory problems—in general, the result of sedation and slower processing speed secondary to medication. However, in TLE, there is a primary problem of encoding and consolidating information due to brain pathology.

Psychiatric disorders directly attributed to epilepsy—independent of seizures

Interictal depression

Depression is the most common psychiatric comorbidity in people with epilepsy. Prevalence ranges from 10% in people with well-controlled epilepsy to 50% for those with refractory epilepsy and symptomatic focal epilepsy (TLE). There is a bi-directional relationship between depression and epilepsy—people with a history of depression have a 7-times risk of developing epilepsy, suggesting a possible common pathogenic mechanism. *Diagnosis*—depression in people with epilepsy is often under-recognized; atypical depressive symptoms are sometimes attributed to 'interictal dysphoric disorder', and typical symptoms of depression, including

fatigue, weight changes, sleep difficulties, and poor concentration, overlap with common side effects of antiepileptic drugs and/or the consequences of recurrent seizures. The Neurological Disorders Depression Inventory for Epilepsy (NDDI-E)[24] is a self-rated six-item questionnaire which has been validated to screen for depression in patients with epilepsy. Suicide rates in people with epilepsy are three times that of the general population, and suicide is the cause of up to 5% of all epilepsy deaths. Newly diagnosed patients are at higher risk of suicide. *Treatment*—there is some evidence that CBT is helpful. Antidepressants, usually SSRIs (Prescribing for patients with epilepsy, p. 1038), may also be effective.

Interical anxiety

The prevalence of anxiety in people with epilepsy is higher than in the general population, with a significantly elevated risk of social phobias, generalized anxiety disorder (GAD), and agoraphobia. Anxiety is more common in people with focal epilepsy.

Interictal psychosis

The prevalence of psychosis among people with epilepsy is between 7% and 10%—6–10 times that of the general population. Risk factors include family history of psychosis, earlier age at onset of epilepsy, and low intellectual ability. A schizophrenia-like syndrome, characterized by an absence of negative symptoms and little deterioration of personality, has been described. More recent studies have found no differences in psychotic symptoms between patients with schizophrenia with or those without epilepsy, although there is evidence that people with epilepsy may have a less severe course and a better response to antipsychotics. *Treatment*—antipsychotic medication, usually haloperidol or sulpiride (Prescribing for patients with epilepsy, p. 1038). There is little evidence for superiority of any particular medication, and choice represents a balance between effective treatment of psychosis and the risk of lowering the seizure threshold. In general, the chosen antipsychotic should be titrated slowly to the lowest effective dose. Most antipsychotics can cause non-specific changes on the EEG in patients with or without epilepsy. Clozapine can produce epileptiform discharges on the EEG, but this does not predict the occurrence of seizures.

Forced normalization or alternating psychosis

A relatively rare situation in which the patient's presentation alternates between periods of frequent seizures with a normal mental state and periods of improved seizure control and normalization of the EEG, but with the emergence of psychotic symptoms. This phenomenon has been observed following the introduction of anticonvulsants.

Psychiatric aspects of epilepsy 2

Psychiatric disorders directly attributed to epilepsy—dependent on seizures

Pre-ictal symptoms

People with epilepsy may experience mood changes during the days and hours leading up to the seizure. These include symptoms of irritability, emotional lability, depression, anxiety, or (rarely) aggression, all of which subside after the seizure.

Ictal symptoms

Changes in mental state as a direct expression of the seizure activity begin abruptly, are short-lasting and stereotyped, and are often accompanied by other ictal symptoms like motor automatisms. Ictal fear and anxiety are a common experience, particularly in patients with TLE. Psychotic-like symptoms include brief experiences of visual, auditory, or gustatory hallucinations, usually with preserved insight. In non-convulsive status epilepticus, these psychotic-like symptoms can persist and can be distinguished from a primary psychiatric disorder by the presence of confusion and other ictal features. Ictal aggression is very rare.

Post-ictal symptoms

Post-ictal confusion

Characterized by an altered state of consciousness following a seizure, resulting in agitated and confused behaviour, lasting between minutes to an hour. Aggressive behaviour may be a feature; however, it is often non-directed, unintentional, and brief.

Post–ictal depression

The most commonly reported mood disturbance following a seizure. Depressive symptoms range from mild to moderate and are often accompanied by symptoms of anxiety. Some patients, particularly if they have a history of mental illness, will experience suicidal ideation. Post-ictal depression symptoms often resolve within 24hrs, although they can at times last for several days after the seizure.

Post-ictal psychosis

This affects 7–10% of people with epilepsy. Risk factors include a >10yr history of seizures, bilateral ictal foci, structural brain abnormalities, and a previous history of psychiatric disorders. Episodes are often triggered by a cluster of, or a marked increase in, generalized seizures, followed by a 24–72hr period of normal mental state, after which psychotic symptoms develop. Psychotic symptoms include delusions (paranoid, persecutory, religious) and visual and auditory hallucinations. There is frequently a marked affective component and a degree of confusion or delirium. Symptoms resolve spontaneously within days or weeks, but during the acute phase, BZDs or antipsychotics may be required. In the long term, improving seizure control will reduce the chances of further episodes (see Box 4.2).

Box 4.2 Post-ictal psychosis diagnostic criteria

- Episode of psychosis (often with confusion and delirium), developing within 1wk of a seizure or cluster of seizures.
- Psychosis lasting at least 15hrs and <2mths.
- Mental state characterized by delirium or delusions (e.g. paranoid, non-paranoid, delusional, misidentifications) or hallucinations (e.g. auditory, visual, somatosensory, olfactory) in clear consciousness.
- No evidence of:
  - A history of treatment with antipsychotic medications or psychosis within the past 3mths.
  - Antiepileptic drug toxicity.
  - An EEG demonstrating non-convulsive status.
  - A recent history of head trauma or alcohol/drug intoxication or withdrawal (other than BZDs used for epilepsy).

Reprinted from Logsdail SJ, Toone BK. Post-ictal psychoses. A clinical and phenomeno-logical description. *Br J Psychiatry* 1988;**152** with permission from Cambridge University Press.

The ecstatic seizures of Prince Myshkin

He was thinking, incidentally, that there was a moment or two in his epileptic condition almost before the fit itself (if it occurred in waking hours) when suddenly amid the sadness, spiritual darkness, and depression, his brain seemed to catch fire at brief moments … His sensation of being alive and his awareness increased tenfold at those moments which flashed by like lightning. His mind and heart were flooded by a dazzling light. All his agitation, doubts, and worries seemed composed in a twinkling, culminating in a great calm, full of understanding … but these moments, these glimmerings were still but a premonition of that final second (never more than a second) with which the seizure itself began. That second was, of course, unbearable.

Dostoyevsky: *The Idiot*

http://www.gutenberg.org/ebooks/2638

Parkinson's disease and related syndromes

Parkinson's disease results in progressive impairment of voluntary initiation of movement, associated with dementia of variable severity, as well as psychiatric morbidity. It is caused by a gradual loss of dopaminergic neurons in the substantia nigra (pars compacta). This results in ↓DA and ↑ACh in the basal ganglia. The remaining cells of the substantia nigra contain Lewy bodies.

Epidemiology

Occurs in 20/100,000 people; typically has its onset in the 50s and peaks during the 70s; ♂:♀ = 3:2; 5% of cases are familial; 25% of patients are disabled or die within 5yrs and ~60% within 10yrs; rare survival ~20yrs.

Symptoms and signs of Parkinson's disease

- *Tremor*—resting, 'pill-rolling' tremor of 4Hz; this is an early sign that may start unilaterally and may be asymmetrical in intensity; tremor increases with excitement or fatigue and diminishes during sleep.
- *Rigidity*—'lead-pipe' or 'cog-wheel' rigidity, especially in flexor muscles.
- *Bradykinesia*—slowness; difficulty initiating movement; reduced facial expression and blinking; 'mask facies'; reduced arm swing; 'festinating gait'; reduced voluntary speech; micrographia; 'freezing' episodes.
- *Postural abnormalities*—flexed posture; postural instability, with frequent falls.
- *Autonomic instability*—postural hypotension; constipation; urinary retention; sweaty, greasy, seborrhoeic skin; hypersalivation with drooling.
- *Positive glabellar tap*.

Differential diagnoses

- *MSA*—Parkinsonism; ataxia; vertical gaze palsies; pyramidal signs; autonomic abnormalities.
- *PSNP*—also known as Steele–Richardson–Olszewski syndrome; has its onset in the 50s and 60s and is characterized by a tetrad of: subcortical dementia, pseudobulbar palsy, supranuclear palsy, and dystonia (of the head and neck).
- *Dementia with Lewy bodies* (DLB) (Dementia with Lewy bodies, p. 162).

Dementia in Parkinson's disease

Fifty to 80% of patients develop dementia. Risk of dementia increases with increasing age, increasing severity of symptoms, and coexisting cardiovascular disease. Patients who do not develop dementia may develop subtle cognitive deficits such as rigidity and difficulty sequencing multi-stage tasks.

Clinical features Usually a subcortical dementia with slowing, impaired executive function, personality change, and memory impairment. Hallucinations and paranoia are common, and the later picture is as in DLB (Dementia with Lewy bodies, p. 162).

Pathology Indistinguishable from that of DLB.

Depression in Parkinson's disease

Very common finding, with 40–70% of patients affected. While depression may arise in the context of adjustment to diagnosis and worsening Parkinson's disease symptoms, reduced levels of monoamines [DA, noradrenaline (NA), 5-hydroxytryptamine (5-HT)]) and degeneration of subcortical pathways are likely to be important causative factors. Mood fluctuations are often noted in association with changes in plasma DA levels.

Treatment SSRIs; ECT (improves the depressive illness but can precipitate delirium).

Psychosis/delirium in Parkinson's disease

Psychosis occurs in some cases and is commonly due to medications used in Parkinson's disease such as:

- Anticholinergics—delirium, agitation, hallucinations, etc.
- levodopa and DA agonists can cause psychiatric complications, including delirium, psychosis, mania, and impulse-control disorders (ICDs).

Treatment Removal or dose adjustment of causative agents; occasionally, atypical antipsychotics with a lower risk of EPSEs may be used cautiously.

Impulse-control disorders

( Impulse-control disorders 1, p. 422;  Impulse-control disorders 2, p. 424;  Impulse-control disorders 3, p. 428.)

ICDs, in the form of pathological gambling, hypersexuality, compulsive eating, or compulsive shopping, are recognized complications of treatment with dopamine agonists and occur in ~14% of patients with Parkinson's disease (also in patients receiving treatment with dopamine agonists for other conditions such as restless legs syndrome, MS, and PSNP).

Treatment Patients must be warned of the risk of ICDs prior to commencing treatment. Decrease or discontinue dopamine agonist if symptoms develop.

Dopamine dysregulation syndrome

Patients develop addictive behaviours towards prescribed dopamine agonist medication, taking doses in excess of those required to treat motor symptoms. Resulting dopaminergic excess can cause 'punding' (repetitive, purposeless, complex motor behaviours such as collecting or rearranging objects), ICDs, and psychosis.

Treatment Reduction and supervision of medication.

Neuropsychiatric aspects of central nervous system infections

Viral encephalitis

- *Mumps, varicella-zoster, arbovirus, rubella*—may cause encephalitis, resulting in behavioural problems, learning difficulties, and ADHD-like symptoms in children.
- *HSV 1*—involves inferior frontal and anterior temporal lobes, resulting—in the acute phase—in delirium, hallucinations, and TLE. Chronic outcomes include an isolated amnestic syndrome, dementia, and Klüver–Bucy syndrome. *EEG*: slowing, with bursts of  slow wave in the temporal region. *Treatment*: early treatment with intravenous (IV) aciclovir (before diagnosis is confirmed) reduces long-term disability.
- *Measles*—can cause both an acute viral encephalitis and rarely SSPE, a slow viral infection with onset of symptoms years after

initial measles infection. *Clinical features*: behavioural problems, deteriorating intellectual function, movement disorders (ataxia, myoclonus), seizures, and, finally dementia and death. *Pathology*: white and grey matter changes to the occiput, cerebellum, and basal ganglia. *EEG*: periodic complexes.

Tuberculosis

- *TB meningitis*—in high-prevalence areas most common in children, and in low-prevalence areas more common in adults; caseating exudate covers the base of the skull, leading to vascular infarcts and hydrocephalus; cranial nerves may become involved. *Psychiatric symptoms*: apathy, withdrawal, insidious personality changes, delirium, hallucinations, chronic behavioural problems.
- *Tuberculoma*—presents with focal signs, seizures, raised intracranial pressure (ICP).

Neurosyphilis

Historically known as general paresis of the insane (GPI) or Cupid's disease, neurosyphilis is a chronic outcome of spirochaetal infection of the brain parenchyma. It manifests roughly 15–20yrs after infection. The spirochaetes have a predilection for frontal and parietal lobes, and the disease typically presents as a progressive frontal dementia.

Classic symptoms Grandiosity, euphoria, and mania with mood-congruent delusions. Disinhibition, personality change, and memory impairment are also common.

Neurological features Argyll Robertson pupils, 'trombone tongue', tremor, ataxia, dysarthria, myoclonus, hyperreflexia, spasticity, and extra-pyramidal signs.

Megalomania in general paralysis

Gentlemen,—You have before you today a merchant, aged forty-three, who sits down with a polite greeting, and answers questions fluently and easily … His illness began about two years ago. He became absent-minded and forgetful, to such an extent at last that he was dismissed by the firm for whom he had worked. Then, a year ago, he became excited, made extensive purchases and plans, weeping now and then in the deepest despair, so that he had to be taken into the hospital. On admission, he felt full of energy … and intended to write verses here, where he was particularly comfortable. He could write better than Goethe, Schiller, and Heine. The most fabulous megalomania quickly developed. He proposed to invent an enormous number of new machines, rebuild the hospital, build a cathedral higher than that at Cologne, and put a glass case over the asylum. He was a genius, spoke all the languages in the world, would cast a church of cast-steel, get us the highest order of merit from the Emperor, find a means of taming the madmen, and present the asylum library with 1000 volumes, principally philosophical works. He had quite godly thoughts … When at its height, the disease may present a great resemblance to maniacal states, but the physical examination and proof of the

defective memory will save us from confusing it with them. So also will the senseless nature of the plans and the possibility of influencing them, and the feebleness and yielding character of the manifestations of the will, which are all greater in general paralysis.

Kraepelin E (1913) *Lectures on Clinical Psychiatry*, 3rd nglish edn. London: Baillière, Tindall and Cox

HIV/AIDS and psychiatry 1

Highly active antiretroviral rherapy (HAART) has, in many countries, resulted in greatly ↑ life expectancy for those living with HIV infection. Nevertheless, neuropsychiatric complications are not uncommon, particularly in developing countries where rates of infection remain high, and in other circumstances where HIV/AIDS remains undiagnosed, where treatment is unavailable, or where treatment is available but social or psychological factors prevent compliance with treatment. In addition, a diagnosis of HIV and associated morbidity and mortality may have major consequences for the psychological and social functioning of individuals, families, and communities. People with HIV/AIDS are subject to prejudice and stigma as a result of the diagnosis, but also due to historical association with socially marginalized groups. Stigma contributes to the psychological burden of infected individuals and their families.

The responsibility of carers working with patients with HIV/AIDS goes far beyond that of treating immediate physical problems. Holistic practice requires the healthcare professional to adopt a true biopsychosocial approach with appreciation of the emotional state of the patient, as well as the host of social, economic, spiritual, and ethical challenges accompanying the diagnosis with the disease.

Contexts in which psychiatric problems may arise

There are a number of contexts in which psychiatric problems may arise in relation to HIV/AIDS:

- Health anxiety in non-infected individuals who may be concerned about being infected due to contact with HIV +ve individuals.
- Pre-test anxiety.
- Post-test stress may precipitate a psychiatric illness such as adjustment disorder, a major depressive episode, and suicidality.
- Living with HIV/AIDS often results in stressful life events (e.g. losing a job, becoming economically disadvantaged, experiencing social alienation).
- In some cases, individuals with psychiatric needs (e.g. victims of abuse, patients with learning disabilities) may be more vulnerable to becoming infected with the virus.
- HIV can directly infect neurons in the brain, causing neuropsychiatric symptoms.
- HIV +ve individuals are susceptible to secondary opportunistic infections and/or tumours of the CNS, which may manifest with neuropsychiatric symptoms.
- Antiretroviral medications may cause psychiatric symptoms. Efavirenz can cause depression, anxiety, and suicidal ideation.

Zidovudine (AZT [azidothymidine]) may precipitate both depression and mania, especially at high doses, while isoniazid prophylaxis has been known to precipitate a psychotic illness.

Counselling HIV/AIDS patients

- *Pre-test counselling*—consider: meaning of a +ve result; what actions the individual will take; confidentiality issues; fears of the individual; high-risk behaviours; reactions to stress; social and other implications of +ve result.
- *Post-test counselling*—clarify distortions; assess emotions; decide who to tell; discuss the prevention of transmission; offer support to the individual and family.

Ethical issues

- *HIV testing*—issues of informed consent; only test without consent if a test result will significantly alter clinical management.
- *Confidentiality*—encourage the individual to tell their sexual partner and other medical personnel; if the individual refuses, one may be obliged to inform without consent.
- *Resource allocation*—e.g. availability of antiretroviral drugs.

HIV/AIDS and psychiatry 2: clinical presentations

Depression

At least 30–50% of individuals suffer a major depressive episode at some time following diagnosis, and depression can contribute to treatment non-adherence. Depression in HIV often has multiple causes. Depressive illness should be differentiated from the physical effects of HIV-related illness (e.g. weight loss, loss of energy) and from HIV-associated dementia. *Treatment*—is as for individuals without HIV, although the choice of antidepressant may be influenced by HIV-related comorbidities.

Suicide

Although suicide rates have declined since the introduction of HAART, there is still a nine times ↑ risk of suicide in individuals living with HIV/AIDS. Risk factors include younger age, psychiatric illness, social isolation/alienation, and exposure to efavirenz.

Mania

Manic symptoms may develop in the context of HIV psychosis or as a result of treatment with antiretroviral agents such as zidovudine (AZT). *Treatment*—lithium is preferable (beware risk of toxicity), since there is some evidence suggesting that sodium valproate may increase viral replication.

Anxiety

Infection with the virus is associated with an ↑ risk of GAD, panic disorder, PTSD, and OCD.

Chronic pain

Up to 80% of patients experience chronic pain at some point, in particular chronic headache. This may lead some individuals to self-medicate, putting them at risk of substance dependence.

Delirium

Delirium occurs in up to 30% of patients with advanced illness (AIDS). It can be caused by direct infection of the brain by the virus, secondary infections and/or tumours, or substance withdrawal.

Psychosis

A psychotic illness characterized by fluctuating symptoms that may alter over hours to days may occur in the context of HIV infection. Atypical bizarre psychotic symptoms may give way to prominent mixed affective symptoms, which, in turn, may change to a withdrawn apathetic state.

Aetiological factors Include the effects of stress, medications, and secondary infections/tumours, superimposed on the effects of direct infection of the brain by the virus. Psychosis is a common early manifestation of HIV-associated dementia, and it is likely that mild cognitive deficits coexist with the psychotic illness.

Preferred treatment Low-dose haloperidol or an atypical antipsychotic (e.g. olanzapine, quetiapine) due to ↑ sensitivity to EPSEs. Antiretroviral agents, such as zidovudine (AZT), may also reduce psychotic symptoms.

HIV-associated neurocognitive disorder (HAND)

HIV-associated dementia (HAD; previously termed AIDS dementia complex) is relatively common in advanced HIV (AIDS), although the incidence has declined significantly with HAART.

Epidemiology

Ninety per cent of AIDS patients have CNS changes post-mortem; 70–80% develop a cognitive disorder; 30% develop HAD. Mean survival after diagnosis with HAD is 6mths.

Pathology

Direct central nervous system infection

HIV is neurotropic, entering the brain through endothelial gaps; the virus attaches to group 120 on CD4 +ve sites of microglial cells; a cascade opens calcium channels, leading to excitotoxicity and causing neuronal death and ↑ apoptosis in the basal ganglia and subcortical and limbic white matter.

Opportunistic infections/tumours

Toxoplasmosis, papovavirus, cytomegalovirus (CMV), HSV, non-Hodgkin's lymphoma, and Kaposi's sarcoma give rise to variable neuropathology, including encephalitis and focal necrosis.

Clinical presentation

Mild neurocognitive disorder

Asymptomatic HIV +ve patients may have very early CNS infection that is often discounted as stress. Symptoms include cognitive slowing and memory deficits, as well as motor slowing and subtle incoordination.

HIV-associated dementia

With worsening of symptoms, the clinical picture constitutes a dementia syndrome and is an AIDS-defining disorder. Clinical features are classified as cognitive (subcortical dementia, focal cognitive deficits, amnesia, mutism), motor (movement disorders, e.g. tremor, ataxia, choreo-athetosis, spasticity, myoclonus), and affective (depression, apathy, agitation, disinhibition, mania). The HIV Dementia Scale (HDS)[25] can be used to screen for HAD.

Investigations—CT/MRI: atrophy, ↑T2 signal; CSF: opportunistic infection, cytology, enzyme-linked immunosorbent assay (ELISA) +ve; EEG: generalized slowing. *Treatment*—with HAART can slow progression.

Autoimmune and connective tissue disorders

Autoimmune (limbic) encephalitis

Over the last 10yrs, there has been a great increase in recognition, understanding, and detection of a range of neuropsychiatric conditions caused by auto-antibodies to brain substrates. A case series of patients with anti-*N*-methyl-*D*-aspartate (NMDA) encephalitis found that 4% of patients presented with isolated psychiatric symptoms, although most of these cases presented during a relapse and only a minority (0.8%) at disease onset.

Clinical features Vary between conditions and patients. Typically subacute or acute onset of anxiety, psychosis, cognitive impairment, seizures, and sometimes movement disorder.

Investigations Blood should be sent for testing in cases of acute/subacute cognitive impairment ± anxiety or psychosis, especially with a history of seizures where alternative causes are not clear. Some would suggest testing all new presentations of psychosis, although resources may prevent this.

Clinical subtypes

- *Voltage-gated potassium channel (VGKC) antibodies*—target the hippocampus, leading to pure amnestic deficit. Seizures are common, and neuromyotonia (writhing fasciculations), sleep disturbance, or autonomic disturbance may also be present.
- *NMDA receptor antibody encephalitis*—is more common in young women and often associated with ovarian teratoma (removal of which is associated with good prognosis). Symptoms: fluctuating anxiety, global cognitive impairment, psychosis, seizures.
- *Paraneoplastic encephalitis*—antibodies associated with small cell lung cancer (anti-Hu), testicular cancer (anti-Ma2), and thymoma (CRMPS) lead to varying patterns of neuropsychiatric symptoms.

- *Other antibodies*—other antibodies recently associated with autoimmune encephalitis include those to the AMPA (α-amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid) receptor (limbic encephalitis), GABA B receptor (seizures and limbic encephalitis), and glutamic acid decarboxylase (GAD) (TLE with cognitive involvement).[26]

Systemic lupus erythematosus

This multisystem autoimmune disorder is most common in women in their 30s. Neuropsychiatric symptoms are common and may be due to the activity of auto-antibodies (30%), cerebral microvasculopathy and thrombosis, disease activity in other systems (uraemia, hypertension, inflammatory mediators), or side effects of medication (e.g. steroids, isoniazid, hydralazine). Seizures, cranial nerve palsies, peripheral neuropathy, 'spinal stroke', and other focal signs may occur, in addition to the common dermatological, rheumatological, haematological, and cardiovascular manifestations of the disorder. Psychiatric symptoms occur in 60% of cases, and syndromes include:

- *Lupus psychosis*—transient psychotic episodes with a recurrent and fluctuating course. Relapses are frequent, and symptoms are variable with auditory and visual hallucinations, as well as paranoia, affective instability, and disturbed sensorium, characteristic of the illness. Severe prolonged cerebral vasculitis may result in vascular dementia.
- *Depression*—up to 30% of SLE patients experience clinically significant depressive illness.
- *Schizophrenia-like psychosis*—a rare finding in SLE.

Polyarteritis nodosa

Most common in young men, polyarteritis nodosa (PAN) is an immune-mediated necrotizing vasculitis, characterized by saccular aneurysms and infarction. Neuropsychiatric findings include: stroke, focal signs, seizures, 'spinal stroke', delirium, and auditory and visual hallucinations.

Neurosarcoid

Sarcoidosis is a multisystem inflammatory disorder of unknown cause. Central or peripheral nerve involvement (neurosarcoid) is rare, but diffuse vasculopathy may cause delirium, dementia, or seizures, and granulomatous infiltration of the CNS may cause a range of neuropsychiatric symptoms.[27,28]

Investigations Lesions may be visible on MRI, and there may be elevated protein in the CSF. Histological diagnosis of an accessible lesion (e.g. skin, lung) reveals caseating granulomata.

Treatment Corticosteroids, methotrexate, or immunomodulators, e.g. infliximab.

Dementia: general overview

Essence

Dementia is a syndrome characterized by progressive, irreversible global cognitive deficits. Different patterns of deficits occur, depending on the underlying pathology. For a diagnosis to be made, there must be significant impairment of functioning and other possible diagnoses should be excluded (Reversible causes of cognitive impairment, p. 154).

Causes

- *Parenchymal/degenerative*—Alzheimer's disease (50–70%); Lewy body dementia (<5%) and dementia in Parkinson's disease; FTD (5–10%); MS; PSNP; corticobasal degeneration; MND; Huntington's disease; Wilson's disease.
- *Intracranial*—vascular dementia (20–30%); NPH (reversible in some cases).
- *Infection*—CJD (prion disease); neurosyphilis; HAND; TB; SSPE.
- *Toxins*—prolonged alcohol misuse [alcohol-related brain damage (ARBD)]; heavy metal poisoning.

Clinical features

(See Box 4.3.)

- *Cognitive impairment*—characteristic patterns of impairment occur in different types of dementia. Most typically, initial impairment of episodic (short-term) memory progresses to more extensive memory impairment, apraxia, agnosia, and dysphasia.
- *History of personality change*—social withdrawal, disinhibition, diminished self-care, apathy, deteriorating executive function.
- *Hallucinations and delusions*—often paranoid (20–40%) and poorly systematized.
- *Anxiety and/or depression*—in 50%.
- *Neurological features*—seizures, primitive reflexes, pseudobulbar palsy, long tract signs (e.g. hyperreflexia or upgoing plantars.
- *Emotional lability/pseudobulbar affect*—(in stroke) (Psychiatric sequelae of stroke, p. 176).
- *Sundowning syndrome*—as evening approaches, confusion and restlessness increase.

Differential diagnosis

Delirium; depression (pseudodementia; Pseudodementia, p. 552); other reversible causes of cognitive impairment (Reversible causes of cognitive impairment, p. 154); amnestic disorders (Amnestic disorders, p. 170); intellectual disability (ID); psychotic disorders; normal ageing (Normal ageing, p. 544).

Investigations

FBC; LFT; U&Es; glucose; ESR; thyroid-stimulating hormone (TSH); calcium; phosphate; syphilis serology; HIV; vitamin B12 and

folate; CRP; blood culture; LP; EEG; chest X-ray (CXR); ECG; CT; MRI; SPECT.

Principles of management

- *Assessment*—diagnostic, functional, and social.
- *Cognitive enhancement*—acetylcholinesterase inhibitors (donepezil, galantamine, rivastigmine); glutamate receptor antagonist (memantine).
- *Treat psychosis/agitation*—consider antipsychotics.
- *Treat depression/insomnia*—SSRIs; hypnotics.
- *Treat medical illness*—avoid drugs which may worsen cognitive impairment (e.g. opiates, BZDs, anticholinergics).
- *Psychological support*—to both patient and caregivers.
- *Functional management*—maximize mobility; encourage independence with self-care, toilet, and feeding; aid communication.
- *Social management*—accommodation; activities; financial matters; legal matters (power of attorney, wills, and curatorship).

Box 4.3 Clinical syndromes of dementia

Dementias may be classified in terms of the primary site of pathology. Since the site of pathology in the brain correlates with neuropsychiatric symptomatology, this is a useful system of classification.

- **Cortical dementias** Primarily involve the cortex:
  - *bvFTD/PPA* (Fronto-temporal dementia, p. 160). Characterized in the frontal (behavioural) variant by prominent personality change, including either disinhibition and social indiscretion or profound apathy, and in temporal lobe variants by language impairments. A common cause of early-onset dementia, it is often undiagnosed or mistaken for psychiatric illness. CT and MRI show fronto-temporal atrophy; SPECT shows fronto-temporal hypoperfusion, and FDG-PET shows reduced fronto-temporal glucose metabolism.
  - *Posterior–parietal*, e.g. Alzheimer's disease (Alzheimer's disease 1, p. 156). Characterized by early memory loss and focal cognitive deficits. Personality changes are later manifestations. Language impairments involve problems with word-finding (lexical anomia). CT shows thinning (<12mm) of the cortex of the medial temporal lobe.
- Subcortical dementias Parkinson's disease (Parkinson's disease and related syndromes, p. 142); Huntington's disease (Huntington's disease, p. 166); Wilson's disease (Wilson's disease, p. 166); Binswanger encephalopathy (Vascular dementia (vascular neurocognitive disorder), p. 164);

PSNP (→ Progressive supranuclear palsy, p. 142); HIV-associated dementia (→ HIV-associated neurocognitive disorder (HAND), p. 149); NPH (→ Normal pressure hydrocephalus, p. 154). Clinical features: gross psychomotor slowing, depressed mood, movement disorders, mild amnesia, and personality changes.

- Cortical–subcortical dementias, e.g. Lewy body dementia (→ Dementia with Lewy bodies, p. 162). Clinical features: cortical and subcortical symptoms.
- Multifocal dementias, e.g. CJD and other prion diseases (→ Prion diseases, p. 168). Clinical features: rapid onset and course; involves the cerebellum and subcortical structures.

Reversible causes of cognitive impairment

An important aim of the assessment of a patient with suspected dementia is to exclude and treat any reversible causes of cognitive impairment. The disorders listed below may be produced by a dementia-like syndrome, which, in many cases, can be reversed with treatment.

Causes

- *Intracranial*—NPH; chronic subdural haematoma (SDH); posterior reversible encephalopathy syndrome; autoimmune encephalitis (→ Autoimmune (limbic) encephalitis, p. 150).
- *Psychiatric/functional*—depression ('pseudodementia'); psychosis; functional or anxiety-related cognitive impairment.
- *Infection*—HSV encephalitis; neurosyphilis; HAND (→ HIV-associated neurocognitive disorder (HAND), p. 149); TB.
- *Endocrine*—hypothyroidism; hyperparathyroidism; Cushing's and Addison's disease.
- *Metabolic*—uraemia; hepatic encephalopathy; hypoglycaemia; calcium imbalance; magnesium imbalance; electrolyte imbalance.
- *Vitamin deficiency*—B12; folate; pellagra (niacin); thiamine.
- *Drugs/medications*—BZDs, opiates, and anticholinergic medications, in particular, cause a degree of cognitive impairment, which may be clinically significant in vulnerable individuals or those with comorbid dementia or brain injury.
- *Toxins*—prolonged alcohol misuse; heavy metal poisoning; CO poisoning.

Normal pressure hydrocephalus

A syndrome where there is dilatation of cerebral ventricles (especially third ventricle), but normal CSF pressure at LP. It typically presents with the triad of dementia, gait disorder, and

urinary incontinence. Importantly, the dementia is potentially reversible if NPH is treated promptly.

Aetiology Fifty per cent of cases are idiopathic; 50% are secondary to mechanical obstruction of CSF flow across the meninges (e.g. meningitis, subarachnoid haemorrhage, trauma; radiotherapy).

Clinical features There is progressive slowing of cognitive and motor functioning, consistent with a pattern of subcortical dementia. Gait is broad-based, bradykinetic, and shuffling. Urinary incontinence is a late symptom.

Investigations CT scan shows isize of the lateral ventricles and thinning of the cortex; 24hr ICP monitoring shows abnormal pulsatility.

Treatment Abnormal pulsatility on 24hr CSF pressure monitoring, short duration of symptoms, improvement of symptoms after therapeutic removal of 40–50mL of CSF, and NPH secondary to an identified cause are predictors of good response to ventriculo-peritoneal shunt.

Chronic subdural haematoma

An insidious and fluctuating syndrome of cognitive and motor impairment may result from an undetected chronic SDH. An SDH results from rupture of the bridging veins between the dura and arachnoid mater and tends to occur over the frontal and/or parietal cortices. In 30% of cases, there is bilateral SDH. SDH should be suspected where there is a fluctuating pattern in cognitive function, especially if risk factors for SDH exist: elderly after a fall, infancy, cerebral atrophy (e.g. chronic alcoholism), clotting disorders, or anticoagulant treatment.

Clinical features An SDH may only manifest with symptoms months after it develops; therefore, there may be no history of recent trauma. Headache, altered level of consciousness, and amnesia may all occur, often with fluctuations in severity. Typically, the mental state may be variable on different occasions, and there may be periods of unusual drowsiness, as well as both cognitive and physical slowness and sluggishness. Minor focal signs are sometimes detected. The general picture is of a subcortical dementia of relatively rapid onset.

Investigations CT scan during the first 3wks may not show the SDH, as it is isodense during the early phase. Therefore, contrast should be used. Later on, as the SDH liquefies, a low-density convexity may be detected over the fronto-parietal cortex.

Treatment Surgical drainage of SDH via burr holes. Steroids may be helpful for conservative treatment.

Alzheimer's disease 1

Also termed 'dementia of the Alzheimer type' (DAT), this is the most common cause (70%) of dementia in older people. It is a degenerative disease of the brain, with prominent cognitive and behavioural impairment that is sufficiently severe to interfere significantly with social and occupational function. It affects

~850,000 people in the UK and >46 million worldwide. As the percentage of the total population aged over 65 in the developed world continues to increase, the burden of DAT-related healthcare is also increasing.

Epidemiology

Risk of DAT increases with age: 1% at age 60yrs; doubles every 5yrs; 40% of those aged 85yrs. Age-specific incidence is the same for men and women— ~50% excess prevalence in women is explained by their longer lifespan. Mean survival from time of diagnosis is 4–8 years; most will be fully dependent within 4yrs.

- *Risk factors*—increasing age, Down's syndrome, apolipoprotein ε4 allele, diabetes, smoking, hypertension in middle age.
- *Protective factors*—apolipoprotein ε2 allele, higher level of premorbid education, higher level of physical activity in middle age, non-steroidal anti-inflammatory drugs (NSAIDs).
- *Genetics*—first-degree relatives are at a slightly ↑ risk. Carriers of the apolipoprotein E ε4 allele on chromosome 19 (15% of Europeans) are at further ↑ risk; apolipoprotein E ε2 is protective. Single-gene autosomal dominant inherited DAT is rare, affecting <1% of those with DAT and associated with early onset; identified mutations include amyloid precursor protein (APP) on chromosome 21 and the genes for presenilin 1 (*PSEN1*) and presenilin 2 (*PSEN2*).

Pathophysiology

- *Amyloid plaques*—insoluble β-amyloid peptide deposits as senile plaques or β-pleated sheets in the hippocampus, amygdala, and cerebral cortex. ↑ density with advanced disease.
- *Neurofibrillary tangles (NFTs)*—consist of phosphorylated tau protein and are found in the cortex, hippocampus, and substantia nigra. Also found in normal ageing, Down's syndrome, and PSNP.
- The co-occurrence of amyloid plaques and NFTs was described by Alois Alzheimer in his 1906 description of the disorder and is still accepted universally as a hallmark of the disease.
- Up to 50% loss of neurons and synapses in the cortex and hippocampus.
- *Cholinergic hypothesis*—the pathological changes lead to degeneration of cholinergic nuclei in the basal forebrain (nucleus basalis of Meynert). This results in dcortical ACh.

Assessment

- *Detailed history*—including an informant history is essential. Informant rating scales, such as IQCODE, are helpful. Physical examination, including full neurological examination (Neurological examination in psychiatry, p. 128), and blood tests (

Neurological investigations in psychiatry, p. 130 should be performed to rule out reversible causes (Reversible causes of cognitive impairment, p. 154).

- *Cognitive testing*—may begin with MMSE, MOCA, or ACE-III.
- *Imaging—CT*: cortical atrophy, especially over parietal and temporal lobes, and ventricular enlargement. *MRI*: atrophy of grey matter (hippocampus, amygdala, and medial temporal lobe). Where diagnosis remains uncertain: *SPECT* shows temporal and posterior parietal hypoperfusion and *fludeoxyglucose-PET (FDG-PET)* shows reduced metabolism in temporal and posterior parietal lobes.

Clinical features

- *Early*—failing memory, disorientation in time, muddled efficiency with activities of daily living (ADLs), spatial dysfunction, and changes in behaviour (e.g. wandering and irritability). By the time the patient presents, cognitive deficits are usually apparent.
- *Middle*—global intellectual deterioration—aphasia, apraxia, agnosia, impaired visuospatial skills, and executive dysfunction.
- *Late*—fully dependent. Physical deterioration, incontinence, gait abnormalities, spasticity, seizures (3%), tremor, weight loss, primitive reflexes, extra-pyramidal signs.
- *Behavioural and psychological symptoms in dementia (BPSD)*—delusions (15%) usually of a paranoid nature. Auditory and/or visual hallucinations (10–15%). Depression in up to 20% of patients. Behavioural disturbances include aggression, wandering, explosive temper, sexual disinhibition, inappropriate toileting, excessive eating, and searching behaviour.

Clinical subtypes and overlapping syndromes

- *Posterior cortical atrophy*—an atypical variant of DAT in which the parietal, occipital, and occipito-temporal cortices are first affected; memory and language are relatively preserved in early stages, but impairments of visuospatial function are prominent. Gerstmann's syndrome (acalculia, agraphia, finger agnosia, left–right disorientation) and/or Balint's syndrome (simultanagnosia, oculomotor apraxia, optic ataxia, environmental agnosia) may be present. Progresses to global impairment.

- *Logopenic aphasia*—a subtype of semantic dementia, with verbal output, phonological errors with preserved grammar, and impaired sentence repetition. Most have DAT pathology.

Pray, do not mock me: I am a very foolish fond old man,
Fourscore and upward, not an hour more or less;
And, to deal plainly, I fear I am not in my perfect mind.
Methinks I should know you and know this man;
Yet I am doubtful: for I am mainly ignorant what place this is,
and all the skill I have remembers not these garments;
nor I know not where I did lodge last night.
Do not laugh at me;

For as I am a man, I think this lady to be my child Cordelia.
Shakespeare: *King Lear*, Act II Scene 7

Alzheimer's disease 2: pharmacological treatments

There are as yet no truly disease-modifying drugs available for DAT; available drugs provide mild symptomatic benefits in some patients. Acetylcholinesterase inhibitors (AChEIs) were the first drugs to be licensed for the treatment of DAT. They act by enhancing ACh at cholinergic synapses in the CNS and, in this way, may cause mild clinical improvements in cognitive, functional, and behavioural symptoms, reducing time spent in full nursing care. They are recommended as first-line agents in the treatment of mild to moderate DAT (see Box 4.4).

Box 4.4 NICE guidance on donepezil, galantamine, rivastigmine, and memantine for the treatment of Alzheimer's disease (TA217)

AChEIs—donepezil, rivastigmine, or galantamine—are recommended:

- For managing mild to moderate Alzheimer's disease.

Memantine is recommended:

- For moderate Alzheimer's disease in patients who are intolerant to, or have a contraindication to, AChEIs.
- In severe Alzheimer's disease.

For all of the above medications:

- Treatment should be started on the advice of either a secondary care medical specialist (psychiatrist, geriatrician, and neurologist) or by another healthcare professional (e.g. GP, nurse specialist) with specialist expertise in diagnosing and treating Alzheimer's disease.
- Treatment should be continued only while it has a worthwhile effect on cognitive, global, functional, or behavioural symptoms.

Non-Alzheimer dementias and mild cognitive impairment (MCI):

- AChEIs and memantine should not be prescribed for VaD or MCI, except as part of properly constructed clinical research studies.
- People with DLB who have non-cognitive symptoms causing significant distress to the individual, or leading to behaviour that challenges, should be offered an AChEI.

Source: Data from https://www.nice.org.uk/guidance/ta217 [accessed 30 May 2018].

Acetylcholinesterase inhibitors

Similar efficacy over 6mths; long-term efficacy unknown. Switching between agents is acceptable.

- *Donepezil*—piperidine derivative, developed in 1996; gastrointestinal tract (GIT) absorbed, with liver metabolism; long half-life (70hrs); highly selective (acts centrally only); linear

kinetics. *Problems*: GIT side effects at high dose; bradycardia; GIT bleed (rare); contraindicated in asthma. *Benefits*: selective, therefore ↓side effects; no liver toxicity; predictable kinetics; narrow dose range; 1× daily dosage. *Dose*: 5–10mg/day.

- *Rivastigmine*—developed in 1998; short half-life (12hrs); inhibits acetylcholinesterase and butyrylcholinesterase in CNS. *Problems*: GIT side effects; twice daily dosage. *Benefits*: not metabolized by the liver and least likely to cause drug–drug interactions. *Dose*: start with 1.5mg twice daily (bd); increase to 3–6mg bd—now available in a modified-release once-daily (od) form or 24hr patch [thought to be helpful in reducing gastrointestinal (GI) side effects].
- *Galantamine*—selectively inhibits acetylcholinesterase and acts as an allosteric ligand at nicotinic ACh receptors; metabolized in the liver; short half-life (5hrs); selective. *Problems*: twice daily dosage. *Dose*: 4–12mg bd.

Other drugs

- *Memantine*—a partial NMDA receptor antagonist that may protect neurons from glutamate-mediated excitotoxicity. Trials show benefits of memantine augmentation of donepezil. A Cochrane review indicates mild benefit in moderate to severe DAT.[29]

Future treatment strategies?

Although only at experimental stages, there is some evidence for other approaches to DAT. These include: monoclonal antibodies to amyloid-B (crenezumab; solanezumab); anti-inflammatories; secretase inhibitors; drugs targeting insulin resistance; and vaccination against abnormal forms of tau protein.

Mild cognitive impairment

(See Box 4.5.)

Box 4.5 Mild cognitive impairment

The term mild cognitive impairment (MCI) is widely used in the dementia research community but does not translate well to clinical practice. MCI refers to patients with mild cognitive symptoms not severe enough to meet diagnostic criteria for dementia. Recent research suggests that the pathological changes of Alzheimer's disease begin to appear many years before clinical symptoms develop. Researchers are keen to identify those with the earliest clinical manifestations, as 'conversion' to Alzheimer's disease is therefore a key target for study and treatment. MCI (particularly amnestic MCI) is therefore currently used as a proxy measure to identify this 'at-risk' group. However, in clinical practice, MCI is an imperfect construct, a description of symptoms, rather than a diagnosis, with the potential to cause great anxiety in patients and families. Although around 10% of elderly individuals with MCI will progress to

dementia each year, others will never develop dementia and some return to normal levels of cognition.

Fronto-temporal dementia

The FTDs are a set of overlapping clinical syndromes caused by disease primarily affecting the frontal and temporal lobes.[30,31,32] FTDs account for ~20% of cases of early-onset dementia. Personality change and social disinhibition or language impairment often precede memory impairment (Box 4.9, p. 171). Early disease is commonly mistaken for primary psychiatric disorder.

Pathology

Fronto-temporal lobar degeneration (FTLD) refers to a range of underlying pathologies: neuronal loss, gliosis, and protein inclusions consisting of either tau (Pick bodies) in 40% (FTLD-tau), TDP-43 in 50% (FTLD-TDP), and FUS in some cases (FTLD-FUS).

Genetics

Forty per cent have a positive family history, 10% due to autosomal dominant mutations—the most common are *MAPT, GRN*, and *C9ORF*.

Clinical subtypes

- *Behavioural variant FTD (bvFTD) (Pick's Disease)*[33]—most common subtype. Onset usually 45–65yrs. Mean survival from diagnosis: 8yrs (range 2–20).
  - *Clinical features*: disinhibition, loss of social empathy with tactlessness and breaches of etiquette, apathy, stereotypic behaviours (without anxiety, unlike OCD), changes in food preference (overeating and preference for sweet foods). Early cognitive symptoms of poor attention and executive dysfunction progress to include all cognitive domains.
  - *Neurological*: a minority have signs of MND (up to 15% with MND develop a bvFTD syndrome).
  - *Investigations*: imaging may be normal; or CT/MRI: bilateral (asymmetrical) abnormalities of frontal/temporal lobes; and SPECT: frontal and/or temporal lobe abnormalities. EEG is normal.
  - *Diagnosis*: based on clinical criteria (see Box 4.6).
- *Primary progressive aphasia (PPA)*—initial symptoms are due to impaired language function, caused by temporal lobe disease, but symptoms of bvFTD may also be present or may develop as disease progresses.
- *Progressive non-fluent aphasia (PNFA)*—non-fluent, effortful speech with agrammatism. *Pathology*: atrophy in Broca's area.
- *Semantic dementia (SD)*—fluent speech with loss of concepts/meaning. *Pathology:* left > right temporal lobe atrophy (sometimes called temporal variant or tvFTD).
- *Logopenic progressive aphasia (LPA)*—impaired sentence repetition. A variant of Alzheimer's type dementia. *Management*:

currently, no specific treatments; SSRIs of limited benefit for behavioural symptoms (disinhibition, overeating, and compulsions).

Box 4.6 International consensus criteria for bvFTD

There must be a progressive deterioration of behaviour and/or cognition, and symptoms must not be better accounted for by a psychiatric, non-degenerative neurological or medical disorder.

Possible bvFTD

Three of the following behavioural/cognitive symptoms are persistent or recurrent:

- Early behavioural disinhibition (one of: socially inappropriate behaviour; loss of manners or decorum; impulsive, rash or careless actions).
- Early apathy or inertia.
- Early loss of sympathy or empathy (one of: diminished response to other people's needs and feelings; diminished social interest, interrelatedness, or personal warmth).
- Early perseverative, stereotyped, or compulsive/ritualistic behaviour (one of: simple repetitive movements; complex, compulsive, or ritualistic behaviours; stereotypy of speech).
- Hyperorality and dietary changes (one of: altered food preferences; binge eating, ↑ consumption of alcohol or cigarettes; oral exploration or consumption of inedible objects).
- Neuropsychological profile: executive/generation deficits with relative sparing of memory and visuospatial functions (all of: deficits in executive tasks; relative sparing of episodic memory; relative sparing of visuospatial skills).

Probable bvFTD

- Meets criteria for possible bvFTD.
- Exhibits significant functional decline (by caregiver report or rating scale).
- Imaging consistent with bvFTD (one of: frontal and/or temporal atrophy on MRI or CT; frontal and/or temporal hypoperfusion or hypometabolism on PET or SPECT).

Definite bvFTD

- Meets criteria for possible or probable bvFTD.
- Histopathological evidence of FTLD on biopsy or at post-mortem OR presence of a known pathogenic mutation.

Source: data from Lanata, S.C. and Miller, B.L. (2016) The behavioural variant fronto-temporal dementia (bvFTD) syndrome in psychiatry. *Journal of Neurology, Neurosurgery & Psychiatry*, **87**:501–11.

Dementia with Lewy bodies[34]

Common form of dementia in the elderly (~20% of new diagnoses of dementia in hospital[35] and 4% of new community cases) that lies on a clinical and pathological continuum with Parkinson's disease.

Epidemiology

Age of onset: 50–83yrs. Age at death: 68–92yrs. ♂ > ♀.

Clinical features

Dementia with fluctuating cognitive performance and consciousness and early sparing of memory; Parkinsonism (70%: bradykinesia, rigidity, gait disorder, tremor); complex hallucinations—visual (~60%: often people and animals) and auditory (~20%)—with associated emotional responses varying from fear to amusement); significant depressive symptoms (~40%); recurrent falls/syncope (~30%: due to autonomic dysfunction), transient disturbances of consciousness (mute and unresponsive for several minutes); antipsychotic sensitivity (~60%). The mean survival time/rate of cognitive decline is similar to Alzheimer's disease (but rapid deterioration over 1–2yrs does occur). See Box 4.7 for a summary of diagnostic criteria.

Pathological features

Eosinophilic A–synuclein neuronal inclusions (*Lewy bodies*), with neuronal loss in brainstem nuclei (especially basal ganglia) and paralimbic and neocortical structures. Associated neuronal loss. *Lewy neurites*—distinctive pattern of ubiquitin and A-synuclein immunoreactive neuritic degeneration—in the substantia nigra, hippocampal region (CA2/3), dorsal vagal nucleus, basal nucleus basilis of Meynert, and transtentorial cortex. *Alzheimer-type changes*—senile plaques present in a similar density and distribution, fewer NFTs, less tau pathology. *Vascular disease*—in ~30%.

Differential diagnosis

Other dementia syndromes (especially DAT), delirium, Parkinson's disease (in which motor symptoms appear ≥1yr prior to cognitive symptoms; 80% ultimately develop dementia which is pathologically equivalent to DLB), PSNP, MSA, CJD, psychiatric disorders (e.g. late-onset delusional disorder, depressive psychosis, mania).

Investigations

- *CT/MRI*—relative sparing of medial temporal lobes in most cases. Moderate increases in deep white matter lesions, frequent periventricular lucencies on MRI.
- *HMPAO SPECT scan*—(blood flow) Global (especially occipital), medial, temporal lobes relatively preserved.
- *FP-CIT SPECT*—(presynaptic dopamine transporter) Reduced in the putamen, as in Parkinson's disease.

Management

- *Antipsychotics*—avoid/use with great caution: severe sensitivity reactions (40–50%), e.g. irreversible Parkinsonism, impairment of consciousness, neuroleptic malignant syndrome (NMS)-like autonomic disturbances—2- to 3-fold increase in mortality.
- *AChEIs*—recommended by national guidelines for treatment of non-cognitive symptoms (e.g. apathy/psychosis/agitation).

- *Other*—no clear evidence for antidepressants, anticonvulsants, or BDZs. Clonazepam may be useful for sleep disturbance (vivid dreams, muscle atonia, excessive jerking, and other complex movements). Anti-Parkinsonian medication—use cautiously for clinically significant motor symptoms, but note the risk of exacerbating psychotic symptoms.

Box 4.7 Consensus criteria for the diagnosis of dementia with Lewy bodies

- Central feature required for a diagnosis of DLB:
  - Progressive dementia severe enough to interfere with normal social or occupational function.
  - Deficits on tests of attention, executive function, and visuospatial ability might be especially prominent.
- Two of the following core features are essential for a probable diagnosis of DLB; one is essential for a possible diagnosis of DLB.
  - Fluctuating cognition.
  - Recurrent visual hallucinations.
  - Spontaneous motor features of Parkinsonism.
- Features supportive of the diagnosis are:
  - Repeated falls, syncope, transient unexplained LOC, severe autonomic dysfunction, non-visual hallucinations, systematized delusions, depression, relative preservation of medial temporal lobe structures, generalized low uptake on SPECT or PET with reduced occipital activity, abnormal myocardial scintigraphy, prominent slow wave activity on EEG with temporal lobe transient sharp waves.
- A diagnosis of DLB is less likely if:
  - Cerebrovascular disease accounts for part or all of the clinical signs and symptoms.
  - Parkinsonism does not appear until severe dementia.

Source: data from McKeith, I. G., *et al*. (2005). Diagnosis and management of dementia with Lewy bodies third report of the DLB consortium. *Neurology* **65**: 1863–1872.

Vascular dementia (vascular neurocognitive disorder)

Vascular dementia (VaD) is the second most common cause of dementia after DAT,[36] accounting for 20% of cases. It often coexists with DAT and results from thromboembolic or hypertensive infarction of small and medium-sized vessels. Features that suggest a vascular cause of cognitive impairment include: sudden onset, stepwise deterioration, and risk factors for cardiovascular disease. Its presentation is variable, and three syndromes of vascular cognitive impairment are commonly recognized:[37]

1. *Cognitive deficits following a single stroke* Not all strokes result in cognitive impairment, but when they do, the deficits depend upon the site of the infarct. Difficulties with language, praxis, or

executive function are most common; isolated memory symptoms are unusual. Cognitive deficits may remain fixed or recover, either partially or completely.

2. *Cognitive deficits as a result of multiple strokes (multi-infarct dementia)* Multiple strokes lead to stepwise deterioration in cognitive function. Between strokes, there are periods of relative stability. There are often risk factors for cardiovascular disease.
3. *Progressive small-vessel disease (Binswanger disease)* Multiple microvascular infarcts of perforating vessels lead to progressive lacunar formation and white matter hyperintensities on MRI. This is a subcortical dementia with a clinical course characterized by gradual intellectual decline, generalized slowing, and motor problems (e.g. gait disturbance and dysarthria). Depression and pseudobulbar palsy are not uncommon.

Epidemiology

Most common onset: age 60–70yrs; ♂ > ♀. Other risk factors include: family or personal history of cardiovascular disease, smoking, diabetes mellitus, hypertension, hyperlipidaemia, polycythaemia, coagulopathies, sickle-cell anaemia, valvular disease, atrial myxoma, and carotid artery disease. There are rare familial cases with onset in the 40s—cerebral autosomal dominant arteriopathy with subcortical infarcts and leukoencephalopathy (CADASIL).

Clinical features

Onset may follow a stroke, with associated motor symptoms, and is more acute than DAT. Emotional, personality, language, and executive impairments are common and often early; memory impairments occur later. Symptoms may fluctuate in severity. Depression and emotional lability are common, and catastrophic emotional reactions are sometimes reported. Physical signs include features of generalized vascular disease, together with neurological impairments (e.g. rigidity, akinesia, brisk reflexes, pseudobulbar palsy). Ten per cent have seizures at some point. Prognosis is poorer than in DAT, with an average lifespan of 5yrs from onset. Cause of death is usually ischaemic heart disease (50%), stroke, or renal failure.

Investigations

- Routine ‘dementia screen’ (Standard blood tests in psychiatric practice, p. 130).
- Serum cholesterol, clotting screen, vasculitis screen [ESR, CRP, complement, anti-nuclear factor (ANF), rheumatoid factor, anti-DNA antibodies, antiphospholipid antibodies, etc.), and syphilis serology are additional tests in unusual cases (e.g. ‘young strokes’).
- ECG, CXR, CT, and MRI are essential.
- Other investigations may include: echocardiography (for cardiac/valvular defects or ventricular failure) and carotid artery Doppler ultrasound.

Management

- Establish causative factors. Contributory medical or surgical conditions should be treated early.
- There is no evidence that daily aspirin is effective in delaying the course of VaD, and it is associated with a risk of haemorrhage.
- General health interventions include changing diet, stopping smoking, managing hypertension, optimizing diabetic control, and increasing exercise.

Other specific neurodegenerative conditions

Huntington's disease

A genetic disease characterized by a combination of dementia and worsening chorea. There is autosomal dominant inheritance with 100% penetrance; thus, 50% of a patient's offspring will be affected. Genetic testing allows presymptomatic diagnosis, but as no treatment is available and a positive test has implications for other family members, there are ethical issues around presymptomatic testing.

Pathology The genetic defect is a trinucleotide repeat of CAG—between 37 and 120 repeats on chromosome 4. ↓↓GABA neurons in the basal ganglia; this leads to ↑ stimulation of the thalamus and cortex by the globus pallidus. Also increase in DA transmission.

Clinical features Chorea, dementia, and a family history of HD. Chorea is a movement disorder characterized by initial jerks, tics, gross involuntary movements of all parts of the body, grimacing, and dysarthria. There is ↑ tone, with rigidity and stiffness, positive primitive reflexes, and abnormal eye movements.

Clinical course Onset usually during 30s and 40s; a small number of juvenile-onset cases; deteriorating course to death within 10–12yrs.

Psychiatric syndromes Occur in 60–75% of patients with HD.

- Anxiety and depression are common.
- Psychosis is common and often occurs early.
- Executive dysfunction with impulsivity and aggression.
- Subcortical dementia—slowing, apathy, and amnesia.

Investigations EEG: slowing. CT/MRI: atrophy of the basal ganglia, with 'boxing' of the caudate and dilatation of the ventricles. PET: ↓metabolism in the basal ganglia.

Treatment No treatment arrests the course of the disease. Antipsychotic and antidepressant medications may provide symptomatic relief of psychiatric symptoms. Tetrabenazine, antipsychotics, and BDZs may help reduce abnormal movements.

Wilson's disease

A rare genetic disease caused by a mutation of the *APT7B* gene on chromosome 13, which prevents normal hepatic excretion of

excess copper into bile. Inheritance is autosomal recessive. Copper deposits in the liver cause cirrhosis and in the basal ganglia result in degeneration of the lentiform nucleus (hepato-lenticular degeneration).

Clinical features Onset in childhood or early adulthood. Liver cirrhosis. Extra-pyramidal signs include: tremor, dystonia, ↑ tone, flapping tremor of the wrists, wing-beating tremor of the shoulders, risus sardonicus of the face, bulbar signs (dysphagia, dysarthria), and Kayser–Fleischer rings (green-brown corneal deposits).

Psychiatric syndromes

- Mood disturbances—common.
- Subcortical dementia—25%.
- Psychosis—rare.

Investigations ↑ serum/urine copper; ↓ caeruloplasmin.

Treatment Copper-chelating agents: penicillamine or trientine.

Pantothenate kinase-2-associated neurodegeneration (PKAN)

One of a group of rare inherited conditions responsible for neurodegeneration with brain iron accumulation (NBIA),[38] which are associated with abnormal accumulation of iron in the brain. PKAN (formerly Hallervorden–Spatz syndrome)[39] is an autosomal recessive disorder with onset typically in childhood or early adulthood.

Clinical features Symptoms include dystonia, Parkinsonism, spasticity, seizures, ID or dementia, optic atrophy, and pigmentary retinopathy.

Psychiatric syndromes

- OCD.
- Schizophrenia-like psychosis.
- Depression.

Investigations Characteristic 'eye of the tiger' sign on T2-weighted MRI, caused by iron deposits in the basal ganglia. Genetic tests are available.

Treatment There is no treatment available to reverse the condition. Iron-chelating agents (e.g. desferrioxamine) may slow progression.

Prion diseases

Prion diseases are rare, rapidly progressive dementing illnesses caused by the spread of deposits of abnormal prion protein (PRNP) throughout the brain as a result of either inherited genetic mutation, sporadic mutation, or infection. The typical pathological finding is spongy encephalopathy, and in terms of the nosology of the dementias, prion disease is considered a multifocal dementia. While prion diseases tend to respect the species barrier (e.g. 'scrapie' is a prion disease limited to sheep), this is not always the case (e.g. vCJD).

Creutzfeldt–Jakob disease

A rare disease of 50–70yr olds, with equal sex distribution, resulting in around 100 UK deaths per year. Eighty-five per cent of cases result from spontaneous mutation of PNRP, 10% from inherited mutations, and 5% resulting from vCJD or iatrogenic transmission during transplant surgery of dura, corneal grafts, and pituitary growth hormone. The clinical picture is one of rapidly progressive dementia, cerebellar and extra-pyramidal signs, myoclonus, and death within a year. EEG shows periodic complexes. CT atrophy of the cortex and cerebellum. Elevated levels of 14-3-3 protein are found in the CSF.

New variant CJD—bovine spongiform encephalopathy

The rise of vCJD followed an epidemic of bovine spongiform encephalopathy (BSE) in cattle. BSE is a prion disease of cows that is thought to have been spread by cattle feeds that contained CNS material from infected cows. The disease in humans affects mainly young people in their 20s and is characterized by early anxiety and depressive symptoms, followed by personality changes, and finally a progressive dementia. Ataxia and myoclonus are prominent, and the typical course is 1–2yrs until death. EEG changes are only seen late in disease.

Rare inherited prion diseases

- *Fatal familial insomnia (FFI)*—causes progressive and profound insomnia, anxiety, hallucinations, and ultimately rapidly progressive dementia. Inherited PRNP mutation.
- *Gerstmann–Sträussler–Scheinker syndrome (GSS)*—causes dysarthria, ataxia, memory problems, and rapidly progressive dementia. Inherited PRNP mutation.

Kuru

This was a rare disease of Papua New Guinea cannibals who ate the brains of their deceased relatives. The incubation period was prolonged—up to 40yrs before disease onset, then progression was rapid and fatal (see Box 4.8).

Box 4.8 A ‘cannibalism genotype’ protects against CJD

Researchers at University College London in 2003 suggested that cannibalism was common and widespread in human ancestors. They analysed DNA from 30 elderly Fore women from Papua New Guinea who had participated in many cannibalistic feasts before they were banned by the Australian government in the 1950s. It was the practice of the Fore for women and children to consume the brains of dead kin in the belief that this act would ‘recycle’ the spirit of the dead within the living. At the peak of the epidemic (1920–1950), kuru—an acquired prion disease—killed up to 2% of the population annually. Most of the women survivors tested by researchers had a novel PrP variant G127V that was much less common in the younger population, indicating that it conferred substantial protection against the disease. At the time

of publication in 2003, none of the patients who had, to date, contracted new vCJD in Britain carried the protective genotype. This suggests that this genotype is protective against prion diseases in humans. The researchers then examined DNA from various ethnic groups around the world and found that all, except the Japanese, carried the protective genotype to a similar degree. Genetic tests showed that this gene could not be there by chance but was a result of natural selection. This implies that ancestral human populations were exposed to some form of prion disease. Researchers concluded that frequent epidemics of prion disease caused by cannibalism in human ancestors would explain the worldwide existence of the protective genotype in modern humans.

Source: data from Mead S, Stumpf MP, Whitfield J, *et al.* (2003) Balancing selection at the prion protein gene consistent with prehistoric kurulike epidemics. *Science* 300: **300**, Issue 5619, pp. 640–643.

Amnestic disorders

Amnestic disorders are syndromes characterized by memory impairment (anterograde and/or retrograde amnesia), which are caused by a general medical condition or substance use and where delirium and dementia have been excluded as causative of the amnesia. Amnestic disorders may be transient or chronic (< or >1mth). Amnestic conditions usually involve some or all of the following neuroanatomical structures: frontal cortex, hippocampus and amygdala, dorsomedial thalamus, mamillary bodies, and periaqueductal grey matter (PAG). In terms of neurochemistry, glutamate transmission at the NMDA receptor is often implicated in amnesia, mainly due to its role in memory storage in the limbic system—long-term potentiation (LTP). A number of amnestic disorders are recognized:

Wernicke's encephalopathy

An acute syndrome, with a classic triad of symptoms (ataxia, ophthalmoplegia/nystagmus, and altered mental status), caused by thiamine depletion, usually related to alcohol abuse, and associated with pathological lesions in the mamillary bodies, PAG, thalamic nuclei, and the walls of the third ventricle (Wernicke–Korsakoff syndrome, p. 606).

Korsakoff psychosis

Amnesia and confabulation with atrophy of the mamillary bodies, associated with alcohol excess and Wernicke's encephalopathy (Wernicke–Korsakoff syndrome, p. 606).

Vascular disease

Aneurysm of the anterior communicating artery may result in amnestic disorder, but amnesia due to stroke is rare.

Brain injury

An open or closed brain injury involving acceleration or deceleration forces may result in injury to the anterior temporal poles (as this structure collides with the temporal bone). Anterograde post-traumatic amnesia (PTA) is prominent, with retrograde amnesia relatively absent (Traumatic brain injury, p. 172).

Herpes simplex virus encephalitis

Affects the medial temporal lobes and results in deficits in short-term memory (STM) storage. Treatment with IV aciclovir where the condition is suspected may prevent deficits from becoming permanent.

Hypoxic brain damage

Hypoxia following asphyxia from CO poisoning, near drowning, etc. may damage sensitive CA1 and CA3 neurons in the hippocampus. This results in problems with STM storage.

Alcohol blackouts ('palimpsest')

Significant alcohol intoxication may lead to amnesia for the period of intoxication, usually in the context of chronic alcohol misuse.

Electroconvulsive therapy

There may be a period of mild anterograde and/or retrograde amnesia for a few hours following administration of ECT. In exceptional cases, there may be reported ongoing patchy memory loss for up to 6–9mths (Does ECT cause brain damage? p. 308).

Transient global amnesia (TGA)

This is a syndrome of amnesia and disorientation with repetitive questioning lasting 4–10hrs. Age 40–80. Aetiology remains unknown.

Transient epileptic amnesia (TEA)

Recurrent episodes of amnesia and disorientation lasting 30mins to 1hr, often occurring from sleep or on waking, due to medial temporal lobe seizures in epilepsy. Interictal EEG suggestive in 30%. Accelerated long-term forgetting leads to lacunes in remote autobiographical memory.

Dissociative amnesia

Sudden retrograde autobiographical memory loss, ranging from hours to years. May be associated with depersonalization or derealization (Dissociative (conversion) disorders, p. 869).

Other causes of amnesia

Substances (BDZs, anticholinergics); SOLs (e.g. tumours); hypoglycaemia. NMDA receptor antibody encephalitis. (See Box 4.9.)

Box 4.9 Patient HM

On 23 August 1953, patient HM underwent a bilateral medial temporal lobotomy in an attempt to control his epileptic seizures. This resulted in severe anterograde memory impairment that made HM one of the most studied patients in the history of cognitive psychology, up until his death in 2008.

HM's syndrome was surprisingly isolated, with impairment mostly limited to his inability to register new facts into long-term memory, despite immediate memory being preserved for both verbal and non-verbal tasks. Although his operation was performed when he was 27, his memories were intact until age 16, with an 11-year retrograde amnesia.

His IQ was above average, with almost normal language production and comprehension—he could understand and produce complex verbal material (but was impaired on tests of semantic and symbolic verbal fluency). His perceptual abilities were normal, except for his sense of smell (secondary to damage of the olfactory tracts). Despite the fact that some of his spatial abilities were compromised, he did not have any attentional deficit.

Psychiatric aspects of brain injury

Terminology

Acquired brain injury (ABI) can occur as a result of trauma [traumatic brain injury (TBI)], hypoxia/ischaemia, stroke, toxic or metabolic insult, infection, or any pathological process causing sudden, irreversible, and non-progressive damage to the brain after the neonatal period.

Management of brain injury

- The acute psychiatric effects of brain injury can be challenging to manage. Those who require psychiatric input after the acute period have emotional and cognitive symptoms ranging from subtle to severe.
- There is strong evidence for benefits of early intensive neurorehabilitation after moderate and severe brain injury; after mild brain injury, patients benefit from information, advice, and follow-up (Mild traumatic brain injury, p. 174).

Traumatic brain injury

TBI is a common cause of death and lifelong disability (largely due to neuropsychiatric sequelae) in young adults. Common causes are road traffic accidents, falls, and assaults; ♂ > ♀; alcohol is often a contributory factor. Improved life expectancy has, however, led to an increase in TBI in the frail elderly in high-income countries, shifting the age of peak incidence from 20s to 40s.

Acute effects of traumatic brain injury

- *PTA (post-traumatic delirium)*—extends from the time of the injury until normal memory resumes. PTA may end abruptly or merge gradually into persisting deficits.

- *Retrograde amnesia (RA)*—includes the period between the last clearly recalled memory prior to the injury and the injury itself. It is usually a dense amnesia, lasting seconds or minutes, but can be difficult to assess where there has been prolonged PTA.

Factors associated with poorer long-term outcome after traumatic brain injury

- Conscious level post-injury (mild: GCS score 13–15; moderate: GCS score 9–12; severe: GCS score <8).
- Duration of loss of consciousness.
- ↑ duration of PTA (>24hrs, poorer outcome).
- Age (older—poorer prognosis).
- Pre-injury educational or occupational level.
- Reduced pre-injury cognitive reserve, e.g. due to cerebrovascular disease or alcohol dependence.

Long-term sequelae of moderate/severe acquired brain injury

Memory Difficulties learning new information are common after brain injury, especially involving damage to frontal or temporal lobes. Bilateral hippocampal damage after hypoxic–ischaemic injury (HII) can cause an amnestic syndrome. *Treatment*: frequent orientation, cognitive rehabilitation.

Executive dysfunction Diffuse or prefrontal lesions can cause a dysexecutive syndrome: difficulties with planning, judgement, abstract thought, sustained attention, and social cognition, leading to impulsive, socially inappropriate behaviour, poor frustration tolerance with aggressive outbursts, and disorganization. This can cause significant disability and family distress, even in the absence of significant memory impairment. *Treatment*: aggression and irritability may respond to propranolol where there are no contraindications (e.g. asthma).

Perceptual problems Visuospatial neglect or agnosia, cortical blindness (especially after HII), or optic nerve damage may be missed as reasons for failure to progress with rehabilitation. Visual or auditory misinterpretations may be mistaken for psychosis. *Treatment*: occupational therapy (OT) input and adaptations.

Speech and language disorders Dysphasia, dysarthria.

Mood and anxiety disorders Depression occurs in 25% of individuals after TBI and should be considered where cognitive or behavioural symptoms worsen months or years after injury. Apathy or emotional lability due to damage to the prefrontal cortex or limbic lobe are less likely to respond to treatment. Anxiety occurs commonly. *Treatment*: SSRIs; consider duloxetine if comorbid pain.

Psychosis Psychotic symptoms may appear as part of a post-traumatic delirium following brain injury. A schizophrenia-like psychotic disorder after brain injury occurs relatively rarely 1–5yrs after injury and is associated with frontal and temporal damage. Premorbid psychosis is a risk factor for brain injury. *Treatment*: antipsychotics.

Sequelae in children

Less psychopathology after ABI due to ↑ brain plasticity. Recovery may continue for up to 5yrs after injury (as opposed to ~2yrs in adults). Problems may include aggression and ADHD-like syndromes.

Complications associated with neuropsychiatric deterioration

- *Hydrocephalus*—can occur days to months after injury and is associated with deteriorating cognitive function, gait, incontinence, and depressed conscious level. *Treatment*: neurosurgical.
- *Post-traumatic epilepsy*—occurs in 5% of closed and 30% of open head injuries, usually during the first year, and worsens prognosis. *Treatment*: antiepileptic medication.

Mild traumatic brain injury (concussion)

Epidemiology

The majority of presentations to hospital after TBI are with mild TBI. Although in the majority, symptoms resolve within days to weeks; a minority are troubled by persistent symptoms and may seek psychiatric advice.

Definition (WHO)

- GCS score of 13–15 30mins post-injury.
- Loss of consciousness (LOC) 30mins or less.
- PTA <24hrs.
- Not due to alcohol, medications, penetrating craniocerebral injury, or treatment of other medical conditions or injuries.

Clinical course

Early (first 24hrs) Headache, blurred vision, dizziness, confusion, memory problems, fatigue, sleep disturbance. Depersonalization/derealization may be described as dizziness or confusion.

First month after injury In most, all symptoms will resolve in the first days after mild TBI. Headache, dizziness [persisting dizziness should raise suspicion of benign paroxysmal positional vertigo (BPPV), common after mild TBI and easily treatable], mild cognitive symptoms, and fatigue may persist in a few.

Symptoms persisting >3mths after injury Cognitive function usually returns to baseline within 3mths. A minority of patients develop persistent symptoms such as memory and concentration difficulties, fatigue, headaches, dizziness, and sleep disturbance. Psychological factors related to injury are likely to be important—similar symptoms occur in non-brain-injured trauma patients. In many, the 'post-concussional syndrome' (a term best discarded) can be considered a secondary functional neurological disorder.

Risk factors for persistent ('post-concussional') symptoms

- *Alcohol excess*—alcohol excess is a risk factor for mild TBI; post-injury memory and concentration problems, fatigue, headache, irritability, and sleep difficulties may reflect ongoing alcohol use,

and alcohol is likely to underpin the apparent ↑ risk of epilepsy after mild TBI.
- *Age*—older age is associated with persistent symptoms.
- *Social stressors*—may be premorbid or relate to circumstances of the injury (commonly assault) or to lost income due work absence.
- *Depression and anxiety*—psychological distress around the injury can give rise to specific or generalized anxiety, PTSD, or depression, all of which perpetuate fatigue and cognitive symptoms.
- *Unhelpful illness beliefs*—beliefs that the brain has been irreversibly damaged or that there is a high risk of dementia seem more common in those with persisting symptoms.
- *Litigation/compensation issues*—ongoing litigation is strongly associated with persisting symptoms.

Management

Clear, reassuring explanation and advice soon after mild TBI may help to prevent persistent symptoms.

Advice

(See also http://www.headinjurysymptoms.org)
- Mild TBI has a good prognosis and rarely causes lasting problems.
- Common symptoms occurring in the first few days—headache, poor concentration, tiredness, or dizziness—do not indicate 'brain damage'.
- The risk of developing serious complications is low. If 'red flag' symptoms (LOC, drowsiness, seizure, CSF leak, severe headache, or focal neurological symptoms) occur, return to the Emergency Department as soon as possible. Serious problems are rare beyond the first week.
- Prolonged rest is likely to be unhelpful, and return as soon as is comfortable to normal activities should be recommended.
- Severe disabling symptoms may benefit from CBT or graded exercise therapy (GET) where fatigue is prominent.

Chronic traumatic encephalopathy

(See Box 4.10.)

Box 4.10 Chronic traumatic encephalopathy

'Punch drunk' syndrome, or encephalitis pugilistica, was a condition of cognitive and neurological deterioration first noted in retired professional boxers in the early 1900s. Chronic traumatic encephalopathy (CTE) is a more recently described syndrome, in which neuropsychiatric symptoms (e.g. cognitive impairment, personality change, fatigue, depression, and suicidality) occur many years after mild TBI, particularly in retired professional sports people who have sustained multiple concussions. Although CTE has been the subject of extensive media attention,

its definition and existence are not strongly supported by scientific evidence. There have been no prospective longitudinal studies. Retrospective studies, vulnerable to inclusion and recall bias, revealed multiple confounding risk factors, including strikingly high levels of drug and alcohol use in retired professional sports people. In fact, review of all pathologically described cases has cast doubt on the existence of CTE as a widespread problem in American footballers;[*] neuropathological findings overlap with many common neurodegenerative disorders, and there appears to be no ↑ risk of dementia after mild TBI.[**] So while concussion is best avoided, patients can be assured that current evidence suggests that mild TBI does not increase the risk of later-life dementia.

[*] Maroon JC, Winkelman R, Bost J, Amos A, Mathyssek C, Miele V (2015) Chronic traumatic encephalopathy in contact sports: a systematic review of all reported pathological cases. *PLoS One* **10**:e0117338.

[**] Godbolt AK, Cancelliere C, Hincapié CA, *et al.* (2014) Systematic review of the risk of dementia and chronic cognitive im-pairment after mild traumatic brain injury: results of the International Collaboration on Mild Traumatic Brain Injury Prognosis. *Arch Phys Med Rehabil* **95**:S245–56.

Psychiatric sequelae of stroke

A range of psychiatric problems may occur following stroke. These include the following.

Cognitive disorders

- *Vascular neurocognitive disorder* (Vascular dementia (vascular neurocognitive disorder), p. 164).
  - *Non-progressive*, e.g. after a single stroke.
  - *Progressive*—also called VaD.
- *Amnestic disorder*—e.g. after ruptured anterior communicating artery (ACOM) aneurysm (Amnestic disorders, p. 170).

Post-stroke depression

Depressive illness is common, occurring in around a third of patients after stroke.[40] Depression may occur early or late during stroke recovery and may be missed in the presence of cognitive or communication impairment, and it is associated with poor functional outcome and excess morbidity and mortality.[41]

Risk factors for post-stroke depression

Physical disability, stroke severity, and cognitive impairment are the most consistent predictors of depression after stroke. Women are affected slightly more often than men.[42] Lesion location does not influence depression risk.[43] *Treatment*: antidepressants are effective, especially for severe depression, although after stroke, they may bring a higher risk of adverse effects. SSRIs are most widely used and usually well tolerated.[44]

Personality changes and executive dysfunction

Damage to frontal lobes can cause a constriction in the range of interests, loss of intellectual flexibility, apathy and loss of volition, irritability, and loss of social sensitivity.

Pseudobulbar affect

Also called pathological emotionalism, emotional incontinence, or pathological laughter/crying. Present in up to 50% after stroke and in many other neurological disorders. Presentation involves emotional lability with unprovoked and uncontrollable crying or laughter, inconsistent with the patient's subjective emotional state. May respond to treatment with an SSRI or amitriptyline.

Psychosis

Circumscribed delusions may arise in individuals with profound anosognosia or somatoparaphrenia (denial of ownership of a limb or half of one's body), almost always due to right-sided lesions. Schizophrenia-like psychotic disorders occur rarely and have also been associated with right-sided lesions. Peduncular hallucinosis is a rare syndrome of complex visual hallucinations associated with infarcts involving the pons and the midbrain.

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1 Griesinger's ideas were a reaction to gross German materialism. He was keen on emerging physiological ideas of the time, and it was in this new ambiguous space that he located mental disorders (i.e. *not* neuroanatomically). His related view that many psychological events occur in non-conscious spaces has led some to consider him a 'pioneer' of psychodynamic psychiatry.

2 Georget introduced the still popular 'technology alibi' that, although all mental disorders are caused by changes in the brain, in some cases, we cannot yet demonstrate this due to a lack of appropriate technology. (Caveat lector: this is not a scientific hypothesis, but rather a hypothetical syllogism based upon a foundational claim that the mind is represented in the brain).

3 In *The Physiology and Pathology of Mind* (1867), Maudsley states: 'Mental disorders are neither more nor less than nervous diseases in which mental symptoms predominate'.

4 Wernicke is one of the most important psychiatrists of the late nineteenth century, and had he not died young, psychiatry might now be a 'Wernickian world', as his views on classification, mental symptoms, and the relationship between brain and behaviour could have superseded Kraepelin's.

5 Lishman WA (1992) What is neuropsychiatry? *J Neurol Neurosurg Psychiatry* **55**:983–5.

6 There is no doubt that WA Lishman (1931–) has been a major influence in the field of neuropsychiatry, both as a teacher and trainer of generations of neuropsychiatrists at the Institute of Psychiatry/Maudsley and through his textbook *Organic Psychiatry: The Psychological Consequences of Cerebral Disorder'* (1978, 1987, 1997, and multi-author 2012).

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10 'Neuropsychiatry', as defined in *Campbell's Psychiatric Dictionary*, 9th edn (2009), Oxford University Press.
11 Claimed as the founder of phrenology, Gall's ideas that a person's personality could be determined from the shape of their skull, although controversial and repeatedly disproven, did promote the idea of functional localization within the brain—an idea originally put forward by French naturalist and philosopher Charles Bonnet (1720–1793) over 60 years earlier.
12 Society for Behavioral and Cognitive Neurology. http://the-sbcn.org/ [accessed 30 May 2018].
13 Professor of Neurology and Health Psychology, Director of University of Florida Memory Disorders Clinic, Center for Neuropsychological Studies, and the Behavioral Neurology-Neuropsychiatry Fellowship Program. http://neurology.ufl.edu/divisions-2/memory-and-cognitive-disorders/memory-and-cognitive-faculty/kenneth-heilman-m-d/ [accessed 30 May 2018].
14 Professor of Neuroscience and Director of the Brain and Creativity Institute at the University of Southern California and an Adjunct Professor at the Salk Institute. He has written a number of books, including *Descartes' Error: Emotion, Reason and the Human Brain* (1994), which is regarded as one of the most influential popular science books of the twentieth century. https://dornsife.usc.edu/cf/faculty-and-staff/faculty.cfm?pid=1008328 [accessed 30 May 2018].
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Chapter 5

Schizophrenia and related psychoses

Introduction

Schizophrenia and the related psychotic illnesses belong to a group of disorders traditionally called the 'functional psychoses'. 'Functional' in this context means a disorder of brain *function* with no corresponding *structural* abnormality. Despite improvements in our understanding of the pathology of these disorders, their aetiology is currently unknown and there is no definitive diagnostic test available. For this reason, diagnosis is made clinically, using operationally defined criteria (characteristic symptoms and signs) and specific exclusion criteria (e.g. absence of primary organic disorder).

The cardinal feature of schizophrenia and related psychotic illnesses is the presence of psychotic symptoms—hallucinations and/or delusions. These symptoms are *qualitatively* different from normal experiences, rather than the *quantitatively* abnormal responses of neurotic and affective disorders, and because of this, they are regarded—by patients and other health professionals—as *more* serious and needing *immediate* psychiatric attention. However, when an individual experiences hallucinations or becomes paranoid that people are talking about them, for example, it does not mean they necessarily have a severe and enduring mental disorder. They could be experiencing a reaction to drugs (prescribed or recreational), be experiencing severe anxiety, be acutely confused, or have early signs of dementia. The differential diagnosis encompasses almost all psychiatric diagnoses (Differential diagnosis of schizophrenia, p. 186) as well as some 'normal experiences'. Careful history-taking and appropriate investigations (Investigations, p. 193) are essential.

Of the psychoses, schizophrenia has received the greatest attention in terms of research. This is almost certainly because of the dramatic and devastating effects the disorder can have on an individual's quality of life and their prospects for employment, marriage, and parenthood. Schizophrenia affects about 1 in 100 individuals, usually beginning in late adolescence or early adulthood. Untreated, it runs a chronic, deteriorating course. In addition to the personal tragedy, schizophrenia creates a substantial public health burden due to the cost of lifelong healthcare needs and lost productivity.

The symptoms of schizophrenia are conventionally divided into positive symptoms (an excess or a distortion of normal functioning) and negative symptoms (a decrease or loss of functioning):

- **Positive symptoms** Delusions (commonly persecutory, thought interference, or passivity delusions). Hallucinations (usually auditory hallucinations commenting on the subject or referring to them in the third person, e.g. 'he looks like a fool'). Formal thought disorder (loss of the normal flow of thinking usually shown in the subject's speech or writing).
- **Negative symptoms** Impairment or loss of volition, motivation, and spontaneous behaviour. Loss of awareness of socially appropriate behaviour and social withdrawal. Flattening of mood, blunting of affect, and anhedonia. Poverty of thought and speech.

Fortunately, there are effective interventions that can benefit individuals and help them to lead more normal lives. Current research is directed towards establishing the cause(s) of schizophrenia and investigating the possibility of *early* interventions in those identified at high risk for the disorder or with prodromal symptoms (possible early signs of the disorder). Other psychoses with more specific symptoms, e.g. delusional misidentification syndromes (Delusional misidentification syndromes, p. 240), may even help us understand how we normally perceive the world and help solve the mystery of the true nature of conscious experience.

Why are there so few famous people with schizophrenia?

Often there is a history of declining social and educational function which precludes significant achievements (sometimes in spite of early promise). The chronic course of the condition and the major disruptions caused by periods of more severe symptoms also make it less likely that a person with schizophrenia will achieve as much as their peers. Until relatively recently, there have been few specific treatments for the disorder, and even today prognosis is at best guarded.

Nonetheless, there are notable exceptions to the rule—people who have battled with the disorder and achieved greatness in their chosen fields: in the arts, Vaslov Fomich Nijinski (1891–1950), the God of the Dance, whose personal account is to be found in his autobiography *The Diary of Vaslov Nijinksy* (1999); in sport, Lionel Aldridge (1941–1998), a member of Vince Lombardi's legendary Green Bay Packers of the 1960s, who played in two Super Bowls and, until his death, gave inspirational talks on his battle against paranoid schizophrenia; and, in popular music, Roger (Syd) Barrett (1946–2006) of Pink Floyd and Peter Green (1946–) of Fleetwood Mac. Perhaps the most famous, due to the Academy Award-winning dramatization of his life, is the mathematician John Forbes Nash Jr (1928–2015), who was awarded (jointly with Harsanyi and Selten) the 1994 Nobel Prize in Economic Science for his work on game theory. His life story (upon which the film was based) is recorded by Sylvia Nasar in the book *A Beautiful Mind* (1998).

Historical views of schizophrenia

In 1856, Morel coined the term *Démence Précoce* to describe a once bright and active adolescent patient who had gradually become silent and withdrawn. Other clinical descriptions included Kahlbaum's *Katatonie* (1868), Griesinger's *primare Verrücktheit* (1868), Hecker's *Hebephrenie* (1869), and Sommer's inclusion of deteriorating paranoid syndromes in the concept of dementia (1894). In 1896, Emil Kraepelin described and separated the two major forms of insanity on the basis of different symptoms, course, and outcome. The first, *manic-depressive insanity,* had a relapsing and remitting course, with full recovery after each episode. The second grouped together catatonia, hebephrenia, and the paranoid psychoses under the term *dementia praecox*, which had a progressive, deteriorating course where any improvement was only partial.

Over the next two decades (and further revisions of his textbook), Kraepelin's ideas were gradually accepted. Later the influence of Freud's psychoanalytical ideas shifted the focus from Kraepelin's 'disease of the brain' to a 'splitting of the mind' (schizophrenia), as proposed by Eugen Bleuler in his book *Dementia Praecox or the Group of Schizophrenias* (1911). He believed the disorder to be due to a 'loosening of associations' between psychic functions, with fundamental symptoms being thought disorder, blunting/incongruity of affect, autism, and ambivalence. He added 'simple schizophrenia' to Kraepelin's subtypes and did not consider hallucinations, delusions, and catatonic symptoms to be necessary for the diagnosis. This view of schizophrenia was to have a profound influence on clinical practice, particularly in the USA.

European psychiatrists continued to regard schizophrenia as a disease of the brain. Detailed classification systems were developed based on symptomatology, culminating in the teachings of Kurt Schneider, who described 'symptoms of first rank' in the acute phase of the illness (Dictionary of psychiatric symptoms, p. 110) and 'second-rank symptoms' which, although highly suggestive of schizophrenia, could also occur in other psychoses (e.g. emotional blunting, perplexity, and other kinds of delusions and hallucinations).

The differences in diagnostic practices were highlighted in the 1970s. In 1972, Cooper found identical symptomatology in psychiatric admissions in New York and London, but higher rates of schizophrenia diagnosed in New York. Similarly, in 1973, the WHO's *International pilot study of schizophrenia* found the incidence of schizophrenia, using agreed diagnostic criteria, to be 0.7–1.4 per 10 000 aged 15–54 across all countries studied, but with much higher rates of diagnosis evident in the USA and the USSR. This was explained by broader syndrome definition in the USA with milder abnormalities considered part of the schizophrenia spectrum, and in the USSR due to the political pressure to declare dissidents insane.

This led to an international push towards operationally defined criteria (based on symptoms and course), with various systems proposed. The St Louis Criteria (Feighner *et al.* 1972) require the patient to have been continuously ill for 6mths, with no prominent affective symptoms, the presence of delusions, hallucinations, or thought disorder, and for personal and family history to be taken into account (marital status, age under 40, premorbid social adjustment). Other systems adopt the Schneiderian concept of schizophrenia, including Catego (Wing *et al.* 1974)—a computer program that uses the Present State Examination (PSE) to generate diagnoses; Spitzer *et al.*'s (1975) research diagnostic criteria (RDC)—requiring at least 2wks duration, lack of affective symptoms, presence of thought disorder, and hallucinations and delusions similar to Schneiderian first-rank symptoms; as well as the ICD-10 (WHO 1992). The American Psychiatric Association's DSM-5 (2013) has dispensed with Schneiderian first-rank auditory hallucinations (2+ voices conversing) but requires the presence of at least one of delusions, hallucinations, or disorganised speech. (The diagnosis of schizophrenia, p. 184). ICD-11 proposals (2018) consider persistent delusions, hallucinations, thought disorder, and feelings of passivity, influence or control, as core symptoms.

With the advent of neuroimaging, the biological substrate of schizophrenia could be investigated in the living brain. In 1974 Ingvar and Franzén showed, with the aid of radiolabelled xenon gas, that blood flow was reduced in the frontal lobes. In 1976 Johnstone *et al.* published the first controlled CT brain study, which found enlarged ventricles associated with poorer cognitive performance. In the absence of an aetiological model of schizophrenia, pathophysiological models were developed to describe and explain the varieties of presentations found. In 1980 Crow described his 'Two syndrome hypothesis', dividing schizophrenia into *type 1* (predominant positive symptoms, acute onset, good premorbid adjustment, good treatment response, normal cognition and brain structure, reversible neurochemical disturbance) and *type 2* (predominant negative symptoms, insidious onset, poor premorbid adjustment, poor treatment response, impaired cognition, structural brain abnormalities [ventricular enlargement] underlying irreversible neuronal loss). The first quantitative MRI study by Andreasen *et al.* in 1986 also demonstrated smaller frontal lobes, and reduced intracranial and cerebral volume: further evidence for schizophrenia as a neurodevelopmental disorder.

Based upon examination of symptomatology and functional brain imaging Liddle (1992) proposed his 'Three syndrome hypothesis of schizophrenia': (1) *Psychomotor poverty syndrome*—poverty of speech, flattened affect, and decreased spontaneous movement; hypoperfusion of left dorsal prefrontal cortex, extending to the medial prefrontal cortex and the cingulate cortex and hypoperfusion in the head of caudate; reduced ability to generate action; (2) *Disorganization syndrome*—disorders of form of thought and inappropriate affect; hypoperfusion of right ventral prefrontal cortex and increased activity in anterior cingulate and dorsomedial thalamic nuclei projecting to the prefrontal cortex; relative hypoperfusion of Broca's area and bilateral hypoperfusion of parietal association cortex; reduced ability to inhibit inappropriate mental activity; and (3) *Reality distortion syndrome*—delusions and hallucinations; increased activity in left parahippocampal region and left striatum; disorder of internal monitoring.

Schizophrenia research in the last two decades has focused more on finding fundamental neuronal, neurochemical, or cognitive mechanisms than on localizing specific symptoms (Aetiological theories, p. 188). It is hoped that this approach may provide workable hypotheses that can facilitate the search for molecular mechanisms and lead to new treatment approaches.

The diagnosis of schizophrenia

The diagnosis of schizophrenia is made on the basis of the patient's symptoms, and currently no confirmatory test is available. DSM-IIIR, DSM-IV, DSM-5, and ICD-10 set out operational criteria against which a clinical diagnosis can be confirmed. Subtypes of schizophrenia (see Table 5.1) are no longer retained by DSM-5 or as currently proposed for ICD-11 (2018).[1]

ICD-10 schizophrenia

1. *At least one of the following*:
   - Thought echo, insertion, withdrawal, or broadcasting.
   - Delusions of control, influence, or passivity; clearly referred to body or limb movements or specific thoughts, actions, or sensations; and delusional perception.
   - Hallucinatory voices giving a running commentary on the patient's behaviour or discussing him/her between themselves, or other types of hallucinatory voices coming from some part of the body.
   - Culturally inappropriate or implausible persistent delusions (e.g. religious/political identity, superhuman powers and ability).
2. Or, *at least two of the following*:
   - Persistent hallucinations in any modality, when accompanied by fleeting or half-formed delusions without clear affective content, persistent over-valued ideas, or occurring every day for weeks or months on end.
   - Breaks of interpolations in the train of thought, resulting in incoherence or irrelevant speech or neologisms.
   - Catatonic behaviour such as excitement, posturing, or waxy flexibility, negativism, mutism, and stupor.
   - Negative symptoms such as marked apathy, paucity of speech, and blunting or incongruity of emotional responses.
   - A significant and consistent change in the overall quality of some aspects of personal behaviour, manifest as loss of interest, aimlessness, idleness, a self-absorbed attitude, and social withdrawal.
3. *Duration of ≥1mth*.

DSM-5 schizophrenia

A. **Characteristics of symptoms**:[2] two or more of the following, each present for a significant portion of time during a 1-mth period (or less if successfully treated). At least one of these must be (1), (2), or (3):
   (1) Delusions.
   (2) Hallucinations.
   (3) Disorganized speech (e.g. frequent derailment or incoherence).
   (4) Grossly disorganized or catatonic behaviour.
   (5) Negative symptoms (i.e. diminished emotional expression/avolition).

B. **Social/occupational dysfunction**: for a significant portion of the time since onset of the disturbance, the level of functioning in one or more major areas, such as work, interpersonal relations, or self-care, is markedly below the level achieved prior to onset (or when the onset is in childhood or adolescence, there is failure to achieve the expected level of interpersonal, academic, or occupational functioning).

C. **Duration**: continuous signs of the disturbance persist for at least 6mths that must include at least 1mth of symptoms meeting criterion A.

D–F. **Exclusions**:

- Schizoaffective disorder and depressive or bipolar disorder with psychotic features have been ruled out.
- Presentation is not attributable to the physiological effects of a substance (e.g. drug of abuse, medication) or other medical condition.
- If there is a history of ASD or a communication disorder of childhood onset, the additional diagnosis of schizophrenia is made only if prominent delusions or hallucinations, in addition to the other required symptoms of schizophrenia, are also present for at least 1mth (or less if successfully treated).

Table 5.1 ICD-10 subtypes

Paranoid schizophrenia	Delusions and hallucinations
Hebephrenic schizophrenia	Disorganized speech and behaviour (often silly/shallow); flat or inappropriate affect
Catatonic schizophrenia	Psychomotor disturbance (The catatonic patient, p. 1054)
Undifferentiated schizophrenia	Meeting general criteria, but no specific symptom subtype predominates
Post-schizophrenic depression	Some residual symptoms, but depressive picture predominates
Residual schizophrenia	Previous 'positive symptoms' less marked; prominent 'negative' symptoms
Simple schizophrenia	No delusions or hallucinations—a 'defect state' (negative symptoms) gradually arises without an acute episode

Differential diagnosis of schizophrenia

The differential diagnosis of schizophrenia is wide. Early in the course of the illness, there may be significant uncertainty as to the true diagnosis. In general, compared to other disorders with psychotic symptoms, in schizophrenia, there is a broader range of psychotic symptoms (e.g. other than relatively circumscribed delusions) and greater functional impairment.

Substance-induced psychotic disorder

(For example, alcohol, stimulants, hallucinogens, steroids, antihistamines, and sympathomimetics.) Careful history-taking may reveal onset, persistence, and cessation of symptoms to be related to drug use or withdrawal.

Psychotic disorder due to a general medical condition

Focused history, examination, and investigations should help exclude other disorders, including brain disease (e.g. head injury, CNS infection, CNS tumour, TLE, post-epileptic states, vCJD), and metabolic (hypernatraemia, hypocalcaemia) or endocrine disturbance (hyperthyroidism, Cushing's syndrome).

Mood disorders with psychotic features

Mood and related biological symptoms are usually more severe and precede psychosis. The psychotic features will usually be *mood-congruent* (Diagnosis 1: symptoms, p. 246). There may be a personal or family history of affective disorder.

Acute/transient (brief) psychotic disorder and schizophreniform disorder

Diagnosed only after the psychotic symptoms have resolved, based on the time course (Acute and transient psychotic disorders, p. 236).

Sleep-related disorders

When symptoms characteristically only occur while falling asleep or on waking up (hypnagogic/hypnopompic hallucinations; Abnormal perceptions, p. 72). If there is excessive daytime tiredness due to lack of sleep or side effects of medication, symptoms may occur at any time of the day.

Delusional disorder

Presence of at least one non-bizarre delusion with lack of thought disorder, prominent hallucinations, mood disorder, and flattening of affect (Delusional disorder 1: clinical features, p. 230).

Dementia and delirium

Evidence of cognitive impairment or altered/fluctuating LOC, respectively. Delirium characteristically has a waxing and waning course. *Note*: also consider 'late paraphrenia', which has an extensive literature and is thought to be distinct from delusional disorder and schizophrenia, associated with social isolation, ageing, medical problems/treatments, and sensory loss (Specific aspects of psychiatric illnesses in the elderly 3: mood disorders, p. 552).

Body dysmorphic disorder

Significant overlap with delusional disorder; few significant differentiating factors exist (Body dysmorphic disorder, p. 872).

Post-traumatic stress disorder

Evidence of a past life-threatening trauma (Post-traumatic stress disorder 1: diagnosis, p. 402).

Pervasive developmental disorder

Evidence of impairment in functioning from the pre-school years.

Obsessive–compulsive disorder

Significant overlap with delusional disorder and, if reality testing regarding obsessions or compulsions is lost, delusional disorder is often diagnosed (Obsessive–compulsive disorder 1: clinical features, p. 384).

Hypochondriasis

Health concerns generally are more amenable to reality testing and are less fixed than in delusional disorder.

Paranoid personality disorder

Absence of clearly circumscribed delusions, presence of a pervasive, stable pattern of suspiciousness or distrust (Table 12.1, p. 523).

Schizotypal personality disorder

Odd or eccentric behaviour, absence of clearly circumscribed delusions (Table 12.1, p. 523).

Misidentification syndromes

Easily confused with delusional disorder; may be associated with other CNS abnormalities (Delusional misidentification syndromes, p. 240).

Induced/shared psychotic disorder

Evidence that relatives or close friends share similar delusional beliefs (Induced delusional disorder, p. 238).

Anxiety disorder

Sometimes patients use 'paranoia' or 'feeling paranoid' to describe over-concern, hypersensitivity, anxiety, agoraphobia, or social phobia—clarification is all that is required when terminology has acquired common parlance.

Factitious disorder

Rarely, psychotic symptoms may be feigned, usually to avoid responsibilities and/or to maintain a sick role (Factitious disorder (Munchausen's syndrome), p. 876).

Aetiological theories

Neurochemical abnormality hypotheses

It seems unlikely that the aetiology of schizophrenia can be fully attributed to a single neurotransmitter abnormality (although there are precedents, notably Parkinson's disease). In the study of models for psychosis, particularly with the psychotomimetic (psychosis-mimicking) effects of certain drugs, there is evidence for the involvement of multiple neurotransmitters in the genesis of psychotic symptoms.

Some of the evidence implicating different neurotransmitters is outlined here (Other theories, see opposite):

Dopaminergic overactivity

- The fact that all known effective antipsychotics are DA antagonists.
- Positive correlation between the antipsychotic efficacy of a drug and its potency as a DA receptor antagonist.
- Induction of psychotic symptoms by dopaminergic agents [e.g. amphetamine, cocaine, phencyclidine [PCP], levodopa, bromocriptine].
- Imaging studies showing that amphetamine induces greater displacement of radiolabelled-ligands bound to D_2 receptors in the striatum in never-treated schizophrenia patients (suggesting a predisposition to ↑ DA release).
- Evidence of a correlation between DA metabolite homovanillic acid (HVA) plasma levels and both the severity of psychotic symptoms and the treatment response to antipsychotics.

Glutaminergic hypoactivity

- NMDA receptor antagonists, (e.g. ketamine, PCP) have been shown to induce both positive and negative symptoms of schizophrenia in healthy volunteers (possibly via modulation of the DA system) and exacerbate symptoms of patients with schizophrenia.
- The effects of ketamine (in both animals and humans) are attenuated by antipsychotic medication (notably clozapine).
- Facilitation of NMDA receptor function by glycine (which binds to a modulatory site on NMDA receptors) and *D*-cycloserine (a selective partial agonist at the glycine modulatory site) may lead to symptomatic improvement.

Serotonergic (5-HT) overactivity

- The primary mode of action of LSD is through partial 5-HT agonism, associated with sensory distortions and hallucinations.
- The efficacy of clozapine in treatment-resistant schizophrenia is thought to be due to its combined dopaminergic and serotonergic antagonism.

Alpha-adrenergic overactivity

- Some antipsychotics also have clear adrenergic antagonism.
- ↑ levels of noradrenaline (NA) have been found in the CSF of patients with acute psychotic symptoms.
- Chronic treatment with antipsychotic drugs leads to ↓ firing rates in the locus coeruleus (the origin of the noradrenergic system).

Gamma-aminobutyric acid hypoactivity

- Loss of GABA inhibition has been shown to lead to overactivity in other neurotransmitter systems (e.g. DA, 5-HT, NA).
- There is some evidence to support the loss of GABAergic neurons in the hippocampus of patients with schizophrenia.
- Use of BZDs may augment the therapeutic effects of antipsychotics by their GABA facilitation.

The neurodevelopmental hypothesis

Some authors hypothesize that schizophrenia may be a disorder of neurodevelopment, based on the following:

- Excess of obstetric complications in those who develop the disorder.
- Affected subjects have motor and cognitive problems which precede the onset of illness.
- Schizophrenic subjects have abnormalities of the cerebral structure at first presentation.
- Schizophrenic subjects have dermatoglyphic and dysmorphic features.
- Although the brain is abnormal, gliosis is absent—suggesting that differences are possibly acquired *in utero*.
- Evidence of excessive synaptic pruning during adolescence/early adulthood.

The disconnection hypothesis

Neuropsychological, neuroanatomical, and functional investigations (SPECT, PET, fMRI) have revealed:

- Widespread reductions in grey matter in schizophrenia (particularly the temporal lobe).
- Disorders of memory and frontal lobe function occurring on a background of widespread cognitive abnormalities.
- Reduced correlation between frontal and temporal blood flow on specific cognitive tasks.
- A reduction in white matter integrity in tracts connecting the frontal and temporal lobes.

These findings have led to speculation that frontal–temporal/parietal connectivity may be the final common pathway for the development of schizophrenia.

Other theories

In the 1960s, social theories of schizophrenia (e.g. schizophrenogenic mother, marital skew, and schism) were common. They are now of historical interest only, not having withstood scientific scrutiny. A number of other theories exist, including those which postulate that schizophrenia is an abnormality of information processing (Braff, 1993), a problem of working memory (Goldman-Rakic, 1994), caused by cognitive dysmetria (Andreasen *et al.*, 1999), an inability to think in 'meta-representations' or grasp 'theory of mind' (Pickup & Frith, 2001), a neurodegenerative disorder (Weiberger and McClure, 2002), a disorder of language (Berlim and Crow, 2003), due to abnormal neuronal migration and the *DISC1* gene (Johnstone *et al.*, 2011), and due to excessive synaptic pruning and the C4 (complement) gene (Sekar *et al.*, 2016).

Epidemiology of schizophrenia

Incidence

The incidence of schizophrenia worldwide is relatively similar when restricted, operational diagnostic criteria are used to establish the diagnosis. The incidence in the UK and USA is around 15 new cases per 100,000 population. ♂ = ♀, although ♂ tend to have an earlier onset than ♀ (23 vs 26yrs) and develop more severe illnesses. A few studies have reported a falling incidence over time, although this may be due to changing diagnostic practices/criteria.

Prevalence

The lifetime risk of schizophrenia is between 15 and 19 per 1000 population. The point prevalence is between 2 and 7 per 1000. There are some differences between countries, although these differences are minimized when a restrictive definition of schizophrenia, based on first-rank symptoms, is used.

Fertility

Early studies reported low fertility in both men and women with schizophrenia. More recent studies suggest that although men are reproductively disadvantaged, the fertility of women with schizophrenia has ↑ probably due to deinstitutionalization.

Mortality

The diagnosis of schizophrenia carries around a 20% reduction in life expectancy. Suicide is the most common cause of premature death in schizophrenia. It accounts for 10–38% of all deaths in schizophrenia. Risk is probably highest in the year after the first presentation and is greater in men.

Morbidity

There is significant comorbidity in patients with schizophrenia:

- Common medical problems that occur more frequently, e.g. communicable diseases (HIV, hepatitis C, TB), epilepsy, diabetes, arteriosclerosis, ischaemic heart disease.
- Rare conditions that co-occur with schizophrenia, e.g. metachromic leukodystrophy, acute intermittent porphyria, coeliac disease, dysmorphic features (high-arched palate, low-set ears, minor physical abnormalities).
- Substance misuse—cannabis, stimulants, and nicotine, in particular.

Inheritance

Genetic factors account for the majority of liability to schizophrenia. Heritability estimates range from 60% to 80%. The risk of developing schizophrenia when one has an affected relative is shown in Table 5.2. It is likely that an individual needs to have several genes 'of small effect' that interact with each other and with time-specific exposure to other environmental risk factors.

Recent molecular genetic studies in large populations have found >100 loci in the human genome containing single nucleotide polymorphism (SNP) haplotypes that associate with a risk of schizophrenia.[3] The functional alleles and mechanisms at these loci remain to be discovered. The strongest genetic relationship is schizophrenia's association with genetic markers across the major histocompatibility complex (MHC) locus, which spans several megabases of chromosome 6. Other notable associations relevant to major hypotheses of the aetiology and treatment of schizophrenia include DRD2 (the target of all effective antipsychotic drugs), multiple genes involved in glutamatergic transmission and synaptic plasticity (e.g. *GRM3, GRIN2A, SRR, GRIA1*), and voltage-gated calcium channel subunits (e.g. CACNA1C, CACNB2, CACNA1I). The involvement of the immune system and other genes encoding synaptic proteins has added evidence to the theory that schizophrenia arises due to diverse synaptic abnormalities interacting with the complement system and other pathways to cause excessive stimulation of microglia and elimination of synapses during adolescence and early adulthood. Genes involved in neurodevelopment have also been associated with schizophrenia, including *DISC1, NRG1, DTNBP1, KCNH2, AKT1*, and *RGS4* genes.

Table 5.2 Schizophrenia liability based on affected relatives

Family member(s) affected	Risk (approximate) (%)
Identical twin	46
One sibling/fraternal twin	12–15
Both parents	40
One parent	12–15
One grandparent	6
No relatives affected	0.5–1

Environmental factors

The following have been associated with an ↑ risk of schizophrenia:
- Complications of pregnancy, delivery, and the neonatal period.
- Delayed walking and neurodevelopmental difficulties.
- Early social services contact and disturbed childhood behaviour.
- Severe maternal malnutrition.
- Maternal influenza in pregnancy and winter births.
- Degree of urbanization at birth.
- Use of cannabis, especially during adolescence.

Examination of the patient with psychotic symptoms

A thorough medical history, including a systematic review and thorough physical examination, is important is the assessment of all patients presenting with psychotic symptoms. It is all too easy to focus on the psychiatric aspects of the assessment to the exclusion of medical aspects, which may inform the diagnosis and aid treatment planning.

Key features in systematic review

- *Neurological*—headache, head injury, abnormal movements of the mouth or tongue, diplopia, hearing or visual impairment (delusional disorder is more common when there is sensory impairment), fits/faints/blackouts/dizzy spells, altered consciousness or memory problems, stroke, coordination problems, marked tremor, or muscle stiffness.
- *Respiratory*—dyspnoea, orthopnoea.
- *Cardiovascular*—chest pain, palpitations.
- *GI*—constipation (can be a side effect of anticholinergic psychotropic drugs), nausea, vomiting.
- *Genitourinary*—urinary hesitancy (retention related to anticholinergic drugs); in women, a menstrual history; for both: sexual problems (which may be secondary to medication).

Mental state examination

- Aside from the more obvious psychotic features, a comprehensive assessment includes asking about mood, sleep, symptoms of anxiety, and cognitive function.
- Be sure to check orientation, attention, concentration, and anterograde/retrograde memory at a minimum—always consider the underlying neurological condition when disorientation is present or if memory problems are severe or persistent in spite of adequate treatment.

Diagnostic formulation

Even in the absence of a specific cause, the aetiology of schizophrenia is predominantly influenced by factors affecting the brain. However, the following areas might be considered as a guide to the

assessment of predisposing, precipitating, and perpetuating factors:

- *Biological*—consider family history of psychiatric illness, recent substance misuse, drug non-compliance, history of obstetric complications, brain injury, and comorbid medical illness.
- *Psychosocial*—consider recent stressful life events, family cohesion/friction, living conditions, attitude, and knowledge of illness.

Physical examination

- Full physical examination is essential for all inpatients.
- The need for a complete physical examination in an outpatient setting tends to be based on presenting complaints and/or the availability of adequate facilities/time constraints.
- There really can be no excuse for overlooking systemic comorbidities—at the very least, arrange for the primary care physician to review the patient or reschedule a longer appointment somewhere where facilities are available.
- A full neurological examination may be the most important investigation and should focus on gait inspection; examination of the extremities for weakness and/or altered sensation; examination of hand–eye coordination; examination of smooth ocular pursuit; and examination of the cranial nerves. Scales, such as AIMS, may be useful to record and monitor potential movement side effects of medication.

Investigations

Blood tests

- *Routine*—U&Es, LFT, calcium, FBC, glucose.
- *When suggested by history/examination*—VDRL (Venereal Disease Research Laboratory), TFTs, parathyroid hormone (PTH), cortisol, tumour markers.

Radiological

- CT or MRI in the presence of suggested neurological abnormality or persistent cognitive impairment.
- CXR only where examination/history suggests comorbid respiratory/cardiovascular condition.

Urine

- Urinary drug screen (particularly stimulants and cannabis).
- Microscopy and culture (where history suggestive).

Other

- EEG rarely necessary unless history of seizure or symptoms suggest TLE.

Special investigations

- 24-hr collection for cortisol (if Cushing's disease suggested from history/examination).
- 24-hr catecholamine/5-hydroxyindoleacetic acid (5-HIAA) collection for suspected phaeochromocytoma/carcinoid syndrome, respectively.

Presentations of psychosis 1

When discussing the management of schizophrenia and related psychoses, it is helpful to consider three distinct, but related, phases: the *prodromal phase,* the *acute psychotic episode*, and the *maintenance phase.* Before an individual fulfils DSM-5/ICD-10/11 criteria for schizophrenia, there may be a prodromal period of disturbed behaviour and partial psychotic symptoms that suggest, especially in the presence of other risk factors, that schizophrenia is imminent and inevitable (see further text). Acute psychotic episodes may represent a first episode/relapse of schizophrenia or another illness within the differential diagnosis (Differential diagnosis of schizophrenia, p. 186). Treatment in an acute episode is to abolish psychotic symptoms while minimizing distress and ensuring patient safety (Initial treatment of acute psychosis, p. 200). Once psychotic symptoms have been abolished (or improved as far as possible), one enters the maintenance phase. Here the concern shifts to prophylaxis (which often includes maintenance medication), rehabilitation, and maximization of function (Maintenance phase, p. 202). Unfortunately acute psychotic relapse is possible in schizophrenia despite optimum maintenance treatment.

Prodromal schizophrenia

(See Box 5.1.)

'Prodrome' is a retrospective concept relating to evidence of premorbid change in an individual who later develops a condition. In schizophrenia, there is evidence of prodromal symptoms in 80–90% of cases (10–20% have acute onset). The typical presentation is of non-specific or negative symptoms (early prodrome), followed by attenuated, mild, positive symptoms (late prodrome).[4] The main problem in detecting attenuated or subthreshold symptoms is that the rate of conversion to schizophrenia is low. Use of specific screening tools, such as the PACE (Personal Assessment and Crisis Evaluation Clinic), COPS (Criteria of Prodromal Syndromes), or SIPS (Structured Interview for Prodromal Syndromes), raises detection rates to 20–40%.[5] These populations are perhaps better termed as having an 'at-risk' mental state (ARMS) for psychosis or being at 'ultra high risk' (UHR) for psychosis. Preliminary evidence suggests that low-dose antipsychotics, CBT, and antidepressants can improve presenting symptoms.[6] However, there is no convincing evidence yet that any intervention can delay, prevent, or reduce the severity of the psychotic illness. Neither is there evidence that the mean duration of untreated psychosis (DUP) in patients who develop psychosis improves the long-term outcome. Whether treatment is indicated at this stage remains controversial, but assessment and monitoring may be prognostically useful.

Risk of transition to psychosis

Transition risks from pooled data estimate the risk of someone with clinical high-risk status of developing psychosis after initial presentation to services to be 18% at 6mths, 22% at 1yr, 29% at 2yrs, and 36% after 3yrs.[7] This means that, after 2-yr follow-up, over 70% of those at high risk will not have converted to psychosis. There is also a small proportion who will convert after the 2-yr period—one of the reasons why at least 3yrs follow-up is recommended.

Box 5.1 Guidance and advice on preventing psychosis

- If a person is distressed, has a decline in social functioning and has (1) transient/attenuated psychotic symptoms, or (2) other experiences or behaviour suggestive of possible psychosis, or (3) a first-degree relative with psychosis or schizophrenia, then they ought to be referred without delay to a specialist mental health service or an early intervention in psychosis service for assessment by a consultant psychiatrist or a trained specialist with experience in at-risk mental states.*
- Treatments that may be considered include: individual CBT with or without family intervention; management of anxiety, depression, emergent personality disorders, or substance misuse, but not antipsychotic medication as there is little evidence that this will decrease the risk of, or prevent, psychosis.**
- If a clear diagnosis cannot be made, but there are continued symptoms, impaired functioning, or distress, then further monitoring for a period of up to 3yrs is recommended.
- If the person wishes to be discharged from the service, offer follow-up appointments and the option to self-refer in the future, and communicate this need for continued monitoring to their GP.

* https://www.nice.org.uk/guidance/cg178/chapter/1-Recommendations#preventing-psychosis-2 [accessed 30 May 2018].

** https://www.bap.org.uk/pdfs/BAP_Guidelines-Schizophrenia.pdf [accessed: 30 May 2018].

Presentations of psychosis 2

The first schizophrenic episode

The first episode of schizophrenia in an individual generally occurs in late adolescence or early adult life. Many people experiencing their first episode will have no personal or family experience of mental ill health, and some will lack insight that their symptoms are a result of mental illness. As a result, many patients will present in crisis and not directly complaining of psychotic symptoms. The range of possible presentations is very wide; however, the following presentations (or their variants) are commonly seen:

- A spouse or relative noticing withdrawn or bizarre behaviour.
- Failure to achieve educational potential with referral by school or student health services.
- Onset of personality change, social withdrawal, and 'odd' behaviour.
- Presentation via the criminal justice system (see section on schizophrenia and offending, Mental disorder and offending 2: specific disorders and offending, p. 746).
- Presentation following deliberate self-harm or suicide attempt.
- Complaining to the council/police, etc. on the basis of delusional symptoms (e.g. hearing voices of neighbours throughout the night).
- Occasionally, the first sign may be symptoms more typically characteristic of another disorder (e.g. depression, mania, OCD, panic disorder).

The first episode of schizophrenia is often a time of diagnostic uncertainty (and occasionally the diagnosis may take months/years to become clear). Frequently, the clinical picture includes comorbid substance misuse, personality difficulties, recent stressful life events, or a combination of all three. It is usually necessary to admit people suspected of first schizophrenic episodes in order to assess the extent of their psychopathology, to provide a time for education of both the patient and their family, and to provide pharmacological and psychological treatments in an environment where compliance can be carefully assessed. If local early intervention (see Box 5.2) or crisis intervention and home treatment services are sufficiently well developed, it may be possible to provide a viable less restrictive option to admission. Inpatient admission is always necessary where the patient poses a significant danger to themselves or others.

Subsequent episodes

Subsequent presentations may be due to relapse of psychotic symptoms after remission, a deterioration or a change in the quality of partially treated psychotic symptoms, or a crisis relating to life events in a patient who, as a result of their illness, has an impaired ability to manage stress.

Relapses can occur spontaneously in the absence of causative factors and in spite of good compliance with antipsychotic treatment. However, very often, relapses relate to medication non-compliance, drug or alcohol misuse, or life stresses (or a combination of these).

Often in an individual patient, the time course, prodromal features, and symptomatology of a relapse are characteristic—the so-called 'relapse signature'. Educating the patient and carers about these warning signs and awareness and documentation of these features within the treating team are important parts of relapse prevention.

Box 5.2 Early intervention for psychosis (EIP)

In the NICE guideline (CG178) *Psychosis and schizophrenia in adults: prevention and management* (2014), there are specific recommendations:

- EIP services should be accessible to all people with a first episode or first presentation of psychosis, irrespective of the person's age or the duration of untreated psychosis.

- People should be assessed without delay, and if the service cannot provide urgent intervention, then the person should be referred to a crisis resolution and home treatment team (with support from EIP services).
- Services may be accessed from primary or secondary care (including other community services) or a self- or carer referral.
- EIP services should aim to provide a full range of pharmacological, psychological, social, occupational, and educational interventions for people with psychosis and be available beyond 3yrs if the person has not made a stable recovery from psychosis or schizophrenia.

The resource implications of having a specific EIP service are significant, and the guidance for implementation suggests that these standards should apply to all psychoses—including acute psychotic episodes in the context of trauma and substance misuse.[1] It is likely that evidence of whether EIP services improve outcome in psychosis will emerge in the next few years, as they are now a priority for the NHS and beyond.[2,3]

1 https://www.england.nhs.uk/mentalhealth/wp-content/uploads/sites/29/2016/04/eip-guidance.pdf [accessed 30 May 2018].

2 Mcdaid D, Park A, Iemmi V, Adelaja B (2016) *Growth in the use of early intervention for psychosis services: An opportunity to promote recovery amid concerns on health care sustainability.* https://www.researchgate.net/publication/296822046_Growth_in_the_Use_of_Early_Intervention_for_Psychosis_Services_An_Opportunity_to_Promote_Recovery_Amid_Concerns_on_Health_Care_Sustainability [accessed 5 January 2019].

3 The Early Intervention in Psychosis IRIS Network brings together elected early intervention (EI) regional leads to share issues and solutions. http://www.iris-initiative.org.uk/silo/files/iris-guidelines-update--september-2012.pdf [accessed 30 May 2018].

Initial assessment of acute psychosis

Issues affecting initial management decisions

In view of the range and variety of presentations and the broad differential (Differential diagnosis of schizophrenia, p. 186), it is difficult to be prescriptive in dealing with a patient who presents with psychotic symptoms. Symptoms may range from mild paranoid ideas to elaborate and firmly held delusions with associated auditory hallucinations urging the patient to violence. Often it is difficult to establish a clear history initially, and assessment is focused on the immediate concerns:

- The risk they currently pose to themselves—not just the possibility of acts of self-harm or suicide, but also because of other aspects of their behaviour (e.g. police becoming involved, family relationships, work, continued driving, etc.).
- Risk of violence—the nature of risk (Assessing risk of violence, p. 748) and any association with current symptoms (e.g. delusions about a specific person or group of individuals; what the 'voices' are telling them to do).
- The degree of insight retained by the patient and the likelihood of them cooperating with medical management.
- Whether hospital admission or transfer to a psychiatric ward is warranted to assess and manage the acute symptoms [with or without use of the Mental Health Act (MHA)].
- Whether their current behaviour is so disturbed as to require urgent treatment (Severe behavioural disturbance, p. 1048) to allow further assessment, including physical examination and other routine investigations (Investigations, p. 193).
- The person's current social circumstances and the level of support available to them [partner, relatives, friends, community psychiatric nurse (CPN), etc.] that may allow some flexibility in management (as well as being a source of third-party information).

The greatest influence on your course of action will often be the reason why the person has been referred in the first place (e.g. brought up by a concerned relative, no longer able to be managed at home, breach of the peace, self-referral because of own concerns, attempted suicide).

When there is a good account of the history of the presenting complaint(s), it may be possible to establish the most likely diagnosis and proceed accordingly, e.g. a drug- or alcohol-related disorder, acute confusional state (Acute confusional state (delirium), p. 854), first episode of schizophrenia (The first schizophrenic episode, p. 196), relapse of known schizophrenia (Subsequent episodes, p. 196), delusional disorder (Delusional disorder 1: clinical features, p. 230), and acute psychotic disorder (Acute and transient psychotic disorders, p. 236).

During initial assessment, particularly with *unmedicated* patients, record (verbatim, if possible) specific aspects of the patient's psychopathology (nature and content of delusions and hallucinations), before they become modified by the necessary use of medication. This information is important, as it will influence later decisions regarding, for example, assessment of treatment response and the need for continued use of the MHA.

Many patients with a psychotic presentation will have comorbid drug and/or alcohol problems. The fact that the psychotic episode is suspected to be wholly or partially attributable to comorbid substance use should not be allowed to affect the treatment offered acutely, which should be planned on the basis of the nature and severity of the psychotic symptoms and the associated risk. On recovery from the acute episode, the comorbid substance use should become a focus for clinical attention.

The need for hospital admission

As noted previously (Issues affecting initial management decisions, p. 198), certain clinical features and situations will determine whether hospital admission (or transfer to a psychiatric ward) is necessary:

- High risk of suicide or homicide.
- Other illness-related behaviour that endangers relationships, reputation, or assets.
- Severe psychotic, depressive, or catatonic symptoms.
- Lack of capacity to cooperate with treatment.
- Lack or loss of appropriate psychosocial supports.
- Failure of outpatient treatment.
- Non-compliance with treatment plan (e.g. depot medication) for patients detained under the MHA.
- Significant changes in medication for patient at high risk of relapse (including clozapine 'red' result; Clozapine 2: starting and stopping, 'Traffic light' notification, p. 220).
- Need to address comorbid conditions (e.g. inpatient detoxication, physical problems, serious medication side effects).

Suitability of the ward environment

A busy psychiatric ward may not be an ideal environment for a patient experiencing acute psychotic symptoms. As far as possible, the person should be nursed in calm surroundings (a single room, if possible), with minimal stimulation (e.g. unfamiliar people, TV, radio). A balance should be struck between the need for regular observation and the likelihood that this may reinforce persecutory delusions. If behaviour becomes unmanageable, despite regular medication, it may be necessary to consider referral of the patient to a more secure environment, e.g. an intensive psychiatric care unit (IPCU).

Early review

Regular review is critical in the first 72hrs to assess any improvement in mental state, response to medication, level of observation needed, and carry out statutory duties under the MHA (including the need for continued detention, if emergency powers have been used). This is also a time for information gathering from friends, family, GP, other agencies, etc. and organizing any investigations, including physical examination and routine blood tests that may not have been possible initially.

Initial treatment of acute psychosis

The management of psychotic patients should include, wherever possible, the usual features of good medical practice: undertaking a comprehensive assessment of medical, social, and psychological needs; involving patients and their relatives in decisions about medical care; and providing patients and carers with clear verbal and, if necessary, written information (for NICE guidelines, see Box 5.3).

Emergency treatment of behavioural disturbance

Follow guidance as detailed for the management of acute behavioural disturbance (Severe behavioural disturbance, p. 1048).

Box 5.3 Updated NICE guidelines (CG178) on choice of antipsychotic medication

Although previous guidelines (2002) had advocated the use of 'atypical' drugs as first-line choice, this is no longer the case. Instead, for people with newly diagnosed schizophrenia, NICE advises:[1]

- The choice of antipsychotic medication should be made by the service user and healthcare professional together, taking into account the views of the carer if the service user agrees.
- Providing information and discussing the likely benefits and possible side effects of each drug, including:
  - Metabolic (including weight gain and diabetes).
  - Extra-pyramidal (including akathisia, dyskinesia, and dystonia).
  - Cardiovascular (including prolonging the QT interval).
  - Hormonal (including increasing plasma PL).
  - Other (including unpleasant subjective experiences).
- Not initiating regular combined antipsychotic medication, except for short periods (e.g. when changing medication).
- To consider offering depot/long-acting injectable antipsychotic medication to people with psychosis or schizophrenia:
  - Who would prefer such treatment after an acute episode.
  - Where avoiding covert non-adherence (either intentional or unintentional) to antipsychotic medication is a clinical priority within the treatment plan.
- Offering clozapine to people with schizophrenia whose illness has not responded adequately to treatment despite the sequential use of adequate doses of at least two different antipsychotic drugs. At least one of the drugs should be a non-clozapine SGA.

1 NICE clinical guideline 178 (Feb 2014) *Psychosis and schizophrenia in adults: prevention and management.* https://www.nice.org.uk/guidance/cg178/chapter/recommendations#choice-of-antipsychotic-medication [accessed 30 May 2018].

Points to note

- Attempts to defuse the situation should be made, whenever possible.
- Reassurance and the offer of voluntary oral/intramuscular medication are often successful.
- The content of delusions and hallucinations is of poor diagnostic value but may better predict violence/behavioural disturbance.

- Act decisively and with sufficient support to ensure restraint and forcible administration of medication proceed without unnecessary delay or undue risk to the patient or staff.
- Do not attempt to manage severe violence on an open ward when secure facilities with appropriately trained staff are available elsewhere.

Instigation of antipsychotic treatment

In the treatment of psychotic symptoms, antipsychotic medication has the strongest evidence base. Although little evidence exists to support the choice of one drug over the other, the following may be used as a guide to treatment. It is good practice to establish baseline measures of physical health prior to commencing antipsychotic treatment (Physical health monitoring and antipsychotics, p. 1040).

Option 1

- Commence a second-generation antipsychotic (SGA) [e.g. olanzapine, amisulpride, risperidone, quetiapine; see Second-generation antipsychotics 1 & 2, pp. 201–213)] at an effective dose [see the *British National Formulary* (BNF)].
- Use long-acting BDZ (e.g. diazepam) to control non-acute anxiety/behavioural disturbance.

Option 2

- Prescribe a low-potency first-generation antipsychotic (FGA) (such as chlorpromazine, initially in the range of 75–200mg/d in divided doses) for a first episode.
- Increase the dose according to clinical effect and the need for sedation.
- Previous episodes and the response/side effects experienced should inform the management of subsequent episodes.
- No additional antipsychotic benefit is likely when doses of 400–600mg chlorpromazine (or equivalent) are exceeded; however, sedation may be a useful effect of increasing the dose above this level.

Extra-pyramidal side effects

EPSEs, including dystonias, Parkinsonism, and akathisia, are common side effects of treatment with antipsychotic medication and are a frequent cause of non-compliance.

- EPSEs are less likely with option 1, although the tolerability of both options overall is approximately equal.
- Prescribe procyclidine (or alternative) orally, as required, for Parkinsonian side effects.
- Review regularly, since requirement for procyclidine may diminish over time and the drug may contribute to non-response and tardive dyskinesia.

Maintenance phase

Post-acute phase

With the emergence of 'stability' (i.e. less active psychotic symptoms and less behavioural disturbance), treatment shifts towards the gradual simplification of medication regimes and maximization of tolerability. The patient may be more able to engage actively with other therapeutic modalities available in the hospital environment. Time to remission of symptoms is very variable and may take 3–9mths or more. It is important the patient and their family/friends have realistic expectations.

Continuing treatment

A more considered view of management may be taken once maximal improvements are considered to have occurred. This is the time to establish the *minimal effective dose of medication*, and maintenance regimes can often be significantly lower than those needed for management of the acute phase of the illness. A secondary goal is the minimization of side effects, with the aim of establishing compliance with medication. Finally, there is the more complex goal of rehabilitation—returning the patient to their highest possible level of social and occupational functioning. The final steps in this process may require input, where available, of better resourced multidisciplinary rehabilitation units or community teams over many months, with the ultimate aims of successful discharge (Discharge planning, p. 204) and outpatient follow-up (Outpatient treatment and follow-up, p. 206).

Comorbid depression

Depression can affect up to 70% of patients in the acute phase but tends to remit along with the psychosis. In the maintenance phase, post-psychotic or post-schizophrenic depression occurs in up to one-third of patients and there is some evidence that tricyclic antidepressants (TCAs) (e.g. imipramine) may be effective. Surprisingly, despite it being common clinical practice, there are few studies supporting other interventions such as SSRIs.

Managing negative symptoms

Specific interventions may help to mitigate the impact of persistent negative symptoms:

- Ensure EPSEs (especially bradykinesia) are detected and treated with anticholinergics, with amantadine, by reducing antipsychotics, or by switching to lower-potency/SGA agents.
- If there is evidence of dysphoric mood, consider treating with antidepressants, with anxiolytics, by reducing the antipsychotic dose, with supportive management, or by switching to an SGA.
- Address the contribution of the environment (e.g. institutionalization, lack of stimulation) by resocialization and/or rehabilitation.
- If the patient is on long-term medication, consider reduction to minimal reasonable maintenance dose or switching to an SGA or clozapine.

- If clozapine is prescribed, consider augmentation with an antidepressant, lamotrigine, or a suitable second antipsychotic (An approach to treatment-resistant schizophrenia (TRS), p. 216).

Addressing comorbid substance use

As previously noted, there is significant comorbidity of substance abuse in patients with schizophrenia. While this may complicate and exacerbate positive and negative symptoms, sometimes patients believe they are self-medicating and may be reluctant to give up a 'useful' treatment. Elements of a pragmatic approach include:

- A comprehensive assessment, including why and how substances are taken, as well as routine testing for substance misuse.
- Optimization of antipsychotic medication and consideration of clozapine for patients with persisting substance misuse.
- The offer of specific treatment for substance misuse and possibly referral to local drug and alcohol services—while psychosocial approaches will be the mainstay (including relapse prevention), the possible benefits of pharmacotherapy should not be ignored, e.g. nicotine substitution/withdrawal, alcohol detoxification, and opiate substitution.

Discharge planning

Good communication between members of the multidisciplinary team (MDT) (psychiatry, community nurse, GP, social worker, etc.) is essential for good overall care. This may be formalized using the care programme approach (CPA) (Aftercare following detention, p. 954), but when this is not mandatory, components of this approach may be useful in everyday practice.

Pre-discharge meetings

Prior to leaving hospital, a meeting should be arranged with all those involved in a person's care, including informal carers and key clinical staff. In some areas, Crisis Teams/Community Teams with Crisis Services will work intensively with people to facilitate early discharge and should be alerted of plans for discharge well in advance.

Discharge plans

Discharge plans should include information on everyone involved in a person's care and should be clear about who is coordinating the care (e.g. key nurse, formal care coordinator, responsible medic). Plans should include explicit outcomes or expectations and follow-up arrangements, and it must be clear how help will be available in a crisis (e.g. contact numbers or formal relapse management/safety plan). All discharge plans should include a risk assessment and information on how risks will be managed.

Medication

Continue antipsychotic medication at the minimum necessary dose. Possible regimens include:

- An SGA (e.g. amisulpride, olanzapine, risperidone, quetiapine).
- Preferably a non-sedating FGA (e.g. trifluoperazine, flupentixol, haloperidol).
- Depot antipsychotic medication, particularly where use of oral medication has resulted in relapse due to non-compliance—there is good evidence that, in these circumstances, depot medication is slightly more effective and may improve adherence, with a lower risk of relapse, suicide, and rehospitalization (or incarceration).[8]
- High-potency FGAs (trifluoperazine, haloperidol) and olanzapine may be given once daily. This may be an advantage in non-compliant, institutionalized, or cognitively impaired patients.
- In patients with complicated drug regimes, cognitive impairment, or dubious compliance, consider a compliance aid such as a multicompartment compliance aid (e.g. Dosette® box).

Psychological[9]

- Family therapy and psychoeducation are effective in reducing relapse and should:
  - If possible, include the person with psychosis or schizophrenia and take account of the family's preference for single- or multi-family group intervention.
  - Usually last for 3–12mths and include at least ten sessions.
  - Incorporate specific supportive, educational, treatment-related, problem-solving, and crisis management elements.
- Individual CBT approaches:
  - Manualized—aimed at establishing links between thoughts, feelings, or actions and current or past symptoms and/or functioning; re-evaluation of perceptions, beliefs, or reasoning related to symptoms.
  - Promoting alternative ways of coping with the target symptom, reducing distress, and improving functioning.
- Compliance therapy may also be helpful.
- Art therapies may be useful to promote recovery, especially where negative symptoms are prominent.

Social/community/service provision

- Functional assessment by OT in hospital and at home may help identify any specific needs that ought to be addressed before or after discharge home.
- Social work and housing involvement are often necessary too, as illness may have led to a period of neglect or significant social upset, which may delay discharge until rectified.
- Education or employment may also have been disrupted by illness, and support should be offered to negotiate a phased return to normal activities as soon as possible.
- CPNs may help to provide information/education and monitor for early signs of relapse. Some areas may have specific teams for first-episode psychosis or home treatment following discharge from

hospital—assertive approaches may be more beneficial.
- For patients on depot, non-attendance at the GP surgery/CPN appointment may act as an early warning system.
- Where day hospitals exist, they may provide an alternative means of supporting discharge and preventing the need for readmission.

Outpatient treatment and follow-up

When reviewing patients in clinic, after discharge and the acute episode has settled, the following areas should be considered.

Medical

- Conduct an MSE at every appointment.
- Enquire about side effects and attitude to medication.
- Record any recent life events or current stresses.
- Enquire about suicidal ideas and, if appropriate, homicidal ideas.
- When symptoms appear unresponsive to treatment, review the history and provide additional investigations/interventions, as appropriate (e.g. clozapine).
- Be aware that following an acute episode, post-psychotic depression (Maintenance phase, p. 202) is particularly common and should be properly assessed and treated.[10]
- Conduct appropriate investigations where complications of illness or its treatment arise (e.g. LFTs, FBC, U&Es, glucose) or where monitoring is indicated (e.g. high-dose guidelines; Box 5.7, p. 216), and physical health monitoring and antipsychotics (Physical health monitoring and antipsychotics, p. 1040).

Psychological

- Above all, try to provide supportive and collaborative treatment, wherever possible.
- Provide education about schizophrenia and its treatment.
- Do not dismiss concerns, even if apparently based on delusional content.
- Offer to meet family members or carers where appropriate.
- Discuss additional specific psychological therapies intervention if this has not been previously tried (Psychological, p. 205).

Social

- Remember statutory obligations (e.g. review of compulsory powers).
- Consider referral to social work where there are housing, benefit, employment, education, or other problems.
- Drop-in community centres and other support provided by non-statutory or voluntary organizations are often helpful.
- Consider interventions offered by other professions (e.g. OT, physiotherapy) when particular problems arise (e.g. poor sleep, hygiene, anxiety management, etc.).
- Some patients and their carers find user organizations helpful (e.g. SANE or Rethink—see useful addresses, Resources for patients, p. 1072).

There is usually a large degree of uncertainty regarding the course and prognosis in first-episode patients, regardless of their presenting symptoms or demographic/personal history.

Outcomes

(See Box 5.4.)

Box 5.4 Outcome in schizophrenia

Approximate guide to course and prognosis at 13yrs' follow-up:[1]
- ~15–20% of first episodes will not recur.
- Few people will remain in employment.
- 52% are without psychotic symptoms in the last 2yrs.
- 52% are without negative symptoms.
- 55% show good/fair social functioning.

Prognostic factors

Poor prognostic factors:
- Poor premorbid adjustment.
- Insidious onset.
- Onset in childhood or adolescence.
- Cognitive impairment.
- Enlarged ventricles.
- Symptoms fulfil more restrictive criteria.

Good prognostic factors:
- Marked mood disturbance, especially elation, during initial presentation.
- Family history of affective disorder.
- ♀ sex.
- Living in a developing country.

1 Mason P, Harrison G, Glazebrook C, *et al.* (1995) Characteristics of outcome in schizophrenia at 13 years. *Br J Psychiatry* **167**:596–603.

First-generation antipsychotics

Phenothiazine derivatives

Group 1—aliphatic phenothiazines

Chlorpromazine-like drugs with mainly anti-adrenergic and antihistaminergic side effects, including pronounced sedation, moderate antimuscarinic effects, and moderate EPSEs (for drug doses equivalent to 100mg chlorpromazine, see Table 6.3).

Chlorpromazine (non-proprietary and Largactil®)

- 75–300mg daily in divided doses (or at night)—max 1g daily.
- Available as intramuscular (IM) injection (25–50mg every 6–8hrs).
- Also available as 25mg or 100mg suppositories.

Levomepromazine (methotrimeprazine, Levinan®, Nozinan®)

- 100–200mg daily in divided doses—max 1g daily.
- Available as IM or IV injection (25–50mg every 6–8hrs).

Promazine

- 400–800mg daily in divided doses.
- Rarely causes haemolytic anaemia.
- Usually used for agitation and restlessness, e.g. 100mg four times daily (qds) (25–50mg for elderly).

Group 2—piperidine phenothiazines

Thioridazine-like drugs with mainly antimuscarinic side effects and fewer EPSEs than groups 1 and 3.

Pericyazine

- 75–300mg daily in divided doses.
- In behavioural management: 15–30mg daily in divided doses.

Group 3—piperazine phenothiazines

Trifluoperazine-like drugs with mainly anti-dopaminergic side effects. These drugs are potent antipsychotics but tend to produce troublesome EPSEs, particularly at higher doses. They have limited sedative properties.

Trifluoperazine (non-proprietary and Stelazine®)

- No stated maximum dose.
- For psychosis or behavioural management—5mg bd, ↑ by 5mg after 1wk, then every 3 days, according to response.

Fluphenazine Modecate®)

- Available in decanoate (long-acting) form.

Perphenazine

- 12–24mg daily.
- For behavioural management, usually 4mg three times daily (tds).
- Rarely causes SLE.

Thioxanthines

Have moderate sedative, antimuscarinic, and extra-pyramidal effects.

Flupentixol (Depixol®, Fluanxol®)

- 3–9mg bd (max 18mg daily).
- Also available as depot (Antipsychotic depot injections, p. 224).

Zuclopenthixol (Clopixol®, Ciatyl-Z®)

- 20–30mg daily in divided doses (max 150mg daily).
- Available in injectable forms as *acetate*—for management of acute behavioural disturbance (Clopixol acuphase®) and *decanoate*—for depot injection (Clopixol Conc®) (Antipsychotic depot injections, p. 224).

Butyrophenones

Similar to group 3 phenothiazines—high potency, troublesome EPSEs.

Haloperidol (non-proprietary and Haldol®, Halkid®, Serenace®)

- 1.5–5mg bd to tds in divided doses (max 30mg daily).
- Available as IM injection (2–10mg every 4–8hrs, max 18mg daily).

Benperidol (non-proprietary and Anquil®)

- 0.25–1.5mg daily in divided doses.
- Used to treat deviant antisocial sexual behaviour (Management, p. 741).

Diphenybutylpiperidines

Reduced sedative, antimuscarinic and extrapyramidal effects.

Pimozide (Orap®)

- 2–20mg daily.
- Increase slowly by 2–4mg at intervals not less than 1wk.
- May be more effective for monodelusional states, e.g. hypochondriasis, delusional jealousy.

Substituted benzamides

Sedative, antimuscarinic, and extrapyramidal effects less likely.

Sulpiride (non-proprietary and Dolmatil®)

- 200–400mg bd.
- Lower max dose for negative symptoms (800mg daily) than for positive symptoms (2.4g daily).

Second-generation antipsychotics 1

In deference to the *BNF* and in light of recent controversies over classification of antipsychotics, we have adopted the abbreviations FGA and SGA for consistency only. It may, in fact, be better to simply call them all 'antipsychotics'.[11] Although not strictly a separate class of antipsychotics, the newer 'atypical' drugs do have a slightly different pharmacokinetic profile. They have a wider therapeutic range and are generally less likely to cause EPSEs and raise serum prolactin levels (for completeness, additional SGAs are listed in Box 5.5).

Olanzapine (Zyprexa®, Zalasta®)

- Receptor antagonism: 5-HT_{2A} = H_1 = M_1 > 5-HT_{2C} > D_2 > α_1 > D_1.
- Optimum dose 5–20mg daily.
- Available as an orodispersible tablet, a short-acting IM injection, and depot (olanzapine embonate/olanzapine pamoate or ZypAdhera®) (Table 5.7, p. 225).
- EPSEs similar to placebo in clinical doses, with less increase in prolactin (PL) than with haloperidol or risperidone.
- Side effects of sedation, weight gain, dizziness, dry mouth, constipation, and possible glucose dysregulation.

Risperidone (Risperdal®)

- Receptor antagonism: 5-HT_2 > D_2 = α_1 = α_2; little histamine H_1 affinity; minimal D_1 and 5-HT_1 affinity.
- Available as orodispersible tablet and depot preparation (Risperdal Consta®; Table 5.7, p. 225).
- Dosage 4–6mg daily, given in 1–2 doses (max 16mg daily).
- Less EPSEs than with conventional antipsychotics at lower doses, but dystonias and akathisia can occur (especially if dose >6mg or in the elderly) and can raise PL and cause weight gain.

Paliperidone (Invega®)

- Paliperidone (9-OH risperidone) is the major active metabolite of risperidone.
- Receptor antagonism: as for risperidone.
- Available as modified-release tablet or depot preparation (Xeplion®, Trivecta®; Table 5.7, p. 225).
- Dosage 6mg in the morning, adjusted in increments of 3mg over at least 5 days; usual range 3–12mg daily.
- Low potential for EPSEs and, due to limited hepatic metabolism, reduced drug interactions.

Quetiapine (Seroquel®, Atrolak®, Biquelle®, Brancico®, Mintreleq®, Sondate®, Zaluron®)

- Receptor antagonism: H_1 > α_1 > 5-HT_2 > α_2 > D_2.
- Usual dose 300–450mg daily in two divided doses (max 750mg daily).
- EPSEs = placebo, with no increase in PL.
- Can cause sedation, dizziness (postural hypotension), constipation, dry mouth, weight gain, and alterations in triglycerides and cholesterol.

Box 5.5 Other SGAs (not currently listed in *BNF* for schizophrenia or withdrawn)

Asenapine (Sycrest®)

Not licensed for use in schizophrenia or related psychoses but is licensed as monotherapy or combination therapy for treatment of moderate to severe manic episodes in bipolar.

- D_2 and 5-HT_{2A} antagonist, with additional D_1, D_3, D_4, 5-HT_{1A}, 5-HT_{1B}, 5-HT_{2B}, 5-HT_{2C}, 5-HT_5, 5-HT_6, and 5-HT_7, α1, α2, and $H_{1/2}$ antagonism. No affinity for mACh.
- Available as a sublingual tablet (need to avoid food and liquids for at least 10mins post-administration)—low bioavailability if swallowed.
- Usual dose 5mg bd (max 20mg daily as a divided dose).
- Common side-effects: akathisia (and other EPSEs), oral hypoesthesia, dizziness, somnolence, and weight gain.
- Other side effects (related to sublingual administration): dysphagia, glossodynia, hypersalivation, speech disturbance, taste disturbance, tongue swelling.

Zotepine (Zoleptil®)

Discontinued by Healthcare Logistics from the UK market from January 2011 for commercial reasons.

- High affinity for D_1 and D_2 receptors, also 5-HT_2, 5-HT_6, and 5-HT_7 receptors, 25–100mg tds.
- Inhibits NA reuptake.
- Effective against positive and negative symptoms of schizophrenia, but controlled trial data limited.
- EPSEs less than with FGAs.
- ↑ risk of seizures at higher doses (above 300mg).
- Weight gain, sedation, constipation, asthenia, dry mouth, akathisia.
- Raised hepatic enzymes.

Sertindole (Serdolect®)
Voluntarily withdrawn by Lundbeck in December 1998 due to concerns about arrhythmias associated with an increase in QTc. Limited reintroduction in June 2002 in Europe under strict monitoring for patients in clinical trials and who are intolerant of at least one other antipsychotic.

- D_2, 5-HT_2, and α1 antagonist with D_2 limbic selectivity.
- Effective against positive and negative symptoms of schizophrenia.
- 12–20mg single daily dose (max 24mg daily).
- EPSEs = placebo.
- Increase in QTc—needs ECG monitoring.
- Other side effects include: nasal congestion, ↓ ejaculatory volume, postural hypotension, dry mouth, and raised liver enzymes.

Second-generation antipsychotics 2

Clozapine (Clozaril®, Denzapine®, Zaponex®)

(Clozapine 1: general guidelines, p. 218; Clozapine 2: starting and stopping, p. 220; Clozapine 3: side effects, p. 222.)

Amisulpride (non-proprietary and Solian®)

- Selective and equipotent antagonism for D_2 and D_3, with negligible affinity for other receptors.
- Similar efficacy to haloperidol for acute and chronic schizophrenia.
- Optimum dose 400–800mg (max 1.2g) daily in two divided doses.
- Lower doses (50–300mg) may be more effective for patients with mainly negative symptoms.
- EPSEs similar to placebo at lower doses, but dose-dependent EPSEs and prolactinaemia at higher doses.
- Less weight gain, compared with risperidone or olanzapine.

Aripiprazole (Abilify®)

- D_2 receptor partial agonist; partial agonist at 5-HT_{1A} receptors; high-affinity antagonist at 5-HT_{2A} receptors; low-/moderate-affinity antagonist at H_1 and α_1 receptors; no anticholinergic effect.
- Dosage 10–30mg od, optimum dose 10–20mg od.
- Available as tablet, orodispersible tablet, oral solution (1mg/mL), solution for injection (9.75mg/1.3mL), and depot preparation (Abilify Maintena®; Table 5.7, p. 225).
- Low EPSEs similar to placebo at all doses (akathisia-like symptoms can occur in the first 2–3wks of treatment, with associated insomnia—use of additional hypnotic may be clinically necessary).
- Does not increase plasma PL levels (and may decrease levels), and weight gain is less likely.

Lurasidone (Latuda®)

- Receptor antagonism: $5HT_{2C} > D_1 > \alpha_1 > \alpha_{2C} > 5HT_{2A} > D_2 > \alpha_2 > 5HT_7$; partial agonist: 5-$HT_{1A}$; weak effects: H_1 and mACh.
- Dosage: initially 37mg od, ↑ if necessary to max 148mg od.
- Low propensity for QTc interval changes, weight- and lipid-related adverse effects.
- Absorption ↑ when taken with food.

Table 5.3 Estimated antipsychotic dose equivalents

Oral	
Amisulpride	150mg/day
Aripiprazole	7mg/day
Asenapine	5mg/day
Benperidol	2mg/day
Chlorpromazine	150mg/day
Clozapine	150mg/day
Flupentixol	2mg/day
Haloperidol	2.5mg/day
Lurasidone	18.5mg/day
Olanzapine	5mg/day
Paliperidone	3mg/day
Perphenazine	8mg/day
Pimozide	2mg/day
Promazine	100mg/day
Quetiapine	100mg/day
Risperidone	1.5mg/day
Sulpiride	200mg/day
Trifluoperazine	2-5mg/day
Zuclopenthixol	25mg/day
Depot	
Aripiprazole LAI	75–100mg/wk
Flupentixol decanoate	10–20mg/wk
Fluphenazine decanoate	5–10mg/wk
Haloperiol decanoate	10–15mg/wk
Olanzapine embonate	37.5mg/wk
Paliperidone palmitate	7.5mg/wk
Risperidone LAI	12.5mg/wk

Antipsychotic side effects

Tolerability

No single antipsychotic is substantially better tolerated than another at daily doses of <12mg haloperidol or equivalent. However, FGAs prescribed above this range are less well tolerated and probably also less effective than SGA drugs (see Box 5.6). The choice of antipsychotic therefore depends substantially on the profile of side effects and which ones are more important to avoid.

- **Sedation** *Avoid* chlorpromazine/promazine. *Prescribe* high-potency antipsychotics (e.g. haloperidol) or non-sedating SGA (risperidone, amisulpride, aripiprazole).
- **Weight gain** *Avoid* phenothiazines, olanzapine, and clozapine. *Prescribe* haloperidol or fluphenazine.
- **EPSEs** *Avoid* high-dose FGAs. *Prescribe* SGAs.
- **Postural hypotension** *Avoid* phenothiazines. *Prescribe* haloperidol, amisulpride, or trifluoperazine.

Box 5.6 SGAs vs FGAs?

Effectiveness studies, such as the Clinical Antipsychotic Trials of Intervention Effectiveness (CATIE),[1] the Cost Utility of the Latest Antipsychotic drugs in Schizophrenia Study (CUtLASS),[2] and the European First-Episode Schizophrenia Trial (EUFEST),[3] have been interpreted as showing no differences between FGAs and SGAs (with the possible exception of clozapine and perhaps olanzapine). Although this may be true in terms of overall effectiveness, most clinicians (and patients) would agree there are many real differences among drugs, particularly when it comes to side effects. While guidelines from NICE, SIGN, or the British Association for Psychopharmacology (BAP) may provide helpful frameworks for rational prescribing, treatment ought to be individualized through a shared decision-making process. Tolerability is a huge factor in adherence (Medication adherence, p. 994), and it ought to be remembered that the best antipsychotic in the world will not work if the patient does not actually take it.

1 Lieberman JA, Stroup TS, McEvoy JP, *et al.* (2005) Effectiveness of antipsychotic drugs in patients with chronic schizophrenia. *N Engl J Med* **353**:1209–23.

2 Jones PB, Barnes TRE, Davies L, *et al.* (2006) Randomized controlled trial of the effect on quality of life of second- vs. first-generation antipsychotic drugs in schizophrenia: Cost Utility of the Latest Antipsychotic Drugs in Schizophrenia Study (CUtLASS 1). *Arch Gen Psychiatry* **63**:1079–87.

3 Kahn RS, Fleischhacker WW, Boter H, *et al.* (2008) Effectiveness of antipsychotic drugs in first-episode schizophrenia and schizophreniform disorder: an open randomised clinical trial. *Lancet* **371**:1085–97.

Extra-pyramidal side effects

- **Acute dystonia** Contraction of muscle group to maximal limit, typically sternocleidomastoid and tongue, although can be widespread (e.g. opisthoclonus); eye muscle involvement (e.g. oculogyric crisis) may occur. Virtually always distressing and preceded by increasing agitation. Parenteral antimuscarinic (e.g. procyclidine 10mg iv) (for more detail, see Dystonic reactions, p. 1016).
- **Parkinsonism** Tremor, rigidity, and bradykinesia occurring >1wk after administration. *Treatment* Consider dose reduction/use of oral antimuscarinic (e.g. procyclidine 5mg tds) (for more detail, see Antipsychotic-induced Parkinsonism, p. 1010).
- **Akathisia** Restlessness, usually of lower limbs, and a drive to move. Occurs usually >1mth after initiation of antipsychotic drug. *Treatment* Propranolol and BDZs may be helpful. Symptoms can be notoriously difficult to treat (for more detail, see Akathisia, p. 1012).
- **Tardive dyskinesia (TD)** Continuous, slow writhing movements (i.e. athetosis) and sudden involuntary movements, typically of the oral–lingual region (chorea). Symptoms of TD tend to be irreversible. *Treatment*[12] Although a consequence of antipsychotic treatment, there is little evidence that a reduction in the dose of antipsychotic improves symptoms in the short or long term. Vitamin E may prevent deterioration but does not improve established symptoms (Tardive dyskinesia, p. 1014).

Anticholinergic side effects

Dry mouth, blurred vision, difficulty passing urine, urinary retention, constipation, and rarely ileus and glaucoma.

Anti-adrenergic side effects

Postural hypotension, tachycardia (sometimes bradycardia), sexual dysfunction (particularly erectile dysfunction; Sexual dysfunction and psychiatric medication, p. 1006).

Antihistaminic side effects

Sedation, weight gain (although precise mechanism unclear; Weight gain with psychiatric medication, p. 1000).

Idiosyncratic

Cholestatic jaundice, altered glucose tolerance, hypersensitivity reactions, skin photosensitivity (sun block important in sunny weather), yellow pigmentation to skin (chlorpromazine), NMS (rigidity, fluctuating consciousness, and pyrexia)—may be fatal, requires immediate transfer to general medical care, and usually intensive care unit (ICU)/anaesthetic support/dantrolene may be helpful (for more detail, see Neuroleptic malignant syndrome, p. 1018).

An approach to treatment-resistant schizophrenia (TRS)

Definition

Treatment resistance is the failure to respond to two or more antipsychotic medications given in therapeutic doses for 6wks or more. Patients with refractory symptoms generally have more severe functional impairments and are more likely to have abnormalities of the cerebral structure and neuropsychology. See Box 5.7 for guidelines.

Prevalence

~30% of patients respond poorly to antipsychotic medication, and the number of people who show 'total non-response' is ~7%.

Box 5.7 Guidelines for the use of high-dose antipsychotics

Where a patient has failed to respond to, or has only partially responded to, antipsychotic medication, some practitioners advocate high-dose prescribing. High-dose prescribing refers either to the prescription of a single antipsychotic at doses greater than the *BNF* maximum or the prescription of two or more antipsychotics with a combined chlorpromazine equivalent dose of >1g daily (see Table 5.3). Although there may be a therapeutic response to this approach in some individual patients, *there is no evidence* that high-dose prescribing confers any therapeutic advantage in first-episode psychosis, acute psychotic episodes, relapse prevention, emergency tranquillization, persistent aggression, or treatment resistance. There is clear evidence for greater side effect burden and the need for appropriate safety monitoring. The Royal College of Psychiatrists' most recent guidance[1] suggests that:

- Any prescription of high-dose antipsychotic medication should be seen as an explicit, time-limited, individual trial, with a distinct treatment target.
- There should be a clear plan for regular clinical review, including safety monitoring (Physical health monitoring and antipsychotics, p. 1040).
- The trial of high-dose treatment should only be continued if there is clear evidence that the benefits outweigh any tolerability or safety problems.
- In most areas, local protocols will exist for the purpose of ensuring good medical practice.

1 Royal College of Psychiatrists London, Council Report CR190 (Nov 2014) *Consensus statement on high-dose antipsychotic medication*. https://www.rcpsych.ac.uk/docs/default-source/improving-care/better-mh-policy/college-reports/college-report-cr190.pdf?sfvrsn=54f5d9a2_2 [accessed 30 May 2018].

Aetiology

The aetiology is uncertain. However, the following factors may be important:

- Neurodevelopmental factors: soft signs, history of obstetric complications, cognitive impairment.
- Drug non-compliance.
- Lack of adequate treatment: poor drug administration/absorption. However, over-treatment (>12mg haloperidol or equivalent) may also lead to poor tolerability/response.
- Aggravating factors *despite* adequate treatment: concurrent drug or alcohol misuse, anticholinergic effects of anti-Parkinsonian medication or antidepressants.

Management

- **Clarify diagnosis** The clinical history and presentation should always be re-inspected to ensure the correct diagnosis has been reached.
- **Address comorbidity** Comorbid substance misuse is common in schizophrenia and worsens outcome.
- **Non-compliance** Consider interventions such as psychoeducation, compliance therapy, or family therapy to improve compliance with prescribed medication.
- **Pharmacological interventions** Clozapine is the intervention most strongly supported by the evidence,[13] and there is evidence that depot antipsychotic medication may convey a small advantage over oral equivalents.
- **Clozapine resistance** Switching from clozapine to a previously untried SGA (e.g. olanzapine, risperidone, quetiapine) might be of benefit in partial treatment resistance. In more difficult cases, augmentation of clozapine with benzamides (sulpiride, amisulpride) and antiepileptics (lamotrigine) shows some success.[14] ECT may be another option.[15]
- **Rehabilitation** Consider the role of NHS/non-NHS rehabiliation facilities in maximizing function, maintaining quality of life, and supporting those who remain symptomatic despite treatment—best evidence supports a combination of medication with psychosocial treatments.

Clozapine 1: general guidelines

Clozapine, an SGA, is a dibenzodiazepine derivative. Shortly after its introduction to clinical practice in the mid-1970s, it was withdrawn because of several episodes of fatal agranulocytosis in patients on treatment. It was thought to have special efficacy in treatment-resistant schizophrenia, and this clinical belief was supported by an important trial by Kane *et al.* (1988), leading to its reintroduction in psychiatric practice, albeit with strict limitations to its prescription. Patients on clozapine and doctors prescribing the drug must be registered with a monitoring agency and have regular, initially weekly, FBCs to monitor for neutropenia.

In the CATIE trial,[16] clozapine was shown to be superior in both treatment response (positive and negative symptoms) and compliance for patients who failed to improve on an SGA, randomized to receive either another SGA or clozapine. Recent evidence from a meta-analysis found it to be superior for treatment-refractory disorder but recommended that if there is no response by 6mths, medications with lower adverse reactions should be considered.[17]

NICE guideline

NICE (2014)[18] recommends offering clozapine 'to people with schizophrenia whose illness has not responded adequately to treatment despite the sequential use of adequate doses of at least 2 different antipsychotic drugs' (at least one of which was a non-clozapine SGA).

Mode of action

Clozapine mainly blocks D_1 and D_4 receptors; with less effect on D_2 receptors than traditional FGAs (which may partially explain its lack of EPSEs and hyperprolactinaemia). Clozapine does have significant anticholinergic, antihistaminergic, and anti-adrenergic activity, which accounts for its common side effects (Clozapine 3: side effects, p. 222). The superior efficacy of clozapine in treating resistant schizophrenic patients may be due to its additional blockade of $5HT_2$ receptors or it causing ↑ turnover of GABA in the nucleus accumbens, which inhibits dopaminergic neurons.

Pharmacokinetics

Rapidly absorbed when taken orally (unaffected by food). Extensive first-pass metabolism (only 27–50% of a dose reaches the systemic circulation unchanged). Wide interindividual variations in the resulting plasma concentrations (influenced by factors such as smoking, hepatic metabolism, gastric absorption, age, and possibly gender). Steady-state plasma concentrations take 7–10 days of treatment. Mean terminal elimination half-life ranges from 6 to 33hrs. Onset of antipsychotic effect may take several weeks, but maximal effects can require several months (and improvement may continue for up to 2yrs).

Interactions

(See Table 5.4 for summary.)

- Lithium can increase the risk of developing seizures, confusion, dyskinesia, and possibly NMS.
- May interfere with the action of AChEIs (e.g. donepezil and tacrine).
- Smoking cigarettes increases the clearance of clozapine and may result in a substantial reduction in clozapine plasma concentrations.

- Plasma concentrations of clozapine are ↑ by caffeine (caffeinism is surprisingly common in this population), hence dose changes will be necessary when there is a change in caffeine-drinking habits.

Contraindications

Previous/current neutropenia or other blood dyscrasias; previous myocarditis, pericarditis, and cardiomyopathy; severe renal or cardiac disorders; active or progressive liver disease/hepatic failure (see *BNF* for a complete list).

Table 5.4 Clozapine interactions

Effect	Examples
drowsiness, sedation, dizziness, and possibility of respiratory depression	Ethanol, H**1**-blockers, opiate agonists, anxiolytics, sedatives/hypnotics, tramadol, and TCAs
possibility of developing myelosuppressive effects	Use of clozapine with other drugs known to cause bone marrow depression (e.g. chemotherapy agents)
Drugs known to induce CYP1A2 activity may reduce efficacy	Carbamazepine, phenobarbital, phenytoin, rifabutin, and rifampicin
Drugs known to inhibit the activity of CYP1A2 may increase clozapine serum levels	Cimetidine, clarithromycin, ciprofloxacin, diltiazem, enoxacin, erythromycin, or fluvoxamine
Drugs known to inhibit the activity of CYP2D6 may increase clozapine serum levels	Amiodarone, cimetidine, clomipramine, desipramine, fluoxetine, fluphenazine, haloperidol, paroxetine, quinidine, ritonavir, sertraline, and thioridazine
Highly protein-bound drugs (may increase serum concentrations)	Digoxin, heparin, phenytoin, or warfarin
Worsening of anticholinergic effects	H_1-blockers, phenothiazines, TCAs, and antimuscarinic drugs
risk of hypotension	Antihypertensive agents

Clozapine 2: starting and stopping

Initiation of treatment and monitoring

This is best done either as an inpatient or where appropriate facilities exist for monitoring (e.g. a day-patient facility). All patients must be registered with a monitoring service (see Table 5.5). A normal leucocyte count [white cell count (WCC) >3500/mm^3, neutrophils >2000/mm^3) must precede treatment initiation. FBCs must be repeated (and sent to monitoring service) at weekly intervals for 18wks and then fortnightly until 1yr. Blood monitoring should continue monthly indefinitely thereafter. If there are concerns about compliance, serum blood levels may also be checked (for reference range, see Plasma level monitoring, p. 998).

Table 5.5 Clozapine monitoring services

Brand (manufacturer)	Formulation	Monitoring
Clozaril® (Novartis)	T: 25mg (scored), 100mg	Clozaril Patient Monitoring Service (CPMS) Login: https://www.clozaril.co.uk/ (accessed 30 May 2018)
Denzapine® (Merz)	T: 25mg (scored), 50mg, 100mg S: 50mg/mL	Denzapine Monitoring Service (DMS) Login: https://www.denzapine.co.uk/ (accessed 30 May 2018)
Zaponex® (TEVA UK)	T: 25mg (scored), 100mg	Zaponex Treatment Access System (ZTAS) Login: http://www.ztas.co.uk/ (accessed 30 May 2018)

Key: T = tablets; S = suspension.

Dosing

- Starting regime: 12.5mg once or twice on first day, then 25–50mg on second day, then ↑ gradually (if well tolerated) in steps of 25–50mg daily over 14–21 days, up to 300mg daily in divided doses (larger dose at night; up to 200mg daily may be taken as a single dose at bedtime).
- May be further ↑ in steps of 50–100mg once or twice weekly.
- Usual dose 200–450mg daily (max 900mg daily).
- Increase in seizure frequency occurs above 600mg/day.
- Routine blood level monitoring is not recommended; however, increasing the dose until a plasma level of 350mcg/L is achieved is sometimes recommended. If adverse effects are noted, reduce the dose until side effects settle, then increase again more slowly.
- Lower doses may be required for the elderly, ♀, or non-smoking patients, and if the patient is on other medication that may affect the metabolism of clozapine.

- Where there has been a break in treatment of >48hrs, treatment should be re-initiated with 12.5mg once or twice on the first day, and re-escalated.

'Traffic light' notification

Telephone (urgent action)

- **No sample received** Send another sample to the Clozapine Patient Monitoring Service (CPMS)/Denzapine Monitoring System (DMS)/Zaponex Treatment Access System (ZTAS) and the local haematology laboratory, so that the next supply of medication may be dispensed.
- **Sample non-suitable for analysis** As for 'no sample received'.
- **Abnormal haematological results** (e.g. neutrophil count) Either repeat the blood count or STOP clozapine, with advice regarding further monitoring (i.e. *red light* situation—see 'Written reports' below).

Written reports

- **Green light** Normal—clozapine may be administered to the patient.
- **Amber light** Caution—further sampling advised. If either WCC falls to 3000–3500/mm^3 or the absolute neutrophil count falls to 1500–2000/mm^3, blood monitoring must be performed at least twice weekly until the WCC and absolute neutrophil count stabilize within the range of 3000–3500/mm^3 and 1500–2000/mm^3, respectively, or higher.
- **Red light** STOP clozapine immediately. If the WCC is <3000/mm^3 or the absolute neutrophil count is <1500/mm^3, discontinue treatment with clozapine. Take blood samples daily until abnormality is resolved. Seek specialist advice from a haematologist. Monitor patients closely for symptoms suggestive of infection. Do not administer other antipsychotic drugs.

Discontinuation

Abrupt discontinuation of clozapine is not recommended, unless required by the patient's medical condition (e.g. leucopenia). *Gradually discontinue* over 1–2wks (like the initiation schedule in reverse). Patients should be carefully observed for the recurrence of psychotic symptoms during drug discontinuation. Symptoms related to cholinergic rebound, such as profuse sweating, headache, nausea, vomiting, and diarrhoea, may also occur.

Clozapine 3: side effects

(See Table 5.6 for management.)

Common side effects

- **Anticholinergic** Constipation, dry mouth, blurred vision, difficulty passing urine.
- **Anti-adrenergic** Hypotension, sexual dysfunction.
- **Other** Sedation, weight gain, nausea, vomiting, ECG changes, headache, fatigue, hypersalivation, tachycardia, hypertension, drowsiness, dizziness.

Less common

- Fainting spells.
- Gastric discomfort.
- Small involuntary muscle contractions.
- Periodic catalepsy (reduced responsiveness and prolonged lack of movement).
- Enuresis.

Rarer or potentially life-threatening

- Impaired temperature regulation, fever, hepatitis, cholestatic jaundice, pancreatitis.
- *Agranulocytosis*: leucopenia, eosinophilia, leucocytosis. (*Note*: the risk of *fatal agranulocytosis*[19] is estimated to be 1:4250 patients treated.)
- Thrombocytopenia (discontinuation of clozapine is recommended if the platelet count falls below 50,000/mm^3).
- Dysphagia.
- Circulatory collapse, arrhythmias, myocarditis, cardiomyopathy, pericarditis, pericardial effusion, thromboembolism. Discontinue if persistent tachycardia occurs in the first 2mths of treatment. *Note*: the risk of *fatal myocarditis* or *cardiomyopathy* is estimated to be up to 1:1300 patients treated, although there is wide variation in the data (e.g. USA: 1:67,000 patients treated).
- Pulmonary embolism. *Note*: the risk of *fatal pulmonary embolism* is estimated to be 1:4500 patients treated.
- Confusion, delirium, restlessness, agitation.
- Diabetes mellitus, hypertriglyceridaemia, intestinal obstruction, paralytic ileus, enlarged parotid gland, fulminant hepatic necrosis.
- Interstitial nephritis, priapism, skin reactions.
- NMS.

  Note: clozapine actually *reduces* mortality in schizophrenia, mainly due to a lower risk of suicide.

Table 5.6 Dealing with clozapine side effects

Problem	Possible solution
Constipation	Encourage high-fibre diet, adequate fluid intake, use of aperients if persistent
Fever	Symptomatic relief, check FBC, and look for sources of infection
Hypersalivation	Consider use of hyoscine hydrobromide (up to 300mcg tds)
Hypertension	Monitor closely, slow rate, or halt dose increase; if persistent, consider use of hypotensive agent (e.g. atenolol)
Hypotension	Advise caution when getting up quickly, monitor closely, slow or halt dose increase
Nausea	Consider use of anti-emetic (avoid metoclopramide and prochlorperazine if previous problems with EPSEs)
Neutropenia/agranulocytosis	Stop clozapine; if outpatient, admit to hospital
Nocturnal enuresis	Avoid fluids in the evening, alter dose scheduling; if severe, consider use of desmopressin
Sedation	Reschedule dosing to give smaller morning or total dose
Seizures	Withhold clozapine for 24hrs, recommence at lower dose, consider prophylactic anticonvulsant (e.g. valproate)
Weight gain	Dietary and exercise counselling (Weight gain with psychiatric medication, p. 1000)

Antipsychotic depot injections

Antipsychotics may be given as a long-acting depot injection (the active drug in an oily suspension) injected into a large muscle (usually gluteus maximus), allowing for sustained release over 1–4wks. Previously, only FGAs were available, but now a number of SGA preparations have been developed and are finding their place in clinical practice. Dose for dose, the efficacy of these preparations is not greater than oral medication, but they do increase the likelihood of compliance.

Indications

Poor compliance with oral treatment, failure to respond to oral medication, memory problems or other factors interfering with the ability to take medication regularly, clinical need to ensure patient compliance (e.g. due to treatment order for patients detained under the MHA).

Administration

(See Table 5.7 and Box 5.8.) Test the dose, as undesirable side effects can be prolonged. Not more than 2–3mL of oily injection should be administered at any one site. Correct injection technique (including the use of z-track technique) and rotation of injection sites are essential. If the dose needs to be reduced to alleviate side effects, remember the plasma drug concentration may not fall for some time after reducing the dose and it may be many weeks before side effects subside. For missed doses, refer to the specific product information.

Box 5.8 Specific depot dosing for SGAs dependent on original oral dose

Olanzapine

- Olanzapine 10mg/day (oral): start 210mg/2wks or 405mg/4wks, maintenance after 2mths treatment, 150mg/2wks or 300mg/4wks.
- Olanzapine 15mg/day (oral): start 300mg/2wks, maintenance after 2mths, 210mg every 2wks or 405mg every 4wks.
- Olanzapine 20mg/day (oral): start 300mg/2wks, maintenance after 2mths, 300mg/2wks.
- Adjust dose according to response; max 300mg every 2wks.

Risperidone

- Risperidone up to 4mg/day (oral), start 25mg/2wks.
- Over 4mg/day risperidone (oral), start 37.5mg/2wks.
- Dose adjusted at intervals of at least 4wks in steps of 12.5mg to max 50mg/2wks.
- During initiation, oral risperidone should be continued for 4–6wks; oral dosing may also be used during dose adjustment of depot.

Specific side effects

Pain/swelling at injection site, rarely abscesses, nerve palsies. Side effects as for oral medication but may take 2–3 days to emerge and persist for weeks after discontinuation. May be more likely to cause EPSEs than oral preparations (good evidence is lacking).

Post-injection syndrome

Depot olanzapine embonate carries an unpredictable risk (1.4% of patients or 1:1500 injections) of idiosyncratic excessive sedative akin to olanzapine overdose between 1 and 6hrs postinjection. It is recommended that, after injection, the patient should be observed for at least 3hrs for any signs of this syndrome (e.g. sedation, acute confusion/aggression, EPSEs, dysarthria/ataxia, or seizure).

Table 5.7 Dosing schedules for depot antipsychotics

Generic name	Brand name	t½	Peak dose	Time to steady state	Test dose	Test to treatment interval	Starting dose	Dose interval	Max do
Aripiprazole	Abilify Maintena®	30–46d	7d	20wks	No test dose—start 400mg and continue month maintain oral dose for 14d				
Flupentixol decanoate	Depixol®	8d (sd); 17d (md)	3–7d	10–12wks	20mg	7d	20–40mg	2–4wks	400mg/
Fluphenazine decanoate	Modecate®	6–10d (sd); 14–100d (md)	6–48hrs	6–12wks	12.5mg	4–7d	12.5–100mg	14–35d	
Haloperidol decanoate	Haldol®	18–21d	3–9d	10–12wks	50mg	4wks	50mg	4wks	300mg/
Olanzapine embonate/pamoate	ZypAdhera®	23–42d	2–4d	12wks	Antipsychotic depot injections, p. 224 For patie taking oral olanzapine; risk of post-injection syndrome				
Paliperidone	Xeplion®	25–49d	13d	10–16wks	150mg	8d	100mg	4wks	150mg/
	Trivecta®	84-139d	30-33d	Dosage is based upon previous once monthly dose of IM paliperidone – consult product literature				3mths	525mg/
Pipotiazine palmitate	Piportil®	14–21d	9–10d	8–12wks	25mg	4–7d	25–50mg	4wks	200mg/
Risperidone	Risperdal Consta®	3–6d	4–6wks	6–8wks	Antipsychotic depot injections, p. 224. Release drug starts 3wks after injection and subsides by				
Zuclopenthixol decanoate	Clopixol®	17–21d	4–9d	10–12wks	100mg	7d	200–500mg	1–4wks	600mg/

t½ = elimination half-life; d = days; hr(s) = hour(s); wk(s) = week(s); sd = single dose; md = multiple dose; supp = supplementation.

Disorders related to schizophrenia

ICD-10/11 and DSM-5 describe a number of disorders that show significant symptomatic overlap with schizophrenia. It is currently unclear whether these disorders represent distinct disorders or (as seems more likely) they share some degree of common aetiology with schizophrenia.

Schizoaffective disorder

This disorder has features of both affective disorder and schizophrenia which are present in approximately equal proportion. Its nosological status is uncertain, since some believe it to be a variant of schizophrenia; others, bipolar disorder; and some believe it represents a point on a continuum of 'unitary psychosis', lying between schizophrenia and mood disorders.[20] Lifetime prevalence is 0.5–0.8%, with limited data available on gender and age differences.

ICD-10/11 criteria

- Schizophrenic and affective symptoms simultaneously present for at least 2wks (ICD-10) or 1mth (ICD-11), and both are equally prominent.
- Excludes patients with separate episodes of schizophrenia and affective disorders and episodes due to substance use or medical disorders.

DSM-5 criteria

- An uninterrupted period of illness during which there is a major depressive, manic, or mixed episode, concurrent with symptoms that meet criterion A for schizophrenia.
- ≥2wks of delusions and/or hallucinations without prominent mood symptoms during the lifetime of the illness.
- Symptoms meeting criteria for a mood episode are present for the majority of the total duration of the active and residual periods.
- The disturbance is not due to the direct physiological effects of a drug of abuse or medication or a general medical condition.

Treatment As for schizophrenia, but treat manic or depressive symptoms as outlined in bipolar disorder (Treatment of acute manic episodes, p. 340; Treatment of depressive episodes, p. 342; Prophylaxis, p. 344).

Prognosis Depressive symptoms are more likely to signal a chronic course than manic symptoms. Good/poor prognostic factors are the same as schizophrenia, but outcomes are better than

schizophrenia, due to the non-deteriorating course, and worse than primary mood disorder.

Schizotypal disorder

Schizotypal disorder is classified along with schizophrenia and related disorders, in ICD-10/11, but along with cluster A/'odd-eccentric' personality disorders in DSM-5. It shares some of the clinical features of schizophrenia, but not the delusions or hallucinations. It is seen in ~3% of the general population and ~4.1% of psychiatric inpatients. The disorder tends to run a stable course. It is currently viewed as representing 'partial expression' of the schizophrenia phenotype—schizophrenia twin studies show an ↑ risk of schizotypy in the unaffected twin; schizotypy is more common in first-degree relatives of schizophrenic subjects than the general population, and relatives of schizotypal subjects show an ↑ risk of schizophrenia.

Symptoms (DSM-5 criteria) Ideas of reference. Excessive social anxiety. Odd beliefs or magical thinking. Unusual perceptions (e.g. illusions). Odd/eccentric behaviour or appearance. No close friends/confidants. Odd speech. Inappropriate or constricted affect. Suspiciousness or paranoid ideas.

Differential diagnosis Autism/Asperger syndrome, expressive/mixed receptive–expressive language disorder, chronic substance misuse, other personality disorders (especially borderline, schizoid, and paranoid).

Treatment Risperidone (≤2mg/day)[21] has some support from an RCT. Other antipsychotics may also be helpful. There is little evidence for other interventions, but highly structured supportive CBT may be best.

Schizophreniform disorder (DSM-5)

(May be coded under 'Other schizophrenia' in ICD-10 and 'Other specified schizophrenia' in ICD-11)

The original term referred to patients with schizophrenic symptoms with a good prognosis[22] and now refers to a schizophrenia-like psychosis that fails to fulfil the duration criterion for schizophrenia in DSM-5. The treatment is the same as for an acute episode of schizophrenia. Most common in adolescence and young adults and is much less common than schizophrenia, with a lifetime prevalence of 0.2%.

DSM-5

- Criteria A, D, and E of schizophrenia are met.
- An episode of the disorder (including prodromal, active, and residual phases) lasts at least 1mth, but <6mths.
- Specified as *with good prognostic features* (as evidenced by 2+ of: onset of prominent psychotic symptoms within 4wks of the first noticeable change in usual behaviour or functioning, confusion or perplexity at the height of the psychotic episode, good premorbid social and occupational functioning, absence of blunted or flat affect); or *without good prognostic features* (applied when two or more of the above features have not been present).

Course and prognosis By definition, episodes last for >1mth, but <6mths. Patients return to baseline functioning once the disorder has resolved. Progression to schizophrenia is estimated to be between 60% and 80%. Some patients have two or three recurrent episodes.

Treatment Antipsychotics ± a mood stabilizer and psychotherapy.

Delusional disorder 1: clinical features

Essence Delusional disorder is an uncommon condition in which patients present with circumscribed symptoms of non-bizarre delusions (DSM-5 now allows 'with bizarre content'; ICD-11 does not specify), but with absence of prominent hallucinations and no thought disorder, mood disorder, or significant flattening of affect. Symptoms should have been present for at least 1mth (DSM-5). ICD-10/11 specify at least 3mths for *delusional disorder* but, if it is less than this, allow diagnosis under *other persistent delusional disorder (ICD-10) or delusional disorder, unspecified (ICD-11)*. DSM-5 has particular subtypes (see Box 5.9).

Box 5.9 DSM-5 subtypes[1]

- **Erotomanic (De Clérambault syndrome)** Patients present with the belief that some important person is secretly in love with them and may make efforts to contact that person. Clinical samples are often ♀ and forensic samples more likely to be ♂. Some cases are associated with dangerous or assaultive behaviour.
- **Grandiose** Patients believe they fill some special role, have some special relationship, or possess some special ability(ies).They may be involved with social or religious organizations.
- **Jealous**[2] **(Othello syndrome)** Patients possess the fixed belief that their spouse or partner has been unfaithful. Often patients try to collect evidence and/or attempt to restrict their partner's activities. May be associated with forensic cases involving murder.
- **Persecutory** This is the most common presentation of delusional disorder. Patients are convinced that others are attempting to do them harm. Often they attempt to obtain legal recourse (litigious or 'querulous paranoia'), and they sometimes may resort to violence.
- **Somatic** Varying presentation, from those who have repeat contact with physicians requesting various forms of medical or surgical treatment to patients who are delusionally concerned with bodily infestation, deformity (Body dysmorphic disorder, p. 872), or odour (Olfactory reference disorder (ORD), p. 388).
- **Mixed** Presence of 2+ themes; no single theme predominating.
- **Unspecified** The theme cannot be determined or does not fit the listed categories.[1]

1 ICD-10 subtypes are similar: Erotomanic, Grandiose, Jealous, Persecutory, Litigious, Hypochondriacal, and Self-referential. ICD-11 delusional subtypes are differentiated in a section 'Mental or behavioural symptoms, signs or

clinical findings' and include: bizarre, being controlled, guilt, reference, erotomanic, grandiose, jealous, persecutory, religious, somatic, nihilistic, misidentification, impoverishment, other, and unspecified.
2 Shepherd M (1961) Morbid jealousy: some clinical and social aspects of a psychiatric symptom. *J Mental Sci* **107**:607–753 (the 'classic' paper).

Points to note

- Patients rarely present to psychiatrists. More often, other physicians (due to somatic complaints), lawyers (due to paranoid ideas), or the police (when they act on, or complain about, their delusions) see them.
- Careful assessment and diagnosis are vital, because delusions are the final common pathway of many illnesses (Delusional disorder 2: differential diagnosis and aetiology, p. 232). When delusional disorder is discovered, treatment can be fraught with difficulty because of the reticent nature of such patients. With persistence, a combination of biopsychosocial treatments can be effective.

Diagnosing pathological delusions—key points

Judgement is necessary to distinguish delusions from over-valued ideas, particularly when the ideas expressed are not necessarily bizarre or culturally abnormal[23] (and may have some basis in reality). Assess:

- The degree of plausibility.
- Evidence of systemization, complexity, and persistence.
- The impact of the beliefs on behaviour.
- The possibility that they might be culturally sanctioned beliefs different from one's own (Cultural context and the presentation of psychiatric disorders, p. 984).
- Observation of associated characteristics, including hallucinations.
- History of 'morbid change'.
- Evidence of other risk factors (Risk factors, see below).

Clinical features Level of consciousness is unimpaired; observed behaviour, speech, and mood may be affected by the emotional tone of delusional content (e.g. hyperalertness with persecutory delusions); thought process is generally unimpaired; thought content reflects preoccupation with circumscribed (usually single theme), (non-)bizarre delusions; hallucinations may occur but generally are not prominent and reflect delusional ideas (more commonly olfactory/tactile than visual/auditory); cognition and memory generally intact; insight and judgement impaired to the degree that the delusions influence thought and behaviour; formally assess risk (e.g. violence to self and others and history of previous behaviour influenced by delusions). *Note*: persistent anger and fear are risk factors for aggressive 'acting-out' behaviours.

Epidemiology Relatively uncommon. Prevalence 0.025–0.03% (1–2% of hospital admissions); age range 18–90yrs (mean 40–49yrs); ♂ = ♀, but delusional jealousy more common in men and erotomania more common in women; 50% of patients are in employment; 80% are married.

Risk factors Advanced age, social isolation, group delusions, low socio-economic status, premorbid personality disorder, sensory impairment (particularly deafness), recent immigration, family history, and history of head injury or substance abuse disorders.

Course and prognosis Onset may be acute or insidious. Treatment outcomes: remission (33–50%), improvement (10%), persisting symptoms (33–50%). Better prognosis: acute subtypes, where stress is a factor, jealous or persecutory subtypes, symptoms persisting <6mths.

Delusional disorder 2: differential diagnosis and aetiology

Differential diagnoses

- **Substance-induced delusional disorders** (e.g. alcohol, cannabis, stimulants, hallucinogens, anabolic steroids, corticosteroids, antihistamines, sympathomimetics, antibiotics, disulfiram, dopamine agonists, anticholinergics, over-the-counter medications, herbal remedies). Careful history-taking focusing on temporal relationships may reveal onset, persistence, and cessation of symptoms to be related to drug use.
- **Other physical disorders** Focused history, examination, and investigations should help exclude other disorders [e.g. head injury, CNS infection, vascular disease, epilepsy, neurodegenerative disorders, metabolic disorders, endocrine disorders, vitamin deficiencies (B12, folate, niacin, thiamine), toxins (mercury, arsenic, manganese, thallium)].
- **Mood disorders with delusions (manic and depressive types)** Mood and related biological symptoms are usually more severe and precede delusions.
- **Schizophrenia** Presence of psychotic symptoms other than relatively circumscribed delusions; thematically associated hallucinations; disorganized thought processes, speech, or behaviours; negative symptoms; cognitive deficits; and greater functional impairment.
- **Delirium** Evidence of cognitive impairment, altered/fluctuating level of consciousness, altered sleep/wake cycle, and hallucinations.
- **Dementia** Cognitive impairment which may be subtle and only found on formal testing.
- **Elderly patients (late paraphrenia)** Thought to be distinct from delusional disorder (Specific aspects of psychiatric illnesses in the elderly 3: mood disorders, p. 552) and schizophrenia, associated with social isolation, ageing, medical problems/treatments, and sensory loss.
- **Dysmorphophobia/body dysmorphic disorder** (Body dysmorphic disorder, p. 872) Significant overlap with delusional disorder, few significant differentiating factors exist.

- **OCD** (Obsessive–compulsive disorder, p. 690) Significant overlap with delusional disorder, and if reality testing regarding obsessions or compulsions is lost, delusional disorder often is diagnosed.
- **Hypochondriasis** (Hypochondriasis, p. 870) Health concerns generally are more amenable to reality testing and are less fixed than in delusional disorder.
- **Paranoid personality disorder** (Table 12.1, p. 523) Absence of clearly circumscribed delusions, presence of a pervasive, stable pattern of suspiciousness or distrust.
- **Misidentification syndromes** (Delusional misidentification syndromes, p. 240) Easily confused with delusional disorder; may be associated with other CNS abnormalities.
- **Induced/shared psychotic disorder** (Induced delusional disorder, pp. 238–239) Evidence that relatives/close friends share similar delusional beliefs.

Aetiology

Delusional disorders represent a heterogenous group of conditions that appear distinct from mood disorders and schizophrenia, although there is significant diagnostic (and genetic) overlap with paranoid personality traits/disorder and schizophrenia. Data suggest that among patients diagnosed with delusional disorder, 3–22% are later reclassified as schizophrenic and fewer than 10% are later diagnosed with a mood disorder.

Biological

- Delusions can be a feature of a number of biological conditions, suggesting possible biologic underpinnings for the disorder.
- Most commonly, neurological lesions associated with the temporal lobe, limbic system, and basal ganglia are implicated in delusional syndromes.
- Neurological observations indicate that delusional content is influenced by the extent and location of brain injury.
- Prominent cortical damage often leads to simple, poorly formed, persecutory delusions.
- Lesions of the basal ganglia elicit less cognitive disturbance and more complex delusional content.
- Excessive dopaminergic and reduced acetylcholinergic activity has been linked to the formation of delusional symptoms.

Psychological/psychodynamic

- Freud proposed that delusions served a defensive function, protecting the patient from intrapsychically unacceptable impulses through reaction formation, projection, and denial.
- Cognitive psychology regards delusions as the result of cognitive defects where patients accept ideas with too little evidence for their conclusions; delusions as a result of attempting to find a rational basis for abnormal perceptual experiences.
- Neuropsychological models:[24]
  - Cognitive bias model (CBM): proposes paranoia is a defence against thoughts that threaten the 'idealized self', protecting a fragile self-esteem—positive events are attributed to the self, whereas negative events are ascribed to outside influences.
  - Cognitive deficit model (CDM): cognitive impairments and distortions of threat-evaluating mechanisms lead to delusion formation.

Social/individual factors

The chances of developing delusional disorder are ↑ with:

- Marked distrust and suspicion.
- Social isolation.
- Heightened feelings of jealousy.
- Fragile self-esteem.
- A tendency to see their own defects in others.
- Habitual rumination over the meaning of events and motivation of others.

Delusional disorder 3: assessment and management

Assessment

Patients with delusional disorder are exceptionally difficult to assess. At interview, they may be evasive, guarded, and suspicious. Often they become irritated, angry, or hostile. They may be overly sensitive to some lines of questioning, even to the point of threatening legal action. Assessment should include:

- A thorough history and MSE.
- Information gathering (third party and other sources).
- Exclusion of underlying causation (including physical investigations) to rule out other conditions that commonly present with delusions (Differential diagnosis, p. 232).
- Clearly documented risk assessment (especially aggression/self-harm).
  Where there is significant risk to another person/partner, duty of care may override patient confidentiality and allow warning of that individual and/or informing the police (Breaking confidentiality, p. 970).

Management

Typical obstacles to the treatment of delusional disorder:

- The patient's denial of the illness which causes difficulties in establishing a therapeutic alliance.

- The patient's experiences of significant social and interpersonal problems (which may confirm their firmly held beliefs).
- The fact that antipsychotic medication is often of limited efficacy.

Admission to hospital ought to be considered if there is a clear risk of harm to self or violence towards others. Otherwise, outpatient treatment is preferred. Approaches to management include:

- **Separation** From the source or focus of delusional ideas (if possible).
- **Pharmacological**[25,26]
  - Data forpharmacotherapy are limited to case reports or small open-label interventions.
  - Given the symptomatic overlap with psychotic disorders, antipsychotics have some utility (the most commonly reported SGAs used are risperidone and olanzapine).
  - There was a widely held anecdotal view supporting the preferential use of pimozide. However, although there are no full-scale clinical trials, what evidence there is suggests that no antipsychotic is preferentially effective, that response rates are around 50%, with 90% of patients seeing some improvement, and that somatic delusions are the most likely to respond.
  - The evidence also favours the use of SSRIs, given the overlap with OCD, body dysmorphic disorder, and mood disorder.
  - BDZs may be useful when there are marked anxiety symptoms.
  - Data for the use of anticonvulsant agents and mood stabilizers are even more limited.
- **Psychological/psychotherapeutic**
  - *Minimizing risk factors*, e.g. sensory impairment, isolation, stress, and precipitants of violence.
  - *Educational and social interventions* Social skills training (e.g. not discussing delusional beliefs in social settings; promoting interpersonal competence; and increasing comfort in interacting with those who the individual feels are judging or having harmful intent towards them). Taking control and initiative can dissipate the feeling of loss of control that feeds into, and reinforces, the delusions.
  - *Individual therapy* Requires persistence in establishing a therapeutic alliance without validating or overtly confronting the patient's delusional system.
  - *Supportive therapy* May help with isolation and distress stemming from the delusional beliefs (reframing problems due to delusional beliefs as symptoms).
  - *Cognitive techniques* (best studied in persecutory subtype) Reality testing and reframing. Insight-orientated therapy to develop a sense of 'creative doubt' in the internal perception of the world through empathy with the patient's defensive position.
- **Post-psychotic depression**
  - Ten per cent or more of delusional disorder patients who respond to antipsychotics may develop severe depression with a risk of suicide.
  - Withdrawal of antipsychotic may improve mood but worsen delusions; hence, the addition of an antidepressant may be indicated, while maintaining the lowest effective dose of antipsychotic. Later the antidepressant may be gradually withdrawn.

Acute and transient psychotic disorders

(Referred to as 'Brief psychotic disorder' in DSM-5; see Box 5.10.)

Box 5.10 ICD-10 subtypes

ICD-10 allows for these disorders to occur with or without the presence of an acute stressor, and outlines the following subtypes:

- Acute polymorphic psychotic disorder with or without symptoms of schizophrenia
  - Variable and changeable psychotic symptoms (day to day or hour to hour), with frequent intense emotional turmoil.
  - Includes Perris's (1974) 'cycloid psychosis' after Karl Leonard's description—the treatment of choice is lithium (Perris, 1978).
  - Also 'bouffée délirante' (Magnan, 1895), reviewed by Allodi (1982) who stressed the avoidance of long-term medication, highlighting sociocultural factors, especially migration and language.
- **Acute schizophrenia-like psychotic disorder** Also referred to as 'brief schizophreniform psychosis' or 'schizophrenic reaction' where the psychotic symptoms are relatively stable but have not lasted more than a month (ICD-10, DSM-5 brief psychotic disorder) or have lasted 1–6mths (DSM-5 schizophreniform disorder).
- **Other acute predominantly delusional psychotic disorder**
  - Onset is acute (2wks or less), delusions or hallucinations present most of the time. If delusions persist longer than 3mths, then the diagnosis is that of *persistent delusional disorder* (Delusional disorder 1: clinical features, p. 230).
  - Includes the Scandinavian concept of 'psychogenic/reactive psychosis' for which the prognosis is good, and the treatment of choice is supportive psychotherapy and short-term use of medication (Stromgren, 1989).
  - 'Hysterical psychosis' (Hirsch and Hollander, 1969), which includes three subtypes: culturally sanctioned behaviour (like culture-specific disorders); appropriation of psychotic behaviour (conversion process); and true psychosis ('failure of repression when faced with acute stress in a vulnerable ego', in, for example, histrionic personality)—in the USA, this is used as a diagnostic label for 'reactive psychosis'.
  - 'Ganser syndrome'—characterized by approximate answers, disorientation, clouding of consciousness, hallucinations, motor disturbance, anxiety or apathy, normal ADLs, sudden resolution with amnesia for the period of illness. Proposed mechanisms read much like the differential diagnosis for acute and transient psychotic disorders (Acute and transient psychotic disorders, p. 236): hysterical conversion, organic confusion, psychosis, or malingering.

In ICD-11, additional codes may be used for 'symptomatic manifestations'—including positive, negative, depressive, manic, psychomotor, and cognitive symptoms—and severity: mild, moderate, and severe.

Clinical features Sudden onset, variable presentation (including perplexity, inattention, formal thought disorder/disorganized speech, delusions or hallucinations, disorganized or catatonic behaviour), usually resolving within <1mth (DSM-5) or 3mths (ICD-10/11).

Aetiology Sometimes these disorders occur in the context of an acute stressor (both ICD-10 and DSM-5 allow for specifying 'with or without' marked stressor(s)/acute stress), e.g. life events such as bereavement, marriage, unemployment, imprisonment, accident, childbirth (DSM-5 'with post-partum onset'), or migration and social isolation (with language and cultural factors). ICD-11 has separate categories for 'first episode' and 'multiple episodes'.

Epidemiology Associated with certain personality types (e.g. paranoid, borderline, histrionic); more prevalent in developing nations where there is a strong emphasis on traditional values (may demonstrate culture-specific features; Cultural context and the presentation of psychiatric disorders, p. 984). Age of onset is later in industrialized nations. More common in women.

Differential diagnosis

- Organic disorders—dementia/delirium.
- Bipolar affective disorder/depression—delusions of guilt/persecution.
- Drug and alcohol disorders.
- Personality disorder—paranoid/borderline/histrionic.
- Culture-specific disorders (Cultural context and the presentation of psychiatric disorders, p. 984).
- Factitious disorder/malingering.
- Schizophrenia (if it persists for >1mth).

Management

- Assessment is vital to make the appropriate diagnosis.
- Short-term admission may help with any suicidal/aggressive tendencies, provide care, support, and address specific psychosocial stressors.
- Where medication is considered, short-term use of antipsychotics/BDZs may be helpful (Severe behavioural disturbance, p. 1048).
- Antidepressants/mood stabilizers may be useful to prevent relapse/further episodes.
- Address specific social issues, and consider reality-orientated, adaptive, supportive psychotherapy.

Course and prognosis

- By definition, these disorders are brief, lasting days, weeks, or months.
- Prognosis better if short interval between onset and full-blown symptoms. Also better if there is confusion/perplexity, good premorbid social/occupational functioning, and absence of blunted/flat affect.
- Outcome is better than schizophrenia (socially and symptomatically).
- Relapse is common, with ↑ mortality and suicide rates, compared with the general population.
- The chances of recurrence are high, and follow-up/low-dose pharmacotherapy is recommended to continue for at least 1–2yrs (and withdrawn cautiously with close clinical review).

Induced delusional disorder

(DSM-5: 'Delusional symptoms in partner of individual with delusional disorder' within 'Other specified schizophrenia spectrum and other psychotic disorder' (see Box 5.11); ICD-10 has the specific diagnosis 'Induced delusional disorder', but ICD-11 codes under 'Delusional disorder, unspecified'.

Also known as **'folie à deux'** (or even '**folie à trois**' or '**folie à famille**'!), this disorder was recognized and described by Harvey as early as 1651 and reviewed as a concept by Howard in 1994. Silveira and Seeman (1995) also reviewed the literature and found equal sex ratio; broad range of ages; 90% of couples, siblings, or parent/child; comorbidity with depression, dementia, and mental retardation; two-thirds socially isolated; and a common association with hallucinations. Without intervention, the course is usually chronic. The content of the shared belief depends upon the delusions of the individual with the primary illness. Examples may include: persecutory beliefs ('them': the paranoid pseudocommunity[27]), delusional parasitosis, delusional belief in a place being haunted, belief in having a child who does not exist, other misidentification delusions, or apocalyptical beliefs in cults and quasi-religions (with the serious risk of altruistic mass suicide).

Subtypes

- **Folie imposée**—the delusions of an individual with a primary psychotic illness are adopted by another healthy individual (separation alone usually cures the normally healthy individual).
- **Folie simultanée**—when two persons with primary psychotic illness develop the same delusions at the same time.
- **Folie communiqué**—after a period of resistance, a healthy individual adopts the delusions of a person with primary psychotic illness (separation is less successful without other interventions).
- **Folie induite**—pre-existing primary psychosis in both patients, but one patient has adopted their fellow patient's delusions.

Aetiology

Psychodynamic theories These include the fear of losing an important relationship in an otherwise isolated individual with little scope for reality testing; or the passive acceptor has repressed oedipal

fantasies that are released by the psychotic partner, causing identification of the dominant partner with a parent.

Learning theory Psychotic thinking is learnt through 'observational learning'.

Social isolation Isolation due to language, geographical barriers, and personality may also play a part in the development of the illness.

Management

- Separation—may lead to complete remission in up to 40% of cases.
- Psychological—aimed at giving up delusional beliefs (equivalent to rejecting a close relationship).
- Pharmacological—for the active, *not* the passive, partner (except in the case of *folie simultanée* when both patients require treatment).

Box 5.11 DSM-5 Other specified schizophrenia spectrum and other psychotic disorder

DSM-5 applies this category to a number of specific presentations that do not meet the full criteria for any of the other disorders in the schizophrenia spectrum diagnostic class. For example:

- **Persistent auditory hallucinations** Occurring in the absence of any other features.
- **Delusions with significantly overlapping mood episodes** Persistent delusions with periods of overlapping mood episodes longer than just brief mood episodes allowed in delusional disorder.
- **Attenuated psychosis syndrome** Psychotic-like symptoms below the threshold for full psychosis (e.g. less severe, more transient, insight relatively maintained).
- **Delusional symptoms in partner of individual with delusional disorder** (see opposite).

Delusional misidentification syndromes

Usually manifest as symptoms of an underlying disorder (e.g. schizophrenia, mood disorder, delusional disorder, organic disorder), these syndromes rarely occur in isolation and hence are not included separately in ICD-10/11 or DSM-5. Recently, interest has been focused on these rare (and bizarre) symptoms because of the insight they may give into the normal functioning of the brain (a 'lesion' paradigm).

Examples

Capgras delusion (*l'illusion des sosies*) The patient believes others have been replaced by identical/near-identical imposters. Can apply to animals and other objects, and often associated with aggressive behaviour.

Frégoli delusion (*l'illusion de Frégoli*) An individual, most often unknown to the patient, is actually someone they know 'in disguise'. The individual is often thought to be pursuing or persecuting the patient.

Intermetamorphosis delusion The patient believes they can see others change (usually temporarily) into someone else (both external appearance and internal personality).

Subjective doubles delusion The patient believes there is a double ('doppelgänger') who exists and functions independently.

Autoscopic syndrome The patient sees a double of themselves projected onto other people or objects nearby.

Reverse subjective double syndrome The patient believes they are an imposter, in the process of being physically and psychologically replaced.

Reverse Frégoli syndrome The patient believes others have completely misidentified them.

Aetiology

Psychodynamic These syndromes are viewed as the extremes of normal misidentification due to intense focusing on particular details; the effects of beliefs/emotions on perception; the effects of vivid imagination in a person experiencing a disorder of mood, judgement, and coenesthesia; and manifestations of the defence mechanisms of projection, splitting, or regression with loss of identity and flawed reconstruction.

Biological There may be evidence of underlying right hemisphere dysfunction, anterior cortical atrophy, temporal lobe pathology, bifrontal disconnectivity—with resultant impaired facial recognition, dissociation of sensory information from normal affect, and failure to suppress inappropriate, repetitive behaviour.

Management

- Full physical and psychiatric assessment.
- Interventions should be directed towards any underlying problem.
- Antipsychotics/anticonvulsants may also treat clearly organic cases.

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1 'Schizophrenia' in ICD-11 proposals is characterized by 'disturbances in multiple mental modalities, including: thinking (e.g. delusions, disorganization in the form of thought), perception (e.g. hallucinations), self-experience (e.g. the experience that one's feelings, impulses, thoughts, or behaviour are under the control of an external force), cognition (e.g. impaired attention, verbal memory, and social cognition), volition (e.g. loss of motivation), affect (e.g. blunted emotional expression), and behaviour (e.g. behaviour that appears bizarre or purposeless, unpredictable or inappropriate emotional responses that interfere with the organization of behaviour)'. Symptoms present for 1+ months. Usual exclusions apply. No subtypes. New symptom specifiers: positive, negative, depression, mania, psychomotor, and cognitive symptoms. New course specifiers: first and subsequent episodes, chronic (non-episodic) course, acute episodes (with full-blown symptoms, partial remission, and complete remission).

2 DSM-5 allows for course specifiers after 1-yr duration: *first episode* (currently in acute episode/in partial remission/in full remission); *multiple episodes* (currently in acute episode/in partial remission/in full remission); *continuous* or *unspecified pattern*. Other specifiers include 'with catatonia' and a rating scale for psychosis symptom severity.

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Chapter 6

Depressive illness

Introduction

Depressive disorders are common, with a prevalence of 5–10% in primary care settings. They rank fourth as causes of disability worldwide, and it has been projected that they may rank second by the year 2020. The prevalence of *depressive symptoms* may be as high as 30% in the general population, with women being twice as likely to be affected as men.

Although effective treatments are available, depression often goes undiagnosed and undertreated. Symptoms often are regarded by both patients and physicians as *understandable*, given current social circumstances and/or background. Although in many cases this may be true, people should not be denied interventions that may help relieve some of the disabling symptoms of the disorder, allowing them to cope better with any current social problems.

It should be borne in mind that depressive disorder has significant potential morbidity and mortality. Suicide is the second leading cause of death in persons aged 20–35yrs, and depressive disorder is a major factor in around 50% of these deaths. Depressive disorder also contributes to higher morbidity and mortality when associated with other physical disorders [e.g. myocardial infarction (MI)], and its successful diagnosis and treatment have been shown to improve both medical and surgical outcomes. It is also associated with high rates of comorbid alcohol and substance misuse, and has a considerable social impact on relationships, families, and productivity (through time off work). The majority of patients will present to primary care, often with problems other than low mood (Diagnosis 3: other clinical presentations and differential, p. 252). Physicians ought to remain alert to this possibility, as early interventions may be critical in the prevention of major morbidity and comorbidity.

There remains an innate reluctance to consider *pharmacological* interventions for *emotional* problems, despite overwhelming evidence of efficacy. There is also widespread concern that drugs which improve mood *must* be addictive, despite evidence to the contrary. While medication is not the only possible treatment for mild to moderate depression, when antidepressants are prescribed, the onus is on the physician to give a *therapeutic* dose for an *adequate* length of time. Treatment failure is often due to patient non-compliance, particularly when the patient feels that their problems have not been taken seriously and they have been 'fobbed off'. In a group of patients who generally have feelings of low self-worth or guilt, it is critical that they understand the rationale behind any treatment and that their progress is regularly reviewed, at least in the early stages.

Depression among the famous

As depression is common, it is not surprising that many famous people have had a depressive illness (see Box 6.1). However, there still remains a stigma attached to psychiatric illness, and it is only recently that people have become more willing to discuss their illnesses publicly. A study that

examined the lives of almost 300 world-famous men found that over 40% had experienced some type of depression during their lives.[1] 1 The highest rates (72%) were found in writers, but the incidence was also high in artists (42%), politicians (41%), intellectuals (36%), composers (35%), and scientists (33%).

Box 6.1 Famous people and depressive illness

Famous people who have publicly stated they have suffered from a depressive illness
Roseanne Barr, actress, writer, comedienne
Halle Berry, actress
Barbara Bush, former First Lady (USA)
Jim Carrey, actor, comedian
John Cleese, comedian, actor, writer
Sheryl Crow, musician
Ellen DeGeneres, comedienne, actor
Cara Delevingne, fashion model, actress
Harrison Ford, actor
Paul Gascoigne, professional footballer
Germaine Greer, writer
John Hamm, actor
Anthony Hopkins, actor
Janet Jackson, musician
Billy Joel, musician, composer
Elton John, musician, composer
Jessica Lange, actress
Courtney Love, musician, actor
Paul Merton, comedian
Alanis Morissette, musician, composer
SP Morrissey, musician
Sinead O'Connor, musician
Ozzy Osbourne, musician
Donny Osmond, musician
Marie Osmond, musician
Winona Ryder, actress
Monica Seles, athlete (tennis)
Paul Simon, composer, musician
Bruce Springsteen, musician

Famous people (deceased) known to have had a depressive illness

Samuel Beckett, Menachem Begin, Marlon Brando, Kurt Cobain, Leonard Cohen, Michel Foucault, Judy Garland, Stephen Hawking, Ernest Hemingway, Audrey Hepburn, William James, Franz Kafka, Claude Monet, Richard M Nixon, Laurence Olivier, Wilfred Owen, George S Patton, Sylvia Plath, Jackson Pollock, Cole Porter, Lou Reed, Joan Rivers, Mark Rothko, Dmitri Shostakovich, Tennessee Williams, Yves Saint Laurent.

Historical perspective

The changing face of depression

Current ideas of what constitutes depression date from the mid-eighteenth century.[2] 2 Earlier, the illness was understood in terms of 'melancholia', from classical humoural theories (melancholia derived from the Greek *melaina kole*—black bile), reflecting 'intensity of idea' (Haslam, 1809), i.e. the presence of few, rather than many, delusions. Sadness or low mood were not primary symptoms. The 'melancholic' symptoms we now regard as part of depressive disorder would have been called 'vapours', 'hypochondria', or 'neuroses'. 'Depression', a term used to mean 'reduced functioning' in other medical disciplines, came to be associated with 'mental depression', adopted because it implied a physiological change, defined as 'a condition characterized by a sinking of the spirits, lack of courage or initiative, and a tendency to gloomy thoughts' (Jastrow, 1901).

The concept was enlarged and legitimized by Kraepelin (1921), who used the term 'depressive states' in his description of the unitary concept of 'manic–depressive illness', encompassing melancholia simplex and gravis, stupor, fantastical melancholia, delirious melancholia, and involutional melancholia. A number of assumptions surrounded the affective disorders; they involved the primary pathology of affect and had stable psychopathology and brain pathology, were periodic in nature, had a genetic basis, occurred in persons with certain personality traits, and were 'endogenous' (unrelated to precipitants).

In 1917, Freud published *Mourning and Melancholia*, influencing more than a generation of practitioners in emphasizing cognitive and psychic factors in the aetiology of depression and shifting clinical descriptions from *objective* behavioural signs to *subjective* symptoms.

Over the intervening years, there has been much debate as to whether a 'biological' type of depression exists separate from a 'neurotic' type. Terminology has fluctuated around endogenous, vital, autonomous, endomorphic, and melancholic depression, characterized by distinctive symptoms and signs, a genetic basis, and running an independent course unrelated to psychosocial factors. In contrast, 'neurotic' or 'reactive' depression could manifest in multiple forms, showed clear responsiveness to the environment, and ran a more variable course. ICD-10/11 and DSM-5 fudge the issue somewhat by using severity specifiers (i.e. mild, moderate, severe), as well as symptom specifiers (i.e. somatic symptoms, psychotic symptoms).

The advent of antidepressant drugs in the 1950s introduced a further complication into the mix. Although ECT was widely accepted as a treatment for 'vital' depression, the idea of a drug treatment

for ‘reactive’ depressive disorders ran counter to the received wisdom of the psychological basis to these conditions and the need for psychological treatment.

The antidepressants and beyond

The antidepressant effects of isoniazid were first observed in 1952 by Lurie and Salzer in patients being treated for tuberculosis (TB). Similar effects were noted by Shepherd and Davies, who conducted the first randomized controlled trial (RCT) in psychiatry, clearly demonstrating the efficacy of reserpine in anxious depression in 1955. The psychiatric community was initially reluctant to accept the idea of chemical ‘cures’ for mental disorders. It was not until iproniazid was promoted by Kline in 1957 as a ‘psychic energizer’, capable of treating ‘nervous’ conditions, that the tide began to turn.

In 1956, Kuhn demonstrated the antidepressant effects of imipramine, a tricyclic antidepressant (TCA) marketed worldwide in 1958, closely followed by amitriptyline in 1960. At the same time, new anxiolytics were also emerging, with meprobamate in 1955, and the first benzodiazepine (BDZ)—chlordiazepoxide—in 1960. The search for greater dissociation of anxiolytic and sedative properties led to the introduction of diazepam in 1963.

The downside of this new psychopharmacology was the over-prescription in the 1960s and 1970s of these drugs to help with ‘the problems of living’ and evidence of dependence, particularly in the case of BDZs. As a result, *non-pharmacological* treatments flourished in the form of ‘re-branded’ psychotherapies.

Behind the scenes, biological psychiatrists and psychopharmacologists developed the monoamine theories of depression, based upon the discovery of the neuropharmacological action of the antidepressants. This led to the development of more *selective* antidepressants—in the first instance, the selective serotonin reuptake inhibitors (SSRIs), with zimelidine patented in 1971 and indalpine marketed in 1978.

The emphasis on safety and side effect issues when comparing SSRIs with TCAs, and the decline of BDZs, opened the floodgates in the 1980s and 1990s for the promotion of SSRIs [e.g. fluoxetine (1989)] not only in the treatment of depression, but also for anxiety disorders. Advances in monoamine theories also allowed the development of ‘dual-action’ agents [e.g. serotonin noradrenaline reuptake inhibitors (SNRIs)—venlafaxine (1995); noradrenaline and specific serotonin antagonists (NaSSAs)—nefazodone (1995)/mirtazapine (1997); dopamine–noradrenaline reuptake inhibitors (DNRIs)—bupropion (2000)] and other *selective* agents [e.g. noradrenaline reuptake inhibitors (NARIs)—reboxetine (1997)].

Current theories of depression attempt to integrate biological models of stress [involving the hypothalamic–pituitary–adrenal (HPA) axis] with evidence from biological psychology, genetics, neuropharmacology, and functional neuropathology. A multifactorial biopsychosocial model (see Fig. 6.1) emerged, which helped to unite the divergent ideas of depression.

Clinical symptoms and signs are seen as the final common pathway in a complex interaction between genes and the environment in determining *predisposition* or *biological vulnerability*, which *may* subsequently lead to *biological variations* in functioning necessary for behavioural and emotional change. This may be due to further psychosocial stressors or genetically predetermined factors, which give rise to alterations in *brain functioning*. Research into these interdependent factors may well lead to a greater understanding of the aetiology of depressive disorder, as well as allow the development of diagnostic tests and *individualized* treatments.

Diagnosis 1: symptoms

Although the terminology is slightly different between ICD-10, DSM-5 (see Table 6.1), and ICD-11, the core symptoms are almost identical and, for a positive diagnosis, should fulfil the following criteria:

- Present for at least 2wks and represent a change from normal.
- Are not secondary to the effects of drug/alcohol misuse, medication, a medical disorder, or bereavement (Normal and abnormal grief, p. 400).
- May cause significant distress and/or impairment of social, occupational, or general functioning.

Core symptoms

- *Depressed mood:* present most of the day, nearly every day, with little variation, and often lack of responsiveness to changes in circumstances. There may be diurnal variation in mood, with mood being worse in the morning and improving as the day goes on.
- *Anhedonia:* markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day (as indicated by either subjective account or observation made by others).
- *Weight change:* loss of weight when not dieting or weight gain (e.g. a change of >5% of body weight in a month), associated with ↓ or ↑ appetite.
- *Disturbed sleep: insomnia* [with early morning wakening (EMW) 2–3hrs sooner than usual] or *hypersomnia* (especially in atypical depression; Atypical depressive episode, p. 272).
- *Psychomotor agitation or retardation:* observable by others, not just subjective feelings of restlessness or being slowed down.
- Fatigue or loss of energy.
- Reduced libido.
- *Feelings of worthlessness or excessive or inappropriate guilt (which may be delusional):* not just self-reproach or guilt about being ill.
- *Diminished ability to think or concentrate* or *indecisiveness*.
- *Recurrent thoughts of death or suicide*—(not ‘fear of dying’), which may or may not have been acted upon.

Somatic symptoms

Also called biological, melancholic (DSM-5), or vital. Include:

- Loss of emotional reactivity.

- Diurnal mood variation.
- Anhedonia.
- EMW.
- Psychomotor agitation or retardation.
- Loss of appetite and weight.
- Loss of libido.

Table 6.1 ICD-10 and DSM-5 terminology

ICD-10	DSM-5
Depressive episode	Major depressive disorder – single episode
Mild without somatic symptoms	Mild
Mild with somatic symptoms	
Moderate without somatic symptoms	Moderate
Moderate with somatic symptoms	
Severe without psychotic symptoms	Severe
Severe with psychotic symptoms	With psychotic features
Other	Other specified depressive disorder
Recurrent depressive disorder – current episode	Major depressive disorder – recurrent episode
mild without somatic symptoms	Mild
mild with somatic symptoms	
moderate without somatic symptoms	Moderate
moderate with somatic symptoms	
severe without psychotic symptoms	Severe
severe with psychotic symptoms	With psychotic features
Currently in remission	In full remission
Persistent mood (affective) disorders	
Cyclothymia	Cyclothymic disorder (Cyclothymia, p. 348)
Dysthymia	Persistent depressive disorder (dysthymia) (Dysthymia (ICD-10)/persistent depressive disorder (DSM-5), p. 274)
Other persistent mood (affective) disorder	Disruptive mood dysregulation disorder (Diagnosis, p. 700) Premenstrual dysphoric disorder (Premenstrual dysphoric disorder, p. 488) Other specified depressive disorder
Persistent mood (affective) disorder, unspecified	Unspecified depressive disorder

Note: DSM-5 includes additional specifiers—with anxious distress, mixed features, melancholic features, atypical features, mood-congruent or mood-incongruent psychotic features, catatonia, peripartum onset, and seasonal pattern. ICD-11 codes 'Single episode', 'Recurrent', 'Dysthymic disorder', 'Mixed depressive and anxiety', 'Other', and 'Unspecified'. Depressive disorders can be mild, moderate (± psychotic symptoms), or severe (± psychotic symptoms), with unspecified severity, in partial remission, or in full remission.

Psychotic symptoms/features

- *Delusions:* e.g. poverty; personal inadequacy; guilt over presumed misdeeds; responsibility for world events—accidents, natural disasters, war; deserving of punishment; other nihilistic delusions.
- *Hallucinations:* e.g. *auditory*—defamatory or accusatory voices, cries for help, or screaming; *olfactory*—bad smells such as rotting food, faeces, and decomposing flesh; *visual*—tormentors, demons, the Devil, dead bodies, scenes of death, or torture.

Note: these examples are *mood-congruent*. Other *mood-incongruent* psychotic symptoms are also possible (i.e. persecutory delusions, thought insertion/withdrawal, and delusions of control—not clearly depressive in nature).

Other features

- Significant anxious distress.
- Catatonic symptoms.
- Marked psychomotor retardation (depressive stupor).

Diagnosis 2: caseness and subtypes

Clinically significant depressive episode (minimum criteria)

- ICD-10 specifies the presence of at least two *typical symptoms* (depressed mood, anhedonia, or fatigue) *plus* at least two others from the *core symptoms* list.
- DSM-5 requires the presence of five or more symptoms from the core symptoms list (at least one of which must be *depressed mood* or *anhedonia*).

Severity criteria

- ICD-10 and DSM-5 distinguish *mild, moderate*, and *severe episodes* on the basis of symptomatology (see Table 6.2).

Subtypes

- *Without somatic symptoms (ICD-10):* essentially defined as absence of psychotic or marked somatic symptoms, this subtype captures the clinical picture historically described by 'neurotic depression' (in those with certain premorbid personality traits and/or high levels of anxiety) and 'reactive depression' (due to a severely stressful life event; Acute stress disorder (DSM-5), p. 394). Counterintuitively, there is little need to subdivide on the basis of there being a clear precipitant. Life events appear to be provoking factors, but only in those with a predisposition to depression, and treatment should focus on the underlying disorder, as well as coming to terms with any significant provoking factors. Clinically, two different presentations are commonly seen:
  - *Irritable/hostile depression*—younger, anxiety expressed as irritability, history of 'acting out' behaviours in response to stress [e.g. yelling, smashing things up, recklessness, impulsiveness, deliberate self-harm (DSH)]. Poor response to antidepressants.
  - *'Anxious' depression*—shy and withdrawn, highly anxious ('always a worrier'), usually early-onset depression, with a recurrent and persistent course, ↑ likelihood of drug/alcohol dependency, and frequent DSH/attempted suicide. Better response to antidepressants (e.g. SSRIs).
- *With somatic symptoms (ICD-10)/melancholic features (DSM-5):* the presence of 'somatic symptoms' (Diagnosis 1: symptoms, p. 246) defines what is regarded as a more 'biological' or 'endogenous' depressive episode, which is more severe (and more amenable to antidepressant treatment). DSM-5 also includes 'excessive or inappropriate guilt', although this may often be difficult to distinguish from delusional guilt. In clinical studies, the best distinguishing factor from 'non-melancholic' disorders is actually the presence of psychomotor disturbance (an *objective sign* manifest by motor retardation, periodic agitation, and reduced/slowed cognitive functioning).
- *With psychotic symptoms (ICD-10) or features (DSM-5):* usually there is pervasive depressed mood (no reactivity) and marked psychomotor disturbance (sometimes to the point of depressive stupor/catatonia) accompanying delusions (commonly) and hallucinations (10–20%). Constipation is often a feature (~30%), unrelated to medication, and may have a delusional interpretation (e.g. presence of cancer, bowels having been sewn up).

Table 6.2 Severity criteria

	ICD-10	DSM-5
Mild	2 typical symptoms + 2 other core symptoms	5 core symptoms + manageable distress + minor social/occupational impairment
Moderate	2 typical symptoms + 3+ other core symptoms	5+ core symptoms + variable degree of social/occupational impairment
Severe	3 typical symptoms + 4+ other core symptoms	5+ core symptoms + significant social/occupational impairment

Note: in ICD-11, severity is more qualitative, i.e. 'Mild' is when none of the symptoms of a depressive episode are intense, there is some, but not considerable, difficulty in continuing normal activities, and no delusions or hallucinations. 'Moderate' is when several symptoms of a depressive episode are present to a marked degree or a large number of depressive symptoms of lesser severity are present overall and there is considerable difficulty in continuing with normal activities, but the individual is still able to function in at least some areas. 'Severe' is when many or most symptoms of a depressive episode are present to a marked degree or a smaller number of symptoms are present and manifest to an intense degree and the individual is unable to function, except to a very limited degree.

Diagnosis 3: other clinical presentations and differential

There may be marked individual variation in the clinical presentation. Sometimes anxiety may also be prominent (*mixed anxiety and depressive disorder*—ICD-10; *with anxious distress*—DSM-5). Patients with a depressive disorder may not present complaining of low mood but may consult with other primary problems. The possibility of a depressive disorder should be borne in mind, particularly in the primary care setting where many of these patients first seek treatment.

Indirect presentations may include

- Insomnia, fatigue, or other somatic complaints (e.g. headache, GI upset, change in weight). On further questioning, patients may describe irritability or anhedonia but attribute this as secondary to

what they regard as the primary problem (→ Sleep-related breathing disorders 1, p. 444; → Assessment prior to organ transplantation, p. 878; → Dissociative (conversion) disorders, p. 868).
- Elderly persons presenting with agitation, confusion, or a decline in normal functioning (pseudodementia) (→ Other mental health problems in the elderly, p. 554).
- Children presenting with symptoms such as irritability, decline in school performance, or social withdrawal (→ Bipolar disorder in children and adolescents, p. 700).
- Persons from a different cultural background presenting with culture-specific symptoms (→ Culture-bound syndromes?, p. 988).

Other symptoms that may hinder diagnosis
- Presence of a physical disorder whose secondary symptoms (e.g. anorexia, fatigue, insomnia) may mask symptoms of depression.
- Histrionic behaviour (making assessment of severity difficult).
- Exacerbation of other underlying disorders (phobias, OCD—especially when there are depressive ruminations).
- Hypochondriacal ideas (which may have been long-standing).
- The presence of self-harming behaviours (e.g. cutting, frequent overdose), which may represent underlying borderline traits (usually individuals will say they have *never* felt happy or describe chronic feelings of 'emptiness').
- Cognitive impairment or ID (which may mask depressive symptoms or appear more severe because of depression, and hence improve with antidepressants).
- Alcohol and drug misuse (primary or secondary).

Other subtypes of depressive disorder

These are formally recognized in DSM-5 but are subsumed under the rubric 'Other depressive episodes' in ICD-10. They include:
- Atypical depression/DSM-5 'with atypical features' (→ Atypical depressive episode, p. 272).
- Postnatal depression/DSM-5 'with peripartum inset' (→ Postnatal depression, p. 494).
- Seasonal affective disorder/DSM-5 'with seasonal pattern' (→ Seasonal affective disorder, p. 273).
- Premenstrual dysphoric disorder/same in DSM-5 (→ Premenstrual disorders, p. 490).

As a description of the experience of symptoms of depression, the following has never been bettered:

> 'I have of late but wherefore I know not lost all my mirth, forgone all custom of exercises; and indeed it goes so heavily with my disposition that this goodly frame, the earth, seems to me a sterile promontory, this most excellent canopy, the air, look you, this brave o'erhanging firmament, this majestical roof fretted with golden fire, why, it appears no other thing to me than a foul and pestilent congregation of vapours. What a piece of work is a man! how noble in reason! how infinite in faculty! in form and moving how express and admirable! in action how like an angel! in apprehension how like a god! the beauty of the world! the paragon of animals! And yet, to me, what is this quintessence of dust? man delights not me: no, nor woman neither.'
>
> Shakespeare: *Hamlet*, Act II Scene 2.

Differential diagnosis
- *Other psychiatric disorders:* dysthymia, stress-related disorders (adjustment disorders/bereavement, PTSD), bipolar disorder, anxiety disorders (OCD, panic disorder, phobias), eating disorders, schizoaffective disorders, schizophrenia (negative symptoms), personality disorders [especially borderline personality disorder (BPD)].
- *Neurological disorders:* dementia, Parkinson's disease, Huntington's disease, MS, stroke, epilepsy, tumours, head injury.
- *Endocrine disorders:* Addison's disease, Cushing's disease, hyper-/hypothyroidism, perimenstrual syndromes, menopausal symptoms, prolactinoma, hyperparathyroidism, hypopituitarism.
- *Metabolic disorders:* hypoglycaemia, hypercalcaemia, porphyria.
- *Haematological disorders:* anaemia.
- *Inflammatory conditions:* systemic lupus erythematosus (SLE).
- *Infections:* syphilis, Lyme disease, and HIV encephalopathy.
- *Sleep disorders:* especially sleep apnoea.
- *Medication-related:* antihypertensives (β-blockers, reserpine, methyldopa, and calcium channel blockers); steroids; H2 blockers (e.g. ranitidine, cimetidine); sedatives; muscle relaxants; chemotherapy agents (e.g. vincristine, procarbazine, L-asparaginase, interferon, amphotericin, vinblastine); medications that affect sex hormones [oestrogen, progesterone, testosterone, gonadotrophin-releasing hormone (GnRH) antagonists]; cholesterol-lowering agents; and psychiatric medication (especially antipsychotics).
- *Substance misuse:* alcohol, BDZs, opiates, marijuana, cocaine, amphetamines, and derivatives.

Epidemiology

Prevalence 6-mth prevalence range: 2.2% (ECA), 5.3% (NCS), 6.7% (NCS-R; note 2% prevalence of severe episodes) in the general population.

Lifetime rates Wide range: 4.4% (ECA), 16.5% (NCS-R), 30% (Virginia Twin Study); most authorities agree the true rate in the general population is probably 10–20%. There is also evidence that rates are increasing among younger adults.

Sex ratio ♂:♀ = 1:2.

Risk factors (See also Aetiology 1, p. 256–257.)

- *Genetic* (see Box 6.2): heritability estimates range from 17% to 75% (mean 37%), and families also have high rates of anxiety disorders and neuroticism, suggesting a shared genetic basis.
- *Childhood experiences:* loss of a parent (inconsistent across studies), lack of parental care, parental alcoholism/antisocial traits, childhood sexual abuse (CSA). *Note:* cumulative childhood disadvantage confers a greater risk than any single variable. High intelligence and one good adult relationship are protective and increase resilience.
- *Personality traits:* anxiety, impulsivity, obsessionality (i.e. high neuroticism scores).
- *Social circumstances*:
  - *Marital status*—men: low rates associated with marriage, high rates with separation or divorce; women: probably similar, but less clear-cut.
  - Brown and Harris[3] found that, for women, having three or more children under the age of 11, lack of paid employment, and lack of a confiding relationship were associated with ↑ risk of depression (recent studies support the lack of a confiding relationship, but not the other factors).
  - *Adverse life events*—particularly 'loss' events (↑ risk 2–3mths after event) in vulnerable individuals.
- *Physical illness:* especially if chronic, severe, or painful. Neurological disorders (e.g. Parkinson's disease, MS, stroke, epilepsy) have higher risk (perhaps due to 'shared' pathology). Higher rates also noted in post-MI, diabetic, and cancer patients, although family or personal histories of depression are important determinants of occurrence.

Comorbidity About two-thirds of patients will also meet criteria for another psychiatric disorder (e.g. anxiety disorders, substance misuse, alcohol dependency, personality disorders).

Box 6.2 Genetic factors

While the existence of genetic vulnerability to depression is well established in family and twin studies, progress in the identification of its molecular basis has been slow.[1] Functional candidate gene studies have identified few replicable associations, and genome-wide linkage studies have yielded suggestive, rather than conclusive, results. Genome-wide association studies (GWAS) have detected suggestive evidence for a role of genetic variants in the piccolo (*PCLO*) gene (which encodes a presynaptic cytomatrix protein that influences monoamine neurotransmitter release and regulation of the HPA axis) and neuroligin-1 (*NLGN1*) gene (which has a role in the formation and remodelling of CNS synapses). However, the general findings of these studies indicate that the genetic liability to depression is likely to involve multiple genetic variants of weak effects.[2]

Similarly, GWAS of antidepressant treatment outcome, which hope ultimately to help match medications with patients, have been disappointing. Polymorphisms in genes involved in antidepressant metabolism (cytochrome P450 isoenzymes), antidepressant transport (*ABCB1*), glucocorticoid signalling (*FKBP5*), and serotonin neurotransmission (*SLC6A4* and *HTR2A*) have shown initial promise. However, four independent samples—the Sequenced Treatment Alternatives to Relieve Depression (STAR*D) sample (n = 1953), the Munich Antidepressant Response Signature (MARS) sample (n = 339), the Genome-based Therapeutic Drugs for Depression (GENDEP) sample (n = 706), and the GENetic and clinical Predictors Of treatment response in Depression (GENPOD) sample (n = 601)—have failed to report any results that achieved genome-wide significance or that could be replicated, suggesting that much larger samples and better outcome measures will be needed if we are to understand the complex interplay of biological factors involved in depression.[3]

1 Fabbri C, Hosak L, Mössner L, *et al.* (2017) Consensus paper of the WFSBP Task Force on Genetics: genetics, epigenetics and gene expression markers of major depressive disorder and antidepressant response. *World J Biol Psychiatry* **18**:5–28.

2 Lewis CM, Ng MY, Butler AW, *et al.* (2010) Genome-wide association study of major recurrent depression in the UK population. *Am J Psychiatry* **167**:949–57.

3 Laje G, McMahon FJ (2011) Genome-wide association studies of antidepressant outcome: a brief review. *Progr Neuro-Psychopharmacol Biolog Psychiatry* **35**:1553–7.

Aetiology 1

The aetiology of depression has yet to be fully understood; however, it is likely to be due to the interplay of biological, psychological, and social factors in the lifespan of an individual. Psychosocial stressors may play a role both as *precipitants* and *perpetuating factors*, increasing the risk of chronicity and recurrence, while individuals with established depression are at higher risk of further stressors of many kinds. One attempt to integrate these factors is the biopsychosocial model (see Fig. 6.1).

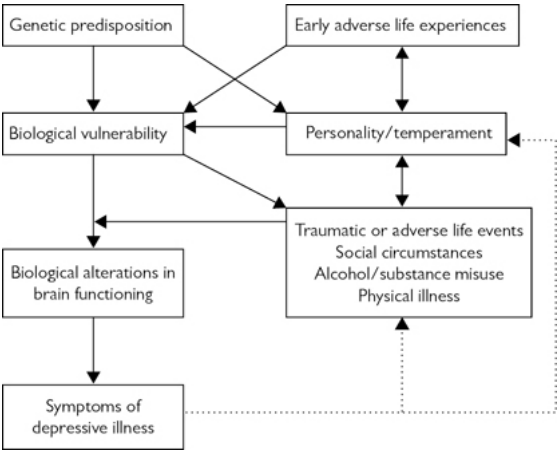

Fig. 6.1 The biopsychosocial model of depression.

Early adverse experience

Developmental or social effects have previously been viewed as not being biological in nature. The modern view is that the fetal environment and later environmental stressors do have neurobiological consequences mediated through the HPA axis (possibly by epigenetic effects on genes that regulate glucocorticoid sensitivity, e.g. FKBP5, NF-κB). These changes in stress regulation may contribute to the expression of psychiatric disorder. More research is needed in this area, as data from human studies are limited.

Personality/temperament factors

These are enduring traits with a biological basis, influenced over the lifespan by inherited factors, experience, and maturation. They mediate the level and nature of response to sensory experience, regulated by context and manifest as subjective emotions and objective behaviours. Certain temperaments (e.g. neuroticism or high 'N') may increase vulnerability to depression, perhaps due to the presence of autonomic hyperarousal (heightened responses to emotional stimuli), lability (unpredictable responses to emotional stimuli), or negative biases in attention, processing, and memory for emotional material.

Psychological factors

Disruption of normal social, marital, parental, or familial relationships is correlated with high rates of depression and is a risk factor for recurrence. An aetiological role has yet to be demonstrated, but adverse childhood experiences/chronic stressors may influence the sensitivity of individuals to later stressful events. Low self-esteem (negative view of self, the past, current events, and the future) is proposed as a vulnerability factor (either as a *causal* factor or as a *symptom* of depression).

Gender

Although the ↑ prevalence of depression in women is a robust finding, explanations of why this may be so are various. These include: restricting social and occupational roles, being over- or under-occupied, ruminative response styles, and endocrine factors (suggested by ↑ risk of depression in the premenstrual and post-partum periods). There is little supportive evidence for these theories. One popular hypothesis is that women are more likely to admit to depressive symptoms, whereas men are not and tend to express their symptoms differently (e.g. through alcohol abuse and antisocial behaviour).

Social factors

There are two main arguments to explain why people of low socio-economic status (low levels of income, employment, and education) are at a higher risk of depression: *social causation*—stress associated with such problems leads to depression (an environmental argument); and *social selection*—predisposed individuals drift down to lower social positions or fail to rise from them (a genetic argument). There is stronger evidence for the social causation argument, as *social isolation* has been shown to be a key risk factor.

Biology

(See Box 6.3.)

Box 6.3 Evolution, inflammation, and depression

Complex interactions between inflammatory pathways (activated by psychosocial stressors) and brain function may explain how behaviours, such as avoidance and alarm that evolved to help deal with pathogens and predators, lead to the development of depression in modern humans, with altered motivation and motor activity (anhedonia, fatigue, and psychomotor impairment) and ↑ threat sensitivity (anxiety, arousal, and alarm).[1] Biomarkers of inflammation in patients with depression include blood levels of IL-1β, IL-6, TNF, and CRP. Blockade of cytokines (e.g. TNF) or inflammatory signalling pathway components, such as cyclo-oxygenase 2, have been shown to reduce depressive symptoms in patients with medical illnesses, including rheumatoid arthritis, psoriasis, and cancer, as well as in patients with depression. Better understanding of these neuropsychoimmunological mechanisms is likely to lead to novel future therapeutic approaches to depression.

1 Miller AH, Raison CL (2016) The role of inflammation in depression: from evolutionary imperative to modern treatment target. *Nat Rev Immunol* **16**:22–34.

Aetiology 2

Brain pathology

Structural brain changes Severe depression is associated with ventricular enlargement and sulcal prominence. ↑ rate of white matter lesions in older patients (perhaps related to vascular disease). Refractory cases associated with reduced grey matter in the left hippocampus (correlating with verbal memory), basal ganglia, and thalamus. Other studies find reduced cortical volumes in the left parietal and frontal association areas.

Post-mortem findings Reduced GABA function, abnormal synaptic density or neuronal plasticity in the hippocampus; glial cell abnormalities; reduced expression of serotonin transporter (SERT) mRNA in the dorsal raphe nucleus.

Functional imaging (see Box 6.4) Studies report hypoperfusion in frontal, temporal, and parietal areas (especially in older patients) and ↑ perfusion in the frontal and cingulate cortex (in younger patients, associated with good treatment response). Activation, lesioning, and brain stimulation studies in humans[4] all point to two functionally segregated areas of the prefrontal cortex as being critical neural substrates for depression: the ventromedial prefrontal cortex (vmPFC)—associated with negative affect, physiological symptoms, self-awareness/insight; and the dorsolateral prefrontal cortex (dlPFC)—associated with cognitive/executive functioning, (re)-appraisal of affect states, suppression of emotional responses.

Box 6.4 Endophenotypes, imaging, and genetic correlates in the aetiology of depression

Imaging studies identify traits, or 'endophenotypes', that are heritable, intermediate phenotypes associated with depression. These presumably have a simpler genetic basis than the full syndrome (or even individual symptoms), making them more amenable to genetic analysis and enabling the generation of testable hypotheses.[1] Examples include:

- Mood-congruent phenomenon of ↑ activity of the amygdala in response to negative stimuli, which is likely moderated by the 5-HT transporter gene (*SLC6A4*) promoter polymorphism (5-HTTLPR).
- Hippocampal volume loss, especially in elderly or chronically ill samples related to val66met brain-derived neurotrophic factor (BDNF) gene variant and 5-HTTLPR SLC6A4 polymorphism.
- White matter pathology in elderly and more severely ill samples (allowing for complications of cerebrovascular disease).
- ↑ blood flow or metabolism of the subgenual anterior cingulate cortex (sgACC) and associated grey matter loss.
- Attenuation of the usual pattern of fronto-limbic connectivity, particularly ↓ temporal correlation in amygdala–anterior cingulate cortex (ACC) activity.
- ↓ 5-HT_{1A} binding in the raphe, medial temporal lobe, and medial prefrontal cortex (mPFC) and a functional polymorphism in the promoter region of the *5-HT1A* gene.
- Alterations in the binding potential of the 5-HT transporter.

Hopefully, it will not be long before we begin to see further advances in these areas, as epigenetic, copy number variant, gene–gene interaction, and GWAS (see Box 6.2) approaches are brought to bear on imaging data.

1 See review: Savitz JB, Drevets WC (2009) Imaging phenotypes of major depressive disorder: genetic correlates. *Neuroscience* **164**:300–30.

Neurotransmitter abnormalities

The discovery that all antidepressants increase monoamine (i.e. 5-HT, NA, DA) release and/or reduce their reuptake in the synaptic cleft led to development of the *monoamine theory of depression*, which suggests that reduced monoamine function may cause depression. Blunted neuroendocrine responses and symptom induction by tryptophan depletion (5-HT precursor) suggest an important role for 5-HT.

Neuroendocrine challenge tests

Blunted prolactin and growth hormone (GH) responses to tryptophan/citalopram (5-HT system), blunted GH responses to clonidine (NA system) and apomorphine (DA system), and ↑ GH response to physostigmine (ACh system) suggest reduced monoamine functioning and ↑ cholinergic functioning

in depression. ↑ cortisol seen in ~50% of patients (particularly 'endogenous' subtype), associated with adrenal hypertrophy, and dexamethasone non-suppression of cortisol (also in other psychiatric conditions, hence not a sensitive test, despite an apparent specificity of ~96%).

Thyroid abnormalities

Abnormalities in the thyroid-stimulating hormone (TSH) response to thyrotropin-releasing hormone (TRH) have been found—both blunting and enhancement—despite normal thyroid hormone levels, suggesting further research is necessary, especially when T_3 is shown to have utility in treatment-resistant cases (An approach to treatment-resistant depression, p. 270).

Changes in sleep pattern

EMW is most typical in endogenous or melancholic depression; initial insomnia, frequent waking, and unsatisfactory sleep are also commonly seen in depression. Causal relationship of sleep to depression is currently unknown. In severe depression, there is reduced total SWS and shortened REM latency [secondary to ↑ cholinergic (REM-on) and/or reduced serotonergic/noradrenergic (REM-off) drive]. Sleep changes resolve with recovery from depression, and sleep disturbance may be an early predictor of impending relapse.

Diagnosis and investigations

Diagnosis

- The diagnosis of depression is primarily based on a good psychiatric history and physical examination (Why do psychiatrists not look at the brain?, p. 14).
- In addition to focused questioning on mood (Speech, p. 62; Abnormal mood, p. 63; Asking about depressed mood, p. 64; Diagnosis 1: symptoms, p. 246), it is useful to administer a standardized rating scale, such as the Hamilton Rating Scale for Depression (HAM-D), the Beck Depression Inventory (BDI), or the Zung Self-Rating Depression Scale,[5] as a baseline measure prior to any change to management plans.
- Given the significant comorbidity with anxiety, some clinicians will also rate anxiety symptoms separately, e.g. the Hamilton Anxiety Rating Scale (HAM-A), the Beck Anxiety Inventory (BAI), or the Zung Self-Rating Anxiety Scale.[6]
- Patients with depression often complain of poor memory or concentration. In these cases, it is also worth administering the MMSE (Assessing cognitive function 2, p. 86). If cognitive impairment is significant, further more detailed neuropsychological testing may be indicated (e.g. ACE-R).

Investigations

There are no specific tests for depression. Investigations focus on the exclusion of treatable causes (Differential diagnosis, p. 253) or other secondary problems (e.g. loss of appetite, alcohol misuse).

- *Standard tests:* FBC, ESR, B12/folate, U&Es, LFTs, TFTs, glucose, Ca^{2+}.
- *Focused investigations:* only if indicated by history and/or physical signs:
  - Urine or blood toxicology.
  - Breath or blood alcohol.
  - Arterial blood gas (ABG).
  - Thyroid antibodies.
  - Antinuclear antibody.
  - Syphilis serology.
  - Additional electrolytes, e.g. phosphate, magnesium, zinc.
  - Dexamethasone suppression test (Cushing's disease).
  - Cosyntropin stimulation test (Addison's disease).
  - Lumbar puncture (VDRL, Lyme antibody, cell count, chemistry, protein electrophoresis).
  - CT/MRI, EEG.

Course and prognosis

Points to note

- Depression may occur at any age, although late-onset depression may be milder, more chronic, more likely to be associated with life events, and more likely to have a subclinical prodrome.
- Depressive episodes vary from 4 to 30wks for mild to moderate cases, to an average of about 6mths for severe cases (25% will last up to 1yr).
- Episodes of recurrent depression tend to be shorter (4–16wks).
- 10–20% of patients will have a chronic course, with persistent symptoms lasting over 2yrs.
- The majority of patients experiencing a depressive episode will have further episodes later in life (risk of recurrence is ~30% at 10yrs, ~60% at 20yrs), but inter-individual variation makes it impossible to predict the likely period of time before future episodes, although, as with bipolar disorder, the greater the number of recurrences, the shorter the time between episodes.
- Risk of recurrence is greater when there are residual symptoms after remission (about a third of cases), e.g. low mood, anxiety, sleep disturbance, reduced libido, and physical symptoms (headache, fatigue, GI upset).
- There is good evidence that modern antidepressant treatments impact significantly upon all these quoted figures, reducing the length of depressive episodes; and if treatment is given long term, the

incidence of residual symptoms is less, there are fewer recurrent episodes, and chronicity may be as low as 4%.

Mortality

- Suicide rates for severe depressive episodes vary but may be up to 13% (i.e. up to 20 times more likely than the general population), with a slightly higher rate for those who have required hospital admission (12–19%). For less severe episodes, rates are much lower.
- The overall death rate for patients with depression is higher than the general population [standardized mortality ratio (SMR) 1.37–2.49], with the cause of death usually due to suicide, drug and alcohol problems, accidents, cardiovascular disease, respiratory infections, and thyroid disorders.

Prognostic factors

- *Good outcome:* acute onset, endogenous depression, earlier age of onset.
- *Poor outcome:* insidious onset, neurotic depression, elderly, residual symptoms, neuroticism, low self-confidence, comorbidity (alcohol or drug problems, personality disorders, physical illness), lack of social supports.

Management principles and outpatient treatment

Initial assessment

- *History:* key areas of enquiry include:
  - Any clear psychosocial precipitants.
  - Current social situation.
  - Use of drugs/alcohol.
  - Past history of previous mood symptoms (including 'subclinical' periods of low or elevated mood, previous DSH/suicide attempts).
  - Previous effective treatments.
  - Premorbid personality.
  - Family history of mood disorder.
  - Physical illnesses.
  - Current medication.
- *MSE* (Diagnosis and investigations, p. 260): focused enquiry about subjective mood symptoms, somatic symptoms, psychotic symptoms, symptoms of anxiety, thoughts of suicide. Objective assessment of psychomotor retardation/agitation, evidence of DSH, cognitive functioning (MMSE).
- *Physical examination:* focused on possible differential diagnoses (Differential diagnosis, p. 253).
- *Baseline investigations* (Diagnosis and investigations, p. 260).

Questions of severity and initial treatment options[7]

- When depressive symptoms are mild and of recent onset and there is no previous history of a more severe mood disorder, most guidelines suggest refraining from use of antidepressants. Close active monitoring is advised and, depending on patient preference, use of individual guided self-help (based on CBT principles), computerized cognitive behavioural therapy (CCBT), or structured group physical activity programmes.
- Antidepressants may be considered where there is:
  - A past history of moderate or severe depression.
  - An initial presentation of subthreshold depressive symptoms that have been present for a long period (typically at least 2yrs).
  - Subthreshold depressive symptoms or mild depression that persist(s) after other interventions.
- Treatment for moderate or severe depression combines antidepressant medication (Treating depressive illness (without psychotic features), p. 266; Treating depressive illness (with psychotic features), p. 268) and a high-intensity psychological intervention [e.g. CBT or interpersonal therapy (IPT); Treating depressive illness (without psychotic features), p. 266].
- Usually pharmacological treatment can be initiated on an outpatient basis (severe cases may require admission; Hospital admission, p. 264).
  - Choice of antidepressant is guided by anticipated safety and tolerability, physician familiarity (which allows for better patient education in anticipation of adverse effects), presenting symptoms, and history of prior treatments (Antidepressants, p. 276).
  - Initially, follow-up will usually be fairly frequent (1–4wks) to monitor treatment response and assess for any unwanted side effects.
  - Once treatment is established (and is effective), the time between appointments may be ↑ (see Aftercare following discharge, p. 265; Treating depressive illness (without psychotic features), p. 266; and Treating depressive illness (with psychotic features), p. 268 for further guidance).

Hospital admission

Sometimes acute episodes of depressive disorder are severe enough to require hospital admission (which may be on a compulsory basis). As for all psychiatric disorders, issues of safety and the

provision of effective treatment will govern the decisions about whether a patient can remain in the community.

Points to note

- Due to symptoms of low self-esteem or guilt, some patients may refuse admission to hospital because they feel unworthy or they are 'using up a valuable bed'. Sympathetic reassurance that this is not the case and that the clinician believes they are sufficiently ill to benefit from hospital admission may avoid unnecessary detention.
- Some patients (or relatives) may demand admission to hospital. Although this usually is due to personality factors, it may also be due to (sometimes erroneous) ideas of what may be reasonably achieved in a hospital setting (e.g. intensive psychotherapy for one specific issue) or may reflect undisclosed factors that have created a social crisis. A non-confrontational approach in eliciting the reasons behind such demands may reveal other important issues that may help the decision-making process (including those which may be dealt with by other agencies, e.g. emergency accommodation/refuge).

Common reasons for hospital admission

- Serious risk of suicide (Asking about depressed mood, p. 64).
- Serious risk of harm to others (especially children; Child maltreatment 2: the duty of care, p. 714).
- Significant self-neglect (especially weight loss).
- Severe depressive symptoms.
- Severe psychotic symptoms.
- Lack or breakdown of social supports.
- Initiation of ECT.
- Treatment-resistant depression (where inpatient monitoring may be helpful).
- A need to address comorbid conditions (e.g. physical problems, other psychiatric conditions, inpatient detoxification).

Suitable environment?

Where there is significant risk of harm to self (or others), admission should be to a ward where close observation and monitoring are possible. Observation levels ought to be regularly reviewed. The ward environment is often not the quiet sanctuary patients hope for, and this may lead to difficult decisions in balancing the risk of self-harm against the use of compulsory admission. Careful assessment of a patient's insight into their illness, issues of comorbid substance misuse, and clear evidence of their ability to seek additional support when symptoms are worse may allow for a more flexible approach in permitting time out from the ward environment (perhaps in the company of a responsible relative or friend).

Aftercare following discharge

Following hospital discharge or for outpatients started on antidepressant treatment, initial follow-up should be regular (2–4wks) to monitor progress, ensure treatment response is maintained, and allow time for other supports (e.g. CPN services, crisis/home treatment services, day hospitals, specific psychotherapies) to become established.

Risk of suicide is ↑ *at this time*, as energy and motivation improve and the patient struggles with the consequences of being unwell.

Key aims for follow-up

- Establishing and maintaining a therapeutic alliance.
- Monitoring the patient's psychiatric status.
- Providing education regarding depressive disorder and the treatment options.
- Enhancing treatment compliance.
- Monitoring side effects of medication.
- Identifying and addressing any significant comorbidity.
- Promoting regular patterns of activity and rest.
- Identifying unmet needs for specific (practical) support, counselling, (bereavement, stress management), or psychotherapy.
- Promoting understanding of, and adaptation to, the psychosocial effects of symptoms.
- Identifying new episodes early.
- Reducing the morbidity and sequelae of depressive disorder.

The ultimate aim is return to normal activities (academic, employment, home life, social activities), usually in a graded way as the resolution of symptoms allows, using a collaborative approach.

Maintenance treatment (Treating depressing illness (without psychotic features), p. 266; Treating depressing illness (with psychotic features), p. 268) will usually be monitored in the primary care setting, with specific advice about continuation of medication and what to do should symptoms recur.

Treating depressive illness (without psychotic features)

First-line treatment

- Antidepressant drugs are effective in 65–75% of patients.
- For mild to moderate episodes or where antidepressants are contraindicated (e.g. recent MI), CBT or other psychotherapies may have a role (Management principles and outpatient treatment, p. 262 for NICE recommendations CG90).

- The combination of psychological approaches and pharmacotherapy may be synergistic, but in severe cases, treatment—at least initially—is almost exclusively pharmacological or physical (e.g. ECT).

Choosing an antidepressant

The decision about *which* antidepressant to choose will depend upon:

- *Patient factors:* age, sex, comorbid physical illness (cardiac, renal, liver, neurological) (Prescribing for patients with cardiovascular disease, p. 1032; Prescribing for patients with liver disease, p. 1034; Prescribing for patients with renal impairment, p. 1036), previous response to antidepressants.
- *Issues of tolerability* (Antidepressants, p. 276).
- *Symptomatology:* sleep problems (more sedative agent), lack of energy/hypersomnia (more adrenergic/stimulatory agent), mixed (e.g. with anxiety/panic—SSRI/imipramine), OCD symptoms (clomipramine/SSRI), risk of suicide (avoid TCAs).

Adequate trial

Generally, an adequate trial of an antidepressant is defined as at least 4wks of the highest tolerated dose (up to *BNF* maximum).

Suicide risk

The risk of suicide may actually be ↑ in the early stages of antidepressant treatment. Often patients with previous marked psychomotor retardation have been unable to act upon their thoughts of self-harm. Partial treatment response may 'free' them to do this, hence careful monitoring is critical (and admission to hospital may be indicated).

Treatment failure—second-line treatment

Failure of an adequate trial of an antidepressant may occur in ~25% of cases. A similar number of patients will experience unacceptable side effects, leading to withdrawal of the agent without completing an adequate trial. For these patients, second-line treatment is with an alternative agent, usually from a different class of antidepressant or from the same class but with a different side effect profile.

Partial responders

(An approach to treatment-resistant depression, p. 270.)

~50% of patients who have only partially responded to a TCA, an SSRI, or an MAOI may benefit from the addition of lithium (usual dose 600–900mg/day). Treatment response is generally observed within 2wks. Alternative 'augmentative' strategies include the use of tri-iodothyronine (T_3) or tryptophan.

Electroconvulsive therapy

(ECT 2: indications, contraindications, and considerations, p. 296.)

- ECT may be considered as a first-line therapy when there are severe biological features (e.g. significant weight loss/reduced appetite) or marked psychomotor retardation.[8]
- It is sometimes used when the patient is at high risk of harming themselves or others (where there is clear evidence of repeated suicide attempts or significantly aggressive behaviour) or where psychotic features are prominent (Treating depressive illness (with psychotic features), p. 268). Under these circumstances, issues of consent to treatment must be considered (ECT 2: indications, contraindications, and considerations, p. 296).
- It may also be considered as a second- or third-line treatment for non-responders to pharmacotherapy.

Maintenance therapy

First episode

- A collaborative approach with the patient should emphasize compliance (even when feeling 'better'), with advice to continue the effective treatment for 6mths to 1yr after remission (particularly if there are residual symptoms).
- Discontinuation should be gradual, and if there is recurrence of symptoms, revert to the effective dose, with further attempt at withdrawal after at least a further 4–6mths.
- Often patients wish to continue medication indefinitely (particularly after a severe episode), and reassurance should be given that there is no evidence of any specific long-term problems with such a course of action.

Recurrent episodes

- If the period between episodes is <3yrs, or with severe episodes (especially with marked suicidal thought/actions), prophylactic treatment should be maintained for at least 5yrs (often indefinitely—risk of relapse if medication stopped is 70–90% within 5yrs).
- Otherwise treat as for *first episode*.

Electroconvulsive therapy

- If ECT has been used as a first-line therapy and remission is maintained with medication, treat as for first episode.
- If ECT has been used successfully as second- or third-line treatment, consider *maintenance* ECT as an option. [*Note:* not recommended in recent NICE guidelines (ECT 5: further notes on treatment, p. 304) where there is evidence that ECT effectively treats relapse of symptoms. There is some evidence that ECT every 2wks may be an effective prophylactic (this does not preclude further trials of pharmacotherapy).]

Treating depressive illness (with psychotic features)

Electroconvulsive therapy

(ECT 2: indications, contraindications, and considerations, p. 296.)

- For depression with psychotic features, ECT should be considered as first-line therapy, as evidence supports the superior efficacy of ECT to pharmacotherapy in this patient group, with significant benefit in 80–90% of cases. (*Note:* current NICE guidelines do not support this practice; Box 6.11, p. 296).
- Often issues of consent or relative contraindications may preclude the immediate use of ECT, and its role is often that of a second-line treatment after partial response or failure of pharmacotherapy.

Combination treatment (antidepressant plus antipsychotic)

- It is usual to commence treatment with an antipsychotic agent (as for an acute psychotic episode; Initial treatment of acute psychosis, p. 200) for a few days before commencing an antidepressant. This allows for a period of assessment (to exclude a primary *psychotic* disorder), may improve compliance (when psychotic symptoms clearly improve with medication), avoids potential *worsening* of psychotic symptoms with an antidepressant (in some predisposed individuals), and may help identify the 30–50% of patients who do respond to an antipsychotic alone. This approach is effective in 70–80% of patients.
- There is no clear evidence for any *particular* combination of medication being more efficacious, but the available evidence indicates that combination therapy with an antidepressant plus an antipsychotic is more effective than either treatment alone or placebo.[9] It is not unusual for low doses of antipsychotics to be added to an antidepressant, e.g. chlorpromazine or quetiapine (25–50mg at night). The most studied is the olanzapine–fluoxetine combination (OFC), mainly due to the fact that it is available as a single capsule (OFC—Symbyax®) in the USA.[10]
- Starting an antidepressant first and adding an antipsychotic, if necessary, may be a better strategy as far as cost–benefit to the patient.[11]

Additional practice points

- Symptoms ought to be carefully monitored, as antipsychotic side effects may mask improvement in depressive symptoms—hence use of the lowest effective dose is advocated (e.g. around 2–4mg haloperidol or equivalent).
- Combinations of antidepressant/antipsychotic may worsen side effects common to both (e.g. sedation, anticholinergic effects), and careful dose titration is necessary.
- Once acute psychotic symptoms have resolved, a lower dose of antipsychotic (or withdrawal) may be indicated, particularly when patients begin to manifest side effects (which were not seen in the acute stages, even with higher doses)—with careful monitoring for recurrence of psychotic symptoms.

Dual-action agents

There is some evidence that single agents with dual actions, such as amoxapine (a tetracyclic antidepressant with significant D_2 antagonism), or antipsychotics, such as aripiprazole, clozapine, olanzapine, quetiapine, or risperidone, may be effective in treating both aspects of depression with psychotic symptoms. To date, evidence does not exist to support use of these agents for *long-term* treatment—where there are issues of compliance/tolerability, the utility of using a *single* agent is attractive but should be considered carefully.[9]

Maintenance therapy

- When ECT has been used, maintenance usually involves treatment of the underlying depressive symptoms with an antidepressant (as in episodes *without* psychotic symptoms; Treating depressive illness (without psychotic features), p. 266).
- When combination treatment has been successful, maintenance often involves a clinically effective antidepressant with the lowest effective antipsychotic dose. As for dual-action agents, evidence is lacking with regard to long-term treatment, and this tends to be pragmatic, on the basis of continued symptomatology.
- In view of the *severity* of the disorder, prophylactic use of an antidepressant and/or antipsychotic is prudent (often indefinitely, as for recurrent depressive episodes; Recurrent episodes, p. 267).

An approach to treatment-resistant depression

Commonly defined as 'failure to respond to adequate (dose and duration—i.e. max *BNF* dose for at least 4wks) courses of two antidepressants, or one antidepressant and ECT'. The consequences of resistant depression include reduced quality of life, excessive strain on relationships (which may lead to break-up of families), significant personal economic impact, ↑ physical comorbidity (e.g.

malignancy, cardiovascular disease, even premature death), ↑ risk of suicide, therapeutic alienation (making further interventions difficult due to difficulties forming a therapeutic alliance), and high use of psychiatric services (without clear benefit).

Differentiating treatment resistance

It is important to distinguish actual treatment resistance from chronicity of symptoms. Apparent treatment failure may also occur due to: incorrect initial diagnosis (i.e. not depressive disorder in the first place), inadequate initial treatment, poor compliance, incomplete formulation (especially role of maintaining factors), and issues of comorbidity (both physical and other psychiatric disorders).

Risk factors for treatment resistance

Concurrent physical illness, drug/alcohol abuse, personality disorder, high premorbid neuroticism, long period of illness prior to treatment.

Management

(See references.)[12,13]

- *Review diagnostic formulation:* is the diagnosis correct? Are there any unaddressed maintaining factors (e.g. social, physical, psychological)? *Note:* a proportion of individuals with chronic, refractory depression will have unrecognized bipolar disorder.
- *Check patient understanding/compliance*: serum levels may help.
- *Continue monotherapy at maximum tolerable dose:* may mean exceeding *BNF* guidelines (especially if there has been partial benefit).
- *Consider change in antidepressant:* try a different class of antidepressant.
- *Consider augmentation with an antipsychotic:* e.g. quetiapine, aripiprazole, risperidone, olanzapine.
- *Consider mood stabilizer augmentation:* e.g. lithium, lamotrigine.
- *Consider additional augmentative agents:* e.g. T_3, tryptophan (since February 2013 no longer available in the UK).
- *Consider combining antidepressants from different classes:* caution is advised, due to possible serious adverse reactions (Serotonin syndrome, p. 1022), e.g. mirtazapine, bupropion (Combining antidepressants, p. 279).
- *Other pharmacological possibilities*: buspirone, modafinil, stimulants, oestrogen in perimenopausal women, testosterone in men with low testosterone levels.
- *Consider use of ECT* (ECT 2: indications, contraindications, and considerations, p. 296): especially if severe biological features or psychotic symptoms.
- *Consider possibility of psychosurgery or other advanced intervention:* Neurosurgery for mental disorder, p. 310; Other physical treatments, p. 312.

Points to note

- There is little definitive evidence to support any specific augmentative regime (see Box 6.5).
- Spontaneous remission is possible—'regression to the mean' suggests that symptoms will improve; bear in mind that the natural life of depression is 6–18mths, even when untreated.
- Psychological and social interventions, particularly when psychosocial factors appear paramount, may be important (often overlooked or undisclosed) aspects of management.

Box 6.5 STAR*D trial

The Sequenced Treatment Alternatives to Relieve Depression (STAR*D) trial is one of the largest independent studies undertaken by the NIMH to examine the effectiveness of a variety of treatments for non-psychotic major depression. The initial report was published in the *American Journal of Psychiatry* in November 2006.[1]

- A fairly representative outpatient sample (n = 3671) underwent four steps:
  - *Level 1*—citalopram.
  - *Level 2*—switch (to bupropion, sertraline, venlafaxine XR, or cognitive therapy) or combine (bupropion, buspirone, cognitive therapy).
  - *Level 2a*—if cognitive therapy alone or plus citalopram, add or switch to bupropion or venlafaxine XR.
  - *Level 3*—switch (to nortriptyline or mirtazapine) or augment (with lithium or T_3).
  - *Level 4*—switch (to tranylcypromine) or combine (venlafaxine XR plus mirtazapine).
- Remission rates were 37%, 31%, 14%, and 13%, respectively, for each level, with an overall cumulative remission rate of 67%.
- The trial highlighted patient preference for combinations/augmentations and provided some evidence to support certain strategies, e.g. lithium or T_3 augmentation; combining citalopram plus bupropion, buspirone, or venlafaxine plus mirtazapine.

1 Rush AJ, Trivedi MH, Wisniewski SR, *et al.* (2006) Acute and longer-term outcomes in depressed outpatients requiring one or several treatment steps: a STAR*D report. *Am J Psychiatry* **163**:1905–17.

Atypical depressive episode

Regarded as a subtype of depressive disorder, rather than a separate entity. Atypical features coded in DSM-5 as an 'episode specifier'. May be coded under 'Other (specified) depressive episodes' in ICD-10 (/ICD-11).

Clinical features

- Mood is depressed but remains reactive (able to enjoy certain experiences, but not to 'normal' levels).
- Hypersomnia (sleeping >10hrs/day, at least 3 days/wk, for at least 3mths).
- Hyperphagia (excessive eating, with weight gain of over 3kg in 3mths).
- 'Leaden paralysis' (feeling of heaviness in the limbs, present for at least 1hr/day, 3 days/wk, for at least 3mths).
- Oversensitivity to perceived rejection.[14]
- Other infrequent symptoms may include: initial insomnia, rather than EMW; reversed diurnal mood variation (better in the morning); severe motor retardation; and absence of feelings of guilt.

Epidemiology

Onset usually in late teens and early 20s, often (up to 30%) family history of affective disorders.

Comorbidity

Higher rates of anxiety (especially panic disorder and social phobia), somatization disorder (Somatization disorder, p. 864), alcohol and drug misuse than in other depressive disorders.

Management

(See Reference.)[15]

- Best evidence is for the use of phenelzine (15mg/day, ↑ gradually to 60–90mg/day in divided doses —continue for 8–12wks to assess benefit) or another MAOI (Monoamine oxidase inhibitors and reversible monoamine oxidase inhibitors, p. 282 for guidance on prescribing/dietary advice). Reversible monoamine oxidase inhibitors (RIMAs) theoretically ought to be as effective and safer (but evidence is lacking).
- Alternatives include SSRIs (e.g. fluoxetine or sertraline) or possibly a NARI (e.g. reboxetine).
- TCAs have traditionally been regarded as less effective. However, some individuals may respond well, and the best evidence is for the use of imipramine.
- Where there is failure to respond to an adequate trial of an antidepressant, follow management principles outlined in Treating depressive illness (without psychotic features), p. 266; Treating depressive illness (with psychotic features), p. 268; An approach to treatment-resistant depression, p. 270).

Seasonal affective disorder

A somewhat controversial concept, both in terms of diagnosis (Clinical features, see below) and treatment (using bright light therapy; Other physical treatments, p. 312). In DSM-5, 'with seasonal pattern' is included in specifiers describing the course of recurrent depressive episodes of both depressive and bipolar disorder. Included under 'Recurrent depressive disorder' in ICD-10/11.

Clinical features

There must be a clear seasonal pattern to recurrent depressive episodes (i.e. they have occurred at the same time of year each time and fully remit once the season is over). In the northern hemisphere, this is said to be usually around January/February ('winter depression'). Symptoms are generally mild to moderate, with low self-esteem, hypersomnia, fatigue, ↑ appetite (including carbohydrate craving), weight gain, and ↓ social and occupational functioning.

Aetiology

It is unclear whether this constitutes a separate subtype of depressive disorder or whether it is simply a manifestation of atypical depression (Atypical depressive episode, p. 272). The speculated mechanism involving melatonin synthesis has not been confirmed in controlled studies, and some authors suggest that seasonal psychosocial factors may be more important in determining the timing of recurrent depressive episodes (e.g. ↑ work demands over the Christmas and New Year periods for shopworkers).

Epidemiology

In the USA, prevalence of seasonal affective disorder (SAD) is estimated at ~5%; ♂:♀ = 1:5.

Management

- *Bright light therapy* (Other physical treatments, p. 312): initially, 2hrs of 2500lx (or equivalent) on waking (response seen within 5 days and full response in 1–2wks). Maintenance therapy should be given all winter (30min of 2500lx every 1–2 days). Patients should avoid exposure to bright light during night-time. *Good prognostic factors*—patients with clear hypersomnia, carbohydrate craving, reduced energy in the afternoon.
- *Pharmacological:* best evidence for bupropion XL (licensed in the USA, not the UK[16]) and SSRIs (fluoxetine, sertraline, citalopram, escitalopram). Alternatives include pre-sunrise propranolol (60mg/day) to suppress morning melatonin; melatonin/agomelatine at night; or other antidepressants (e.g. mirtazapine, reboxetine, duloxetine, moclobemide).
- *Psychological:* standard cognitive-based interventions are often used (as for depression), but the evidence base for effectiveness is lacking.

Dysthymia (ICD-10)/persistent depressive disorder (DSM-5)

Previously considered a subtype of personality disorder (see Box 6.6). Essentially, the presence of chronic depressive symptoms. These may be long-standing, but careful history-taking reveals a time when the person *did* feel 'well'. It is possible to have superimposed depressive episodes (double depression), when care is needed in assessing treatment response, as baseline may be dysthymic, rather than euthymic.

Clinical features

- Depressed mood (>2yrs).
- Reduced/i appetite.
- Insomnia/hypersomnia.
- Reduced energy/fatigue.
- Low self-esteem.
- Poor concentration.
- Difficulties making decisions.
- Thoughts of hopelessness.

Aetiology

Findings suggest dysthymia is biologically related to depressive disorder, e.g. family history suggesting shared genetics; shortened REM latencies in sleep studies; diurnality of symptoms; TRH/TSH challenge test abnormalities; low testosterone and adrenal–gonadal steroid levels; lowered interleukin (IL)-1β; small genual corpus callosum volume; enlarged amygdala; s-allele polymorphism of 5-HT transporter gene.

Epidemiology

Prevalence 3–5%, ♂:♀ = 1:2, usually early onset (<20yrs), but late-onset subtype seen (>50yrs).

Course

Less severe. More chronic than depression. Community studies show low spontaneous remission rate (2–20yrs, median 5yrs).

Management

- *Pharmacological:* SSRIs are probably the treatment of choice, with the best evidence for citalopram (40mg/day) and fluoxetine (20–40mg/day). Alternatives include moclobemide, TCAs (e.g. amitriptyline, desipramine, imipramine), MAOIs, or low-dose amisulpride (25–50mg/day). Drug therapy may take several months to show benefit[17] and should be regarded as a long-term treatment.
- *Psychological:* although evidence is lacking, CBT may be useful (usually in combination with an antidepressant). Alternatives include psychodynamic, insight-orientated or interpersonal psychotherapy, or cognitive–behavioural analysis system of psychotherapy (CBASP) (Cognitive–behavioural analysis system of psychotherapy, p. 928).

Prognosis

Variable: spontaneous recovery reported as 13% over 1yr in community samples; outpatient studies suggest 10–20% of treated patients achieve remission within 1yr; ~25% suffer chronic symptoms.

Box 6.6 Dysthymia—an brief history

'Dysthymia', meaning 'bad mood' in Greek, was originally considered part of the Hippocratic concept of melancholia (Historical perspective, p. 244). The term disappeared from use until the nineteenth century when, in 1838, the German pathologist Karl Wilhelm Stark (1787–1845) used it to differentiate disorders of mood from those of the will (dysbulias) and intellect (dysnoesias). Carl Friedrich Flemming (1799–1880) is attributed as the first psychiatrist to use the term in 1844. Flemming, who founded the *Allgemeine Zeitschrift für Psychiatrie*, distinguished between disorders of intellect (anoesia), disorders of mood (dysthymia), and disorder of both intellect and mood (mania). He was one of the first psychiatrists to draw a distinction between affective disorders, which he termed 'dysthymias', and non-affective disorders. Influenced by the writings of Kahlbaum (1863), he later changed his views to a system based more on clinical observation and course than theoretical concepts, distinguishing disorders of mood (dysthymia), disorders of intelligence (paranoia), and disorders of will (diastrephia).

Kraepelin, in his textbooks (1909–1915), did not keep the term 'dysthymia', although, regarding the 'depressive constitution', he wrote:

> '… they show a certain sensitivity for life's sorrows, grieves and disappointments. Everything is burdensome for them … Their whole course of life is strongly influenced by their suffering. … They feel weak, without energy. … Sleep is normally insufficient; these patients have a great urge for sleep, but they fall asleep very late … , in the morning they do not feel refreshed but tired … The illness described here normally first manifests during adolescence and may persist without major changes throughout life.'

Due to the influence of psychodynamic thinking in the mid-twentieth century, dysthymia was overshadowed by 'neurotic (psychogenic) depression'. Eugen Kahn (1928) and Karl Leonhard (1968) did utilize the term to describe persons with 'psychopathic personalities' who had chronically disturbed or irritable mood. However, the antidepressant era—from the 1960s onward—brought with it a revolution in thinking about affective disorders, culminating in the sidelining of 'neurotic depression' in DSM-III with a compromise diagnosis of 'dysthymic disorder (neurotic depression)'. There was a growing consensus that dysthymia described a disabling chronic mood disorder that was treatable pharmacologically (ergo: *not* a personality disorder). While DSM-IV maintained 'dysthymic disorder' within the depressive disorders, ICD-10 placed it in a subcategory of 'persistent

mood disorders', along with cyclothymia (→ Cyclothymia, p. 348), with the emphasis on chronic, low-grade symptoms. More recently, DSM-5 uses the term 'persistent depressive disorder' to consolidate DSM-IV-defined 'chronic major depressive disorder' and 'dysthymic disorder', with the emphasis on chronicity. It looks like ICD-11 will put 'dysthymic disorder' back into the depressive disorders but keep it as a less severe form of depressive disorder.

Antidepressants

Assumed mode of action

All currently available antidepressants appear to exert antidepressant action by increasing the availability of monoamines (5-HT, NA, and DA) via one or more of the following:

- Presynaptic inhibition of reuptake of 5-HT, NA, or DA.
- Antagonist activity at presynaptic inhibitory 5-HT or NA receptor sites, which enhances neurotransmitter release.
- Inhibition of monoamine oxidase, reducing neurotransmitter breakdown.
- Increasing the availability of neurotransmitter precursors.

Although this net increase happens almost immediately following administration, initial resolution of depressive symptoms generally takes 10–20 days, implying therapeutic effect involves mechanisms possibly related to receptor regulation over time/changes in intracellular signalling.

Selectivity vs specificity

Although the newer antidepressants are more *selective* than TCAs and MAOIs in their pharmacological effects, this should not be confused with them being more *specific* for any particular type of depressive symptoms. All antidepressants have unwanted and often unpleasant side effects. A balance needs to be struck between efficacy in treating psychiatric symptoms and the possibility of iatrogenic problems. Patients may not be able to tolerate the anticholinergic side effects of TCAs or will be unable to achieve a therapeutic level because of side effects. Similarly, nausea or GI upset may limit the usefulness of SSRIs in some individuals. Sometimes side effects may even be useful (e.g. sedation for patients with insomnia).

Cautionary notes

Particular caution is necessary in prescribing for certain patient groups (→ Prescribing in pregnancy, p. 1028; → Prescribing in lactation, p. 1030; → Prescribing for patients with cardiovascular disease, p. 1032; → Prescribing for patients with liver disease, p. 1034; → Prescribing for patients with renal impairment, p. 1036; → Prescribing for patients with epilepsy, p. 1038) such as those with renal or hepatic impairment, cardiac problems, and epilepsy; pregnant or breastfeeding women; the elderly; children; and those on other medications which may interact with antidepressants. There are also well-recognized problems such as weight gain (→ Weight gain with psychiatric medication, p. 1000), hyponatraemia (→ Hyponatraemia and antidepressants, p. 1026), sexual dysfunction (→ Sexual dysfunction and psychiatric medication, p. 1006), and discontinuation syndromes (→ Antidepressant discontinuation syndrome, p. 1024).

Swapping and stopping antidepressants

(See also Table 6.3.)

An adequate 'washout' period is required when switching to or from the MAOIs, whereas it is usual to cross-taper between other antidepressants (i.e. gradually reducing the dose of one, while slowly increasing the dose of the other). During this process, side effects may be enhanced (due to pharmacokinetic effects) and it is possible to induce the serotonin syndrome (SS) (→ Serotonin syndrome, p. 1022).

Table 6.3 Swapping or stopping antidepressants

TO / FROM	TCAs*	Clomipramine	Hydrazines	Tranylcypromine	Moclobemide	Cital
TCAs*						
Clomipramine	CCT	XXX	W3w	W3w	W7d	W3w
Hydrazines	W3w	W3w	XXX	W2w	W2w	W2w
Tranylcypromine	W3w	W3w	W2w	XXX	W2w	W2w
Moclobemide	W1d	W1d	W1d	W1d	XXX	W1d
Citalopram/escitalopram	CCT	WSLD	W7d	W7d	W7d	XXX
Fluoxetine	W1w	W2w	W6w	W6w	W6w	W1w
Fluvoxamine	CCT	WSLD	W7d	W7d	W7d	WSL
Paroxetine	CCT	WSLD	W7d	W7d	W7d	CCT
Sertraline	CCT	WSLD	W7d	W7d	W7d	CCT
Venlafaxine	CCT	WSLD	W7d	W7d	W7d	CCT
Duloxetine	CCT	WSLD	W7d	W7d	W7d	CCT
Mianserin	CCT	CCT	W7d	W7d	W7d	CCT
Trazodone	CCT	CCT	W7d	W7d	W7d	CCT
Mirtazapine	CCT	CCT	W2w	W2w	W7d	CCT
Reboxetine	CCT	CCT	W7d	W7d	W7d	CCT
Bupropion	CCT	CCT	W2w	W2w	W1d	CCT
Agomelatine	W1d	W1d	W1d	W1d	W1d	W1d
Vortioxetine	CCT	WSLD	W3w	W3w	W7d	CCT

Key: TCAs* = all TCAs, except clomipramine; CCT = cautious cross-taper; W1d = withdraw and wait 1 day; W7d = withdraw and wait 7 days; WSLD = withdraw and start at low dose; W2w = withdraw and wait 2wks; W3w = withdraw and wait 3wks; W6w = withdraw and wait 6wks; RG4w(+) = reduce gradually over 4wks (or longer); RG1w = reduce gradually over 1wk; STOP = no dose tapering required; HDWS = half dose, add new agent, and then withdraw slowly.

Source: data from from MIMS online: https://www.mims.co.uk/antidepressants-guide-switching-withdrawing/mental-health/article/882430 [accessed: 12 July 2018].

Combining antidepressants

Combinations of antidepressants may be more efficacious than one alone. In clinical practice, combinations are not reserved solely for treatment-resistant cases (An approach to treatment-resistant depression, p. 270), but may also help to treat residual symptoms or offset side effects. When combining antidepressants, safety is the main priority (even before efficacy)—there is little point in using theoretically effective (heroic) combinations if the patient cannot tolerate the side effects.

Common problems

- Combining other antidepressants with MAOIs is especially likely to result in SS (Serotonin syndrome, p. 1022).
- Combining TCAs and SSRIs may lead to more severe TCA side effects due to elevated blood levels secondary to SSRI effects on the P450 2D6 liver enzyme system, resulting in a blockade of the metabolism of TCAs. Low doses of both agents are to be preferred if used together.
- Combining SSRIs or SSRIs + SNRIs risks SS and should be done only with great caution (and explicit informed patient consent).

Common combinations (generally well tolerated)

- SSRI + trazodone or mirtazapine for those troubled by insomnia but who have responded well to the antidepressant effects of the SSRI.
- Venlafaxine + mirtazapine (as in the STAR*D study; Box 6.5, p. 271) for treatment resistance.
- Bupropion or mirtazapine + SSRIs or SNRIs to combat sexual dysfunction, which can be a consequence of SSRI or SNRI treatment.

The following topics outline the main groups of antidepressants. This information should be used as a guide, and the clinician is always advised to consult manufacturers' data sheets or more detailed formularies for less common problems or specific details of administration.

Tricyclic antidepressants

(See Table 6.4.)

- *Common mode of action and effects/side effects*:
  - *Serotonin/NA (and DA) reuptake inhibition*—antidepressant effects.

- *Anticholinergic (antimuscarinic—M1)*—dry mouth, blurred vision, constipation, urinary retention, drowsiness, confusion/memory problems (particularly in the elderly), palpitations/tachycardia.
- *Adrenergic antagonism (α1)*—drowsiness, postural hypotension (occasionally syncope), tachycardia, sexual dysfunction.
- *5-HT_2 antagonism*—anxiolytic, reduced sexual dysfunction, sedation.
- *Antihistaminergic (H1)*—drowsiness, weight gain.

- *Advantages:* well-established efficacy and large literature (in all varieties of patient groups); possibly more effective in severe depression; low cost.
- *Disadvantages:* toxicity in OD; may be less well tolerated than SSRIs; all TCAs may slow cardiac conduction and lower seizure threshold.
- *Contraindications:* acute MI, heart block, arrhythmias, IHD, severe liver disease, pregnancy, and lactation (Prescribing in pregnancy, p. 1028; Prescribing in lactation, p. 1030; Prescribing for patients with cardiovascular disease, p. 1032; Prescribing for patients with liver disease, p. 1034; Prescribing for patients with renal impairment, p. 1036; Prescribing for patients with epilepsy, p. 1038).
- *Cautions* (Antidepressants, p. 276): cardiovascular, liver, renal disease; endocrine disorders (hyperthyroidism, adrenal tumours, diabetes); urinary retention/prostatic hypertrophy; constipation; glaucoma; epilepsy; psychotic disorders; patients with thoughts of suicide; elderly (use lower doses).
- *Significant interactions (variable for different agents—always check data sheets):* alcohol, anticoagulants, anticonvulsants, antihypertensives, antipsychotics, barbiturates, BDZs (rare), cimetidine, digoxin, MAOIs (rare), methylphenidate, morphine, SSRIs, smoking.
- *Monitoring:* it is good practice to monitor cardiac and liver function, U&Es, FBC, and weight during long-term therapy.

Table 6.4 Tricyclic antidepressants (TCAs)

Drug	Half-life (hr)	Formulations	Usual starting dose	Usual maintenance dose	Max daily dose	Notes	Indications
Amitriptyline	8–24	T 10/25/50mg; C 25/50mg; S 25 or 50mg/5mL	75mg/day (divided or just at night)	100–150mg	150mg	Metabolized to nortriptyline	Depression, nocturnal enuresis, chronic pain, migraine, insomnia
Clomipramine	17–28	C 10/25/50mg; SR 75mg; Inj 12.5mg/mL	10mg/day	30–150mg/day (divided or just at night)	250mg	Most SSRI-like of the TCAs. Can be given IV/IM	Depression, OCD, and phobic disorders, adjunctive treatment of catalepsy (in narcolepsy)
Dosulepin (Prothiaden®)	14–40	C/T 25mg	75–150mg/day	75–150mg/day	225mg (hospital)		Depression (with anxiety)
Doxepin	8–24	C 10/25/50/75mg	75mg/day	Up to 300mg/day (divided if <100mg/day)	300mg		Depression (especially if sedation needed)
Imipramine	4–18	T 10/25mg; S 25mg/5mL	25mg up to tds	50–100mg/day	200mg	Metabolized to desipramine	Depression, nocturnal enuresis
Lofepramine	1.6–5	T 70mg; S 70mg/5mL	70mg/day	70–210mg/day	210mg	May be safer in overdose. Least pro-convulsant. Metabolized to desipramine	Depression
Nortriptyline	18–96	T 10/25mg	25mg tds	75–100mg	150mg	Manufacturer recommends plasma monitoring in doses <100mg/day ('therapeutic window' 50–150ng/mL)	Depression, nocturnal enuresis
Trimipramine	7–23	T 10/25mg; C 50mg	75mg/day	150–300mg/day	300mg	May be very sedating	Depression (with anxiety)

Key: T = tablets; C = capsules; S = oral suspension/solution; SR = modified-release capsules; Inj = injectable form.

Monoamine oxidase inhibitors and reversible monoamine oxidase inhibitors

- *Mode of action*:
  - *MAOIs:* irreversible inhibition of MAO-A (acts on NA, DA, 5-HT, and tyramine) and MAO-B (acts on DA, tyramine, phenylethylamine, and benzylamine), leading to accumulation of monoamines in the synaptic cleft (see Table 6.5).
  - *RIMAs:* act by reversible inhibition of MAO-A (Table 6.5).
- *Side effects*:
  - *Risk of hypertensive crisis* due to inhibition of intestinal monoamine oxidase, allowing pressor amines to enter the bloodstream (hence foods high in tyramine and certain medications should be avoided).
  - *Sources of dietary tyramine:* cheese (except cottage and cream cheese), meat extracts and yeast extracts (including Bovril®, Marmite®, Oxo®, and other fermented soya bean extracts), alcohol—including low-alcohol drinks (especially chianti and fortified wines and beers), non-fresh fish, non-fresh poultry, offal, avocado, banana skins, broad bean pods, caviar, herring (pickled or smoked).
  - *Medications:* indirect sympathomimetics (amphetamine, fenfluramine, ephedrine, phenylephrine, phenylpropanolamine), cough mixtures containing sympathomimetics, nasal decongestants with sympathomimetics, levodopa, pethidine, antidepressants [TCAs, SSRIs/SNRIs, mirtazapine, bupropion, St John's wort (see Box 6.7)]. These effects may be less with RIMAs. However, large amounts of tyramine-rich food should be avoided.

- *Other side effects:* antimuscarinic actions, hepatotoxicity, insomnia, anxiety, appetite suppression, weight gain, postural hypotension, ankle oedema, sexual dysfunction, possible dependency.
- *Indications:* usually used as second-line therapy for treatment-resistant depression (particularly atypical symptoms)/anxiety disorders (with or without panic attacks).
- *Cautions:* cardiovascular disease, hepatic failure, poorly controlled hypertension, hyperthyroidism, porphyria, phaeochromocytoma.
- *Advantages:* well-established efficacy in a broad range of affective and anxiety disorders.
- *Disadvantages:* dietary restrictions and drug interactions (less so with RIMAs).
- *Other significant drug interactions (variable for MAOIs vs RIMAs—always check data sheets):* antidiabetics, antiepileptics, antihypertensives, antipsychotics, barbiturates, BDZs, β-blockers, buspirone, cimetidine, dopaminergics (selegiline), dextromethorphan, mazindol, pethidine, morphine, 5-HT_1 agonists (rizatriptan, sumatriptan), tetrabenazine.

Table 6.5 MAOIs and RIMAs

Drug	Class	Half-life (hr)	Formulations	Usual starting dose	Usual maintenance dose	Max daily dose	Notes
Isocarboxazid	MAOI	36	T 10mg	30mg/day (divided or single daily dose)	10–40mg/day	60mg/day	Hydrazine derivative—less stimulating
Moclobemide (Manerix®)	RIMA	1–2	T 150mg	150mg bd	150–600mg/day	600mg/day	May be used for social phobia. Possible hyponatraemia. 'Cheese reaction' least likely
Phenelzine (Nardil®)	MAOI	1.5	T 15mg	15mg tds	15mg every other day to 15mg qds	60mg/day (hospital 90mg/day)	Hydrazine derivative—less stimulating
Tranylcypromine	MAOI	2.5	T 10mg	10mg bd	10mg/day	30mg/day (or greater if supervised)	Most stimulant of MAOIs (amphetamine-related). Do not give after 3 p.m. risk of significant interactions

Key: T = tablets.

Box 6.7 St John's wort (SJW, *Hypericum perforatum*)

Considered a first-line antidepressant in many European countries (and recently becoming popular in the USA); not yet in the UK. May be effective for mild to moderate depressive symptoms.[1]

- *Mode of action:* recent research suggests it may act as a weak SSRI (and/or NARI/MAOI).
- *Usual dose:* 300mg tds (with food to prevent GI upset).
- *Notable interactions:* anticoagulants (especially warfarin), antidepressants (risk of serotonin syndrome; Serotonin syndrome, p. 1022), antiepileptics, antivirals, barbiturates, ciclosporin, digoxin, 5-HT_1 agonists (rizatriptan, sumatriptan), oral contraceptives, theophylline.

1 Linde K, Berner MM, Kriston L (2008) St John's wort for major depression. *Cochrane Database Syst Rev* **4**:CD000448.

Selective serotonin reuptake inhibitors

- *Common mode of action and effects/side effects:* serotonin reuptake inhibition (leads to ↑ 5-HT in synaptic cleft; see Table 6.6).
  - *5-HT_{1A} agonism*—antidepressant, anxiolytic, anti-obsessive, anti-bulimic effects.
  - *5-HT_2 agonism*—agitation, akathisia, anxiety/panic, insomnia, sexual dysfunction.
  - *5-HT_3 agonism*—nausea, GI upset, diarrhoea, headache.
- *Advantages:* ease of dosing; may be better tolerated than TCAs—less cardiotoxic; fewer anticholinergic side effects; low toxicity in OD.
- *Disadvantages:* commonly cause nausea and GI upset, headache, restlessness, and insomnia; may be less effective for severe depressive episodes; problems on discontinuation (Antidepressant discontinuation syndrome, p. 1024).
- *Contraindications:* manic episode, concomitant use of MAOIs.

- *Cautions* (Antidepressants, p. 276): variable and significant inhibitory effects on hepatic P450 (particularly CYP2D6) enzymes. Hence, take care when co-prescribing with drugs that undergo extensive liver metabolism and have a narrow therapeutic range.
- *Significant interactions (variable for different agents—always check data sheets):* alcohol, anticoagulants, anticonvulsants, antipsychotics, BDZs, β-blockers, bupropion, buspirone, cimetidine, cyproheptadine, hypoglycaemics, lithium, methadone, MAOIs, morphine, smoking, TCAs, theophylline, warfarin.

Table 6.6 Selective serotonin reuptake inhibitors (SSRIs)

Drug	Half-life (hr)	Formulations	Usual starting dose	Usual maintenance dose	Max daily dose	Notes	Indications
Citalopram (Cipramil®)	33	T 10/20/40mg; S 40mg/mL	20mg od (10mg for panic, increase slowly)	20–60mg od	60mg	Least likely to interact with other drugs. Less likely to reduce seizure threshold (caution)	Depression, panic disorder (with or without agoraphobia)
Escitalopram (Cipralex®)	30	T 5/10/20mg; S 10mg/mL	10mg od (5mg for panic, increase slowly)	5–20mg od	20mg	Active enantiomer of citalopram	Depression, panic disorder (with or without agoraphobia), social anxiety
Fluoxetine (Prozac®, Oxactin®, Olena®, Prozep®)	24–140	C 20/60mg; S 20mg/5mL	20mg od	20–60mg od	60mg	Most alerting. May cause weight loss	Depression (with or without anxiety symptoms), OCD, bulimia nervosa, PMDD
Fluvoxamine (Faverin®)	13–22	T 50/100mg	50–100mg od	100–300mg (if <150mg, in divided doses)	300mg	Moderately sedating	Depression, OCD
Paroxetine (Seroxat®)	10–24	T 20/30mg; S 20mg/10mL	20mg od (10mg for panic, increase slowly)	20–50mg od	50mg	Most anticholinergic. Withdrawal syndrome may be more frequent. May be sedating	Depression (with or without anxiety), OCD, panic disorder (with or without agoraphobia), social phobia, PTSD, GAD
Sertraline (Lustral®)	25–36	T 50/100mg	50mg (25mg for PTSD, increase slowly)	50–200mg od	200mg	Moderately alerting. Fewer drug interactions, but caution still necessary	Depression (with or without anxiety), OCD, PTSD

Key: T = tablets; C = capsules; S = oral suspension/solution.

Other antidepressants 1

Serotonin/noradrenaline reuptake inhibitors

- *Mode of action:* 5-HT and NA reuptake inhibition.
- *Common adverse effects:* nausea, GI upset, constipation, loss of appetite, dry mouth, dizziness, agitation, insomnia, sexual dysfunction, headache, nervousness, sweating, weakness.

Venlafaxine (Efexor®, Alventa®, Depeflex®, Politid®, Sunveniz®, Tonpular®, Venaxx®, Vencarm®, Venlablue®, Venladex®, Venlalic®, Venlasov®, Vensir®, Venzip®, Viepax®)

- *Half-life:* 1–2hrs; peak plasma concentration 5hrs [10hrs for metabolite: desmethylvenlafaxine (Pristiqs®—licence in the USA for depression, anxiety, and menopausal symptoms, 2008; not licensed in the UK yet)].
- *Formulations:* 37.5/75mg tablets (MR 75/150mg capsules; 75/150/225mg tablets).
- *Indications:* depression, GAD, social anxiety.
- *Usual dose:* depression—37.5mg bd (or 75mg od of MR form), ↑ if necessary after at least 2wks to max 375mg/day. Severe depression—begin at 150mg/day, increasing by 75mg every few days to

max dose 375mg/day. GAD and social anxiety—75mg od (↑ 2-weekly to max 225mg/day).
- *Advantages:* variable pharmacological profile over dose range; possibly more rapid onset of action than other antidepressants; available in controlled-release form, allowing od administration.
- *Disadvantages:* moderate to high doses less well tolerated; need to monitor BP at doses over 200mg; troublesome side effects; discontinuation effects common.

Duloxetine (Cymbalta®, Yentreve®, Depalta®, Duciltia®)
- *Half-life:* 8–17hrs; peak plasma concentration 6hrs.
- *Formulations:* 30/60mg capsules.
- *Cautions:* potential hepatotoxicity (i.e. cases of severe elevations of liver enzymes or liver injury with a hepatocellular, cholestatic, or mixed pattern have been reported); also caution in glaucoma secondary to mydriasis.
- *Indications:* depression, GAD, diabetic neuropathy, stress urinary incontinence.
- *Usual dose:* depression 60mg od; GAD start with 30mg od, increasing, as necessary, to max 120mg/day; diabetic neuropathy 60–120mg/day (divided doses); stress urinary incontinence 20–40mg bd.
- *Advantages:* as for venlafaxine, but no controlled-release form available. May have utility in treating chronic pain and urinary incontinence.
- *Disadvantages:* dose-dependent elevations in BP require monitoring; discontinuation effects common. (*Note:* little evidence that doses >60mg/day confer any additional benefit in depression.)

Tetracyclic antidepressants

Mianserin
- *Mode of action:* similar to TCAs, but with fewer anticholinergic side effects.
- *Half-life:* 12–29hrs; peak plasma concentration 1–3hrs.
- *Formulations:* 10/30mg tablets.
- *Indications:* depression, particularly if sedation required.
- *Common adverse effects:* as for TCAs, but fewer cardiovascular problems, blood dyscrasias more common (especially elderly—FBC recommended 4-weekly for first 3mths of treatment, thereafter 3- to 6-monthly; stop treatment and check FBC if fever, sore throat, stomatitis, or other signs of infection develop), jaundice, arthritis, arthralgia.
- *Usual dose:* 30–40mg (elderly 30mg) daily in divided doses or as a single night-time dose, ↑ gradually as necessary; usual range 30–90mg/day.
- *Advantages:* better side effect profile than some TCAs (e.g. cardiotoxicity), sedating (which may be a desirable effect).
- *Disadvantages:* idiosyncratic adverse effects.

Serotonin antagonists/reuptake inhibitors

Trazodone (Molipaxin®)
- *Mode of action*:
  - *5-HT$_{1A/1C/2A}$antagonism*—sedating/anxiolytic, less sexual dysfunction.
  - *5-HT agonism through the active metabolite (m-chlorophenylpiperazine)*—antidepressant effect.
  - *$\alpha_1$antagonism*—orthostatic hypotension.
  - *H_1antagonism*—sedation and weight gain.
- *Common adverse effects:* sedation; orthostatic hypotension; otherwise similar to TCAs (but less anticholinergic and cardiotoxic); rarely priapism (discontinue immediately; see Priapism, p. 1008).
- *Half-life:* 3–7hrs; peak plasma concentration 0.5–2hrs.
- *Formulations:* 50/100mg caps; 150mg tablets; liquid 50mg/5mL.
- *Indications:* depression (especially with insomnia), anxiety disorders.
- *Usual dose:* 150mg/day (as divided dose or just at night), ↑ to 300mg/day (max dose 600mg/day in divided doses—in hospital). For anxiety, start at 75mg/day—max 300mg/day.
- *Advantages:* sedation (may be used in low doses as an adjunct to other less sedating antidepressants or to counter sexual dysfunction), safer than TCAs in epilepsy.
- *Disadvantages:* higher doses necessary for antidepressant effects may not be tolerated.

Other antidepressants 2

Noradrenergic and specific serotonergic antidepressants

Mirtazapine (Zispin SolTab®)
- *Mode of action*:
  - *$\alpha_2$antagonism*—increases 5-HT and NA release (antidepressant).
  - *$\alpha_1$antagonism*—orthostatic hypotension.
  - *M_1antagonism*—anticholinergic side effects.
  - *5-HT$_{2A/C}$antagonism*—sedating/anxiolytic, less sexual dysfunction.
  - *5-HT$_3$antagonism*—reduced nausea/GI upset.
  - *H_1antagonism*—sedation and weight gain.
- *Common adverse effects:* sedation (greater at lower doses), ↑ appetite, weight gain. *Less common:* transaminase elevation, jaundice, oedema, orthostatic hypotension, tremor, myoclonus, blood

dyscrasias (rare agranulocytosis—if a patient develops sore throat, fever, stomatitis, or signs of infection accompanied by neutropenia, discontinue medication and closely monitor the patient).
- *Half-life:* 20–40hrs; peak plasma concentration 1–3hrs.
- *Formulations:* 15/30/45mg tablets/orodispersible tablets; oral solution 15mg/mL.
- *Indications:* depression (with anxiety, agitation, insomnia, weight loss).
- *Usual dose:* 15–30mg nocte, ↑ if necessary to max 45mg/day (divided dose or just at night).
- *Advantages:* low toxicity in OD, less sexual dysfunction and GI upset.
- *Disadvantages:* weight gain, sedating effects may be lost at higher doses (may be used to advantage).

Noradrenergic and dopaminergic reuptake inhibitors

Bupropion (Zyban®)
- *Mode of action:* NA and DA reuptake inhibition.
- *Common adverse effects:* agitation/insomnia, dry mouth, GI upset (nausea, vomiting, abdominal pain, constipation), hypertension (especially if also using nicotine patches), risk of seizures (0.4%), taste disturbance.
- *Half-life:* 3–16hrs (12–38hrs active metabolite hydroxybupropion); peak plasma concentration 4hrs.
- *Formulations:* 150mg MR.
- *Indications:* depression (with marked psychomotor retardation or hypersomnia; SAD), but only licensed in the UK for treatment of nicotine dependence (and possibly withdrawal from other stimulants); may be useful in adult/child ADHD (unlicensed).
- *Usual dose:* 150mg od; ↑ after 6 days to 150mg bd (max 300mg/day), max single dose 150mg, minimum of 8hrs between doses (maximum duration of treatment for nicotine dependence 7–9 wks).
- *Advantages:* unusual mode of action; alerting effects may be useful for patients with symptoms of fatigue or hypersomnia; may help treat impulse disorders/addictions when used primarily as an antidepressant.
- *Disadvantages:* possible seizure induction, hypersensitivity reactions (rare but may be severe).

Noradrenaline reuptake inhibitors

Reboxetine (Edronax®)
- *Mode of action:* NA reuptake inhibition.
- *Common adverse effects:* insomnia, sweating, postural hypotension/dizziness, tachycardia, sexual dysfunction, dysuria, urinary retention, dry mouth, constipation, hypokalaemia if used long term in the elderly.
- *Half-life:* 13hrs; peak plasma concentration 2hrs.
- *Formulations:* 4mg tablets (scored).
- *Indications:* depression (particularly with atypical features).
- *Usual dose:* 4mg bd, ↑ after 3–4wks to 10mg/day in divided doses (max 12mg/day).
- *Advantages:* novel mode of action; alerting effects may be useful for patients with symptoms of fatigue or hypersomnia; may improve social functioning; relatively safe in OD.
- *Disadvantages:* mainly due to adverse effects.

Psychedelics

(See Box 6.8.)

Box 6.8 Psychedelics for mood disorders?

Psychedelic drugs, such as LSD and psilocybin, were extensively used in the treatment of mood disorders and other psychiatric conditions before their prohibition in the late 1960s. A recent systematic review of published clinical treatment studies for mood disorders, while highlighting the methodological shortcomings of such other publications, did find clear evidence of clinician-judged improvement after treatment with psychedelics in 79.2% of participants.[1] At the very least, there are reasonable grounds for further investigations using more robust methodologies. In one recently completed pilot study in the UK,[2] psilocybin was tested with psychological support for treatment-resistant depressive disorder. After a single 25mg dose of psilocybin, depressive symptoms were markedly reduced at 1wk and 3mths, with marked and sustained improvements in anxiety and anhedonia. Another study giving psilocybin to cancer patients[3] found marked improvements in both clinician- and self-rated measures of depressed mood and anxiety, along with increases in quality of life, life meaning, and optimism and decreases in death anxiety that were sustained at 6-mth follow-up. The degree of mystical-type psilocybin experience on the session day correlated with positive therapeutic outcomes.

1 Rucker JJ, Jelen LA, Flynn S, Frowde KD, Young AH (2016) Psychedelics in the treatment of unipolar mood disorders: a systematic review. *J Psychopharmacol* **30**:1220–9.

2 Carhart-Harris RL, Bolstridge M, Day CMJ, *et al.* (2016) Psilocybin with psychological support for treatment-resistant depression: an open-label feasibility study. *Lancet Psychiatry* **3**:619–27.

3 Griffiths RR, Johnson MW, Carducci MA, *et al.* (2016) Psilocybin produces substantial and sustained decreases in depression and anxiety in patients with life-threatening cancer: a randomized double-blind trial. *J Psychopharmacol* **30**:1181–97.

Other antidepressants 3

Melatonin agonist and specific serotonin antagonists (MaSSAs)

Agomelatine (Valdoxan®)
- *Mode of action*:

- MT_1/MT_2 *melatonin agonism*—may promote sleep;
- $5\text{-}HT_{2C}$ *antagonism*—may increase NA and DA in the frontal cortex.

- *Common adverse effects:* nausea, dizziness, headache, somnolence, insomnia, migraine, diarrhoea, constipation, upper abdominal pain, sweating, back pain, fatigue, anxiety, raised serum transaminases. *Less common:* paraesthesiae, blurred vision, eczema. *Rare:* hepatitis, rash, suicidal behaviour.
- *Half-life:* 1–2hrs (no major active metabolites); peak plasma concentration 1–2hrs.
- *Formulations:* 25mg coated tablet.
- *Indications:* depression (with initial insomnia).
- *Usual dose:* 25mg nocte, ↑ if necessary after 2wks to 50mg nocte.
- *Advantages:* unusual mode of action, possibly useful if there is significant sleep–wake disturbance, well tolerated—no known discontinuation symptoms, sexual side effects, weight gain, or cardiac effects.
- *Disadvantages:* need to check liver function before starting and afterwards (recommended: 6, 12, 24wks).

Serotonin modulator and stimulators (SMS)

Vortioxetine (Brintellex®)

- *Mode of action*:
  - *Inhibition of serotonin reuptake transporter*.
  - $5\text{-}HT_{1A}$ *agonist*.
  - $5\text{-}HT_3$, $5\text{-}HT_{1D}$, $5\text{-}HT_7$ *antagonist*.
  - $5\text{-}HT_{1B}$ *partial agonist*.
- *Common adverse effects:* nausea, vomiting, constipation, headache, dry mouth.
- *Half-life:* ~66hrs (no major active metabolites); peak plasma concentration 7–11hrs.
- *Formulations:* 5mg, 10mg, 20mg tablets.
- *Indications:* depression.
- *Usual dose:* 10mg mane, ↑ if necessary to 20mg mane; maintenance 5–20mg daily.
- *Advantages:* similar efficacy to other antidepressants, well tolerated, reduced risk of weight gain and sexual dysfunction. Possibly cognitive enhancing.
- *Disadvantages:* high rates of nausea. Therapeutic role remains to be established, as just launched in the UK in 2015 (in the USA and European Union in 2013); https://www.nice.org.uk/guidance/ta367/chapter/1-Guidance [accessed 20 June 2018].

The future

(See Box 6.9.)

Box 6.9 Antidepressants of the future

While there are a number of SNDRIs ('triple reuptake inhibitors') in development [e.g. tedatioxetine (Lu AA24530) (Lundbeck/Takeda), ansofaxine (LY03005) (Luye America Pharmaceuticals), amitifadine (DOV-21,947 or EB-1010) (Euthymics Bioscience)], there is a lot of anticipation around a new class of antidepressants—the NMDA receptor modulators (NRMs). Early work with ketamine[1] has suggested that these drugs may be neuroprotective, have minimal side effects, and even treat depression within 24hrs of administration.

Not surprisingly, many drug companies have an NRM in development [e.g. AV-101 (VistaGen Therapeutics), AVP-786 (Avanir Pharmaceuticals), AZD-6423 (AstraZeneca), CERC-301 (Cerecor), esketamine (intra-nasal ketamine) (Janssen Pharmaceuticals), NRX-1074 and rapastinel (GLYX-13) (Naurex)].

Other non-monoaminergic drugs in the pipeline include: mifepristone (RU-486) (Corcept Therapeutics) for psychotic depression which acts by modulating activity within the HPA axis of the brain; LY2940094 (Eli Lilly) that acts as nociception (NOC) antagonist; ALKS-5461 (Alkermes) that targets opioid receptors; strada (MSI-195 or ademetionine) (MSI Methylation Sciences) which is a form of the amino acid methionine and acts by modulating cytokines through promoting methylation; and NSI-189 (NeuralStem) that stimulates neurogenesis within the hippocampus.

1 Malhi GS, Byrow Y, Cassidy F, *et al.* (2016) Ketamine: stimulating antidepressant treatment? *BJPsych Open* **2**:e5–9.

ECT 1: background

Electroconvulsive therapy

A highly effective (if controversial) treatment for depression (particularly with psychotic symptoms). May act more rapidly than antidepressant medication. Advances in brief anaesthesia and neuromuscular paralysis, introduction of brief-pulse ECT machines, and use of EEG monitoring have led to improved safety and tolerability. Decline in the use of ECT reflects the influence of non-evidence-based factors, rather than being an indicator of its efficacy (see Box 6.10). Over the last 20yrs, there have been active efforts to improve standards of delivery, education, and training. These are set out clearly in recent APA and Royal College of Psychiatrists publications.[18,19] ECT clinics in England and Wales, Northern Ireland, and the Republic of Ireland are accredited by Electroconvulsive Therapy Accreditation Service (ECTAS) and in Scotland by Scottish ECT Accreditation Network (SEAN).[20]

Does ECT actually work?

A comprehensive meta-analysis of all ECT studies in depression[21] found:

- ECT vs all placebo (n = 523): odds ratio (OR) 4.77 [95% confidence interval (CI): 2.39–9.49].

- ECT vs sham ECT (*n* = 245): OR 2.83 (95% CI: 1.30–6.17).
- ECT vs pill placebo (*n* = 266): OR 11.08 (95% CI 3.10–39.65).
- ECT vs antidepressants (*n* = 892): OR 3.72 (95% CI 2.60–5.32).

Mode of action

Controversial therapy needs a sound evidence base. Presuming ignorance ('we don't really know how it works, but it does … ') ignores real progress in our understanding of ECT.

- *Rejected theories: psychoanalytical views* of ECT efficacy as due to 'fear', 'regression', or 'punishment'; *brain injury theory* (Box 6.12, p. 309); *amnestic theory*—ECT has some effects on cognitive function (ECT 6: side effects and other specific problems, p. 308), but it is not the primary mode of action.
- *Anticonvulsant/altered functional activity theory:* ECT acts as a powerful anticonvulsant (increases seizure threshold, delta activity, and inhibitory transmitters, e.g. GABA and opioids), causing a reduction in functional activity within, and in connectivity between, specific brain regions related to the therapeutic response (regional cerebral blood flow/glucose metabolism show reduction in anterior frontal regions post-ictally and for weeks to months after, associated with better outcomes and correlating with raised seizure threshold).
- *Anti-delirium/restorative sleep theory:* ECT does lead to EEG changes (e.g. ↑ delta activity with greater amplitude and reduced frequency) similar to those seen in normal sleep and correlated with clinical improvement. Whether this is a therapeutic action or an (albeit important) epiphenomenon is not certain.
- *Neurochemical theories:* despite the fact that neurochemical explanations have been advocated for explaining how ECT works, supporting evidence comes from pre-clinical and animal work. Preliminary human studies support a role for DA and GABA/glutamate.
- *Neuroendocrine theory:* it is proposed that ECT works by correcting a dysregulation of neuropeptides through diencephalic stimulation. Studies have found ECT enhances the production and release of several neuropeptides (e.g. TRH, prolactin, corticotropin, cortisol, oxytocin, vasopressin, β-endorphin, and, less consistently, GH). However, these changes could be non-specific effects of stress/seizure, and not necessarily the therapeutic effect of ECT.
- *Other (speculative): neurogenesis*—the animal model of ECT has been shown to promote neurogenesis in non-human primates; *gene transcription*—the likelihood of remission with ECT in patients with treatment-resistant depression has been associated with two polymorphisms related to DA metabolism in the prefrontal cortex; *brain-derived neurotrophic factor (BDNF)*—preliminary evidence suggests serum BDNF concentrations increase after ECT.

Box 6.10 ECT: an historical perspective

The use of convulsive treatments for psychiatric disorders originated with the clinical observation of apparent antagonism between schizophrenia (then *dementia praecox*) and epilepsy. Patients who had a seizure were relieved of their psychotic symptoms, and Meduna noted ↑ glial cells in the brains of patients with epilepsy, compared with reduced numbers in those with schizophrenia. In 1934, he induced a seizure with an injection of camphor-in-oil in a patient with catatonic schizophrenia and continued this treatment every 3 days. After the fifth seizure, the patient was able to talk spontaneously and began to eat and care for himself for the first time in 4yrs, making a full recovery with three further treatments. Chemically induced convulsive treatments using camphor or metrazol (pentylenetetrazol) became accepted for the treatment of schizophrenia but had problems. Cerletti and Bini introduced the use of 'electric shock' to induce seizures in 1938, a method that became the standard. Initially, ECT was unmodified (i.e. without anaesthetic or muscle relaxant), but because of frequent injury, curare was first used as a muscle relaxant in the 1940s, followed by succinylcholine in the 1950s. Advances in brief anaesthesia mean the current procedure is much safer and recovery more rapid. *Indications* have also changed, with the majority of patients receiving ECT for severe depressive illness, although it is also effective in other conditions (ECT 2: indications, contraindication, and considerations, p. 296).

Further reading: Shorter E, Healy D (2007) *Shock Therapy: A History of Electroconvulsive Treatment in Mental Illness*. Piscataway Township: Rutgers University Press.

ECT 2: indications, contraindications, and considerations

Indications

(See Box 6.11.)

- *Depressive episode:* severe episodes, need for rapid antidepressant response (e.g. due to failure to eat or drink in depressive stupor; high suicide risk), failure of drug treatments, inability to tolerate side effects of drug treatment (e.g. puerperal depressive disorder, Disorders related to childbirth, p. 494), previous history of good response to ECT, patient preference.
- *Other indications:* treatment-resistant psychosis and mania (50–60% effective), schizoaffective disorder (Disorders related to schizophrenia, p. 228), catatonia (The catatonic patient, p. 1054), neuroleptic malignant syndrome (NMS) (Neuroleptic malignant syndrome, p. 1018), neurological crises (e.g. extreme Parkinsonian symptoms: on–off phenomena), intractable seizure disorders (acts to raise seizure threshold).

Contraindications

There are no *absolute* contraindications. Where possible, use of ECT should be limited for patients with cerebral aneurysm, recent MI, cardiac arrhythmias, intracerebral haemorrhage, acute/impending retinal detachment, phaeochromocytoma, high anaesthetic risk, and unstable vascular aneurysm/malformation (ECT 5: further notes on treatment, p. 304).

Box 6.11 NICE Technology Appraisal 59 for ECT

Guidance on the use of electroconvulsive therapy (May 2003)

ECT is used only to achieve rapid and short-term improvement of severe symptoms after an adequate trial of other treatment options has proven ineffective and/or when the condition is considered to be life-threatening in individuals with severe depressive illness, catatonia, or prolonged or severe manic episode … The current state of the evidence did not allow general use of ECT in the management of schizophrenia to be recommended … ECT is not recommended as a maintenance therapy in depressive illness because the longer-term benefits and risks of ECT have not been clearly established … The decision as to whether ECT is clinically indicated should be based on a documented assessment of the risks and potential benefits to the individual, including: risks associated with the anaesthetic, contemporaneous comorbidities, anticipated adverse events, particularly cognitive impairment, and risks of not having the treatment.

Source: data from https://www.nice.org.uk/Guidance/ta59 [accessed 20 June 2018].

Other considerations

- *Time-limited action:* benefit from ECT tends to dissipate after a couple of weeks. There is a need for a clear maintenance plan to be in place before the course of ECT finishes. ECT should not be considered the only treatment—except in very rare cases when continution/maintenance treatment is indicated (ECT 5: further notes on treatment, p. 304).
- *Consent* (Capacity and consent, p. 856): guidelines on ECT vary between legislatures concerning the use of capacity legislation/Mental Health Act (MHA). Decisions rest on assessment of capacity, informal/formal status, active (or advance statement) refusal, and the potential as a lifesaving intervention.
- *Side effects:* ECT does cause potential side effects (ECT 6: side effects and other specific problems, p. 308), and administration of ECT will always be a balance of risk and benefit. Of particular note is the potential to cause cognitive problems (ECT 6: side effects and other specific problems, p. 308), and this may dictate electrode positioning (see Fig. 6.2). (See Table 6.7 for the effects of psychiatric drugs on ECT.)

Table 6.7 Psychiatric drugs and ECT

Drug class	Notes	Considerations	Recommendations
Benzodiazepines	May reduce antidepressant efficacy of ECT. Make seizures less likely	Avoid, if possible. Consider non-BDZ hypnotics. Do not suddenly stop if well established	Lowest dose possible. Do not give immediately before ECT (rule of thumb at least 3hrs pre-ECT for last dose)
Antidepressants	May augment antidepressant effect of ECT. Reported prolongation of seizures and tardive seizures	Use low initial stimulus (dose titration methods). Problems reported more for SSRIs	Do not suddenly stop—safely reduce to minimum dose. Prophylaxis may require addition of antidepressant towards end of ECT course (inform ECT team)
Lithium	Reduces seizure threshold. May prolong seizures. May increase post-ictal confusion (case reports only)	Use low initial stimulus (dose titration methods)	Not contraindicated during ECT
Anticonvulsants	Raise seizure threshold	Clarify if drug is for treatment of epilepsy or as a mood stabilizer. Higher doses of ECT may be necessary	If prescribed for epilepsy, continue—do not stop. If a mood stabilizer, continue initially and only reduce if seizure induction is problematic
Antipsychotics	All tend to reduce seizure threshold. Concerns about clozapine (case reports of prolonged and tardive seizures) may be overstated	Use low initial stimulus (dose titration methods)	Clozapine should be withheld 12hrs before any anaesthetic and restarted once fully recovered

Note: ensure the anaesthetist is fully informed of all medications the patient is currently taking.

ECT 3: work-up and administration

ECT work-up

- Ensure full medical history and current medication are noted on the ECT recording sheet.
- Also note any relevant findings from the physical examination.
- Ensure recent routine blood results are available (FBC, U&Es, any other relevant investigations).
- If indicated, arrange a pre-ECT CXR and/or ECG.
- Ensure ECT is prescribed correctly.
- Inform the anaesthetic team of the proposed ECT.
- Inform the ECT service of the proposed ECT.
- Ensure the patient is aware of the usual procedure and when treatment is scheduled.
- Ensure the consent form has been signed.

Pre-ECT checks

- Check the patient's identity.
- Check the patient is fasted (for 8hrs) and has emptied their bowels and bladder prior to coming to the treatment room.
- Check the patient is not wearing restrictive clothing and jewellery/dentures have been removed.
- Consult the ECT record of previous treatments (including anaesthetic problems).
- Ensure the consent form is signed appropriately.
- Check no medication that might increase or reduce the seizure threshold has been recently given.
- Check the ECT machine is functioning correctly.
- Ensure dose settings are correct for the specific patient.

Administration of anaesthetic

- Establish IV access.
- Attach monitoring (pulse oximetry, BP, EEG, EMG).
- Ventilate the patient with pure O_2 via a face mask.
- Give a short-acting anaesthetic, followed by a muscle relaxant.
- Hyperventilation with O_2 is sometimes used to augment seizure activity.
- Insert a bite-block between the patient's teeth to protect the tongue and teeth from jaw clenching (due to direct stimulation of masseter muscles).

Administration of ECT

- Apply electrodes to the scalp (see Fig. 6.2 for positioning).
- Test for adequate contact between the electrodes and the scalp prior to treatment ('self-test' function on the ECT machine).
- Administer the dose.
- Monitor the length of seizure (ECT 4: notes on treatment, p. 302).

- Record the dose, seizure duration, and any problems on the ECT record (and ensure the anaesthetic administration is also recorded).
- Transfer the patient to recovery.

Recovery

- Ensure that there is an adequate airway.
- Monitor the patient's pulse and BP until stable.
- There should be continuous recovery nurse presence and observation until the patient is fully orientated.
- Maintain IV access until able to leave recovery.

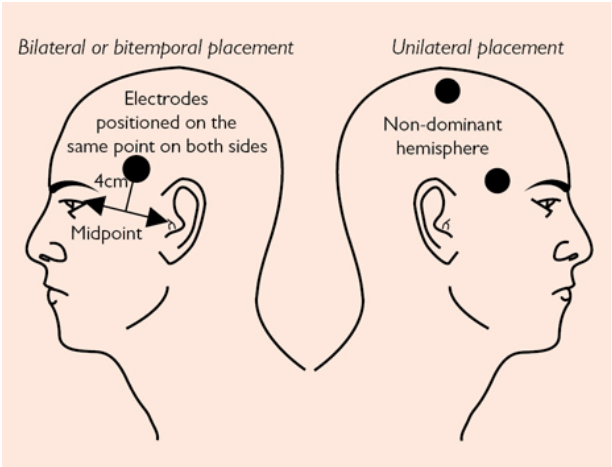

Fig. 6.2 ECT: electrode placement.

Bilateral ECT (BECT): one electrode is applied to each side of the head. This positioning is also referred to as bitemporal ECT or bi-frontotemporal ECT. The centre of the electrode on the left (L) and the right (R1) should be 4cm above, and perpendicular to, the midpoint of a line between the lateral angle of the eye and the external auditory meatus.

Unilateral ECT (UECT): the electrodes are applied to the same 'non-dominant' hemisphere (which is usually the right-hand side). The first electrode (R1) is in the same position as before, but the second electrode (R2) is applied over the parietal surface of the scalp. The exact position on the parietal arc is not crucial; the aims are to maximize the distance between the electrodes to reduce shunting of electrical current and to choose a site on the arc where the electrode can be applied firmly and flat against the scalp. The position illustrated in Fig. 6.2 is also known as the 'temporo-parietal' or 'd'Elia' positioning.

Bilateral or unilateral electrode placement?

Local ECT policy may vary, but the usual reasons for using unilateral/bilateral electrode placement are:[22]

- *BECT:* speed of response is a priority, previous failure of UECT, previous good response without significant memory problems to BECT.
- *UECT:* speed of response less important, previous good response to UECT, minimizing memory problems is a priority, e.g. cognitive impairment already present.

ECT 4: notes on treatment

Ensure you have had adequate training and supervision before independently administering ECT.[23]

Energy dosing

Because the higher the stimulus used, the greater the likelihood of transient cognitive disturbance, and because once the current is above the seizure threshold, further increases only contribute to post-ECT confusion, there are a number of dosing strategies used. *Local policy and the type of ECT machine used will dictate which method is preferred.* For example:

- *Dose titration:* the most accurate method, delivering the minimum stimulus necessary to produce an adequate seizure, and therefore to be preferred. Treatment begins with a low stimulus, with the dose gradually until an adequate seizure is induced. Once the approximate seizure threshold is known,

the next treatment dose is ↑ to about 50–100% (for BECT) or 100–200% (for UECT—some protocols 500–800%) above the threshold. The dose is only ↑ further if later treatments are sub-therapeutic, and the amount of dose increase will be governed by local policy.

- *Age dosing:* selection of a predetermined dose calculated on the basis of the patient's age (and the ECT machine used). The main advantage is that this is a less complex regime. However, there is the possibility of 'overdosing' (i.e. inducing excessive cognitive side effects) because the seizure threshold is not determined.

As ECT itself raises the seizure threshold, the dose is likely to rise by an average of 80% over the length of a treatment course. Higher (or lower) doses will also be needed when the patient is taking drugs that raise (or lower) the seizure threshold (see Table 6.7).

Effective treatment

When a sub-therapeutic treatment is judged to have occurred, the treatment is repeated at different energy settings (↻ Energy dosing, see above).

- *EEG monitoring:* the gold standard, with an ictal EEG having typical phases (see Fig. 6.3). The presence of these features [Royal College of Psychiatrists' *ECT Handbook* 'new' (2005/13) criteria], no matter how short the seizure activity, is deemed to constitute a therapeutic treatment. Usually the ictal EEG activity lasts 25–130s (motor seizure ~20% less).
- *Timing of convulsion:* where EEG monitoring is not used, the less reliable measure of length of observable motor seizure is used, with an effective treatment defined as a motor seizure lasting at least 15s from the end of the ECT dose to the end of observable motor activity [Royal College of Psychiatrists' *ECT Handbook* 'old' (1995) criteria].
- *Cuff technique:* often an under-used technique, involving the isolation of a forearm or leg from the effects of muscle relaxant, by inflation of a BP cuff to above the systolic pressure. As the isolated limb does not become paralysed, the motor seizure can be more easily observed.

ECT 5: further notes on treatment

Other physiological effects of ECT

- *Musculoskeletal—direct stimulation:* tonic contraction—opisthotonus, supraphysiological bite (not blocked by relaxants; may cause dental injury; bite-block essential); generalized (tonic–clonic) seizure—risk of fractures (vertebral, long bone, avulsion).
- *Cardiovascular* (↻ ECT 2: indications, contraindications, and considerations, p. 296): cerebrovascular—↑ metabolic requirements due to seizure (↑ cerebral blood flow; ↑ cerebral blood volume; raised ICP); autonomic effects—↑ vagal tone (bradycardia, risk of asystole/AF, salivation); adrenaline release—peaks during seizure, resolves over 10–20mins (tachycardia, hypertension—post-ECT monitoring essential).
- *Neuroendocrine* (↻ ECT 1: background, p. 294): increase in adrenocorticotrophic hormone (ACTH), cortisol, and glucagon may lead to insulin resistance (closely monitor diabetic patients).
- *Other:* ↑ intra-gastric pressure—possible risk of aspiration (appropriate pre-ECT fasting/pre-med); raised intraocular pressure (risk in narrow-angle glaucoma, recent ophthalmic surgery).

A course of ECT

- Rarely will a single treatment be effective to relieve the underlying disorder (but this does occasionally occur).
- ECT is usually given twice a week, sometimes reducing to once a week once symptoms begin to respond. This limits cognitive problems, and there is no evidence that treatments of greater frequency enhance treatment response.
- Treatment of depression usually consists of 6–12 treatments; treatment-resistant psychosis and mania of up to (or sometimes more than) 20 treatments; and catatonia usually resolves in 3–5 treatments.

Continuation or maintenance ECT

Continuation ECT (C-ECT): the provision of additional treatments during the 6-mth period after remission for the primary purpose of preventing relapse.

Maintenance ECT (M-ECT): prophylactic use of ECT for periods longer than 6mths past the index episode for the purposes of mitigating recurrence.[24]

- Although not recommended in NICE guidelines in 2003 (see Box 6.11), the most recent update of NICE depression guidelines (October 2009) is neutral on the issue.
- The Royal College of Psychiatrists' *ECT Handbook* (2013) suggests that C-ECT 'should be considered for patients with a relapsing or refractory depression that has previously responded well to ECT, but for whom standard pharmacological and psychological continuation treatment is ineffective or inappropriate'.
- APA (2001) ECT guidelines identify a similar patient group but additionally require: (1) the patient is able to provide informed consent; (2) evidence that the patient's cognitive function and physical condition do not preclude the ongoing administration of ECT; and (3) the patient's attitude, circumstances, and level of social support are conducive to ensuring treatment compliance and safety after treatment.
- There is no specific or universally supported treatment schedule for C-ECT; however, after completing a course of conventional bi-weekly ECT, a common strategy is: weekly for 1mth; fortnightly for 1mth; and monthly for up to 6mths after remission.

- Only in exceptional circumstances should M-ECT (i.e. >6mths after remission) be considered as a treatment option, in close consultation with the patient and with a formal review by another consultant, preferably with specific ECT experience.
- Usually patients are aware of how effective ECT has been for them, and a collaborative approach can be established (balancing the frequency of ECT against the return of symptoms and side effects, especially memory problems).

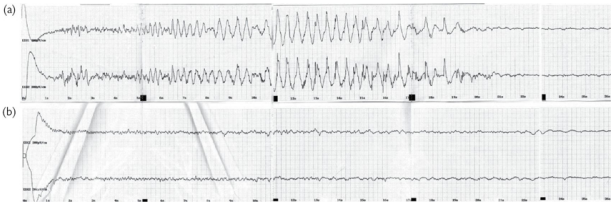

Fig 6.3 EEG monitoring of ECT. 'Real world' examples of EEG traces for: **(A)** a short 'therapeutic' seizure (20s visual and 22s EEG) and **(B)** a subthreshold 'non-therapeutic' stimulation. In example **(A)**, typical features are seen: **1.** end of electrical stimulation; **2.** latent phase—low-voltage polyspike activity (no visible convulsion); **3.** increasing amplitude of polyspike activity and slowing of frequency (associated with clonic phase of convulsion); **4.** classic 3Hz 'spike and wave' (delta) activity; **5.** gradual loss of 3Hz pattern; **6.** endpoint with lower amplitude and frequency than baseline ('post-ictal suppression').

Outpatient ECT

ECT should be given to outpatients in exceptional circumstances only if:
- Mild to moderate illness, as defined by a psychiatrist (e.g. CGI 2–4).
- Availability of 24hr supervision to ensure safety and observation.
- The patient should not have active thoughts of suicide.
- Regular (weekly) assessment by the consultant (or deputy).

ECT in pregnancy

- ECT may be the preferred treatment choice due to its rapid action.
- ECT in the second or third trimester may present more technical difficulties for the anaesthetist, as the risk of aspiration of stomach contents increases.
- The patient's obstetrician and the anaesthetist should be involved *before* a decision is taken to proceed to treatment.
- Preparation for ECT should be as per routine, with the addition of any instructions from the anaesthetist, e.g. administration of antacids on the morning of treatment.
- Any concerns should be reported urgently to the obstetrician.

ECT in children and adolescents

An exceptionally rare circumstance—hence, special provisions apply:
- The Royal College of Psychiatrists recommends that for those under 16yrs, two further opinions are sought, in addition to the treating consultant—one from a child and adolescent psychiatrist and one from another psychiatrist from a different clinical unit.
- Adolescents aged 16–18yrs are able to consent and refuse treatment in the same way as an adult, but parental approval is advised. In Scotland, those under 16yrs can consent *if* they understand the process, but again parental approval is advised.
- For compulsory treatment, it should be noted that provisions of legislation governing ECT have no lower age limit.

ECT 6: side effects and other specific problems

Side effects

- *Early:* some loss of short-term memory (STM) (➔ ECT and memory loss, see below), retrograde amnesia—usually resolves completely (64%), headache (48%—if recurrent, use simple analgesia), temporary confusion (10–27%), nausea/vomiting (9%), clumsiness (5%), muscular aches.
- *Late:* loss of long-term memory (rare; ➔ ECT and memory loss, see below).
- *Mortality:* no greater than for general anaesthesia in minor surgery (2:100,000)—usually due to cardiac complications in patients with known cardiac disease (hence the need for close monitoring).

Specific problems

- *Persistent ineffective seizures:* check the use of drugs that may raise the seizure threshold; consider use of IV caffeine or theophylline.
- *Prolonged seizures* (i.e. over 150–180s): administer IV Diazemuls® (5mg), repeated every 30s until seizure stops (alternative: midazolam). Lower energy dosing for next treatment.
- *Post-seizure confusion:* reassurance; nurse in a calm environment; ensure safety of patient; if necessary, consider sedation (e.g. Diazemuls®/midazolam). If a recurrent problem, use a low dose of a BDZ prophylactically during recovery, immediately after ECT.

ECT and memory loss

- Research has focused on retrograde amnesia because of (highly publicized) claims that ECT causes more enduring deficits in past memories (especially autobiographical) than new memories.

- These studies show that the period closest to receiving ECT is least well remembered and can be permanently lost.
- Recent systematic reviews of evidence for loss of past memories[25] highlight the difficulties in interpreting the literature, e.g. unknown sensitivity of autobiographical memory measures, need for premorbid measures of cognitive status. Nevertheless, they find:
  - Autobiographical memory loss does occur.
  - It is related to how ECT is administered.
- Specific recommendations to minimize memory loss include: use of right UECT; brief pulse, rather than sine wave, ECT; dose titration; and limited number and frequency of ECT sessions.

Does ECT damage the brain?

- Psychiatrists—such as Peter Breggin, author of *Toxic Psychiatry* (1993) and *Brain-Disabling Treatments in Psychiatry* (2007)—have been very vocal opponents of ECT, believing official reports have deliberately ignored evidence of negative effects.
- Even proponents of ECT in early writings suggested they believed that a degree of cerebral damage (akin to a concussion) was necessary for ECT to work—the rejected *brain injury theory*.
- Strong evidence against ECT causing damage comes from a primate study comparing ECT, magneto-convulsive therapy (MCT), or anaesthesia alone, which reports no histological lesions after 6wks of daily treatment.[26]
- There are few post-mortem reports, but one study found no histopathological evidence of brain injury in the brain of a 92-yr-old lady with major depression who had received 91 sessions of ECT during the last 22yrs of her life.[27]
- Most mental health associations and colleges, including the APA and the Royal College of Psychiatrists, have concluded there is no evidence that ECT causes structural brain damage (see Box 6.12).

Box 6.12 Structural brain damage from ECT

Devanand, Dwork, Hutchinson, *et al.* (1994)[1] stated that, 'prospective CT and MRI studies show no evidence of ECT-induced structural changes', commenting that early autopsy case reports from the unmodified ECT period had cerebrovascular lesions due to undiagnosed disease or agonal changes. Furthermore, animal studies using human-comparable intensity and frequency of stimulus showed no neuronal loss, even after long courses of ECT, when appropriate controls were in place.

> 'It is more dangerous to drive to the hospital than to have the treatment. The unfair stigma against ECT is denying a remarkably effective medical treatment to patients who need it.'
>
> Charles Kellner, Professor of Psychiatry, Mount Sinai Hospital, New York City quoted in *USA Today* (6 December, 1995) while editor of *Convulsive Therapy* (now *Journal of ECT*).

1 Devanand DP, Dwork AJ, Hutchinson ER, *et al.* (1994) Does ECT alter brain structure? *Am J Psychiatry* **151**:957–70.

Neurosurgery for mental disorders

Despite the controversial nature of irreversible neurosurgery for mental disorders (NMD), it is surprising that patients—rather than psychiatrists—often raise the issue, particularly when they retain insight into the chronic, intractable nature of their illness.[28] Neurosurgery is only performed in exceptional cases (see Box 6.13) when all other treatments have failed, and its use is governed by specific mental health legislation. It is still possible, however, to encounter patients who have had surgical procedures performed in the past, and this may complicate the diagnosis of current problems (e.g. depression, OCD, dementia, especially frontal lobe symptoms) when there is demonstrable damage to key brain structures on CT/MRI.

Current criteria for NMD

- Severe mood disorders, OCD, severe anxiety disorders.
- The patient must want the operation.
- All other reasonable treatments have repeatedly failed (i.e. pharmacological, ECT, psychological).
- The patient remains ill but has capacity to provide informed consent.[29]

Current surgical techniques

These employ stereotactic methods using preoperative MRI to establish target coordinates and a fixed stereotactic frame (or new 'frameless' stereotactic instruments utilizing infrared positioning). Lesioning may be effected by implantation of yttrium rods or radiofrequency lesioning. Lesions are localized to the orbitofrontal and anterior cingulate loop (the 'limbic' loop), which is strongly implicated in the regulation of emotion and mood,[30] e.g.:

- Stereotactic subcaudate tractotomy (SST).
- Anterior cingulotomy (ACING).
- Stereotactic limbic leucotomy (SLL) (combining subcaudate tractotomy and ACING).
- Anterior capsulotomy (ACAPS).

Adverse effects

Older techniques were associated with severe amotivational syndromes (up to 24%), marked personality change (up to 60%), and epilepsy (up to 15%). Stereotactic techniques report minimal post-operative problems with confusion (3–10%), incontinence (1–9%), apathy, weight gain, and seizures (dependent on the type of surgery). More significant personality change and impaired social or cognitive functioning are infrequent, and there is more likely to be improvement.

Outcome

Given the treatment-resistant nature of the patients receiving surgery, reports of good outcome are surprisingly high (e.g. depression 34–68%; OCD 27–67%), although results should be interpreted

cautiously in view of the obvious lack of any control data. ACAPS and SLL appear better for OCD, and ACING and SST better for severe mood disorder.

Box 6.13 Psychosurgery—a historical perspective

In 1935, Egas Moniz and Almeida Lima carried out the first 'prefrontal leucotomy' (based on the work of Fulton and Jacobsen in bilateral ablation of prefrontal cortices in chimpanzees in 1934). At the time, this was viewed with great enthusiasm (culminating in Moniz being awarded a Nobel Prize for his work in 1949), and other practitioners adapted the early procedures, with Freeman and Watts introducing the standard 'prefrontal leucotomy' (the notorious lobotomy) in 1936, publishing a standard textbook *Psychosurgery* in 1942, and Freeman pioneering 'transorbital leucotomy' in 1946.

The impact of surgical treatment at a time when there were few other physical treatments should not be underestimated, and around 12,000 procedures were performed between 1936 and 1961 in the UK alone (over 40,000 in the USA). Techniques were refined (e.g. open cingulotomy, bimedial leucotomy, orbital undercut) from earlier blind, free-hand procedures. However, the advent of effective psychopharmacological treatments and changes in the social climate led to a marked decline in practice from the 1960s onwards.

Nowadays, the term 'psychosurgery' has been abandoned and replaced with the more accurate 'neurosurgery for mental disorder'. Modern techniques could not be further removed from older procedures and utilize neuroimaging and neurosurgical techniques to lesion clearly defined neuroanatomical targets (Current surgical techniques, see opposite). Between 1984 and 1994, there were a total of only 20 operations per year performed in the UK,[1] and since then, the number has diminished further. Available data for England and Wales report four procedures in 2015/2016 and only one in 2016/2017.[2] In Scotland, the Dundee Advanced Interventions Service similarly reported just four procedures for 2015/2016 and none in 2016/2017.[3]

1 CRAG Working Group (1996) *Neurosurgery for Mental Disorder*. Scotland: HMSO (J2318 7/96).

2 Care Quality Commission (2019) *Monitoring the Mental Health Act in 2016/17 report.* https://www.cqc.org.uk/sites/default/files/20190108_mhareport2017_amend_1.pdf [accessed 24 January 2019].

3 Advanced Interventions Service (2018) *AIS annual report 2018.* http://www.advancedinterventions.org.uk/index.php/most-recent-reports.html [accessed 20 June 2018].

Other physical treatments

Bright light therapy (phototherapy)

First introduced for the treatment of SAD (a proposed new syndrome at the time) by Rosenthal,[31] on the basis that bright light therapy might ameliorate symptoms of winter depression, due to effects on circadian and seasonal rhythms mediated by melatonin. Recent research has suggested that the effects of phototherapy may be independent of melatonin and produce a 'phase advance' in circadian rhythms (hence, treatment may be best given first thing in the morning). It is usually administered by use of a light box (alternatives include light visors) producing 2500–10,000lx. Treatment duration is for 2hrs (with 2500lx) or 30min (with 10,000lx) a day, with a course lasting 1–3wks (treatment response is usually noticeable within 5 days). If no response within 3wks, discontinue. When effective, continue until time of natural remission to prevent relapse (usually 2–5wks). Dawn-stimulating alarm clocks that gradually illuminate the bedroom over 2hrs to around 250lx at the point of waking may also be effective.

Adverse effects Particularly with 10,000lx: headache, visual problems (e.g. eye strain, blurred vision)—usually settle; if persistent, reduce the duration or intensity of exposure; ↑ irritability; rarely: manic episodes, ↑ thoughts of suicide (possibly due to alerting effect and ↑ energy).

Indications SAD (Seasonal affective disorder, p. 273), circadian rhythm disorders (Circadian rhythm sleep–wake disorders (CRSD) 1: overview, p. 454), possibly other depressive disorders and dysthymia.

Contraindications Agitation, insomnia, history of hypomania/mania.

Repetitive transcranial magnetic stimulation

Currently being researched. However, the difference in stimulation parameters used across reported studies makes comparisons difficult. The rationale for treatment is either to increase activity in the left dorsolateral prefrontal cortex (using high-frequency stimulation, e.g. 20Hz) or to reduce activity in the right dorsolateral prefrontal cortex (using lowfrequency stimulation, e.g. 1Hz). Initial results in treatment-resistant depression ought to be viewed with caution (see Cochrane review),[32] although this mode of therapy presents an attractive alternative to ECT, without the accompanying risks and adverse effects. The 2015 NICE recommendations found the evidence of efficacy for repetitive transcranial magnetic stimulation (rTMS) to be adequate in the short term and encouraged further research.[33]

Adverse effects Minimal, but patients often report headache or facial discomfort; rarely, seizure induction.

Indications Experimental treatment for treatment-resistant depression; possible use in treatment of treatment-resistant auditory hallucinations; negative symptoms of schizophrenia; OCD; panic disorder.

Contraindications History of stroke, brain tumour, or epilepsy.

Magneto-convulsive therapy

Another experimental treatment that utilizes the potential problem of seizure induction by rTMS. A varying magnetic field is used to induce seizures in a more controlled way than is possible with ECT.

The potential advantages include targeting of brain structures essential for treatment response and a reduction in side effects (particularly memory impairment).[34]

Vagus nerve stimulation (VNS)

Vagus stimulation by an implanted pacemaker (first used as a treatment for epilepsy) has been tested as a treatment of depression since 1998. Stimulation is of the left cervical vagus nerve using bipolar electrodes, attached below the cardiac branch (usually 0.5ms pulse-width, at 20–30Hz, with 30s stimulation periods alternating with 5min breaks). Response rates of 31–40% (short-term)[35] and 27–58% (long-term) have been quoted for treatment-resistant depressive disorder, but the quality of this evidence is low and further research is required. NICE recommends special arrangements for clinical governance, consent, and audit or research.[36]

Adverse effects May include voice alteration (e.g. hoarseness), pain, coughing, and dysphagia.

Deep brain stimulation (DBS)

Best regarded as an experimental treatment for OCD and depression. Has been used in the treatment of neurological disorders, including: Parkinson's disease, tremor, dystonia, refractory pain syndromes, and epilepsy. Involves implantation of bilateral electrodes under stereotactic guidance and MRI confirmation. Targets for DBS in OCD include the anterior limb of the internal capsule (like ACAPS NMD) and, for depression, the subgenual cingulate gyrus (like ACING NMD). Initial reports of long-term outcomes are promising.[37]

Adverse effects Reported problems include throbbing/buzzing sensations, nausea, jaw tingling, and unexpected battery failure resulting in rebound depression with marked suicidal ideation.

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1 Post F (1994) Creativity and psychopathology. A study of 291 world-famous men. *Br J Psychiatry* **165**:22–34.

2 For an exhaustive critique of conceptual ideas, see: Jackson SW (1987) *Melancholia and Depression: From Hippocratic Times to Modern Times*. New Haven, CT: Yale University Press.

3 Brown GW, Harris TO (1978) *Social Origins of Depression: A Study of Psychiatric Disorders in Women*. London: Tavistock Publications.

4 Steele JD, Lawrie SM (2004) Segregation of cognitive and emotional function in the prefrontal cortex: a stereotactic meta-analysis. *Neuroimage* **21**:868–75.

5 The Zung Self-Rating Depression Scale is copyright © free, and one version can be found at: http://www.mentalhealthministries.net/resources/flyers/zung_scale/zung_scale.pdf [accessed 13 June 2018].

6 The Zung Self-Rating Anxiety Scale is also copyright © free and can be found at: https://www.mnsu.edu/comdis/isad16/papers/therapy16/sugarmanzunganxiety.pdf [accessed 13 June 2018].

7 See National Institute for Health and Care Excellence (2009) *Depression in adults: recognition and management*. Clinical guideline [CG90] (this is a partial update of NICE clinical guideline CG23). https://www.nice.org.uk/guidance/cg90 [accessed 13 June 2018].

8 Recently published NICE guidelines (Box 6.11, p. 296) do not allow for some of these uses of ECT. However, NICE guidance does not override the individual responsibility of health professionals to make decisions appropriate to the circumstances of a specific patient (such action should be discussed, documented in the notes, and, where appropriate, validated by a second opinion).

9 Wijkstra J, Lijmer J, Burger H, Cipriani A, Geddes J, Nolen WA (2015) Pharmacological treatment for psychotic depression. *Cochrane Database Syst Rev* **30**:CD004044.

10 RCT evidence actually suggests a combination approach is superior to an antipsychotic alone for olanzapine vs olanzapine/fluoxetine [Rothschild AJ, Williamson DJ, Tohen MF, *et al.* (2004) A double-blind, randomized study of olanzapine and olanzapine/fluoxetine combination for major depression with psychotic features. *J Clin Psychopharmacol* **24**:365–73]; olanzapine/sertraline vs olanzapine/placebo [Meyers BS, Flint AJ, Rothschild AJ, *et al.* (2009) A double-blind randomized controlled trial of olanzapine plus sertraline vs. olanzapine plus placebo for psychotic depression: the study of pharmacotherapy of psychotic depression (STOP-PD). *Arch Gen Psychiatry* **66**:838–47]; and for OFC (olanzapine–fluoxetine) vs olanzapine or fluoxetine alone [Trivedi MH, Thase ME, Osuntokun O, *et al.* (2009) An integrated analysis of olanzapine/fluoxetine combination in clinical trials of treatment resistant depression. *J Clin Psychiatry* **70**:387–96). In the USA, the FDA has approved four SGAs as adjunctive therapies for MDD: aripiprazole, quetiapine, brexpiprazole, and olanzapine (specifically with fluoxetine). In the UK, only quetiapine is licensed.

11 Wijkstra J, Lijmer J, Balk FJ, *et al.* (2006) Pharmacological treatment for unipolar psychotic depression: systematic review and meta-analysis. *Br J Psychiatry* **188**:410–15.

12 Cleare A, Pariante CM, Young AH, *et al.* (2015) Evidence-based guidelines for treating depressive disorders with antidepressants: a revision of the 2008 British Association for Psychopharmacology guidelines. *J Psychopharmacol* **29**:459–25.

13 Useful guidance and assessment tools for treatment-resistant depression, including advice regarding criteria for 'adequate treatment', can be found on the Dundee Advanced Interventions Service website: http://www.advancedinterventions.org.uk [accessed 16 June 2018].

14 'Rejection sensitivity' (to both *real* and *imagined* rejection) adds to the difficulty of managing atypical depression, as the patient may have had adverse experiences with doctors in the past, may have been labelled as 'personality-disordered', and may find the idea of a therapeutic alliance alien.

15 Henkel V, Mergl R, Allgaier AK, Kohnen R, Möller HJ, Hegerl U (2006) Treatment of depression with atypical features: a meta-analytic approach. *Psychiatry Res* **141**:89–101.

16 Gartlehner G, Nussbaumer B, Gaynes BN, *et al.* (2015) Second-generation antidepressants for preventing seasonal affective disorder in adults. *Cochrane Database Syst Rev* **8**:CD011268..

17 Silva de Lima M, Hotopf M (2003) A comparison of active drugs for the treatment of dysthymia. *Cochrane Database Syst Rev* **3**:CD004047.

18 American Psychiatric Association (2001) *The Practice of Electroconvulsive Therapy: Recommendations For Treatment, Training and Privileging,* 2nd edn. Washington, DC: American Psychiatric Association.

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Chapter 7

Bipolar illness

Introduction

Bipolar affective disorder (previously known as manic depression) is one of the most common, severe, and persistent psychiatric illnesses. In the public mind, it is associated with notions of 'creative madness', and indeed it has affected many creative people—both past and present (see Box 7.1). Appealing as such notions are, most people who battle with the effects of the disorder would rather live a normal life, free from the unpredictability of mood swings, which most of us take for granted.

Chameleon-like in its presentation, the symptoms may vary from one patient to the next, and from one episode to the next within the same patient. The variety of presentations make this one of the most difficult conditions to diagnose. More than other psychiatric disorders, the clinician needs to pay attention to the life history of the patient and to third-party information from family and friends.

Classically, periods of prolonged and profound depression alternate with periods of excessively elevated and/or irritable mood, known as mania. The symptoms of mania characteristically include a ↓ need for sleep, pressured speech, ↑ libido, reckless behaviour without regard for consequences, and grandiosity (

Mania/manic episode, p. 320). In severe cases, there may be severe thought disturbances and even psychotic symptoms. Between these highs and lows, patients usually experience periods of full remission.

This classic presentation appears, however, to be one pole of a spectrum of mood disorders (Bipolar spectrum disorder, p. 324). A milder form of mania (hypomania), associated with episodes of depression, may also occur (Hypomania/hypomanic episode, p. 322). There is also a subclinical presentation—cyclothymia—in which an individual may experience oscillating high and low moods, without ever having a significant manic or depressive episode (Cyclothymia, p. 348). Equally, it may be difficult to distinguish a manic episode with psychotic symptoms from schizoaffective disorder (Disorders related to schizophrenia, p. 228) on the basis of a single episode.

Full assessment should consider: the number of previous episodes (which may have been subclinical); the average length of previous episodes; the average time between episodes; the level of psychosocial functioning between episodes; previous responses to treatment (especially treatment of early depressive episodes); family history of psychiatric problems; and current (and past) use of alcohol and drugs.

Although, at the present time, there is no cure for bipolar disorder, for most cases, effective treatment is possible and can substantially decrease the associated morbidity and mortality (the suicide rate is high). Some patients do develop severe or chronic impairments and may need specific rehabilitative services. In general, however, the specific aims of treatment are to decrease the frequency, severity, and psychosocial consequences of episodes and to improve psychosocial functioning between episodes.

Box 7.1 Famous people and bipolar disorder

Famous people who have publicly stated they have bipolar disorder

Buzz Aldrin, astronaut
Tim Burton, artist and movie director
Francis Ford Coppola, director
Patricia Cornwell, writer
Ray Davies, musician
Robert Downey Jr, actor
Larry Flynt, magazine publisher
Connie Francis, actor and musician
Stephen Fry, actor, author, and comedian
Stuart Goddard (Adam Ant), musician
Linda Hamilton, actor

Kay Redfield Jamison, psychologist and writer
Ilie Nastase, athlete (tennis) and politician
Axl Rose, musician
Ben Stiller, actor and comedian
Gordon Sumner (Sting), musician and composer
Jean-Claude Van Damme, athlete (martial arts) and actor
Tom Waits, musician and composer
Brian Wilson, musician, composer, and arranger
Catherine Zeta Jones, actress

Famous people (deceased) who had a confirmed diagnosis of bipolar disorder

Louis Althusser, 1918–1990, philosopher and writer
Clifford Beers, 1876–1943, humanitarian
Neal Cassady, 1926–1968, writer
Carrie Fisher, 1956–2016 writer and actor
Graham Greene, 1904–1991, writer
Frances Lear, 1923–1996, writer, editor, and women's rights activist
Vivien Leigh, 1913–1967, actor
Robert Lowell, 1917–1977, poet
Burgess Meredith, 1908–1997, actor and director
Spike Milligan, 1919–2002, comic actor and writer
Theodore Roethke, 1908–1963, writer
Don Simpson, 1944–1996, movie producer
David Strickland, 1970–1999, actor
Joseph Vasquez, 1963–1996, writer and movie director
Mary Jane Ward, 1905–1981, writer
Virginia Woolf, 1882–1941, writer

Other famous people thought to have had bipolar disorder

William Blake, Napoleon Bonaparte, Agatha Christie, Winston Churchill, TS Eliot, F Scott Fitzgerald, Cary Grant, Victor Hugo, Samuel Johnson, Robert E Lee, Abraham Lincoln, Marilyn Monroe, Mozart, Isaac Newton, Plato (according to Aristotle), Edgar Allan Poe, St Francis, St John, St Theresa, Rod Steiger, Robert Louis Stevenson, Lord Tennyson, Mark Twain, Van Gogh, Walt Whitman, Tennessee Williams.

Historical perspective

Bipolar affective disorder has been known since ancient times. Hippocrates described patients as 'amic' and 'melancholic', and clear connections between melancholia and mania date back to the descriptions of the two syndromes by Aretaius of Cappadocia (*c.*150 bc) and Paul of Aegina (625–690). Thinking at that time reflected 'humoral' theories, with melancholia believed to be caused by excess of 'black bile' and mania by excess of 'yellow bile'.

Despite the view of some clinicians in the eighteenth century that melancholia and mania were interconnected (e.g. Robert James, 1705–1776), it was the middle of the nineteenth century before this was more widely accepted. In 1854, Jules Baillarger (1809–1890)

published a paper in the *Bulletin of the Imperial Academy of Medicine* describing *la folie à double forme*, closely followed 2wks later by a paper in the same journal by Jean-Pierre Falret (1794–1870), who claimed that he had been teaching students at the Salpêtrière about *la folie circulaire* for 10yrs. Although the two men were to continue arguing about who originated the idea, they at least agreed that the illness was characterized by alternating periods of melancholia and mania, often separated by periods of normal mood. In 1899, Emil Kraepelin comprehensively described 'manic–depressive insanity' (MDI) in the sixth edition of his textbook *Psychiatrie: Ein Lehrbuch für Studirende und Ärzte*. In the fifth edition, he had already divided severe mental illnesses into those with a deteriorating course (i.e. schizophrenia and related psychoses) and those with a periodic course (i.e. the mood disorders). It was his view that the mood disorders 'represented manifestations of a single morbid process'.

At the turn of the twentieth century, hopes were high that understanding of the pathophysiology of mental illness might be within reach. In 1906, the German microbiologist August Wassermann discovered a method of detecting syphilitic infection in the CNS, and in the same year, an effective treatment was developed by Paul Ehrlich using arsenic compounds. Syphilis was, at that time, one of the most common causes of severe (often mania-like) psychiatric symptoms—GPI. Reliably diagnosing and treating such a condition was a huge step forward. In cases of MDI, however, neuropathologists failed to find any structural brain abnormalities. Although some still maintained it was a physical illness, caused by disruptions in biological functioning, the pervasive new psychodynamic theories regarded functional illnesses (i.e. schizophrenia and MDI) as illnesses of the mind, not the brain. In 1903, Carl Jung introduced a non-psychotic version of MDI, describing 'a number of cases whose peculiarity consists in chronic *hypomanic* behaviour', with associated episodes of depression and mixed mood states, in the context of personal and interpersonal difficulties.

The idea that patients could be understood and treated only if the traumatic childhood events, repressed sexual feelings, or interpersonal conflicts were uncovered influenced psychiatric thinking for over half a century. Adolf Meyer's (1866–1950) reframing of mental disease as biopsychosocial 'reaction types', in the context of an individual's life, rather than biologically specifiable entities, led to the adoption of the terms 'depressive reaction' and 'manic–depressive reaction' in DSM-I (1952).

It was not until *specific* drug treatments for these functional illnesses were found that psychiatry came full circle again, and new life was breathed into the old search for *biological* mechanisms. In 1949, John Cade published a report on the use of lithium salts in manic patients, but it took nearly three decades, and the work of many psychiatrists, including Morgens Schou in Denmark and Ronald Fieve in the USA, before lithium would become the mainstay of treatment for MDI. Equally significant was the

observation by Ronald Kuhn in 1958 that when patients with 'manic–depressive psychosis' were treated with imipramine, they could switch from depression to mania. That this did not occur in all patients with depression suggested that there was a different biological mechanism underlying depressive illness, compared to MDI. In 1957, Karl Leonhard introduced the terms 'bipolar' and 'unipolar'. In 1968, both the newly revised classification systems ICD-8 and DSM-II acknowledged the shift in aetiological view by using the term 'manic–depressive *illness*', but it took another decade before Leonhard's bipolar/unipolar dichotomy was adopted in the RDC in the 1970s, and ultimately integrated into ICD-9 (1975) and DSM-III (1980). This created a very narrow 'bipolar disorder' and reflected a turning away from the Kraepelinian MDI concept.

Much of the subsequent controversy over 'bipolar spectrum' disorders (Bipolar spectrum disorder, p. 324) reflected a clinical need to broaden the diagnosis to encompass less severe presentations such as type II bipolar disorder (hypomania + depression), which was included in DSM-III-R (1987), ICD-10 (1992), and DSM-IV (1994). Cyclothymia and dysthymia were also re-categorized as mood disorders, rather than personality disorders. ICD-10 recognized 'mixed affective' presentations, but it was only in DSM-5 (2013) that the symptomology specifier 'with mixed features' could be applied to both bipolar I/II and depressive episodes.

With the growth of biological research in the 1990s and 2000s, it became clear that neurotransmitter theories about catecholamines had been overly simplistic. Second messengers and long-term neuroplastic changes in the brain were seen in both bipolar and unipolar disorders. Newer antipsychotics also showed efficacy in both acute mania and depressive episodes. Some anticonvulsants also appeared to be good in treating bipolar disorder and, in some cases (e.g. lamotrigine), more effective in preventing depression, rather than mania.

The remaining questions regarding the true nature of the mood disorders are likely to be settled only by future research utilizing neuroimaging, genetic, and other biomarker data to help identify the underlying aetiology and pathophysiology, with the ultimate aim of developing early diagnostic tests and, perhaps through pharmacogenomics, better individualized treatments.

Mania/manic episode

Essence

A distinct period of abnormally and persistently elevated, expansive, or irritable mood, with three or more characteristic symptoms of mania (see Box 7.2). DSM-5, ICD-10, and ICD-11 specify the episode should last at least 1wk, or less if admission to hospital is necessary. By definition, the disturbance is sufficiently

severe to impair occupational and social functioning. Psychotic features may be present.

Clinical features

- Elevated mood (out of keeping with circumstances).
- ↑ energy, which may manifest as:
  - Over-activity.
  - Reduced need for sleep.
- Formal thought disorder which may manifest as:
  - Pressured speech.
  - Flight of ideas.
  - Racing thoughts.
- ↑ self-esteem, evident as:
  - Over-optimistic ideation.
  - Grandiosity.
  - Reduced social inhibitions.
  - Over-familiarity (which may be overly amorous).
  - Facetiousness.
- Reduced attention/i distractibility.
- Tendency to engage in behaviour that may have serious consequences:
  - Preoccupation with extravagant, impracticable schemes.
  - Spending recklessly.
  - Inappropriate sexual encounters.
- Other behavioural manifestations, including excitement, irritability, aggressiveness, and suspiciousness.
- Marked disruption of work, usual social activities, and family life.

Psychotic symptoms

In its more severe form, mania may be associated with psychotic symptoms (usually mood-congruent but may also be incongruent):

- Grandiose ideas may be delusional, related to identity or role (with special powers or religious content).
- Suspiciousness may develop into well-formed persecutory delusions.
- Pressured speech may become so great that there is significant difficulty in communicating with, and understanding, the individual affected.
- Flight of ideas, prolixity, and pressured thoughts can result in the loss of clear associations.
- Irritability and aggression may lead to violent behaviour.
- Preoccupation with thoughts and schemes may lead to self-neglect, to the point of not eating or drinking, and poor living conditions.
- Catatonic features—also termed manic stupor.
- Total or partial loss of insight.

Differential diagnosis

- Schizophrenia, schizoaffective disorder, delusional disorder, other psychotic disorders.
- Anxiety disorders/PTSD.

- Circadian rhythm sleep–wake disorders (Circadian rhythm sleep–wake disorders (CRSD) 1: overview, p. 454).
- ADHD/conduct disorder.
- Alcohol or drug misuse, e.g. stimulants, hallucinogens, opiates.
- Physical illness, e.g. hyper-/hypothyroidism, Cushing's syndrome, SLE, MS, head injury, brain tumour, epilepsy, HIV, other encephalopathies, neurosyphilis, Fahr's disease, WD, and pseudobulbar palsy.
- Other antidepressant treatment or drug-related causes (see Box 7.2).

Management

- Risk assessment and ensure safety.
- Exclusion of other causes and appropriate investigations (Bipolar (affective) disorder 2: clinical notes, p. 330).
- Address any specific psychosocial stressors.
- For specific management, see Treatment of acute manic episodes, p. 340.

Box 7.2 Medications that may induce symptoms of hypomania/mania

- **Antidepressants**: drug-induced mania described with most antidepressants (or withdrawal; Antidepressant discontinuation syndrome, p. 1024), less so with SSRIs and bupropion (also seen with ECT and light therapy). May be a particular problem with TCAs and SNRIs such as venlafaxine
- **Other psychotropic medications**:
  - *BDZs*—may be confused with 'paradoxical' agitation reactions (Paradoxical reactions to benzodiazepines, p. 999).
  - *Antipsychotics (rare)*—olanzapine, risperidone.
  - *Lithium*—toxicity and when combined with TCAs.
  - *Anticonvulsants* (rare)—carbamazepine (and withdrawal), valproate, gabapentin.
  - *Psychostimulants*—fenfluramine, amphetamine, dexamfetamine, methylphenidate.
  - *Other*—disulfiram.
- **Anti-Parkinsonian medication**: amantadine, bromocriptine, levodopa, procyclidine.
- **Cardiovascular drugs**: captopril, clonidine, digoxin, diltiazem, hydralazine, methyldopa withdrawal, procainamide, propranolol (and withdrawal), reserpine.
- **Respiratory drugs**: aminophylline, ephedrine, salbutamol, terfenadine, pseudoephedrine.
- **Anti-infection**: anti-TB medication, chloroquine, clarithromycin, dapsone, isoniazid, zidovudine.

- **Analgesics**: buprenorphine, codeine, indometacin, nefopam (IM), pentazocine, tramadol.
- **GI drugs**: cimetidine, metoclopramide, ranitidine.
- **Steroids**: ACTH, beclometasone, corticosteroids, cortisone, dexamethasone, DHEA, hydrocortisone, prednisolone, testosterone.
- **Other**: baclofen (and withdrawal), cyclizine, ciclosporin, interferon.

Hypomania/hypomanic episode

Essence

Three or more characteristic symptoms (→ Clinical features, see below) lasting at least 4 days (DSM-5/ICD-10) or 'several' days (ICD-11) and are clearly different from 'normal' mood (third-party corroboration). By definition, not severe enough to interfere with social or occupational functioning, require admission to hospital, or include psychotic features.

Clinical features

Hypomania shares symptoms with mania, but these are evident to a lesser degree and do not significantly disrupt work or lead to social rejection:

- Mildly elevated, expansive, or irritable mood.
- ↑ energy and activity.
- Marked feelings of well-being, physical, and mental efficiency.
- ↑ self-esteem.
- Sociability.
- Talkativeness.
- Over-familiarity.
- ↑ sex drive.
- Reduced need for sleep.
- Difficulty in focusing on one task alone (tasks often started, but not finished).

Differential diagnosis

(See Box 7.3.)

- Agitated depression.
- OCD/other anxiety disorders.
- Circadian rhythm sleep–wake disorders (→ Circadian rhythm sleep–wake disorders (CRSD) 1: overview, p. 454).
- Substance misuse/physical illness/medication-related (see Box 7.2).

Management

- Exclusion of other possible causes with appropriate investigations (→ Bipolar (affective) disorder 2: clinical notes, p. 330).

- Address any specific psychosocial stressors.
- Ensure safety of the patient and others is maintained.
- If sleep disturbance is a problem, consider use of a hypnotic.
- If agitation is prominent, judicious use of BDZs may be appropriate.

- If the episode is prolonged, discuss medication possibilities (Treatment of acute manic episodes, p. 340) and the possibility of prophylaxis (Prophylaxis, p. 344).

Bipolar spectrum disorder

In the early 1980s, Gerald Klerman proposed a 'spectrum of mania', which included 'bipolar subtypes' and Hagop Akiskal originally suggested a similar 'bipolar spectrum' that broadened the very narrow DSM-III bipolar concept (see Table 7.1). Type II would become accepted officially a decade later and included in ICD-10 in 1992 and DSM-IV in 1994. Type III finally made it into DSM-5 in 2013 as 'Substance/medication-induced bipolar and related disorder'.

Table 7.1 Subtypes of bipolar disorder

Klerman (1981)[1]	Akiskal (1999)[2]	Description—'Depression plus … '
	Bipolar ½	Schizobipolar
Bipolar I	Bipolar I	Mania
	Bipolar I ½	Protracted hypomania
Bipolar II	Bipolar II	Hypomania
	Bipolar II ½	Cyclothymia
Bipolar III	Bipolar III	Hypomania or mania precipitated by tricyclic (antidepressant) drugs
	Bipolar III ½	Bipolarity masked and unmasked by stimulant abuse
Bipolar IV		Cyclothymia
	Bipolar IV	Hyperthymia
Bipolar V		Familial history of bipolar disorder
Bipolar VI		Mania alone (i.e. *without* depression)

1 Klerman GL (1981) The spectrum of mania. *Compr Psychiatry* **22**:11–20.

2 Akiskal HS, Pinto O (1999) The evolving bipolar spectrum. Prototypes I, II, III, and IV. *Psychiatr Clin North Am* **22**:517–34.

Also in the 1980s, Athanasios Koukopoulos challenged the prevailing dichotomous view by showing that mood episodes were usually not purely depressive or manic, but 'mixed'. 'Mixed depression' was the opposite of 'melancholia'. It was not characterized by marked psychomotor retardation, but rather excitation, including 'manic' symptoms (e.g. flight of ideas or pressured speech), agitation, irritability, rage, marked anxiety, and suicidal impulsivity. Much like bipolar disorder, mixed depression often got worse with antidepressants and responded to antipsychotics, whereas in melancholia, antidepressants sometimes worked, ECT was very effective, and lithium reduced recurrence rates. High rates of mixed depression symptoms were seen in both bipolar illness and major depressive disorder (MDD).[1]

Box 7.3 'I think I'm a little bit bipolar … '

A worrying trend in outpatient clinics is the 'expert' patient who has self-diagnosed bipolar disorder. One of the unexpected consequences of anti-stigma campaigns is the identification of individuals with celebrities who claim to have a psychiatric disorder (usually of a 'softer' variety—like bipolar II). While acceptance and more positive attitudes to psychiatric disorders are to be welcomed, it is still the provenance of the psychiatrist to legitimize such presumptive diagnoses. Good history-taking is of paramount importance. It is essential that differentials and comorbidity are considered (e.g. personality traits, anxiety, alcohol and substance misuse). As far as possible, collateral information may help with possible recall bias, and evidence of secondary gain prohibits the medicalization of difficult or imprudent behaviour. Clinicians must try and remain objective, and not collude with the patient, professional colleagues, fashionable labelling (e.g. 'bipolar spectrum';  Bipolar spectrum disorder, see opposite), or unsubstantiated claims of Big Pharma. Diagnosis carries not only far-reaching psychosocial consequences, but also will often suggest a need for specific interventions which are not without risk.

The main differentials not to miss include:

- **Thyroid disorders**: may resemble depression or mania/hypomania; can be caused by lithium; may present subclinically as mixed states; and are treatable!
- **Substance abuse**: can mimic affective states; may unmask pre-existing illness/predisposition; may be a form of self-medication; should always be treated first.
- **ADHD**: overlapping symptoms—restlessness, hyperactivity, distractibility, impulsiveness, poor concentration/attention, temper dyscontrol; lifelong, pervasive, not episodic; may respond to antidepressants and mood stabilizers.
- **Borderline personality disorder**: stormy, unstable lifestyles; overly dramatic; intense unstable relationships; acutely sensitive to abandonment; unrealistically demanding of families

and physicians; exhibiting self-defeating and self-destructive behaviours; heightened sense of personal rights (repeated vexatious complaints); frequently associated with dissociative symptoms, substance abuse, self-harm (mutilation), and repeated suicidal acts.

- **Other personality disorders**: traits often seen in bipolar disorder: dependency, passive aggression, histrionics, paranoia, narcissism, hypochondriasis, manipulative antisocial traits. When these are secondary to bipolar disorder, they tend to disappear between episodes and with treatment, and the patient is more likely to be embarrassed and remorseful. Patients with fixed personality disorders are often demanding, defiant, manipulative, self-defeating, actively undermine efforts to address needs, are non-compliant with medication, abuse alcohol or substances, and end up in prison.

Jules Angst, whose work had previously been central to the move to a dichotomous view of the mood disorders in the 1960s, become an advocate for the bipolar spectrum concept ('bipolarity') when, in later studies, he found many intermediate forms between the original bipolar and unipolar ideal types, with mixed states (three or more mania symptoms of any duration) occurring in up to 50% of all depressive conditions.[2] These findings brought into question the whole idea of 'polarity' as a useful distinction. Perhaps it might be better to base any nosology on something like recurrence, in much the same way that Emil Kraepelin originally framed 'manic depressive insanity'? (Box 7.3, p. 325). DSM-5 maintained the dichotomy but allowed the specifier 'with mixed features' to be applied to both bipolar I/II and depressive episodes.

Researchers also voiced concerns about the possible *underdiagnosis* of bipolar disorder and the potential problems of *mis*-prescribing antidepressants to patients for whom mood stabilizers might be of greater benefit. To help identify patients with 'bipolar spectrum illness', Nassir Ghaemi[3] proposed operational criteria that included a history of recurrent severe depression, no spontaneous hypomanic/manic episodes, and some additional features, e.g. first-degree relative with bipolar disorder, antidepressant-induced mania/hypomania, hyperthymic[4] or cyclothymic personality, recurrent major depressive episodes (>3), brief major depressive episodes (on average <3mths), atypical depressive symptoms, psychotic major depressive episodes, early age of onset of major depressive episode (age <25), postpartum depression, antidepressant 'wear-off' (acute, but not prophylactic, response), or lack of response to up to three antidepressant trials. These features were already part of screening questionnaires, e.g. the MDQ (http://www.integration.samhsa.gov/images/res/MDQ.pdf [accessed 20 June 2018]).

The term 'bipolar spectrum' is often erroneously used to denote a clinical presentation with mood instability or lability and a history of impulsive, foolish, excessive, or risky behaviour. Without other significant mood symptoms, it is highly unlikely that this is a bipolar presentation (Box 7.3, p. 325). DSM-5 does use the category 'Other specified bipolar and related disorder' to capture 'subsyndromal' disorders that do not meet the duration criteria for hypomania (<4+ consecutive days), have too few symptoms for bipolar II syndrome (despite lasting 4+ days) in the context of a history of MDD, and have hypomania without prior depressive episode or short-duration cyclothymia (<24mths). Patients with these features may represent a subset of patients who do not respond well to antidepressants (often precipitating a switch to a hypomanic or manic episode) and for whom a mood stabilizer may be a better choice if a treatment trial is proposed.

Bipolar (affective) disorder 1: classification

Diagnostic classification

(See Box 7.4.)

ICD-10

Requires at least two episodes, one of which must be hypomanic, manic, or mixed, with recovery usually complete between episodes. Criteria for depressive episodes are the same as unipolar depression (Diagnosis 1: symptoms, p. 246). Separate category (*manic episode*) for hypomania or mania (with or without psychotic symptoms) without a history of depressive episodes. Cyclothymia included with dysthymia in the *persistent mood disorders* section.

DSM-5

Allows a single manic episode and cyclothymic disorder to be considered as part of bipolar disorder, and defines two subtypes (with additional specifiers):

- *Bipolar I disorder:* the occurrence of one or more manic episodes with or without a history of one or more depressive episodes or hypomanic episodes.
- *Bipolar II disorder:* the occurrence of one or more depressive episodes accompanied by at least one hypomanic episode.
- *Severity specifiers:* mild, moderate, severe.
- *Special syndrome specifiers:* with anxious distress, mixed features, rapid cycling, catatonia, melancholic features, atypical features, peripartum onset, seasonal pattern, mood-congruent or mood-incongruent psychotic features.
- *Longitudinal course specifiers:* in partial or full remission.

Mixed episodes (ICD-10)/with mixed features (DSM-5)

- The occurrence of both manic/hypomanic and depressive symptoms in a single episode, present every day for 2wks (ICD-

10) or the majority of days during the episode of hypomania or mania (DSM-5).

- Typical presentations include:
  - depression *plus* over-activity/pressure of speech.
  - mania *plus* agitation and reduced energy/libido.
  - dysphoria *plus* manic symptoms (with the exception of elevated mood).
  - rapid cycling (fluctuating between mania and depression—four or more episodes/year)—DSM-5 uses the specifier 'with rapid cycling' for bipolar I or II disorder.

Note: 'ultra-rapid' cycling refers to an illness where fluctuations in mood are over days or even hours.

> 'The clinical reality of manic-depressive illness is far more lethal and infinitely more complex than the current psychiatric nomenclature, bipolar disorder, would suggest. Cycles of fluctuating moods and energy levels serve as a background to constantly changing thoughts, behaviors, and feelings. The illness encompasses the extremes of human experience. Thinking can range from florid psychosis, or "madness", to patterns of unusually clear, fast and creative associations, to retardation so profound that no meaningful mental activity can occur. Behavior can be frenzied, expansive, bizarre, and seductive, or it can be seclusive, sluggish, and dangerously suicidal. Moods may swing erratically between euphoria and despair or irritability and desperation. The rapid oscillations and combinations of such extremes result in an intricately textured clinical picture. Manic patients, for example, are depressed and irritable as often as they are euphoric; the highs associated with mania are generally only pleasant and productive during the earlier, milder stages.'
>
> Dr Kay Redfield Jamison (1993) *Touched with fire: manic-depressive illness and the artistic temperament*, pp. 47–8. New York: Free Press, Macmillan.

Box 7.4 Classification of bipolar disorder

ICD-10: bipolar affective disorder

- Current episode, hypomanic.
- Current episode, manic without psychotic symptoms.
- Current episode, manic with psychotic symptoms.
- Current episode, mild or moderate depression.
- Current episode, severe depression without psychotic symptoms.
- Current episode, severe depression with psychotic symptoms.
- Current episode, mixed.
- Currently in remission.
- Other bipolar affective disorders/unspecified.

DSM-5: bipolar and related disorders

- Bipolar I disorder:
  - Current or most recent episode manic.
  - Current or most recent episode hypomanic.

- Current or most recent episode depressed.
- Current or most recent episode mixed.

- Bipolar II disorder:
  - Current or most recent episode hypomanic.
  - Current or most recent episode depressed.
- Cyclothymic disorder.
- Substance/medication-induced bipolar and related disorder.
- Bipolar and related disorder due to another medical condition.
- Other specified/unspecified bipolar and related disorder.

Note: ICD-11 is very similar to DSM-5 with bipolar I, bipolar II, cyclothymic disorder, other, and unspecified. Bipolar I and II include current episode manic (± psychotic symptoms), hypomanic, depressive [mild, moderate, severe (± psychotic symptoms), in partial or complete remission]. Bipolar I may also have mixed symptoms.

Bipolar (affective) disorder 2: clinical notes

Epidemiology

Lifetime prevalence 0.3–1.5% (0.8% bipolar I; 0.5% bipolar II); ♂ = ♀ (bipolar II and rapid cycling more common in ♀; first episodes: ♂ tend to be manic, ♀ depressive); no significant racial differences; age range 15–50+ yrs (peaks at 15–19yrs and 20–24yrs; mean 21yrs).

Course

Extremely variable. First episodes may be hypomanic, manic, mixed, or depressive. This may be followed by many years (5 or more) without a further episode, but the length of time between subsequent episodes may begin to narrow. There is often a 5- to 10-yr interval between the age at onset of illness and age at first treatment or first admission to hospital. Often patients with recurrent depression have a first manic episode in later life (>50yrs). Presentation in later life increases the suspicion of an underlying organic cause. It is known that untreated patients may have >10 episodes in a lifetime and that the duration and period of time between episodes stabilize after the fourth or fifth episode. Although the prognosis is better for treated patients, there still remains a high degree of unpredictability.

Morbidity/mortality

Morbidity and mortality rates are high, in terms of lost work, lost productivity, and effects on marriage (↑ divorce rates) and the family, with attempted suicide in 25–50% and completed suicide in 10% (♂ > ♀, usually during a depressive episode). Often significant comorbidity—especially drug/alcohol misuse and anxiety disorders (both increase the risk of suicide).

Differential diagnosis

Depends upon the nature of the presenting episode (Mania/manic episode, p. 320; Hypomania/hypomanic episode,

p. 322, and Diagnosis 1: symptoms, p. 246).

Investigations

As for depression; full physical and routine blood tests to exclude any treatable cause, including FBC, ESR/CRP, glucose, U&Es, Ca^{2+}, TFTs, LFTs, and drug screen. Less routine tests: urinary copper [to exclude WD (rare)], ANF (SLE), infection screen (VDRL, syphilis serology, HIV test). CT/MRI brain (to exclude tumour, infarction, haemorrhage, MS)—may show hyperintense subcortical structures (esp. temporal lobes), ventricular enlargement, and sulcal prominence; EEG (baseline and to rule out epilepsy). Other baseline tests prior to treatment should include ECG and creatinine clearance.

Management

See specific sections (Bipolar affective disorder 4: management principles, p. 336) for management principles, other issues, treatment of acute manic episodes, depressive episodes, prophylaxis, and psychotherapeutic interventions.

Prognosis

Within the first 2yrs of first episode, 40–50% of patients experience another manic episode. Fifty to 60% of patients on lithium gain control of their symptoms (7% no recurrence; 45% some future episodes; 40% persistent recurrence). Often, the cycling between depression and mania accelerates with age. *Poor prognostic factors*: poor employment history; alcohol abuse; psychotic features; depressive features between periods of mania and depression; evidence of depression; ♂ sex; treatment non-compliance. *Good prognostic factors*: manic episodes of short duration; later age of onset; few thoughts of suicide; few psychotic symptoms; few comorbid physical problems; good treatment response and compliance.

Bipolar affective disorder 3: aetiology

(See Box 7.5.)

Despite significant research efforts, the definitive pathophysiology of bipolar disorder remains elusive. There are many similarities with gene expression and neuroimaging studies of persons with schizophrenia and major depression, suggesting that mood disorders and schizophrenia may share a biological basis.

Box 7.5 Aetiological theories

Abnormal programmed cell death

Animal studies have shown that antidepressants, lithium, and valproate indirectly regulate a number of factors involved in cell survival pathways (e.g. CREB, BDNF, Bcl-2, and MAP kinases), perhaps explaining their delayed long-term beneficial effects (via under-appreciated neurotrophic effects, especially in the frontal

cortex and the hippocampus[1]). Neuroimaging studies also indicate cell loss in these same brain regions, suggesting that bipolar disorder may result from abnormal programmed cell death (apoptosis) in critical neural networks involved in emotional regulation. Treatments may stimulate cell survival pathways, increase neurotrophic factors, and improve cellular resilience.

Kindling

Through a mechanism of electrophysiological kindling, this older hypothesis[2] draws on animal models to suggests a role for neuronal injury. A genetically predisposed individual experiences an increasing number of minor neurological insults (e.g. due to drugs of abuse, excessive glucocorticoid stimulation, acute or chronic stress, or other factors), which eventually result in mania. After the first episode, neuronal damage may persist, allowing for recurrence with or without minor environmental or behavioural stressors (like epilepsy), which may result in further injury. This could explain why later episodes become more frequent, anticonvulsants may be useful in preventing recurrent episodes, and treatment should be as early as possible and long term. It may be that the balance between primary pathological, secondary adaptive alterations in gene expression in the illness, and pharmacological enhancement or dampening determines the typical episodic course of relapses and remissions of mood symptoms.[3]

1 Manji HK, Duman RS (2001) Impairments of neuroplasticity and cellular resilience in severe mood disorders: implications for the development of novel therapeutics. *Psychopharmacol Bull* **35**:5–49.

2 Post RM, Weiss SR (1989) Sensitization, kindling, and anticonvulsants in mania. *J Clin Psychiatry* **50**(Suppl):23–30.

3 Post RM, Speer AM, Hough CJ, Xing G (2003) Neurobiology of bipolar illness: implications for future study and therapeutics. *Ann Clin Psychiatry* **15**:85–94.

Genetic

Twin, family, and adoption studies point to a significant genetic contribution. First-degree relatives are 7 times more likely to develop the condition than the general population (i.e. 10–15% risk). Children of a parent with bipolar disorder have a 50% chance of developing a psychiatric disorder (genetic liability appears shared for schizophrenia and schizoaffective and bipolar affective disorders). Monozygotic (MZ) twins: 33–90% concordance; dizygotic (DZ) twins: ~23%. Recent evidence indicates an overall heritability of ~70%.

Candidate genes

Results from four genome-wide association studies (GWAS) of large samples of subjects with bipolar disorder give combined support for two particular genes *ANK3* (ankyrin G) and *CACNA1C* (α1C subunit of the L-type voltage-gated calcium channel).[5] Other candidates are genes associated with biochemical pathways that

lithium regulates, e.g. the phosphatidyl inositol pathway [diacylglycerol kinase eta (*DGKH*) gene); cell death/neuroprotection mechanisms [e.g. glycogen synthase kinase 3-beta (GSK3β)]; circadian periodicity (e.g. *CLOCK* gene); neuronal migration (*NCAN*); and oestrogen receptor binding site variations in women associated with the transglutaminase 2 (*TGM2*) gene. There are indications that large copy number variants (>100kb—both deletions and duplications) increase the risk of bipolar disorder.

Post-mortem studies have found ↓ levels of expression of oligodendrocyte-myelin-related genes, implicating abnormal myelination in the illness.

Shared genetics with schizophrenia

As well as overlapping family susceptibility, there are reports of shared genes, e.g. *G72* on 13q34, which encodes *d*-amino acid oxidase activator (DAOA) and *DISC1* (Disrupted in Schizophrenia 1) on 1q42. A large meta-analysis by the NIH on recent GWAS found evidence for a shared susceptibility locus around 6p22.1 known to harbour genes involved in immunity and turning other genes on and off.[6]

Neuroimaging

A recent meta-analysis of structural and functional brain imaging found ↓ activation and reduced grey matter in areas associated with emotional regulation, and ↑ activation in ventral limbic brain regions that mediate and generate emotional responses.7[7] A post-mortem study8[8] has shown evidence of loss of hippocampal interneurons in patients with bipolar disorder.

Biochemical factors

There is increasing evidence of the importance of glutamate in bipolar disorder and major depression; the cathecholamine hypothesis study suggests that an increase in adrenaline and noradrenaline causes mania, while a decrease causes depression; drugs that may cause mania (e.g. cocaine, levodopa, amphetamines, antidepressants) suggest a role for DA and 5-HT; disruption of Ca^{2+} regulation may be caused by neurological insults such as excessive glutaminergic transmission or ischaemia; hormonal imbalances and disruptions of the hypothalamic–pituitary–adrenal axis involved in homeostasis and stress response are also important.

Environmental factors

Stressful life events may precipitate episodes, particularly in vulnerable individuals. Pregnancy especially carries a high risk of a mixed affective presentation or puerperal psychosis (Post-partum psychosis, p. 494).

Pharmacological risk factors

Concerns about the possibility of antidepressant treatment precipitating mania have been investigated recently in over 21,000 patients presenting with unipolar depression. Conversion to mania/bipolar disorder was 10.9 per 1000 person-years, with a peak incidence between 26 and 35 years (12.3 per 1000 person-years). Prior antidepressant treatment ↑ the likelihood of conversion by about 30%.[9]

Bipolar affective disorder 4: management principles

Acute episodes

This will depend upon the nature of the presenting episode (Mania/manic episode, p. 320; Hypomania/hypomanic episode, p. 322; Bipolar spectrum disorder, p. 324). Often the episode may require hospital admission (Hospital admission, see opposite). Special consideration should also be given to certain specific issues related to the clinical presentation, the presence of concurrent medical problems, and particular patient groups, both in terms of setting and choice of treatment (Other issues affecting management decisions, p. 338). Issues of prophylaxis (Prophylaxis, p. 344) should be considered, and this may sometimes involve not only pharmacological, but also psychotherapeutic interventions (Psychotherapeutic interventions, p. 346).

Outpatient follow-up

Once the diagnosis has been clearly established, possible physical causes excluded, and the presenting episode effectively treated, follow-up has a number of key aims:

- Establishing and maintaining a therapeutic alliance.
- Monitoring the patient's mental state.
- Providing education regarding bipolar disorder.
- Enhancing treatment compliance.
- Monitoring side effects of medication and ensuring therapeutic levels of any mood stabilizer.
- Identifying and addressing any significant comorbid conditions (Other issues affecting management decisions, p. 338).
- Promoting regular patterns of activity and wakefulness.
- Promoting understanding of, and adaption to, the psychosocial effects of bipolar disorder.
- Identifying new episodes early.
- Reducing the morbidity and sequelae of bipolar disorder.

- Maintaining a pragmatic view of how interventions will help—to reduce the frequency and severity of episodes, but perhaps not to eliminate them completely—bipolar disorder is a chronic condition.
- Providing an opportunity to discuss any new treatment developments in a balanced and evidence-informed manner.

Relapse prevention

A key part of psychiatric management is helping patients to identify precipitants or early manifestations of illness, so that treatment can be initiated early. This may be done as part of the usual psychiatric follow-up or form part of a specific psychotherapeutic intervention (Psychotherapeutic interventions, p. 346), e.g. *insomnia* may often be either a precipitant or an early indicator of mania or depression—education about the importance of regular sleep habits and occasional use of a hypnotic (Insomnia 2: general management strategies, p. 442) to promote normal sleep patterns may be useful in preventing the development of a manic episode. Other early or subtle signs of mania may be treated with the short-term use of BDZs or antipsychotics. A good therapeutic alliance is critical, and the patient, who often has good insight, ought to feel that they can contact their clinician as soon as they are aware of these early warning signs. Use of a Mood Diary or Life Chart can help in this regard (see http://bipolarnews.org; select the 'Mood Charting' tab).

Hospital admission

Frequently acute episodes of bipolar disorder are severe enough to require hospital admission (often on a compulsory basis). Issues of safety and the provision of effective treatment will govern decisions about whether a patient can remain in the community.

Points to note

- Patients with symptoms of mania/hypomania or depression often have impaired judgement (sometimes related to psychotic symptoms), which may interfere with their ability to make reasoned decisions about the need for treatment.
- Risk assessment includes not only behaviours that may cause direct harm (e.g. suicide attempts or homicidal behaviour), but also those that may be indirectly harmful (e.g. overspending, sexual promiscuity, excessive use of drugs/alcohol, driving while unwell).
- The relapsing/remitting nature of the disorder makes it possible to work with the patient (when well) and their family/carers to anticipate future acute episodes—agree a treatment plan.

Clinical features and situations where admission may be necessary

- High risk of suicide or homicide.

- Illness behaviour endangering relationships, reputation, or assets.
- Lack of capacity to cooperate with treatment (e.g. directly due to illness or secondary to availability of social supports/outpatient resources).
- Lack (or loss) of psychosocial supports.
- Severe psychotic symptoms.
- Severe depressive symptoms.
- Severe mixed states or rapid cycling (days/hours).
- Catatonic symptoms.
- Failure of outpatient treatment.
- Address comorbid conditions (e.g. physical problems, other psychiatric conditions, inpatient detoxification).

Suitable environment

During an acute manic episode, maintain a routine, calm environment (not always possible). A balance should be struck between avoiding over-stimulation (e.g. from outside events, TV, radio, lively conversation) and provision of space to walk or exercise to use up excess energy. Where possible, restrict access to alcohol and drugs. Regular observations by staff may be overly intrusive and feel uncomfortable on a busy ward. Patients may make requests that may be reasonable, but not practical. Psychiatrists should adopt a pragmatic approach, listen to concerns, and balance risks. This may result in a difficult decision about whether to detain a patient to a hospital environment, which, although far from ideal, is the 'least worst' option.

Other issues affecting management decisions

Specific clinical features

Certain clinical features will strongly influence the choice of treatment. For issues of substance misuse or other psychiatric morbidity, these should be addressed directly (see specific sections).

- **Psychotic symptoms**: not uncommon for patients to experience delusions and/or hallucinations during episodes of mania or depression. *Management*—an antipsychotic with mood-stabilizing properties (e.g. olanzapine or quetiapine) is the first-line choice. A mood stabilizer (semisodium valproate or lithium typically) may also be appropriate for prophylaxis; consider ECT; if severe, consider admission to hospital.
- **Catatonic symptoms**: during a manic episode (manic stupor). *Management*—admit to hospital; exclude medical problem; clarify psychiatric diagnosis; if clear, treat with ECT and/or BDZ, alongside mood-stabilizing antipsychotic medication.
- **Risk of suicide**: assess nature of risk (Asking about depressed mood, p. 64); note association with rapid cycling mood. If significant risk, or unacceptable uncertainty, admit to hospital (or if in hospital, increase the level of observation).

- **Risk of violence**: assess nature of risk ( Assessing risk of violence, p. 748). Note  risk with rapid mood cycling, paranoid delusions, agitation, and dysphoria. Admit to hospital; consider the need for secure setting.
- **Substance-related disorders**: comorbidity is high, often confusing the clinical picture. Substance misuse may lead to relapse both directly and indirectly (by reducing compliance and precipitating difficult social circumstances). Equally, alcohol consumption may increase when on lithium. *Management*—address issues of misuse; if detoxification considered, admit to hospital as risk of suicide may be i.
- **Other comorbidities**: personality difficulty/disorder, anxiety or conduct disorder, ADHD.

Concurrent medical problems

The presence of other medical problems may affect management either by exacerbating the course or severity of the disorder or by complicating drug treatment (i.e. issues of tolerability and drug interactions).

- **Cardiovascular/renal/hepatic disorders**: may restrict the choice of drug therapy or increase the need for closer monitoring ( Prescribing for patients with cardiovascular disease, p. 1032;  Prescribing for patients with liver disease, p. 1034;  Prescribing for patients with renal impairment, p. 1036).
- **Endocrine disorders**: e.g. hypo-/hyperthyoidism.
- **Infectious diseases**: e.g. HIV-infected patients may be more sensitive to CNS side effects of mood stabilizers.
- **Use of steroids**: e.g. for treatment of asthma/irritable bowel syndrome (IBS).

Special patient groups

- **Children and adolescents** ( Management, p. 701) Lithium has been shown to be effective, but long-term effects on development have not been fully studied. Lithium may be excreted more quickly, allowing more rapid dose adjustments, but therapeutic levels are the same as for adults. Risks associated with other adjunctive agents (e.g. antipsychotics, antidepressants, BDZs) should be considered separately. ECT is rarely used but may be effective. Education, support, and other specific psychosocial interventions should be considered (usually involving family, teachers, etc.).

- **The elderly** ( Management, p. 553) When a first manic episode occurs in a patient after age 60, there is usually evidence of previous depressive episodes in their 40s and 50s. Full physical examination is necessary to exclude medical causes (especially CNS disorders). Older patients may be more sensitive

to the side effects of lithium (particularly neurological and renal) and may require lower therapeutic levels (i.e. below 0.7mmol/L).

- **Pregnancy and lactation** (Prescribing in pregnancy, p. 1028; Prescribing in lactation, p. 1030). Consider ECT earlier than in other situations of significant manic, depressed, or psychotically depressed episodes.

Published guidelines

There are now a number of guidelines that can help inform practice, including the slightly ageing APA guideline (2002)10[10] and the more up-to-date UK NICE guideline (2014)11[11] and the BAP guideline (2016)12[12]. Many UK hospitals are also developing integrated care pathways (ICPs), which will include treatment guidelines based on these, as well as reflecting local custom and practice.

Treatment of acute manic episodes

For severe behavioural disorder

Follow local protocols for management (Severe behavioural disturbance, p. 1048). Pharmacological interventions should be regarded as separate from specific management of acute mania, although there is a degree of overlap. Cautious treatment with BDZs (e.g. lorazepam) and low-dose antipsychotics (e.g. haloperidol) are recommended. Local guidelines should be followed.

For severe/life-threatening manic episode

ECT has been shown to be a valid treatment option in acute mania[13] and should be offered, especially if the patient has had a previous good response or there is an advance statement/directive of preference. Current practice reserves ECT for clinical situations where pharmacological treatments may not be possible, such as pregnancy or severe cardiac disease, or when the patient's illness is refractory to drug treatments.

If currently on antidepressant medication

Give consideration to reducing, stopping, or swapping to an alternative medication if manic episode related to commencement or recent dose change (or possible compliance issues).

Not currently on any treatment

Most guidelines recommend the use of one of the licensed SGAs first line in view of ease of use, rapidity of action, and tolerability (see Table 7.2)—with most evidence for olanzapine, risperidone, and quetiapine. Haloperidol is also one of the best options for the treatment of manic episodes.[14] Valproic acid or lithium are usually second line, unless there is clear evidence of previous benefit.

Table 7.2 Licensed antipsychotics (UK): starting doses and therapeutic ranges (see *BNF* for further details)

Drug	Starting dose	Therapeutic range
Olanzapine	15mg/day	5–20mg/day
Quetiapine	50mg bd	400–800mg/day
Risperidone	2mg/day	1–6mg/day
Aripiprazole	15mg/day	15–30mg/day
Asenapine	10mg bd	10–20mg/day

If already on semisodium valproate or lithium

- Ensure compliance and therapeutic dose.
- Consider combining lithium with semisodium valproate.
- Consider adding antipsychotic treatment.

If already on antipsychotic medication

- Ensure compliance and therapeutic dose.
- Consider adding lithium or semisodium valproate.

Treatment notes

- **Lithium** (Lithium, p. 350) Up to 3wks of treatment may be necessary to reach maximal effectiveness for manic patients. Due to this delayed effect, especially for severe mania or psychotic symptoms, with associated acute behavioural disturbance, an antipsychotic and/or BDZ is often used first line (see 'Benzodiazepines' further below). *Predictors of good response include*—previous response to lithium, compliance with medication, >3 previous episodes, family history of mood disorder, euphoria (not dysphoria), lack of psychotic symptoms or suicidal behaviour.

- **Semisodium valproate** (Valproate/valproic acid, p. 354) Well tolerated and has very few drug interactions, making it more suitable for combined treatment regimes. May also work faster than lithium, but not suitable for women of childbearing age due to the risk of neural tube defects. *Predictors of good response include*—rapid cycling, dysphoric mania, mixed episodes/features, stable or decreasing frequency of manic episodes, less severe bipolar spectrum disorders.
- **Benzodiazepines** May reduce the need for using high antipsychotic doses in order to achieve sufficient sedation. Clonazepam and lorazepam are most widely studied, alone or in combination with lithium.

- **Carbamazepine** (Carbamazepine, p. 356) Or its derivative oxcarbazepine, may be effective, either alone or in combination with lithium or antipsychotics.[15] May be better tolerated in patients with comorbid drug or alcohol problems, in obesity, or in

women of childbearing age. *Predictors of good response include* —previous response to carbamazepine, poor compliance (due to wide therapeutic window), absence of psychotic symptoms, secondary mania (e.g. drug-induced, neurological disorder, brain injury), dysphoria, mixed episodes/features, rapid cycling, episode part of schizoaffective disorder.

- **Other anticonvulsants** Meta-analysis does not support the use of lamotrigine, gabapentin, or topiramate for acute mania.[14]

- **Clozapine** ( Clozapine 1: general guidelines, p. 218 May be considered for refractory illness where symptoms are inadequately controlled with optimized doses of the first-line medicine and/or mania is very severe.

Treatment of depressive episodes

Bipolar depression occurs more frequently, lasts longer, is more disruptive, and may be associated with a greater risk of suicide than mania. Until recently, research has focused more on treatment of mania and prophylaxis. The pharmacological treatment of depressive episodes in bipolar disorder represents a particular challenge.[16] Although almost all of the antidepressants used in the treatment of unipolar depression are used in the treatment of bipolar depression, the response rates are lower and it is not confirmed that they have a significant effect at all. Despite this, many clinicians choose to prescribe them pragmatically, given the risks of depressive episodes in the context of bipolar disorder. Furthermore, antidepressants can increase the risk of precipitating a manic episode or inducing/accelerating rapid cycling.[17] When symptoms are mild to moderate, consider combining pharmacological and psychological interventions (as for unipolar depression;  Management principles and outpatient treatment, p. 262).

If the patient is already on prophylaxis

- Optimize (ensure compliance), check serum levels.
- Exclude/treat associated problems (e.g. hypothyroidism).
- Review the need for other medications that may lower the mood. Consider other conditions that may mimic or cause depression ( Differential diagnosis, p. 253).
- Consider adding SSRI (along with mood-stabilizing prophylaxis).
- If not on antipsychotic, then consider the addition of quetiapine instead of SSRI ( Treatment notes, see opposite).

If evidence of recent mood instability (manic/hypomanic episodes and depression)

- **First line**: increase or (re)commence antimanic agent.
- **Second line**: consider using lamotrigine.

If no response to SSRI

- Consider alternative antidepressant, e.g. mirtazapine, venlafaxine; or augmentation strategies (→ Treatment notes, see opposite).
- Consider the addition of quetiapine or olanzapine if not currently on an antipsychotic (→ Treatment notes, see opposite).

For severe/life-threatening depressive episode (or previous good response/advance statement of preference)

- ECT should be strongly considered as first-line treatment.
- Although well established for treatment of unipolar depressive disorder, ECT in bipolar disorder has not been fully researched but should not be overlooked (especially severe cases).
- Take care if the patient is on prophylaxis (→ Table 6.7, p. 298).

Following remission of depressive symptoms

- Taper antidepressants after 8–12wks of maintenance treatment.
- Continue a mood stabilizer to prevent relapse.

Treatment notes

- **Choice of antidepressant**: although evidence is scarce, recent studies have suggested that SSRIs may be better tolerated, work more quickly, and have a lower associated risk of inducing mania or rapid cycling, compared to TCAs. In general, choice will depend on issues of previous response, side effects (both desired and undesired), and tolerability issues (→ Antidepressants, p. 276).
- **Role of antipsychotics**: quetiapine is licensed to treat depression in bipolar disorder (50mg nocte day 1, 100mg day 2, 200mg day 3, 300mg day 4; adjust according to response, usual dose 300mg nocte; max 600mg daily). Efficacy has been demonstrated in two RCTs (BOLDER 1 and 2) and the EMBOLDEN I and II replication trials.[18] Olanzapine, as an olanzapine–fluoxetine combination (OFC), is licensed for bipolar depression in the USA as Symbyax® (6/25, 6/50, or 12/50mg/day). Not licensed for bipolar depression in the UK, but licensed for mania and propylaxis. Recommended as first line either on its own or with fluoxetine in NICE (CG185, 2014) and BAP (2016) guidelines (→ Published guidelines, p. 339). Similarly, lurasidone is unlicensed in the UK but recommended for use first line in BAP (2016) guidelines.
- **Other anticonvulsants**: a recent meta-analysis supports monotherapy with lamotrigine (licensed in the USA, but not in the UK; → Lamotrigine, p. 358), particularly for treatment-refractory bipolar depression.[19] Gabapentin appears much less effective. Controlled clinical trials comparing standard treatments for depression in patients with bipolar disorder are lacking. It is a

widely accepted practice to add a second mood stabilizer to the treatment regimens of patients with bipolar disorder (e.g. carbamazepine or valproate). Be alert for evidence of lithium toxicity, even at 'normal' serum levels (Toxicity, p. 353).

- **Alternative strategies/treatment resistance**: other suggested strategies include the use of adjunctive tri-iodothyronine (T_3)—even if there is no evidence of clinical hypothyroidism[20]—and the novel use of inositol.[21] Evidence for omega-3 fatty acids is equivocal at best. For treatment-resistant depressive episodes, the principles of management are as for unipolar depression (An approach to treatment-resistant depression, p. 270).

Prophylaxis

Primary aim

Prevention of recurrent episodes (mania, hypomania, or depression).

Suicide prevention

Patients with bipolar disorder represent a group at high risk of suicide. Retrospective and prospective studies do suggest that long-term lithium therapy reduces the risk of suicide. There are still little data available on the anti-suicidal effects of other prophylactic treatments.

Indications

Following effective remission of acute symptoms of mania or bipolar depression; also recommended in bipolar II disorder.

Procedure following remission of acute symptoms of mania or depression

- Ensure therapeutic dose of mood stabilizer/optimal balance of risk–benefit for any antipsychotic medication.
- Withdraw gradually any additional antipsychotic or BDZ used to manage acute symptoms.
- When euthymia achieved following depressive episode, consider tapering antidepressant after 8–12wks.
- Continue monitoring of side effects, blood levels, and physical checks as per protocols for individual agents (Lithium, p. 350; Lithium: adverse effects, p. 352; Valproate/valproic acid, p. 354; Carbamazepine, p. 356; Lamotrigine, p. 358).

Guiding principles

- Manage with the lowest dose necessary of any maintenance medication.

- Aim for a single agent, if possible; most will require mood stabilizer + low-dose antipsychotic or mood stabilizer + antidepressant.
- Off-licence use of valproate or antipsychotic may be justified in the maintenance phase if there is good evidence of benefit in acute phase management (i.e. continuation is not unreasonable, perhaps at a lower dose, and few medications are licensed).
- 'Wait and see' policy for possible bipolar II disorder where use of mood stabilizer may prevent more serious later episodes should be discussed with the patient in light of a detailed clinical interview (especially high genetic risk), since treatments themselves are not without risks (evidence supports possible use of quetiapine or lamotrigine in this regard, but these are off-licence indications).

Licensed treatments

- **Lithium** ( Lithium, p. 350): to date, remains the gold standard choice for maintenance treatment in patients,[22] especially with a 'classical' course of illness.
- **Carbamazepine** ( Carbamazepine, p. 356): appears to be effective in the long-term treatment of bipolar disorder, with an overall response rate of 63%. Although it does not have worldwide approval as yet, carbamazepine may be more effective in the treatment of bipolar spectrum than classical bipolar disorder.
- **Lamotrigine** ( Lamotrigine, p. 358): licensed as monotherapy or adjunctive therapy (200–400mg/day); efficacy established in a pair of controlled studies for the prevention of depression and, to a lesser extent, mania following discontinuation of other psychotropic medications.[23]
- **Olanzapine**: licensed for prevention of recurrence in bipolar disorder (5–20mg/day); appears to be effective either alone or in combination with lithium or valproate.
- **Aripiprazole**: licensed for treatment and recurrence prevention of mania (15–30mg/day).
- **Quetiapine**: licensed for prevention of mania and depression in bipolar disorder (300–800mg/day in two divided doses).

Unlicensed treatments

- **Semisodium valproate/valproate/valproic acid** ( Valproate/valproic acid, p. 354): licensed for treatment of mania, but not specifically as prophylaxis. Caution required in women of childbearing age. Evidence of efficacy in rapid-cycling bipolar disorder and the most widely prescribed therapy for bipolar depression (unequivocal evidence of successful prophylaxis has not yet emerged). Indeed, the recent BALANCE study showed that both combination therapy (lithium plus valproate) and lithium

monotherapy are more likely to prevent relapse than valproate monotherapy.[24]

- **Other antipsychotics**: risperidone may have an adjunctive or maintenance role orally and as depot. Asenapine is licensed for use in mania and may be continued as prophylaxis. FGAs, including depots (usually low dose), are anecdotally effective, but evidence is lacking.
- **Other anticonvulsants**: there have been promising reports on the efficacy of oxcarbazepine, topiramate, gabapentin, and tiagabine, but the evidence is relatively weak.
- **Alternative/augmentative agents**: a number of other compounds that may have clinical utility include: Ca^{2+} channel antagonists such as verapamil, nifedipine, and nimodipine; thyroid hormones; tamoxifen; omega-3 fatty acids; and even vitamin/mineral supplements. These agents should only be considered following attempts to treat with more conventional approaches.

Risks of discontinuation

Substantial evidence exists that abrupt discontinuation of lithium is associated with an ↑ risk of relapse. The risk, particularly of mania, may be minimized by gradually reducing the lithium dose. Although comparable studies are not available for the anticonvulsants or antipsychotics, a similarly cautious approach would seem advisable.

Psychotherapeutic interventions

Most patients will struggle with some of the following issues:

- Emotional consequences of significant periods of illness and receiving the diagnosis of a chronic psychiatric disorder.
- Developmental deviations and delays caused by past episodes.
- Problems associated with stigmatization.
- Problems related to self-esteem.
- Fear of recurrence and the consequent inhibition of normal psychosocial functioning.
- Interpersonal difficulties.
- Issues related to marriage, family, childbearing, and parenting.
- Academic and occupational problems.
- Other legal, social, and emotional problems that arise from illness-related behaviours.

For some patients, a specific psychotherapeutic intervention (in addition to usual psychiatric management and social support) will be needed to address these issues. Approaches include: psychodynamic, interpersonal, behavioural, and cognitive therapies. In addition, couple, family, and group therapy may be indicated for some patients. The selection of appropriate interventions is influenced by the local availability of such treatments, as well as the patient's needs and preferences.

Key elements of selected interventions

- **Psychoeducation**:[25,26] key component to most therapies, psychoeducation goes further than simply delivering information and does appear to reduce recurrence and relapse. Patients are given a theoretical and practical approach to understanding their illness and the medication they are prescribed. Through understanding, patients can attain improved adherence to medication, recognize symptoms that might lead to decompensation, and recover occupational and social function.
- **CBT**:[27] time-limited, with specific aims—educating the patient about bipolar disorder and its treatment, teaching cognitive behavioural skills for coping with psychosocial stressors and associated problems, facilitating compliance with treatment, and monitoring the occurrence and severity of symptoms.
- **Interpersonal and social rhythm therapy (IPT/SRT)**:[28] to reduce lability of mood by maintaining a regular pattern of daily activities, e.g. sleeping, eating, physical activity, and emotional stimulation. Evidence suggests IPT/SRT should be initiated immediately following an acute episode when individuals are most likely to make the lifestyle changes required to achieve social rhythm stability.
- **Family-focused therapy (FFT)**:[29] usually brief, includes psychoeducation (of patient and family members) with specific aims—accepting the reality of the illness, identifying precipitating stresses and likely future stresses inside and outside the family, elucidating family interactions that produce stress on the patient, planning strategies for managing and/or minimizing future stresses, and bringing about acceptance of the patient's family of the need for continued treatment. Benefits more pronounced in depressed patients and in those living in a high-expressed emotional environment.
- **Support groups**: may provide useful information about bipolar disorder and its treatment. Patients may benefit from hearing the experiences of others, struggling with similar issues. This may help them to see their problems as not being unique, understand the need for medication, and access advice and assistance with other practical issues. In the UK, groups such as the Manic Depression Fellowship, MIND, and SANE provide both support and educational material to patients and their families (Resources for patients, p. 1072).

'At this point in my existence, I cannot imagine leading a normal life without both taking lithium and having had the benefits of psychotherapy. Lithium prevents my seductive but disastrous highs, diminishes my depressions, clears out the wool and webbing from my disordered thinking, slows me down, gentles me out, keeps me out of a hospital, alive, and makes psychotherapy possible. But, ineffably, psychotherapy heals. It makes some sense of the confusion, reins in the terrifying thoughts and feelings, returns some control and hope and possibility of learning from it all. Pills cannot, do not, ease one back into reality; they only bring one back

headlong, careening, and faster than can be endured at times. Psychotherapy is a sanctuary; it is a battleground; it is a place I have been psychotic, neurotic, elated, confused, and despairing beyond belief. But, always, it is where I have believed or have learned to believe—that I might someday be able to contend with all of this. No pill can help me deal with the problem of not wanting to take pills; likewise, no amount of psychotherapy alone can prevent my manias and depressions. I need both. It is an odd thing, owing life to pills, one's own quirks and tenacities, and this unique, strange, and ultimately profound relationship called psychotherapy.'

Dr Kay Redfield Jamison (1996) An unquiet mind: a memoir of moods and madness, pp. 88–9. London: Picador.

Cyclothymia

Previously regarded as a disorder of personality ('cyclothymic temperament'; see Boxes 7.6 and 7.7), mainly because of its early age of onset and relative stability throughout adult life, cyclothymia is now considered to be a mood disorder.[30]

Clinical features

- Persistent instability of mood, numerous periods of mild depression and mild elation, not sufficiently severe or prolonged to fulfil the criteria for bipolar affective disorder or recurrent depressive disorder.
- The mood swings are usually perceived by the individual as being unrelated to life events.

The diagnosis is difficult to establish without a prolonged period of observation or an unusually good account of the individual's past behaviour. In DSM-5, the symptoms must have been present for at least 2yrs (or 1yr in children and adolescents), with no period lasting longer than 2mths, during which they have been at a normal state, and an additional specifier 'with anxious distress' may be used.

Epidemiology

- **Prevalence**: 3–6% of general population.
- **Age of onset**: usually early adulthood (i.e. teens or 20s), but sometimes may present later in life.
- More common in relatives of patients with bipolar affective disorder.

Differential diagnosis

Bipolar affective disorder, recurrent depressive disorder, drug or alcohol misuse, ADHD, conduct disorder, personality disorder (emotionally unstable), medical conditions (Differential diagnosis, p. 321).

Course

Onset often gradual, making it difficult to pinpoint when symptoms began. Alternating ups and downs may fluctuate in hours, weeks, or months. Because mood swings are relatively mild and periods of mood elevation may be enjoyable (with ↑ activity and productivity, self-confidence, and sociability), cyclothymia frequently fails to come to medical attention. The person may often present either because of the impact of the depressive episodes on social and work situations or because of problems related to comorbid drug or alcohol misuse. Usually runs a chronic course, persisting throughout adult life. In some cases, symptoms may cease temporarily or permanently or develop into more severe mood swings meeting the criteria for bipolar affective disorder or recurrent depressive disorder.

Management

- If pharmacological treatment is contemplated, this usually consists of a trial of a mood stabilizer (e.g. lithium, low dose 600–900mg/day).
- Recently, there has been a tendency to use anticonvulsants, such as valproate (500–750mg/day), carbamazepine, or lamotrigine, as these may be better tolerated. As yet, there is no clear evidence to suggest any of these approaches is superior.
- At times of 'crisis' due to temperamental excesses, a short course of a low-dose sedating antipsychotic (e.g. chlorpromazine 50mg nocte; risperidone 1mg nocte; olanzapine 2.5mg nocte; quetiapine 25–50mg nocte) may be helpful.
- Psychoeducation and insight-orientated psychotherapy may help the person to understand the condition and allow them to develop better ways of coping.
- There is often a reluctance to continue to take medication, as this not only treats the depressive episodes, but also may be perceived as 'blunting' creativity, productivity, or intellectual capacity.

Box 7.6 Kraepelin's 'cyclothymic temperament'

These are the people who constantly oscillate hither and thither between the two opposite poles of mood, sometimes 'rejoicing to the skies', sometimes 'sad as death'. Today lively, sparkling, beaming, full of the joy of life, the pleasure of enterprise, and the pressure of activity, after some time they meet us depressed, enervated, ill-humored, in need of rest, and again a few months later they display the old freshness and elasticity.

Kraepelin E (1896) *Manic-depressive insanity and paranoia*. (Extract from translation of the 8th edn of *Kraepelin's textbook Psychiatrie*).

Box 7.7 Schneider 1958

'(Kurt) Schneider (1958, in *Psychopathic Personalities*) admonished the kin of labile individuals (who might approximate what we might diagnose today as cyclothymia with borderline

personality features) “on their bad days … to keep out of their way as far as possible” (p. 121). Cyclothymes, with some insight into their own temperament, would give the same advice to their loved ones. Cautious trial of anticonvulsants will often prove effective in those distressed enough by their behavior as to comply with such treatment.’

Extract from Akiskal HS (2001) Review article: dysthymia and cyclothymia in psychiatric practice a century after Kraepelin. *J Affect Disord* **62**: 17–31 with permission from Elsevier.

Lithium

Despite problems with tolerability, lithium[31] still remains the gold standard in the prophylactic treatment of bipolar affective disorder. The effectiveness of long-term treatment with lithium is supported by at least nine controlled, double-blind studies,[32] far exceeding the available support for other alternatives such as anticonvulsants or antipsychotics.

Mode of action

Uncertain—numerous effects on biological systems (particularly at high concentrations). Lithium can substitute for sodium (Na^+), potassium (K^+), Ca^{2+}, magnesium (Mg^{2+}) and may have effects on cell membrane electrophysiology. Lithium interacts with systems involving other cations, including the release of neurotransmitters and second messenger systems (e.g. adenylyl cyclase, inositol-1,4,5-triphosphate, arachidonate, protein kinase C, G proteins, and Ca^{2+}), effectively blocking the actions of transmitters and hormones. It may also reduce receptor upregulation and have a neuroprotective action through glycogen synthase-3 (*GSK-3*) gene expression and upregulation of the neuroprotective protein Bcl-2.

Interactions

- **plasma concentration (risk of toxicity, even at therapeutic serum levels)**: angiotensin-converting enzyme (ACE) inhibitors/angiotensin II receptor antagonists, analgesics (especially NSAIDs), antidepressants (especially SSRIs), antiepileptics, antihypertensives (e.g. methyldopa), antipsychotics (especially haloperidol), calcium channel blockers, diuretics, metronidazole.
- **d plasma concentration (risk of d efficacy)**: antacids, theophylline.
- **Other interactions**: anti-arrhythmics (e.g. amiodarone: ↑ risk of hypothyroidism), antidiabetics (may impair glucose tolerance), antipsychotics (↑ risk of EPSEs), muscle relaxants (enhanced effect), parasympathomimetics (antagonizes neostigmine and pyridostigmine).

Guidelines on lithium therapy

(See Box 7.8.)[33]

- **Prior to commencing lithium therapy**: physical examination, FBC, U&Es, TFTs, renal function, baseline weight and height [body mass index (BMI)], if clinically indicated—ECG, pregnancy test.
- **Starting dose**: usually 400–600mg given at night; ↑ weekly, depending on serum monitoring, to max 2g (usual dose 800mg–1.2g)—actual dose depends upon preparation used (molar availability varies: 200mg carbonate is equivalent to 509mg citrate; see Table 7.3).
- **Monitoring**: check lithium level 5 days after starting and 5 days after each change of dose. Take blood samples 12hr post-dose.
- **Once a therapeutic serum level has been established**:[34] continue to check lithium level/estimated glomerular filtration rate (eGFR) every 3mths, TFTs every 6mths, monitor weight (BMI), and check for side effects (Lithium: adverse events, p. 352).
- **Stopping**: reduce gradually over 1–3mths, particularly if the patient has a history of manic relapse (even if started on other antimanic agent).

Box 7.8 Safer lithium therapy

The UK National Patient Safety Agency (NPSA) issued a Patient Safety Alert (NPSA/2009/PSA005) on safer lithium therapy, following reports of harm caused to patients, including fatalities, by lithium therapy. In collaboration with the Prescribing Observatory for Mental Health (POMH-UK) of the Royal College of Psychiatrists, the National Pharmacy Association (NPA), other organizations, clinicians, and patients, it was designed to help NHS organizations to take steps to minimize the risks associated with lithium therapy. The following recommendations were made:

- Patients should be monitored in accordance with NICE guidelines.
- There are reliable systems to ensure blood test results are communicated between laboratories and prescribers.
- Throughout their treatment, patients receive appropriate ongoing verbal and written information and complete a record book.*
- Prescribers and pharmacists check that blood tests are monitored regularly and that it is safe to prescribe and/or dispense lithium.
- Systems are in place to identify and deal with medicines that might adversely interact with lithium therapy.

* NPSA patient information booklet, lithium alert card, and record book can be found at: https://www.sps.nhs.uk/articles/npsa-alert-safer-lithium-therapy-2009/ [accessed 20 June 2018].

Table 7.3 Lithium preparations (UK)

Preparation	Active component	Available strengths
Camcolit® (tablets)	Lithium carbonate	250/400mg (scored)
Li-liquid® (oral solution)	Lithium citrate	509mg/5mL
Liskonum® (tablets)	Lithium carbonate	450mg (scored)
Priadel® (tablets)	Lithium carbonate	200/400mg (scored)
Priadel® (liquid)	Lithium citrate	520mg/5mL

Lithium: adverse effects

As lithium is a highly toxic ion, safe and effective therapy requires monitoring of serum levels. Up to 75% of patients treated with lithium will experience some side effects.[35]

Dose-related side effects

Polyuria/polydipsia [reduced ability to concentrate urine due to antidiuretic hormone (ADH) antagonism], weight gain (effects on carbohydrate metabolism and/or oedema), cognitive problems (e.g. dulling, impaired memory, poor concentration, confusion, mental slowness), tremor, sedation or lethargy, impaired coordination, GI distress (e.g. nausea, vomiting, dyspepsia, diarrhoea), hair loss, benign leucocytosis, acne, and oedema.

Management

Usually dealt with by lowering the dose of lithium, splitting the total daily dose, or changing the formulation. If side effects persist, additional medications may be necessary, e.g. β-blockers (tremor), thiazide or loop diuretics (polyuria, polydipsia, or oedema), and topical antibiotics or retinoic acid (acne). GI problems can be managed by administering lithium with meals or switching from carbonate to citrate.

Cardiac conduction problems

Usually benign ECG changes (e.g. T-wave changes, widening of QRS). Rarely, exacerbation of existing arrhythmias or new arrhythmias due to conduction deficits at the sinoatrial (SA) or atrioventricular (AV) nodes (contraindicated in heart failure and sick sinus syndrome).

Long-term effects

Renal function

Ten to 20% of patients on long-term therapy demonstrate morphological kidney changes (interstitial fibrosis, tubular atrophy, and sometimes glomerular sclerosis). Over 1% may develop

irreversible renal failure (rising serum creatinine levels) after 10yrs or more of treatment. If urea and creatinine levels become elevated, assess the rate of deterioration (Prescribing for patients with renal impairment, p. 1036); the decision whether to continue lithium depends on clinical efficacy and the degree of renal impairment; seek advice from a renal specialist and a clinician with expertise in the management of bipolar disorder.

Subclinical/clinical hypothyroidism

Five to 35%, more frequent in women, tends to appear after 6–18mths of treatment, and may be associated with rapid-cycling bipolar disorder. Although hypothyroidism is generally reversible on discontinuation of lithium, it is not an absolute contraindication for continuing lithium treatment, as the hypothyroidism is readily treated with levothyroxine.[36] In addition to the classic signs and symptoms of hypothyroidism, patients with bipolar disorder are also at risk of developing depression and/or rapid cycling as a consequence of suboptimal thyroid functioning. Should this occur and suboptimal thyroid functioning confirmed, supplementation with or without lithium discontinuation is the treatment of choice.

Teratogenicity

(Prescribing in pregnancy, p. 1028.)

The much-quoted 400-fold ↑ risk of Ebstein's anomaly (a congenital malformation of the tricuspid valve) due to first trimester lithium exposure now appears to be substantially less than first reported—at most an 8-fold relative risk.[37] Other reported second and third trimester problems include polyhydramnios, premature delivery, thyroid abnormalities, nephrogenic diabetes insipidus, and floppy baby syndrome. The estimated risk of major congenital anomalies for lithium-exposed babies is 4–12%, compared with 2–4% in untreated control groups.

Management

A balance needs to be struck between the risks of teratogenicity and the risks of relapse following discontinuation:

- **Mild, stable forms of bipolar disorder**: lithium may be tapered down and stopped pre-pregnancy.
- **Moderate risk of relapse**: lithium should be tapered and discontinued either before pregnancy or during the first trimester (following discussion with the patient and with a clear multidisciplinary care plan).
- **Severe forms of bipolar disorder, at high risk of relapse**: lithium should be maintained during pregnancy (with informed consent, appropriate counselling, prenatal diagnosis, detailed ultrasound and echocardiography at 16–18wks' gestation, and lithium monitoring).

Toxicity

The usual upper therapeutic limit for 12-hr post-dose serum lithium level is 1.2mmol/L. With levels of >1.5mmol/L, most patients will experience some symptoms of toxicity; >2.0mmol/L definite, often life-threatening, toxic effects occur. There is often a narrow therapeutic window where the beneficial effects outweigh the toxic effects (especially in older patients).

Early signs and symptoms Marked tremor, anorexia, nausea/vomiting, diarrhoea (sometimes bloody), dehydration, and lethargy.

As lithium levels rise Severe neurological complications: restlessness, muscle fasciculation, myoclonic jerks, choreoathetoid movements, marked hypertonicity. This may progress to ataxia, dysarthria, lethargy, drowsiness, and confusion/delirium. Hypotension and cardiac arrhythmias precede circulatory collapse, with emerging seizures, stupor, and coma (high risk of permanent neurological impairment or death).

Management

- Education of patients (methods of avoiding toxicity, e.g. maintaining hydration and salt intake, and being alert to early signs and symptoms).
- Careful adjustment of dosage may be all that is required.
- In severe toxicity [e.g. following overdose (OD)], rapid steps to reduce serum lithium level are urgently necessary (e.g. forced diuresis with IV isotonic saline) and, if accompanied by renal failure, haemodialysis.
- Review the need for prophylaxis (Prophylaxis, p. 344).

Valproate/valproic acid

From April 2018 in the UK: valproate medicines must not be used in women or girls of childbearing potential, unless a Pregnancy Prevention Programme is in place.[38]

Valproate [valproic acid (as the semisodium salt—Depakote®) and sodium valproate (Episenta®)] is licensed for the treatment of acute mania. Although not specifically licensed, other preparations are also used as prophylaxis for bipolar disorder (see Table 7.4). *Note:* the equivalent amount of valproic acid available from Depakote® 500mg, Epilim® 500mg, and Epilim Chrono® 500mg are 500mg, 433mg, and 433mg, respectively.

Psychiatric indications

- Acute mania (up to 56% effective) (Treatment of acute manic episodes, p. 340).
- Acute depressive episode (in bipolar affective disorder), in combination with an antidepressant. Data limited (Treatment

of depressive episodes, p. 342).
- Prophylaxis of bipolar affective disorder—possibly more effective in rapid cycling ( Prophylaxis, p. 344).

Mode of action

Uncertain. Modulates voltage-sensitive Na^+ channels, acts on second messenger systems, and increases the bioavailability of GABA (or mimics action at post-synaptic receptor sites) in the CNS.

Pharmacokinetics

Sodium valproate is available in multiple forms. Semisodium valproate (Depakote®)comes as enteric-coated tablets containing valproic acid and sodium valproate. Both are rapidly absorbed orally (peak serum level: sodium valproate ~2hr; semisodium valproate 3–8hr), with a plasma half-life of 6–16hr) (see Box 7.9 and Table 7.4).

Interactions

- Raised serum levels with phenobarbital, phenytoin, and antidepressants (TCAs, fluoxetine). ↓ serum levels with carbamazepine.
- Toxicity may be precipitated by other highly protein-bound drugs (e.g. aspirin), which can displace valproate from its protein-binding sites.

Side effects and toxicity

- **Dose-related side effects**: GI upset (anorexia, nausea, dyspepsia, vomiting, diarrhoea), raised LFTs, tremor, and sedation—if persistent, may require dose reduction, change in preparation, or treatment of specific symptoms (e.g. β-blocker for tremor; H_2-blocker for dyspepsia).
- **Unpredictable side effects**: mild, asymptomatic leucopenia and thrombocytopenia (reversible upon drug reduction/discontinuation), hair loss (usually transient), ↑ appetite, and weight gain.
- **Rare, idiosyncratic side effects**: irreversible hepatic failure, pancreatitis, agranulocytosis, polycystic ovaries/hyperandrogenism.
- **Toxicity/OD**: wide therapeutic window; hence, unintentional OD is uncommon. Signs of OD include somnolence, heart block, eventually coma, and even death (haemodialysis may be needed).

Table 7.4 Valproate/valproic acid preparations (UK)

Preparation	Active agent	Available strengths
Convulex®	Valproic acid	C 150/300/500mg
Depakote®	Valproic acid	T 250/500mg
Epilim® (IV)	Sodium valproate	T 100/200/500mg L 200mg/5mL IV 400mg powder with 4mL water ampoule
Epilim Chrono® (MR)	Sodium valproate	200/300/500mg
Epilim Chronosphere® (MR granules)	Sodium valproate	50/100/250/500 750/1000mg sachets
Episenta® (MR) (IV)	Sodium valproate	C 150/300mg Granules 500mg/1g IV 100mg/mL 3mL ampoule
Epival® (MR)	Sodium valproate	T 300/500mg
Sodium valproate (generic)	Sodium valproate	T 100/200/500mg L 200mg/5mL

Key: T = tablet; C = capsule; L = liquid.

Box 7.9 Guidelines for sodium valproate use

- Full medical history (particularly liver disease, haematological problems, and bleeding disorders)/full physical examination; pregnancy test; check FBC, LFTs, baseline ECG, weight/height (BMI).
- **Sodium valproate**: start with a low, divided dose (e.g. 200mg bd or tds), increase every few days/week by 200–400mg/day, according to response and side effects, up to a maximum of 2500mg/day, or until serum levels are 50–125mmol/L. Usual maintenance dose 1–2g/day.
- **Valproic acid as semisodium valproate**: start with 250mg tds (or up to 20mg/kg for acute manic episode), increase every few days/every week by 250–500mg/day to a maximum of 2000mg/day, or until serum levels are 50–125mmol/L. Usual maintenance dose 1–2g/day.
- Once the patient is stable, simplify the regimen and consider use of a slow-release preparation to enhance compliance/reduce side effects.

Points to note

- Once established, check 6-monthly FBC, LFTs, valproate level, and BMI.

- Use doses and serum levels considered therapeutic for epilepsy.
- Closer clinical monitoring for side effects may be necessary for patients who cannot reliably report early signs.

Carbamazepine

Psychiatric indications

- Acute mania (less effective than lithium/equivalent efficacy to antipsychotics)—alone or in combination with lithium (Treatment of acute manic episodes, p. 340).
- Acute depressive episode (in bipolar affective disorder)—alone or in combination with lithium (Treatment of depressive episodes, p. 342).
- Prophylaxis of bipolar affective disorder—data limited (Prophylaxis, p. 344).

Mode of action

Uncertain. Modulates Na^+ and Ca^{2+} ion channels, receptor mediation of GABA and glutamine, and various intracellular signalling pathways.

Pharmacokinetics

Available in a variety of forms (solutions, suspensions, syrups, and chewable or slow-release formulations), all with similar bioavailability. Peak plasma concentrations 4–8hrs (usually), may be as late as 26hrs. Plasma half-life 18–55hrs. With long-term use, carbamazepine induces its own metabolism, decreasing the half-life to 5–26hrs (see Box 7.10 and Table 7.5).

Interactions

- Carbamazepine decreases the plasma levels of many drugs metabolized by the liver, e.g. antipsychotics, BDZs (except clonazepam), TCAs, other anticonvulsants, hormonal contraceptives, and thyroid hormones.
- Carbamazepine serum concentrations can be ↑ by certain drugs, e.g. erythromycin, calcium channel blockers (diltiazem and verapamil, but not nifedipine or nimodipine), and SSRIs.

Side effects and toxicity

- **Unpredictable side effects**: antidiuretic effects leading to hyponatraemia (6–31%), more common in the elderly, sometimes many months after starting treatment; decrease in total and free thyroxine levels/increase in free cortisol levels (rarely clinically significant).
- **Idiosyncratic side effects**: agranulocytosis, aplastic anaemia, hepatic failure, exfoliative dermatitis (e.g. Stevens–Johnson syndrome), and pancreatitis (usually occur within the first 3–6mths of treatment, rarely after longer periods). *Note:* routine

blood monitoring does not reliably predict blood dyscrasias, hepatic failure, or exfoliative dermatitis—patient education about early symptoms and signs is essential.

- **Other rare side effects**: systemic hypersensitivity reactions, cardiac conduction problems, psychiatric symptoms (including occasional cases of mania and psychosis), and, extremely rarely, renal problems (failure, oliguria, haematuria, and proteinuria).
- **Toxicity/OD**: *early signs*—dizziness, ataxia, sedation, and diplopia. Acute intoxication may present as marked irritability, stupor, or even coma. May be fatal in OD (if >6g ingested). *Symptoms of OD*—nystagmus, ophthalmoplegia, cerebellar/extra-pyramidal signs, impairment of consciousness, convulsions, respiratory depression, cardiac problems (tachycardia, hypotension, arrhythmias/conduction disturbances), GI upset, and other anticholinergic symptoms. Significant OD requires emergency medical management (i.e. close monitoring, symptomatic treatment, gastric lavage, and possible haemodialysis).

Table 7.5 Carbamazepine preparations

Preparation	Formulation	Available strengths
Tegretol®	Tablet (also Chewtabs®)	100/200/400mg
	Liquid	100mg/5mL
	Suppositories	125/250mg
Tegretol® prolonged release	MR tablet	200/400mg
Carbagen® SR	MR capsule	200/400mg
Carbamazepine (generic)	Tablet	100/200/400mg

Box 7.10 Guidelines for carbamazepine use

- Full medical history (particularly liver disease, haematological problems, and bleeding disorders); physical examination; check FBC, LFTs, U&Es, baseline ECG, and weight/height (BMI).
- Start with a low, divided dose (e.g. 200–600mg/day in 2–4 divided doses), increase every few days or every week by 200mg/day, according to response and side effects, up to 800–1200mg/day, with slower increases thereafter as indicated, to a maximum of 2000mg/day or until serum levels are 4–15g/mL (trough level—taken immediately prior to morning dose, and 5 days after dose change) (see Table 7.5).

- Maintenance doses are usually around 1000mg/day (range 200–1600mg/day). *Doses higher than 1600mg/day are not recommended*.
- Check FBC, LFTs, and serum carbamazepine level every 2wks during first 2mths of treatment, then reduce monitoring to every 3mths, then every 6mths once well established (and monitor BMI).
- Once the patient is stable, simplify the regimen and consider use of a slow-release preparation, to enhance compliance/reduce side effects.

Points to note

- Closer clinical monitoring for side effects may be necessary for patients who cannot reliably report early signs.
- If carbamazepine is combined with lithium, there may be an risk of developing acute confusional state.
- Closer monitoring is advisable and minimization of the use or dose of other medications (e.g. antipsychotics, anticholinergics, BDZs) that may contribute to confusion.

Lamotrigine

Psychiatric indications

- Maintenance treatment of bipolar disorder to delay relapse (depression, mania, hypomania, mixed episodes) (Prophylaxis, p. 344).
- May be more effective than other mood stabilizers in preventing depressive episodes in bipolar disorder.

Mode of action

Unknown. Inhibits voltage-gated Na^+ channels and glutamate release. Also has weak inhibitory effect on 5-HT_3 receptors.

Pharmacokinetics

Rapidly and completely absorbed after oral administration, with negligible first-pass metabolism (absolute bioavailability 98%). Bioavailability is not affected by food/drug administration. Peak plasma concentrations occur anywhere from 1 to 5hrs, half-life 24hrs, time to steady state 5–8 days. Drug is 55% protein-bound (see Box 7.11 and Table 7.6).

Interactions

- **Certain medications have been shown to increase clearance of lamotrigine**: carbamazepine (40%), oxcarbazepine (30%), phenobarbital (40%), phenytoin (50%), ritonavir, mesuximide, rifampicin, primidone, and certain oestrogen-containing oral contraceptives.
- Valproate decreases the clearance of lamotrigine (i.e. more than doubles the elimination half-life of lamotrigine), so reduced doses

(no greater than 50% of the usual dose) of lamotrigine should be given.

Side effects and toxicity

- **Most common side effects**: dizziness, headache, blurred/double vision, lack of coordination, sleepiness, nausea, vomiting, insomnia, and rash.
- **Rare side effects**: rare incidence of multi-organ failure, various degrees of hepatic failure, aseptic meningitis, movement disorders.
- **Risk of rash**: 10–14% of patients receiving lamotrigine will develop a rash. Most are benign. A minority may be serious/life-threatening skin reactions requiring hospitalization, e.g. Stevens–Johnson syndrome, toxic epidermal necrolysis, angio-oedema, and a rash associated with a number of systemic manifestations (i.e. fever, lymphadenopathy, facial swelling, and haematological and hepatological abnormalities). Rash is most likely to occur within first 2–8wks of treatment and more likely when combined with valproate, exceeding the recommended initial dose or rapid dose escalation. Although most rashes resolve even with continuation of treatment, it is not possible to predict which rashes will prove to be serious or life-threatening. Lamotrigine should be discontinued at first sign of rash, unless the rash is clearly not drug-related, and even this may not prevent a rash from becoming life-threatening or permanently disabling/disfiguring. Lamotrigine should not be restarted in patients who discontinued due to rash associated with prior treatment (unless the potential benefits *clearly* outweigh the risks).
- **Other rare side effects**: serious hypersensitivity reactions, blood dyscrasias (neutropenia, leucopenia, anaemia, thrombocytopenia, pancytopenia and, rarely, aplastic anaemia and pure red cell aplasia), withdrawal seizures.

Table 7.6 Lamotrigine preparations

Preparation	Formulation	Available strengths
Lamictal®	Tablet	25/50/100/200mg
	Dispersible tablet	2/5/25/100mg
Lamotrigine (generic)	Tablet	25/50/100/200mg
	Dispersible tablet	5/25/100mg

Box 7.11 Guidelines for lamotrigine use

- **Prior to starting**: pregnancy test (in women of childbearing age).
- **As monotherapy**: start 25mg/day for wks 1 and 2. Increase to 50mg/day for wks 3 and 4. Increase by max 50–100mg/day

every 1–2wks thereafter. Usual dose 100–200mg/day in 1–2 divided doses (max 500mg/day) (see Table 7.6).

- **With valproate**: start 25mg every other day for wks 1 and 2. Increase to 25mg/day for wks 3 and 4. Increase by 25–50mg/day every 1–2wks. Usual dose 100–200mg/day in 1–2 divided doses.
- **With carbamazepine and NOT taking valproate**: start 50mg/day for wks 1 and 2. Then 50mg bd for wks 3 and 4. Increase by max 100mg/day every 1–2wks. Usual dose 200–400mg/day in two divided doses (up to 700mg/day sometimes needed).
- If a patient has discontinued lamotrigine for a period of >5 half-lives (i.e. 5 days), it is recommended that initial dosing recommendations and guidelines be followed.
- Although there is no well-established correlation between serum concentrations and mood-stabilizing effects, antiepileptic therapeutic serum levels are 8–10mg/mL.

Monitoring

- The value of monitoring plasma concentrations has not been established; however, due to drug interactions, monitoring of concomitant drugs may be indicated, particularly during dosage adjustments.
- Prior to treatment, the patient should be warned that a rash or other signs or symptoms of hypersensitivity (e.g. fever, lymphadenopathy, hives, painful sores in the mouth or around the eyes, or swelling of the lips or tongue) warrant *urgent* medical assessment to determine if lamotrigine should be discontinued ( Risk of rash, see opposite).

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2 Angst J (2007) The bipolar spectrum. *Br J Psychiatry* **190**:189–91.
3 Ghaemi SN, Ko JY, Goodwin FK (2002) 'Cade's disease' and beyond: misdiagnosis, antidepressant use, and a proposed definition for bipolar spectrum disorder. *Can J Psychiatry* **47**:125–34.
4 Characterized by cheerful, optimistic personality style, a tendency to become easily irritated, extroverted, and sociable, and requiring little sleep (<6hrs/night)—a lifelong disposition, unlike short-lived hypomania. Neither in ICD-10 nor DSM-5, but significant overlap with narcissistic or antisocial personality.
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Chapter 8

Anxiety and stress-related disorders

Introduction

If schizophrenia is ‘the heartland of psychiatry’, then the neurotic disorders surely make up much of the rest of the continent, in view of their prevalence in the general population (see Table 8.1) and the morbidity they cause.

As unpopular as the term ‘neurosis’ has become (for a historical perspective, see Historical perspective, p. 364), it is still retained in the ICD-10 in the rubric ‘neurotic, stress-related, and somatoform disorders’. DSM-5 has effectively carved up the neuroses into ‘anxiety disorders’, ‘obsessive–compulsive and related disorders’ (OCRD), ‘trauma- and stressor-related disorders’, ‘dissociative disorders’, and ‘somatic symptom and related disorders’. Here, we retain the use of ‘neuroses’ as shorthand for all these disorders but will use the subdivisions when talking about the particular disorders.

We have all experienced anxiety symptoms, perhaps suffer from a particular 'phobia', or are a little bit obsessive about certain things, but to be clinically significant, these problems must be severe enough to cause marked distress and/or substantially interfere with our day-to-day lives. Because of the recognizable quality of some of the symptoms of neurotic disorders, it may be helpful to divide them into three categories.

Table 8.1 Estimated 12-mth prevalence of psychiatric disorders in the general population of the European Union (2010)*

Diagnosis (DSM-IV)	Best estimate (%)	Number of persons affected (in millions)
Alcohol dependence	***3.4***	***14.6***
Psychotic disorders	***1.2***	***5.0***
Major depression	***6.9***	***30.3***
Bipolar disorder	***0.9***	***3.0***
Anxiety disorders	***14.0***	***61.5***
Panic disorder	1.8	7.9
Agoraphobia	2.0	8.8
Social anxiety disorder	2.3	10.1
Specific phobias	6.4	22.7
Generalized anxiety disorder	2.6	8.9
Obsessive–compulsive disorder	0.7	2.9
Post-traumatic stress disorder	2.0	7.7

* Data derived from Eurostat Directorate General of European Commission (Eurostat 2010) reported by Wittchen, HU, *et al*. (2011) The size and burden of mental disorders and other disorders of the brain in Europe 2010. *Eur Neuropsychopharmacol*. **21**:655–679.

The common neuroses

- **Anxiety/phobic disorders**: e.g. panic disorder, agoraphobia, GAD, specific (understandable) phobias (e.g. snakes, spiders), hypochondriasis, social phobia.
- **Stress-related disorders**: e.g. acute stress reactions, adjustment disorder, PTSD.
- **OCD**.

The unusual neuroses (i.e. outwith 'normal' experience)

- **Anxiety/phobic disorders**: e.g. 'non-understandable' phobias (e.g. dirt, feathers), dysmorphophobia.
- 'Hysterical' conversion disorders.
- Dissociative/depersonalization–derealization disorder.
- Somatoform disorders.

'Culture-specific' disorders

Seen only in certain populations:

- Chronic fatigue syndrome (CFS)/eating disorders (Anorexia nervosa 1: overview, p. 410).
- Other 'culture-bound' disorders/cultural concepts of distress (CCDs).

This chapter deals with anxiety, phobic, and stress-related disorders. Other disorders are covered in Chapter 18 (pp. 864–875 conversion, somatization, CFS, hypochondriasis, and dysmorphophobia), Chapter 9 (pp. 410–419: eating disorders), and Chapter 21 (pp. 984-–991: CCDs).

Points to note

- Anxiety symptoms are common in the general population.
- Comorbidity is frequent (other neuroses, depression, substance misuse, personality disorder).
- Anxiety disorders may often present with physical symptoms.
- Management will usually involve a combined approach (pharmacological and psychological).

Historical perspective

The term 'neurosis' was coined by William Cullen in 1777, replacing 'illness of the nerves' (coined by Robert Whytt in 1764 to replace the old 'vapours') and meaning any disease of the nervous system without a known organic basis (which, at the time, also included epilepsy). Clinical descriptions of neurotic symptoms can be found in the works of Hippocrates. However, the 'illness' later vanished under the cloak of both pagan and Christian beliefs, with typical symptoms attributed to the work of spirits, possession, or divine punishment. It did not resurface properly until the Renaissance (the 1500s) thanks (in part) to the witchcraft trials, when doctors were called in to present diagnoses of known illnesses that could be mistaken for demonic possession (the first recorded 'medical defence'!). Although there was much debate, the brain became the final resting place as the organ most likely to be involved in the aetiology of the condition.

The history of the neuroses is tightly bound to the (re)discovery of hypnosis (formerly the remit of faith healing). The work of Franz-Anton Mesmer (1734–1815)—mesmerism—and James Braid (1795–1860)—braidism—was brought to France by Azam in 1859, coming to the attention of Charcot, whose experiments with hysterics would have a profound influence on one particular

assistant—Sigmund Freud. Freud's first paper, published in 1886, shortly after his return to Vienna, was of a case of 'traumatic hysteria' in a ♂ patient. It was his *Studies on Hysteria*, written with Josef Breuer and published in 1895, that provided the starting point of his subsequent major concepts of psychoanalytical theory—including repression, psychic reality, and the subconscious.

The idea of repression of trauma (out of consciousness) and the appearance of 'defences' was highly influential, with the neuroses regarded as illnesses of the mind, needing psychotherapeutic treatment. Old arguments of emotional vs physical factors resurfaced in the aftermath of the World War I, as some authorities found it difficult to attribute the illnesses seen in fit, healthy young men (who had indisputably experienced traumatic events) to conversion hysteria or phobic neurosis. The encephalitis lethargicans epidemic in 1919, and the presence of numerous 'hysterical' symptoms (e.g. convulsions, mutism, feelings of passion, obsessions/compulsions, spasms), argued in favour of at least some of the neuroses having an organic basis.

In the 1920s, Walter Cannon proposed the concept of the 'emergency reaction', believing this 'fight-or-flight' response was mediated by the autonomic nervous system. He also noted that the physiological responses were too slow to account for feelings and that some other 'neural mechanism' must be at work.

The dominance of the behaviourists in psychology relegated emotion to just another 'way of acting' in a particular situation (albeit internally perceived). Although an over-simplification, this led to the development of the 'conditioning theory' of anxiety. John Watson, the father of behaviourism, claimed to have produced an animal phobia in an 11-mth-old boy 'little Albert' by making a loud clanging noise whilst the boy was playing with a rat. Watson proposed that neuroses arose out of traumatic learning situations and then persist to influence behaviour throughout life. This was adapted by the 1930s to include the concept of 'instrumental conditioning' (association of an emotionally arousing stimulus and a neutral response), and, in the 1940s, Mowrer attempted to translate Freud's theory of anxiety neurosis into the language of learning theory—responses that reduce anxiety are learnt—sometimes these reinforced behaviours may be aberrant, unhelpful, or simply bizarre and present as neuroses. 'Avoidance' was postulated as the behaviour that was reinforced due to successfully removing a 'negative reinforcer' (e.g. fear). These ideas led to the rational treatment of phobias with desensitization techniques.

In the search for Cannon's neural mechanism, neurophysiologists used lesioning experiments to identify the thalamus as a critical gateway for stimuli, and the hypothalamus as mediating the physiological response [via the hypothalamic–pituitary–adrenal (HPA) axis]—the Cannon–Bard theory. Other theories emerged over the years (e.g. the Papez Circuit, 1937), and understanding the emotional life of the brain remains at the forefront of research (see *The Emotional Brain* by Joseph LeDoux, 1998).

Inviting as psychological explanations appeared, the late 1950s also heralded the arrival of the BDZs. 'Tranquillizers' (e.g. Miltown®, Librium®, Valium®) became the 'housewives' choice', effectively treating a multitude of neurotic symptoms. Unfortunately, the indiscriminate use of these drugs led to them being demonized as causing dependence problems (despite evidence for their effectiveness when properly used). The advent of antidepressants artificially separated neurotic depression from the other neuroses, but nonetheless some utility was also seen in treating the anxiety disorders. A key study was the use of clomipramine in the treatment of OCD (see *The Boy Who Couldn't Stop Washing* by Judith Rapoport, 1989). The fact that clomipramine was the most serotonergic of the TCAs paved the way for the second-generation antidepressants (the SSRIs) used in neuroses (previously thought only to be amenable to psychological approaches).

Brain imaging demonstrated underlying functional changes in OCD patients [in the frontal cortex (left orbital gyrus) and bilateral caudate nuclei], which 'normalized' after successful treatment with medication (and interestingly with CBT techniques, although this took longer). For many patients with panic attacks, structural and functional changes were found in the temporal lobes. These findings resonated with the long-held observation that neurotic symptoms (e.g. anxiety, panic, somatic symptoms, depersonalization/derealization) were often reported in other 'organic' conditions (e.g. temporal lobe epilepsy).

Modern views are eclectic in their approach, e.g. the biopsychosocial model (Figure 6.1, p. 256). For the neuroses, early environmental influences (including social factors like maternal deprivation) can alter the sensitivity of physiological stress responses in adulthood. Hence, the experience of stressors (psychological or physical) may lead (e.g. through the effects of stress hormones such as cortisol, and other neurophysiological mechanisms) to alterations in the structure and/or function of the brain, which, in turn, manifest as clinical symptoms (i.e. behavioural and/or emotional change).

Hyperventilation syndrome

Essence

Ventilation exceeds metabolic demands, leading to haemodynamic and chemical changes producing characteristic symptoms (dyspnoea, agitation, dizziness, atypical chest pain, tachypnoea, hyperpnoea, paraesthesiae, and carpopedal spasm) usually in a young, otherwise healthy, patient.[1] Hyperventilation syndrome (HVS), a relatively common presentation; may be mistaken for panic disorder. Considerable overlap, hence inclusion here:

- 50–60% of patients with panic disorder or agoraphobia have symptoms of HVS.
- 25–35% of HVS patients have symptoms of panic disorder.

It may also be confused with other organic diseases, particularly of the cardiorespiratory system, due to the physical symptoms manifest.

Aetiology

Unknown, but certain stressors provoke an exaggerated respiratory response in some individuals [e.g. emotional distress, sodium lactate, caffeine, isoprenaline, cholecystokinin, and carbon dioxide (CO_2)]. HVS patients tend to use accessory muscles to breathe, rather than the diaphragm, resulting in hyperinflated lungs and perceived effort or dyspnoea when stressors induce the need to take a deep breath. This leads to anxiety and triggers further deep breathing, setting up a vicious cycle.

Epidemiology ♂:♀ = 1:7, usually presents between 15 and 55yrs but can occur at any age (except infancy).

Symptoms and signs

- **Cardiac**: chest pain/angina [atypical of cardiac origin: may last hours, not minutes; often relieved by exercise; glyceryl trinitrate (GTN) ineffective], ECG changes (prolonged QT, ST depression or elevation, and T-wave inversion).
- **Respiratory**: hyperpnoea, tachypnoea, dyspnoea, wheeze [bronchospasm secondary to low partial pressure of carbon dioxide in arterial blood (P_aCO_2)]. *Note:* in chronic forms, hyperventilation may not be clinically apparent.
- **CNS** [due to reduced cerebral blood flow (CBF) secondary to hypocapnia): dizziness, weakness, confusion, agitation, depersonalization, visual hallucinations, syncope or seizure (rare), paraesthesiae (usually upper limbs and bilateral), peri-oral numbness.
- **GI**: bloating, belching, flatus, epigastric pressure (due to aerophagia), dry mouth (due to mouth breathing and anxiety).
- **Metabolic** (due to electrolyte disturbance secondary to respiratory alkalosis): acute hypocalcaemia (signs: carpopedal spasm, muscle twitching, +ve Chvostek and Trousseau signs, and prolonged QT interval), hypokalaemia (with generalized weakness), acute hypophosphataemia (may contribute to paraesthesiae and generalized weakness).

Differential diagnosis

Extensive. Diagnosis of exclusion—acute respiratory distress syndrome (ARDS), (venous) air embolism, asthma, atrial fibrillation (AF), atrial flutter, cardiomyopathy, chronic obstructive pulmonary disease (COPD), costochondritis, diabetic ketoacidosis (DKA), hyperthyroidism, metabolic acidosis, methaemoglobinaemia, MI, nasopharyngeal stenosis, panic (and other anxiety) disorder, pleural effusion, pneumonia, pneumothorax, pulmonary embolism (PE), smoke inhalation, CO poisoning, withdrawal syndromes.

Investigations

- Unless there is a clear history of HVS, any first presentations of hyperventilation should be referred for exclusion of serious

underlying medical problems (→ Differential diagnosis, see above).
- These investigations may include full physical, FBC, U&Es, TFTs, glucose, Ca^{2+}, phosphate (PO_4), pulse oximetry, arterial blood gas (ABG) [in HVS: pH normal, P_aCO_2 and bicarbonate (HCO_3) low], toxicology, ELISA, D-dimer (PE), ECG, CXR, and possibly ventilation/perfusion (V/Q) scan.
- Repeating these investigations at later presentations should only be done if there are new clinical findings.

Management

Acute management

If serious underlying pathology excluded, management includes:
- Reassuring the patient.
- Alleviating severe anxiety (e.g. use of BDZs).
- Establishment of normal breathing pattern (instructing the patient to breathe more abdominally using the diaphragm; physically compressing the upper chest and instructing the patient to exhale maximally to reduce hyperinflation).

▶ *Note:* use of rebreathing techniques (e.g. into a paper bag) is no longer recommended due to reports of significant hypoxia and death. This form of rebreathing may be unsuccessful anyway because very distressed patients have difficulty complying with the technique and because CO_2 itself may be a chemical trigger for anxiety.

Further management

- Education, e.g. hyperventilation, relaxation, and breathing techniques ('provocation' should only be performed in this setting).
- Formal breathing retraining (usually provided by physiotherapists) is available in some centres.
- β-blockers and BDZs may be of some use. Some success reported for use of antidepressants in preventing further episodes.
- If there is clear psychiatric morbidity (e.g. anxiety or depression), this should also be specifically addressed.

Panic disorder 1: clinical features

Essence

- **Panic attack**: period of intense fear characterized by a constellation of symptoms (see Box 8.1) that develop rapidly, reach a peak intensity in about 10min, and generally do not last longer than 20–30min (rarely over 1hr). Attacks may be either *spontaneous* ('out of the blue') or *situational* (usually where attacks have occurred previously). Sometimes attacks may occur during sleep (*nocturnal panic attacks*; → Nocturnal panic

attacks, p. 470), and rarely physiological symptoms of anxiety may occur without the psychological component (*non-fearful panic attacks*).[2]

- **Panic disorder**:[3] recurrent panic attacks, which are not secondary to substance misuse, medical conditions, or another psychiatric disorder. Frequency of occurrence may vary from many attacks a day to only a few a year. Usually a persistent worry about having another attack or consequences of the attack (which may lead to phobic avoidance of places or situations; Agoraphobia, p. 374) and significant behavioural changes related to the attack.

Symptoms/signs

(See Box 8.1.)

- Physical symptoms/signs related to autonomic arousal (e.g. tremor, tachycardia, tachypnoea, hypertension, sweating, GI upset), often compounded by HVS (in 50–60% of cases; Hyperventilation syndrome (HVS), p. 366).
- Concerns of death from cardiac or respiratory problems may be a major focus, leading to patients presenting (often repeatedly) to emergency medical services.
- Panic disorder may be undiagnosed in patients with 'unexplained' medical symptoms (chest pain, back pain, GI symptoms including IBS, fatigue, headache, dizziness, or multiple symptoms).
- Thoughts of suicide (or homicide) should be elicited; acute anxiety (particularly when recurrent) can lead to impulsive acts (usually directed towards self). *Note:* risk of attempted suicide substantially raised where comorbid depression or alcohol or substance misuse.

Box 8.1 Symptoms associated with panic attacks

In order of frequency of occurrence:

- Palpitations, pounding heart, or accelerated heart rate.
- Sweating.
- Trembling or shaking.
- Sense of shortness of breath or smothering.
- Feeling of choking or difficulties swallowing (globus hystericus).
- Chest pain or discomfort.
- Nausea or abdominal distress.
- Feeling dizzy, unsteady, light-headed, or faint.
- Derealization or depersonalization (feeling detached from oneself or one's surroundings).
- Fear of losing control or going crazy.
- Fear of dying (angor animus).
- Numbness or tingling sensations (paraesthesiae).
- Chills or hot flashes.

Epidemiology[4]

Lifetime prevalence [National Comorbidity Survey–Replication 2001–2002 (NCS-R)]: 1.5–3.7% for panic disorder, 7–9% for panic attacks. Rates much higher in medical clinic samples, e.g. dizziness clinics (15%), cardiac clinics (16–65%), HVS clinics (25–35%). Women are 2–3 times more likely to be affected than men. *Age of onset* has a bimodal distribution, with highest peak incidence at 15–24yrs and a second peak at 45–54yrs. Rare after age 65 (0.1%). *Other risk factors* include: being widowed, divorced, or separated; living in a city; limited education; early parental loss; and physical or sexual abuse.

Comorbidity

Agoraphobia (community surveys: 30–50%; psychiatric clinics: 75%), depressive disorder (up to 68%), other anxiety and related disorders (up to 50%, e.g. social phobia, OCD), alcohol (up to 30%) and substance misuse, bipolar affective disorder (20%), medical conditions (e.g. mitral valve prolapse, hypertension, cardiomyopathy, COPD, HVS, IBS, migraine).

Differential diagnosis

Other anxiety or related disorder (panic attacks may be part of the disorder), substance or alcohol misuse/withdrawal (e.g. amphetamines, caffeine, cannabis, cocaine, theophylline, sedative hypnotics, steroids), mood disorders, psychiatric disorders secondary to medical conditions, medical conditions presenting with similar symptoms (e.g. endocrine: carcinoid syndrome, Cushing's disease/syndrome, hyperthyroidism, hypoglycaemia, hypoparathyroidism, phaeochromocytoma; haematological: anaemia; cardiac: arrhythmias (supraventricular), atypical chest pain, mitral valve prolapse, MI; respiratory: COPD, asthma, HVS; neurological: epilepsy—especially TLE, vestibular dysfunction).

Investigations

No specific tests for panic disorder; basic investigations should be performed to exclude physical causes [e.g. FBC, U&Es, glucose, TFTs, ECG; if supported by history/physical examination: toxicology, Ca^{2+}, urinary vanillyl mandelic acid (VMA)/plasma homovanillic acid (pHVA), echo, and EEG].

Panic disorder 2: aetiological models

A number of theories, based primarily on successful pharmacological treatment, explain the biological basis of panic disorder.

- **The serotonergic model**: exaggerated post-synaptic receptor response to synaptic serotonin, possibly secondary to subsensitivity (reduced binding) at 5-HT_{1A} receptors and 5-HT transporters, perhaps secondary to disturbances in serotonin transporter (*5-HTTLPR*) and promoter (*SLC6A4*) genes.
- **The noradrenergic model**: ↑ adrenergic activity, with hypersensitivity of presynaptic α_2 receptors. (Locus caeruleus

activity affects the HPA axis, and the firing rate is ↑ in panic.)

- **The GABA model**: ↓ inhibitory receptor sensitivity (impaired GABA neuronal response to BDZs), with resultant excitatory effect.
- **The cholecystokinin–pentagastrin model**: pentagastrin induces panic in a dose-dependent fashion in patients with panic disorder. Gene studies also implicate *CCK* gene polymorphisms in panic disorder (see Box 8.2).
- **The lactate model**: postulated aberrant metabolic activity induced by lactate, from studies involving exercise-induced panic attacks (replicated by IV lactate infusion).
- **The false suffocation CO_2hypothesis**: explains panic phenomena by hypersensitive brainstem receptors. Panic disorder occurs more frequently in individuals with a raised pCO_2, e.g. during sleep, during the premenstrual period, and due to respiratory disorders.
- The **cognitive theory** postulates that panic disorder is due to a heightened sensitivity to internal autonomic cues such as tachycardia.
- **The neuroanatomical model**: suggests that panic attacks are mediated by an overactive 'fear network' in the brain that involves the amygdala, hippocampus, periaqueductal grey, locus caeruleus, thalamus, cingulate, and orbitofrontal areas. 'Fear' is thought to occur through reciprocal activity that originates in the amygdala and is projected to the anterior cingulate cortex and/or orbitofrontal cortex. Other projections from the amygdala to the hypothalamus mediate endocrine responses.

Box 8.2 The genetic hypothesis

Panic disorder has moderate heritability of around 25–50% (from family and twin studies). Most studies to date suggest that *vulnerability* is genetically determined and most likely multifactorial, but critical stressors are required to develop clinical symptoms (e.g. separation/loss event, adjusting to a new role, relationship problems, physiological stress—childbirth, surgery, hyperthyroidism). Replicated linkages have been found with chromosomes 13q, 22q, 7p, and 9q31. Candidate genes include *ADOR2A, 10832*/T, *CCK*, and those coding for 5-HT_{1A}, 5-HT_{2A}, COMT, NPY1R, MAO_A, HCRT (hypocretin), and linked to the *CRH* gene. Recent large GWAS have identified the neuropeptide S gene, the amiloride-sensitive cation channel gene, and the adenosine A(2A) genes as candidate genes, with 4q21 and 7p being considered the strongest candidate regions for panic- and fear-associated anxiety disorder loci.[1]

1 Logue MW, Bauver SR, Knowles JA, *et al*. (2012) Multivariate analysis of anxiety disorders yields further evidence of linkage to chromosomes 4q21 and 7p in panic disorder families. *Am J Med Genet B Neuropsychiatr Genet* **159B**:274–80.

Panic disorder 3: management guidelines

Combination of pharmacological and psychological treatments may be superior to single approach. Choice of initial approach will depend upon patient preference, past history of previous benefit, costs, availability, and local guidelines.[5,6] For emergency treatment of a panic attack, see Box 8.3.

Pharmacological

Current evidence does not suggest any superior efficacy between SSRIs, SNRIs, BDZs, TCAs, and monoamine oxidase inhibitors (MAOIs). Other factors will determine the choice of medication (Antidepressants, p. 276).

- **SSRIs**: in the UK, citalopram (20–30mg), escitalopram (5–10mg), paroxetine (10–40mg), and sertraline (50–200mg) are all licensed for panic disorder (and recommended as first line by NICE). In view of possibly initially increasing panic symptoms, start with the lowest possible dose and gradually increase. Beneficial effect may take up to 12wks and require high doses.
- **Alternative antidepressants (unlicensed in the UK)**: SNRIs (e.g. venlafaxine), TCAs (e.g. imipramine, clomipramine), MAOIs (e.g. phenelzine)—thought by some clinicians to be superior to TCAs (for severe, chronic symptoms), RIMAs (e.g. moclobemide).
- **BDZs** (e.g. alprazolam or clonazepam): not recommended by NICE. Should be used with caution (due to potential for abuse or dependence and cognitive impairment) but may be effective for severe, frequent, incapacitating symptoms. Use for 1–2wks in combination with an antidepressant may 'cover' symptomatic relief until the antidepressant becomes effective. *Note:* 'anti-panic' effects do not show tolerance, although sedative effects do.
- *Limited benefit:* little evidence to support use of buspirone, bupropion, mirtazapine, inositol, reboxetine, antipsychotics, anticonvulsants, and, perhaps surprisingly, propranolol.
- *Second-line treatment:* consider changing to a different class agent (i.e. TCA, SNRI, SSRI, MAOI), addition of BDZ (or a different BDZ), trial of bupropion, or for severe symptoms, an SGA (e.g. olanzapine).
- *If successful:* continue treatment for 12–18mths before trial discontinuation (gradually tapering of dose over 2–4mths). Do not confuse 'withdrawal' effects (10–20% of patients) with re-emergence of symptoms (50–70% of patients). If symptoms recur, continue for ~1yr before considering second trial discontinuation. (*Note:* patient may wish to continue treatment, rather than risk return of symptoms.)

Box 8.3 Emergency treatment of an acute panic attack

- Maintain a reassuring and calm attitude (most panic attacks resolve spontaneously within 30min).

- If symptoms are severe and distressing, consider prompt use of BDZs (immediate relief of anxiety may help reassure the patient, provide confidence that treatment is possible, and reduce subsequent 'emergency' presentations).
- If first presentation, exclude medical causes (may require admission to hospital for specific tests).
- If panic attacks are recurrent, consider differential diagnosis for panic disorder and address underlying disorder (may require psychiatric referral).

Psychological

- *CBT—behavioural methods:* to treat phobic avoidance by exposure, use of relaxation, and control of hyperventilation. *Cognitive methods:* teaching about bodily responses associated with anxiety/education about panic attacks, modification of thinking errors.
- *Psychodynamic psychotherapy:* there is some evidence for brief dynamic psychotherapy, particularly 'emotion-focused' treatment (e.g. 'panic-focused psychodynamic psychotherapy') where typical fears of being abandoned or trapped are explored.

Issues of comorbidity

- In view of high levels of comorbidity, treatment of these conditions should not be neglected.
- For the other anxiety disorders and depression, this issue is somewhat simplified by the fact that SSRIs and other antidepressants have been shown to be effective for these conditions too. However, behavioural interventions (e.g. for OCD, social phobia) should also be considered.
- Alcohol/substance abuse may need to be addressed first, but specific treatment for persistent symptoms of panic ought not to be overlooked.

Course

- Most patients seeking treatment have already experienced chronic symptoms for 10–15yrs.
- Untreated, the disorder runs a chronic course.
- With treatment, functional recovery is seen in 25–75% after the first 1–2yrs, falling to 10–30% after 5yrs. Long-term, around 50% will experience only mild symptoms.
- Poor responses associated with: very severe initial symptoms, marked agoraphobia, low socio-economic status, less education, long duration of untreated symptoms, restricted social networks (including loss of a parent, divorce, remaining unmarried), and presence of personality disorder.

Agoraphobia

Essence

Anxiety and panic symptoms associated with places or situations where escape may be difficult or embarrassing (e.g. crowds, public

places, travelling alone or away from home), leading to avoidance.[7]

- In DSM-5, agoraphobia is diagnosed irrespective of panic disorder. If both criteria are met, then both diagnoses should be applied.
- In ICD-10, the presence or absence of panic disorder when in the agoraphobic situation may be specified, i.e. agoraphobia with(out) panic disorder. If panic disorder occurs in other situations, then both diagnoses should be applied. (Proposals for ICD-11 are similar.)

Whether or not agoraphobia differs from panic disorder neurobiologically or simply represents a more severe form of panic disorder remains controversial. The similarities of epidemiology, genetics, environmental precipitants, and effective treatments are hard to ignore. NCS-R data (2006) suggest that pure agoraphobia does occur, but it is rarer than earlier epidemiological studies would suggest (e.g. the ECS), with a lifetime prevalence of 1.3% and ♂:♀ = 2:3.

Epidemiology

Prevalence (6mths) 2.8–5.8% (ECA); ♂ : ♀ =1:3; as for panic disorder, there is a bimodal distribution, with the first being somewhat broader (15–35yrs). In later life, agoraphobic symptoms may develop secondary to physical frailty, with an associated fear of exacerbating medical problems or having an accident.

Aetiology

- *Genetic:* both genetic and environmental factors appear to play a role. The predisposition towards overly interpreting situations as dangerous may be genetic, and some commentators suggest an ethological factor involving an evolutionarily determined vulnerability to an unfamiliar territory. First-degree relatives also have an ↑ prevalence of other anxiety and related disorders (e.g. panic disorder, social phobia), alcohol misuse, and depressive disorders.
- *Psychoanalytical:* unconscious conflicts are repressed and may be transformed by displacement into phobic symptoms.
- *Learning theory:* conditioned fear responses lead to learned avoidance.

Comorbidity

Panic disorder, depressive disorder, other anxiety and related disorders (e.g. 55% also have social phobia), alcohol and substance misuse.

Differential diagnosis

Other anxiety and related disorders (especially GAD, social phobia, OCD), depressive disorders, secondary avoidance due to delusional ideas in psychotic disorders.

Management

- **Pharmacological** *Antidepressants:* as for panic disorder. In the UK, citalopram, escitalopram, and paroxetine are licensed for the

symptoms of panic disorder, with or without agoraphobia. Unlicensed: some evidence for clomipramine (high dose). *BDZs:* Short-term use only (may reinforce avoidance)—most evidence for alprazolam/clonazepam/diazepam.

- **Psychological** *Behavioural methods:* exposure techniques (focused on particular situations or places), relaxation training, and anxiety management. *Cognitive methods:* teaching about bodily responses associated with anxiety/education about panic attacks, modification of thinking errors.

Simple or specific phobias

Essence

Recurring, excessive, and unreasonable psychological or autonomic symptoms of anxiety, in the (anticipated) presence of a specific feared object or situation (see Box 8.4 for glossary) leading, whenever possible, to avoidance. DSM-5 distinguishes the subtypes: animals, natural environment, blood, injection, injury, situational, and 'other'.

Epidemiology

Prevalence: (NCS-R) lifetime 12.5%, 12mths 8.7%, 6mths (ECA) 4.5–11.9%; ♂:♀ (all) = 1:3; animal/situational phobias may be more common in ♀; mean age of occurrence is 15yrs: onset for animal phobias ~7yrs, blood/injection/injury ~8yrs, situational phobias ~20yrs.

Box 8.4 Specific phobias—the top 20

1. Arachnophobia—The fear of spiders
2. Ophidiophobia—The fear of snakes.
3. Acrophobia—The fear of heights.
4. Agoraphobia—The fear of open or crowded spaces.
5. Cynophobia—The fear of dogs.
6. Astraphobia—The fear of thunder/lightning
7. Claustrophobia—The fear of enclosed spaces.
8. Mysophobia—The fear of germs.
9. Aerophobia—The fear of flying.
10. Trypophobia—The fear of holes.
11. Carcinophobia—The fear of cancer.
12. Thanatophobia—The fear of death.
13. Glossophobia—The fear of public speaking.
14. Monophobia—The fear of being alone.
15. Atychiphobia—The fear of failure.
16. Ornithophobia—The fear of birds.
17. Alektorophobia—The fear of chickens.
18. Enochlophobia—The fear of crowds.
19. Aphenphosmphobia—The fear of intimacy.
20. Trypanophobia—The fear of needles.

Source: data from http://www.fearof.net [accessed: 20 June 2018].

Aetiology

- *Genetic:* both genetic and environmental factors play a role. MZ:DZ = 25.9%:11.0%[8] for animal phobia, situational phobia roughly equal suggesting a stronger role for the environment.
- *Psychoanalytical:* manifest fear is the symbolic representation of an unconscious conflict, which has been repressed and displaced into phobic symptoms.
- *Learning theory:* conditioned fear response related to a traumatic situation, with learned avoidance (trigger to the conditioned response may be a reminder of the original situation). Observational and informational learning also appear to be important, and the 'preparedness' theory (Marks)[9] suggests that fear of certain objects may be evolutionarily adaptive (related to survival of the individual or species), selectively acquired, and difficult to extinguish.

Comorbidity

The lifetime risk for patients with specific phobias experiencing at least one other lifetime psychiatric disorder is reportedly over 80% (NCS), particularly other anxiety disorders (panic, social phobia) and mood disorders (mania, depression, dysthymia). However, rates of substance misuse are considerably less than in other anxiety disorders.

Differential diagnosis

Panic disorder (fear of having a further panic attack), agoraphobia, social phobia, hypochondriasis (fear of having a specific serious illness), OCD (avoidance/fear of an object or situation due to obsessional thoughts, ideas, or ruminations), psychosis (avoidance due to a delusional idea of threat—fears tend to be overly excessive).

Management

Psychological

- *Behavioural therapy:* exposure is the treatment of choice—methods aim to reduce the fear response, e.g. Wolpe's systematic desensitization[10] with relaxation and graded exposure (either imaginary or *in vivo—best evidence for in vivo techniques*). Recent studies have utilized virtual environments [virtual reality exposure (VRE)].
- *Other techniques:* reciprocal inhibition, flooding (not better than graded exposure), and modelling.
- *Cognitive methods:* education/anxiety management, coping skills/strategies, and cognitive restructuring—may enhance long-term outcomes.
- *Pharmacological:* generally not used, except in severe cases to reduce fear/avoidance (with BDZs, e.g. diazepam) and allow the patient to engage in exposure. May reduce the efficacy of behaviour therapy by inhibiting anxiety during exposure. β-blockers may be helpful but reduce sympathetic arousal, not subjective fear. There is limited evidence for SSRIs (e.g.

escitalopram, paroxetine), but clear secondary depression may require antidepressant treatment.

Course

Without treatment, tends to run a chronic, recurrent course. However, individuals may not present unless life changes force them to confront the feared object or situation.

Social phobia (ICD-10)/social anxiety disorder (DSM-5)

Essence

Symptoms of incapacitating anxiety (psychological and/or autonomic), not secondary to delusional or obsessive thoughts and restricted to particular social situations, e.g. having a conversation, meeting strangers, eating or drinking in public, or public speaking, leading to a desire for escape or avoidance (which may reinforce the strongly held belief of social inadequacy).

Epidemiology

Lifetime rates vary: 2.4% (ECA), 12.1% (NCS-R), 12-mth prevalence 6.8% (NCS-R); ♂ : ♀ for those seeking treatment (however, community surveys suggest ♂ > ♀); bimodal distribution with peaks at 5yrs and 11–15yrs (ECA)—often patients do not present until they are in their 30s.

Aetiology

Both genetic and environmental factors play a role. MZ:DZ = 24%:15%. The predisposition towards overly interpreting situations as dangerous may be genetic, whereas individual interpretations of social cues may be environmentally determined (i.e. the particular trigger for the conditioned fear response depends on the social situation in which the first episode of anxiety was experienced). Responses may be learnt from observing parents. Imaging studies show ↑ activity in individuals with social anxiety in fear networks (prefrontal cortex, amygdala, hippocampus) during anxiety-provoking tasks. Response to antidepressants suggests there may be dysregulation of 5-HT, NA, or DA systems.

Symptoms/signs

Somatic symptoms include blushing, trembling, dry mouth, and perspiration when exposed to the feared situation, with excessive fear (which is recognized as such by the patient) of humiliation, embarrassment, or others noticing how anxious they are. Individuals are often characteristically self-critical and perfectionistic. Avoidance of situations may lead to difficulty in maintaining social/sexual relationships, educational problems (difficulties in interactions with other students/oral presentations), or vocational problems (work in less demanding jobs, well below their abilities). Thoughts of suicide are relatively common.

Comorbidity

There is a high level of psychiatric comorbidity with the most common disorders, including simple phobia, agoraphobia, panic disorder, GAD, PTSD, depression/dysthymia, and substance misuse.

Differential diagnosis

Other anxiety and related disorders (especially GAD, agoraphobia, OCD), poor social skills, anxious/avoidant personality traits, depressive disorders, secondary avoidance due to delusional ideas in psychotic disorders, and substance misuse.

Management

- *Psychological:* CBT, in either an individual or a group setting, should be considered as a first-line therapy (with SSRIs/MAOIs) and may be better at preventing relapse. Components of this approach include relaxation training/anxiety management (for autonomic arousal), social skills training, integrated exposure methods (modelling and graded exposure), and cognitive restructuring. NICE guidelines recommend either the Clark and Wells model or the Heimberg model of individual CBT weekly over 4mths. Alternatively, supported use of a CBT-based self-help book either face-to-face or by telephone.
- *Pharmacological:* β-blockers (e.g. atenolol) may reduce autonomic arousal, particularly for 'specific social phobia' (e.g. performance anxiety). For more generalized social anxiety, SSRIs [e.g. escitalopram (licensed: 10mg/day initially; range 5–20mg/day), fluoxetine (unlicensed), fluvoxamine (unlicensed), paroxetine (unlicensed), sertraline (licensed: 25mg/day, ↑ to 50mg/day after 1wk; max 200mg/day)], SNRIs [e.g. venlafaxine (licensed: 75mg/day)], and MAOIs [e.g. phenelzine (unlicensed)] are significantly more effective. Other treatment possibilities include RIMAs [e.g. moclobemide (licensed: 300mg/day for 3 days, then 600mg/day in two divided doses)] or the addition of a BDZ (e.g. clonazepam, alprazolam) or olanzapine. There is limited evidence for anticonvulsants [e.g. gabapentin, pregabalin, levetiracetam, valproate (all unlicensed)], and buspirone appears clinically ineffective for generalized social phobia. NICE recommends first line: trial of SSRI; second line: alternative SSRI or venlafaxine; third line: phenelzine or moclobemide.[11,12]
- *Psychotherapy:* if the patient declines CBT and pharmacological interventions or they have proved ineffectual, short-term psychodynamic psychotherapy may be offered over 6–8mths, with a focus on education, establishing a secure positive therapeutic alliance to modify insecure attachments, core conflictual relationships, shame, exposure to feared social situations outside therapy sessions, establishing a self-affirming inner dialogue, and improving social skills.

Course

- Without treatment, social phobia may be a chronic, lifelong condition.

- Course does not appear to be related to gender, age of onset, duration of illness, level of premorbid functioning, lifetime history of anxiety, or depressive disorders.
- Extreme childhood shyness and behavioural inhibition may be early manifestations of social phobia.
- With treatment, response rates may be up to 90%, especially with combined approaches.
- Medication best regarded as long-term, as relapse rates are high on discontinuation.

Generalized anxiety disorder 1—clinical features and aetiology

Essence

'Excessive worry' (generalized, free-floating, persistent anxiety) and feelings of apprehension about everyday events/problems, with symptoms of muscle and psychic tension, causing significant distress/functional impairment.

Symptoms/signs

(See Box 8.5.)

Epidemiology

Prevalence: 6mths (ECA) 2.5–6.4%, 12mths (NCS-R) 3.1%, lifetime (NCS-R) 5.7%; lowest in 18–29yrs (4.1%) and 60+ yrs (3.7%); highest 45–59yrs (7.7%); ♀ > ♂, especially early onset (associated with childhood fears and marital/sexual disturbance); later onset often after a stressful event; single (~30% never marry); unemployed.

Aetiology (triple vulnerability model)[13]

- *Generalized biological vulnerability*:
  - *Genetic*—modest role, shared heritability with depression.
  - *Neurobiological*—human studies limited. Animal work implicates the NA system: diminished autonomic nervous system responsiveness (? down-regulation of α_2 receptors);

    HPA axis: loss of regulatory control of cortisol [~1/3 of GAD patients show reduced cortisol suppression using the dexamethasone suppression test (DMST)]; amygdala and stria terminalis—possible sustained or repeated activation by corticotropin-releasing factor (CRF) due to stress; septohippocampal ('behavioural inhibition') system: sustained activation moderated by ascending 5-HT and NA systems; BDZ-GABA system: reduced expression of peripheral BDZ receptors due to high cortisol levels; other neurotransmitter systems: dysregulation of 5-HT systems, cholecystokinin (CCK-4 and CCK-8S).
- *Generalized psychological vulnerability*:
  - *Diminished sense of control*—trauma or insecure attachment to primary caregivers, leading to intolerance of uncertainty.
  - *Parenting*—overprotective or lacking warmth, leading to low perceived control over events.

- *Specific psychological vulnerability: stressful life events*—trauma (e.g. early parental death, rape, war) and dysfunctional marital/family relationships.

Comorbidity

Other anxiety disorders (simple phobias, social phobia, panic disorder), depression/dysthymia, alcohol and drug problems, other 'physical' conditions (e.g. IBS, HVS, atypical chest pain).

Box 8.5 Symptoms of GAD (present most days)

- At least 6 months' history of excessive anxiety and worry, with marked tension and apprehension about everyday events and problems (e.g. work or school performance).
- *DSM-5:* at least three (or one in children) out of:
  - Restlessness or feeling keyed up or on edge.
  - Easy fatiguability.
  - Concentration difficulties or 'mind going blank'.
  - Irritability.
  - Muscle tension.
  - Sleep disturbance.
- *ICD-10:* at least four (with at least one from 'autonomic arousal') out of:
  - *Symptoms of autonomic arousal*—palpitations/tachycardia; sweating; trembling/shaking; dry mouth.
  - *'Physical' symptoms*—breathing difficulties; choking sensation; chest pain/discomfort; nausea/abdominal distress.
  - *Mental state symptoms*—feeling dizzy, unsteady, faint or light-headed; derealization/depersonalization; fear of losing control, 'going crazy', passing out, dying.
  - *General symptoms*—hot flushes/cold chills; numbness or tingling.
  - *Symptoms of tension*—muscle tension/aches and pains; restlessness/inability to relax; feeling keyed up, on edge, or mentally tense; a sensation of a lump in the throat or difficulty swallowing.
  - *Other*—exaggerated responses to minor surprises/being startled.
  - *Concentration difficulties/'mind going blank'*—due to worry or anxiety; persistent irritability; difficulty getting to sleep due to worrying.

Generalized anxiety disorder 2—differential diagnosis and management

Differential diagnosis

'Normal worries', depression, mixed anxiety/depression, other anxiety disorders (the anxiety is more focused), drug and alcohol problems, medical conditions (see Box 8.6), side effects of prescribed medications (see Box 8.7).

Management

- *Psychological:* generally less effective than in the other anxiety disorders (lack of situational triggers); some evidence for CBT[14] combining behavioural methods (treat avoidance by exposure, use of relaxation, and control of hyperventilation) and cognitive methods (teaching about bodily responses related to anxiety/education about panic attacks, modification of thinking errors).
- *Pharmacological:* directed towards predominant anxiety symptoms:
  - *Somatic symptoms*—BDZs[14] (e.g. lorazepam, diazepam, alprazolam).
  - *Psychic symptoms*—buspirone[15] (beneficial effects may take 2–4wks).
  - *Depressive symptoms*— SSRIs[14] (licensed—escitalopram 10–20mg/day, paroxetine 20–50mg/day), SNRIs (licensed—duloxetine 60–120mg/day, venlafaxine 75–225mg/day), TCAs (unlicensed—imipramine, clomipramine), trazodone (licensed 75–300mg/day), mirtazapine (unlicensed—30mg/day).
  - *Cardiovascular symptoms* or *autonomic symptoms*—β-blockers (e.g. atenolol).
  - *Other treatments*—pregabalin (licensed—start 150mg/day; max 600mg/day; in divided doses—alone or as an adjunct to SSRI/SNRI), agomelatine (unlicensed—25–50mg/day), quetiapine[16] (unlicensed—150mg/day—alone or as an adjunct to SSRI/SNRI), trifluoperazine (unlicensed—2–6mg/day).
- *Physical:* psychosurgery (very rare)—for severe/intractable anxiety.

Course

Chronic and disabling, prognosis generally poor, remission rates low (~30% after 3yrs, with treatment); 6-yr outcome—68% mild residual symptoms, 9% severe persistent impairment. Often comorbidity becomes more significant (esp. alcohol misuse), and this worsens the prognosis.

Box 8.6 Medical conditions associated with anxiety-like symptoms

- ***Cardiovascular system (CVS)***: arrhythmias, ischaemic heart disease (IHD), mitral valve disease, cardiac failure.
- ***Respiratory***: asthma, COPD, HVS, PE, hypoxia.
- ***Neurological*****:** TLE, vestibular nerve disease.
- ***Endocrine*****:** hyperthyroidism, hypoparathyroidism, hypoglycaemia, phaeochromocytoma.
- ***Miscellaneous*****:** anaemia, porphyria, SLE, carcinoid tumour, pellagra.

Box 8.7 Prescribed medications causing anxiety-like symptoms

- ***CVS*****:** antihypertensives, anti-arrhythmics.

- ***Respiratory***: bronchodilators, α1/β-adrenergic agonists.
- ***CNS***: anaesthetics (pre-med and post-general anaesthetic syndrome), anticholinergics, anticonvulsants, anti-Parkinsonian agents, antidepressants, antipsychotics (akathisia), disulfiram reactions, withdrawal from BDZs and other sedatives and hypnotics.
- ***Miscellaneous***: levothyroxine, NSAIDs, antibiotics, chemotherapy.

Obsessive–compulsive disorder 1—clinical features

Essence

A common, chronic condition, often associated with marked anxiety and depression, characterized by 'obsessions' (Dictionary of psychiatric symptoms, p. 115) and 'compulsions' (Dictionary of psychiatric symptoms, p. 104). Obsessions/compulsions (see Box 8.8) must cause distress or interfere with the person's social or individual functioning (usually by wasting time) and should not be the result of another psychiatric disorder. At some point in the disorder, the person recognizes the symptoms to be excessive or unreasonable.

In DSM-5, OCD is now within a separate category 'Obsessive–compulsive and related disorders', which includes body dysmorphic disorder (Body dysmorphic disorder, p. 872), hoarding disorder (Hoarding disorder (DSM-5), p. 389), trichotillomania (hair-pulling disorder) (Trichotillomania (ICD-10/11; DSM-5), p. 425), excoriation (skin-picking) disorder (Excoriation (skin-picking) disorder (DSM-5; ICD-11), p. 425), substance/medication-induced obsessive–compulsive and related disorder, and obsessive–compulsive and related disorder due to another medical condition.

ICD-11 is likely to take a similar view with the proposed 'Obsessive–compulsive and related disorders', including OCD, body dysmorphic disorder, olfactory reference disorder (Olfactory reference disorder (ORD), p. 388), hypochondriasis, hoarding disorder, body-focused repetitive behaviour disorders (trichotillomania, excoriation disorder), and other specified obsessive–compulsive and related disorder.

Box 8.8 Common obsessions and compulsions

Obsessions

- Contamination.

- Order or symmetry.
- Safety.
- Doubt (of memory for events or perceptions).
- Unwanted, intrusive sexual or aggressive thoughts.
- Scrupulosity (the need to do the right thing or fear of committing an error, breaking the law, or religious transgression).

Compulsions

- Checking (e.g. doors, windows, electric sockets, appliances, safety of children).
- Cleaning or washing excessively.
- Counting or repeating actions a specific number of times.
- Arranging objects in a specific way.
- Touching or tapping objects.
- Hoarding (Hoarding disorder (DSM-5), p. 389).
- Confessing or constantly seeking reassurance.
- Continual list-making.

Epidemiology

Mean age: 20yrs, 70% onset before age 25yrs, 15% after age 35yrs, ♂ = ♀, prevalence: 0.5–3% of general population.

Aetiology

- *Neurochemical:* dysregulation of the 5-HT system (possibly involving 5-HT_{1B} or 5-HT/DA interaction).
- *Immunological:* cell-mediated autoimmune factors may be associated, e.g. against basal ganglia peptides—as in Sydenham's chorea.
- *Imaging: CT and MRI:* bilateral reduction in caudate size. *PET/SPECT:* hypermetabolism in orbitofrontal gyrus, basal ganglia (caudate nuclei), and cingulum that 'normalizes', following successful treatment (either pharmacological or psychological).
- *Genetic:* suggested by family and twin studies (3–7% of first-degree relatives affected; MZ: 50–80%, DZ: 25%), no candidate genes as yet identified, but polymorphisms of 5-HT_{1B} have been replicated.
- *Psychological:* defective arousal system and/or inability to control unpleasant internal states. Obsessions are conditioned (neutral) stimuli, associated with an anxiety-provoking event. Compulsions are learnt (and reinforced), as they are a form of anxiety-reducing avoidance.
- *Psychoanalytical:* Freud coined the term 'obsessional neurosis', thought to be the result of regression from oedipal stage to pre-genital anal–erotic stage of development as a defence against aggressive or sexual (unconscious) impulses. *Associated defences:* isolation, undoing, and reaction formation. Symptoms occur when these defences fail to contain the anxiety.

Associations

Avoidant, dependent, histrionic traits (~40% of cases), anankastic/obsessive–compulsive traits (5–15%) prior to disorder. In schizophrenia, 5–45% of patients may present with symptoms of OCD (schizo-obsessives—poorer prognosis). Sydenham's chorea (up to 70% of cases) and other basal ganglia disorders (e.g. Tourette's syndrome, post-encephalitic Parkinsonism).

Comorbidity

Depressive disorder (50–70%), alcohol- and drug-related disorders, social phobia, specific phobia, panic disorder, somatoform disorders, eating disorders, impulse-control disorders (trichotillomania, kleptomania), PTSD, tic disorder (~40% in juvenile OCD), Tourette's syndrome, suicidal thoughts or behaviours.

Differential diagnosis

'Normal' (but recurrent) thoughts, worries, or habits (do not cause distress or functional impairment); anankastic personality disorder/OCD; schizophrenia; phobias; depressive disorder; hypochondriasis; body dysmorphic disorder; trichotillomania.

Obsessive–compulsive disorder 2—management

Management

- *Psychological*:
  - *CBT*—recommended by NICE,[17,18] but essentially takes a behavioural approach, including exposure and response prevention (ERP).
  - *Behavioural therapy*—response prevention useful in ritualistic behaviour; thought stopping may help in ruminations; exposure techniques for obsessions.
  - *Cognitive therapy*—so far not proven effective.
  - *Psychotherapy—supportive:* valuable (including family members, use of groups); *psychoanalytical:* no unequivocal evidence of effectiveness (insight-orientated psychotherapy may be useful in some patients).
- *Pharmacological*:
  - *Antidepressants* SSRIs (licensed): escitalopram (10–20mg/day), fluoxetine (20–60mg/day), fluvoxamine (100–300mg/day), sertraline (150mg/day), or paroxetine (40–60mg/day) should be considered first line (no clear superiority of any one agent, high doses usually needed, at least 12wks for treatment response, long-term therapy). Clomipramine (e.g. 250–300mg) has specific anti-obsessional action (NICE second-line choice). Other (unlicensed) agents include citalopram (20–60mg/day; NICE recommended alone or in combination with clomipramine), venlafaxine (225–300mg).
  - *Augmentative strategies:* antipsychotic (risperidone, haloperidol, pimozide)—esp. if psychotic features, tics, or schizotypal traits (less evidence for olanzapine, quetiapine, aripiprazole, paliperidone); buspirone/short-term clonazepam (not NICE recommended)—if marked anxiety; other possible adjunctive agents include mirtazapine (15–30mg), lamotrigine

(100mg/day), topiramate (100–200mg/day), memantine (20mg/day), celecoxib (400mg/day), and dexamfetamine (30mg/day) or caffeine (300mg/day).[19]

- *Physical*:
  - *ECT*—consider if patient suicidal or severely incapacitated.
  - *Psychosurgery*—may be considered for severe, incapacitating, intractable cases (i.e. treatment-resistant: two antidepressants, three combination treatments, ECT, and behavioural therapy) where the patient can give informed consent, e.g. stereotactic cingulotomy (reported up to 65% success). In theory, disrupts the neuronal loop between the orbitofrontal cortex and basal ganglia.
  - *DBS*—efficacy remains to be established (severe refractory cases).

Course

Often sudden onset (after stressful event, e.g. loss, pregnancy, sexual problem); presentation may be delayed by 5–10yrs due to secrecy; symptom intensity may fluctuate (contact-related/phasic) or be chronic.

Outcome

Twenty to 30% significantly improve; 40–50% show moderate improvement, but 20–40% have chronic or worsening symptoms. Relapse rates are high after stopping medication. Suicide rates i, esp. if there is secondary depression.

Prognostic factors

- *Poor prognosis:* giving in to compulsions, longer duration, early onset, ♂, presence of tics, bizarre compulsions, hoarding, symmetry, comorbid depression, delusional beliefs or over-valued ideas, personality disorder (esp. schizotypal).
- *Better prognosis:* good premorbid social and occupational adjustment, a precipitating event, episodic symptoms, less avoidance.

Olfactory reference disorder

Essence

Also known as olfactory reference syndrome (ORS), characterized by the erroneous belief that one emits a foul or unpleasant body odour, resulting in significant distress and impairment, including avoidance of social situations.[20] Often accompanied by referential thinking and repetitive behaviours (showering, use of excessive deodorants or perfumes). Level of insight varies, and concerns may amount to having a delusional quality.

Differential diagnosis

General medical conditions—with verifiable body odour [e.g. hyperhidrosis, halitosis, dental (abscess), trimethylaminuria, rectal abscess/fistulae], (rare) causes of olfactory hallucinations [head injury, migraine, substance use, or seizure disorders—TLE

associated with medial temporal lobe tumours and mesial temporal sclerosis (smells: 'rotting', 'bad', 'burning rubber', 'rotting food')]. *Psychiatric conditions*—social anxiety disorder, OCD, body dysmorphic disorder, delusional disorder, schizophrenia, schizoaffective disorder, avoidant personality disorder, depression, culture-bound variants [e.g. 'jikoshu-kyofu' (Japan); Culture-bound syndromes?, p. 988].

Comorbidity

Depression (usually secondary and may be severe), social anxiety, OCD, body dysmorphic disorder.

Epidemiology

Prevalence 0.5–2% (estimated) but may be higher as under-reported.

Course

Onset usually mid-20s but can present earlier at puberty/adolescence, and runs a chronic course. Up to two-thirds may respond to treatments.

Treatment

Combined approach best. Actively treat any comorbidity.

- *Pharmacological*—no RCTs; case reports support use of SSRIs (fluoxetine, paroxetine, citalopram, sertraline) or antipsychotics (sulpiride, amisulpride, risperidone, aripiprazole, olanzapine), alone or combined.
- *Psychological*—no RCTs; sparse evidence supports: CBT focusing on compulsive behaviours, low mood, and social avoidance; eye movement desensitization and reprocessing (EMDR) aimed at processing the life events theorized to have been causal in either triggering or maintaining the pathology.

Hoarding disorder (DSM-5)

Essence

Persistent difficulties discarding or parting with possessions (including pets), regardless of their actual value, which leads to distress associated with discarding them and results in the accumulation of possessions that clutter active living areas.[21] There is significant impairment of social, occupational, and other areas of functioning. Associated with or without excessive acquisition and varying degrees of insight.

Differential diagnosis

OCD (obsessions), depressive disorder (poor motivation), psychosis (delusions), autism (restricted interests), cognitive deficits (dementia, brain injury, cerebrovascular disease, Prader–Willi syndrome).

Comorbidity

~5% comorbid mood or anxiety disorder (50% depression, 20% OCD, social phobia, and GAD).

Epidemiology

Prevalence 2–6% in the USA and Europe. More ♂ than ♀ in general population, vice versa in clinical populations. Almost three times more prevalent in older adults (aged 55–94yrs) than younger adults (aged 34–44yrs). Risk factors include: indecisiveness in individuals with the disorder and first-degree relatives; stressful or traumatic life events. Genetic studies suggest ~50% of the variability in hoarding disorder is heritable.

Course

Symptoms may first emerge around ages of 11–15yrs, start interfering with everyday functioning by mid-20s, and cause clinically significant impairment by mid-30s. Usually runs a chronic course.

Treatment

CBT has some utility, including relaxation, and helps with decision-making and coping skills. Individual, group, or family approaches have been used. Psychotherapy may be augmented with a trial of an SSRI. Actively treat any comorbidity.

Exceptional stressors and traumatic events

ICD-10 definition

'Common sense' approach: 'a stressful event or situation . . . of an exceptionally threatening or catastrophic nature, which is likely to cause pervasive distress in almost anyone'. Includes traumatic events (e.g. rape, bombing, criminal assault, natural catastrophe) and unusual sudden changes in the social position and/or network of the individual (e.g. domestic fire, multiple bereavement).

DSM-5 definition

Exposure to actual or threatened death, serious injury, or sexual violence in one (or more) of the following ways: directly experienced, witnessed in person, learning that the traumatic event(s) occurred to a close family member or close friend, or repeated or extreme exposure to aversive details of the traumatic event(s) (e.g. first responders collecting human remains, police officers repeatedly exposed to details of child abuse).

Types I and II trauma

(See Box 8.9.)

- *Type I trauma*: single, dangerous, and overwhelming events, comprising isolated (often rare) traumatic experiences of a sudden, surprising, devastating nature, with limited duration (i.e. ICD-10/DSM-5 definitions).
- *Type II trauma*: due to sustained and repeated ordeal stressors (series of traumatic events or exposure to prolonged trauma); may be variable, multiple, chronic, repeated, and anticipated, usually of intentional human design (e.g. ongoing physical or sexual abuse, combat). May lead to 'complex PTSD' or 'complex trauma'. Symptoms include: somatization, dissociation, detachment from others, restricted range or dysregulation of

affect, emotional lability (poor impulse-control, self-destructive behaviour, pathological patterns of relationships), and emotional numbing. ICD-10 acknowledges this type of reaction with the diagnosis '*enduring personality changes after catastrophic experience*', whereas DSM-5 allows for coding under '*other specified trauma- and stressor-related disorder*' or '*other specified personality disorder*'.

How common are these events?

Community studies have found that up to 80% of men and 75% of women[22] experience at least one traumatic event in their lifetime (but see cautionary notes in Box 8.10). Common events include sudden death of a loved one, accidents, fire, flood, natural disasters, or being a witness to severe injury (or murder).

Box 8.9 Continued debate

- Both of the ICD-10 and DSM-5 definitions fail to address 'low-magnitude stressors' (e.g. divorce, job loss, failing exams), even though 0.4% of the population may develop 'PTSD-like' symptoms.[1]
- Equally, 'common' events (e.g. RTAs, sexual assault) quite often lead to PTSD-like symptoms.
- Even perpetrators (albeit 'unwilling') of traumatic events (e.g. war-related crimes, torture) may experience PTSD-like symptoms (associated with feelings of shame or guilt).
- Emphasis on life-threatening events/threats to physical integrity may also be too restrictive. The perception of threat to, or loss of, autonomy and mental defeat may actually be more significant than physical assault—seen in studies of victims of sexual/physical assault and political prisoners.
- Whether diagnosis should be made on the basis of symptom clusters, rather than any definition of what constitutes a 'valid' traumatic event, becomes academic when a patient presents with clinically significant problems (although it may generate much heat when issues of compensation are involved).

1 McNally RJ (2000) Post traumatic stress disorder. In: Millon T, Blaney PH, David RD (eds). *Oxford Textbook of Psychopathology*, pp. 144–65. Oxford: Oxford University Press.

Box 8.10 Recovered and false memories

- Survivors of traumatic events, esp. child abuse, sometimes claim to have recovered memories after a long period of time.
- Organizations such as the False Memory Syndrome Foundation (USA) and the False Memory Society (UK) suggest that many, if not all, of these recovered memories are the product of inappropriate therapeutic suggestion.
- The possibility of false accusations of supposed perpetrators, disruption of families, and accusations of malpractice against

therapists have meant that debate is polarized, and subsequently, the literature is very difficult to interpret.

- Few would disagree with Lindsay and Read's summary (1995):[1] 'In our reading, the scientific evidence has clear implications … memories recovered via suggestive memory work by people who initially denied any such history should be viewed with skepticism, but there are few grounds to doubt spontaneously recovered memories of common forms of child sexual abuse or recovered memories of details of never-forgotten abuse. Between these extremes lies a grey area within which the implications of existing scientific evidence are less clear and experts are likely to disagree.'

1 Lindsay DS, Read JD (1995) 'Memory work' and recovered memories of childhood sexual abuse: scientific evidence and public, professional and personal issues. *Psychol Publ Policy Law* **1**:846–908.

Acute stress reaction (ICD-10)

Essence

A transient disorder (lasting hours or days) that may occur in an individual as an immediate (within 1hr) response to exceptional stress (e.g. natural catastrophe, major accident, serious assault, warfare, rape, multiple bereavement, fire). The stressor usually involves severe threat to the security or physical integrity of the individual or of a loved person(s).

Symptoms/signs

Symptoms tend to be mixed/changeable, with an initial state of daze, followed by depression, anxiety (as for GAD; Generalized anxiety disorder 1—clinical features and aetiology, p. 380), anger, or despair. Presence of social withdrawal, narrowed attention, disorientation, aggression, hopelessness, over-activity, or excessive grief defines mild (none of these symptoms present), moderate (two present), or severe (four present, or dissociative stupor) forms.

Epidemiology

Incidence variable across studies, but estimated around 15–20% of individuals, following exceptional stress.

Aetiology

No specific theories, as it is a transient disorder.

Risk factors

Physical exhaustion, presence of other organic factors, elderly.

Differential diagnosis

PTSD ('exceptional trauma', delayed or persistent symptoms, re-experiencing of the traumatic event), adjustment disorder (not necessarily exceptional stressor, wider range of symptoms), concussion/mild brain injury (neuropsychological testing cannot

always distinguish), brief psychotic disorder, dissociative disorders (no clear stressor), substance misuse.

Management

By definition, no specific treatment needed. Ensure other needs are addressed, i.e. safety, security, practical assistance, social supports.

Outcome

- Once the stressor is removed, symptoms resolve (usually) within a few hours.
- If the stress continues, the symptoms tend to diminish after 24–48hrs and are minimal within about 3 days.

Acute stress disorder (DSM-5)

Essence

Clear overlap with 'acute stress reaction' (symptoms of dissociation, anxiety, hyperarousal), but greater emphasis on dissociative symptoms; onset within 4wks, lasting 3 days to 4wks (after which diagnosis changes to PTSD).

Symptoms/signs

Similar to PTSD with symptoms in the categories of: re-experiencing of events (intrusion), avoidance, negative mood, and hyperarousal (but lasting no more than 4wks). Also it must be specified whether qualifying traumatic events were experienced directly, witnessed, or indirectly.

Epidemiology

Incidence depends on trauma, e.g. 13–14% in road traffic accident (RTA) survivors, 19% in victims of assault, 33% in victims of mass shooting.

Aetiology

Similar to PTSD.

- *Psychological:* 're-experiencing symptoms'. Fear response to harmless situations associated with original trauma, perhaps due to emotional memories (i.e. having personal significance). Remodelling underlying schemas requires holding trauma experiences in 'active' memory until the process is complete (working through). *Dissociation*—a mechanism of avoiding overwhelming emotion (i.e. 'thinking without feeling'), which, if persistent, delays the process of integration.
- *Biological:* neurophysiological changes leading to permanent neuronal changes as a result of the effects of chronic stress or persistent re-experiencing of the stressful event. *Neurotransmitters implicated*—cathecholamines, 5-HT, GABA, opioids, and glucocorticoids.

Risk factors

Previous history of psychiatric disorder, previous traumatic event(s), premorbid depression, or dissociative symptoms.

Comorbidity

Similar to PTSD (i.e. depression, substance misuse).

Differential diagnosis

(See Box 8.11.)

Box 8.11 DSM-5 'Trauma- and stressor-related disorders' and ICD-11 'Disorders specifically associated with stress'

This new chapter in DSM-5 (and ICD-11 proposals) attempts to accommodate childhood and adult-onset trauma- and stressor-related disorders together. This means that 'reactive attachment disorder' and 'disinhibited social engagement' are included. While these disorders may share aetiological pathways (the result of social neglect), the lack of attachments seen in reactive attachment disorder is not necessarily found in disinhibited social engagement, which may present very much like ADHD (Attachment, p. 658).

The other disorders included in this category are 'Acute stress disorder', 'Adjustment disorders', 'PTSD', and 'Other/unspecified trauma- and stressor-related disorders'. Like acute stress disorder, PTSD has four symptom clusters: avoidance, persistent negative alterations in cognitions and mood, re-experiencing, and alterations in arousal and reactivity (which includes irritable or aggressive behaviour and reckless or self-destructive behaviour). Diagnostic thresholds are lowered to allow the diagnosis in children and adolescents, with separate criteria for children aged 6 or younger.

ICD-11 proposes a narrowing of PTSD to three core symptoms: re-experiencing, avoidance, and heightened threat perception. Complex PTSD is added—characterized by severe and pervasive problems in affect regulation; persistent beliefs about oneself as diminished, defeated, or worthless, accompanied by deep and pervasive feelings of shame, guilt, or failure related to the traumatic event; and persistent difficulties in sustaining relationships and in feeling close to others (with a clear relationship with emotionally unstable personality disorder; Table 12.1, p. 523). A new category of prolonged grief disorder, with symptoms lasting for at least 6mths, clearly exceeding social, cultural, or religious norms for the individual.

PTSD (time frame >4wks' duration), adjustment disorder (does not meet criteria for 'traumatic' event; Exceptional stressors and traumatic events, p. 390; wider range of symptoms), concussion/mild brain injury (neuropsychological testing cannot always distinguish), brief psychotic disorder, dissociative disorders (no clear stressor), substance misuse.

Management

- *Simple practical measures:* e.g. support, advice regarding police procedures, insurance claims, dealing with the media, course and prognosis, may be all that is required.
- *Psychological*:
  - *Debriefing*—may be useful for certain individuals (needing supportive therapy), but reviews suggest there is little positive benefit of single session debriefing alone and may worsen outcome![23] (See also Box 8.12.)
  - *CBT*—brief interventions (education, relaxation, graded *in vivo* exposure, and cognitive restructuring) may reduce the development of chronic problems/PTSD (not immediate, but ~2wks after the event appears best).
- *Pharmacological:* TCAs, SSRIs, and BDZs may be useful for clinically significant symptoms (evidence lacking).

Outcome

By definition, either self-limiting or continues into PTSD.

Box 8.12 Debriefing—more harm than good?

Surely it is better to get your emotions out than leave them bottled up? Debriefing, a technique that evolved from military psychiatry, where groups discussed their shared experiences, was used with first responders, and then to help victims of trauma. The idea was to prevent PTSD and other psychological problems with an efficient and affordable intervention that often comprised a cathartic retelling of events. In the 1980s and 1990s, counsellors were often among the first to arrive at the scene of a crisis.

This vogue for debriefing was challenged when a number of trials of single-session debriefing appeared to show a negative effect. In 1997, Bisson and colleagues conducted a study on burn victims and found that those who received debriefing were more likely to score highly for symptoms of PTSD, anxiety, and depression 13mths later. Similarly, in 2000, a study by Hobbs and colleagues showed that vehicle accident survivors who received debriefing, when compared to those who were simply assessed, had worse PTSD symptoms at 4mths and when followed up 3yrs later.

In 2002, a Cochrane systematic review and meta-analysis concluded: 'There is no evidence that single session individual psychological debriefing is a useful treatment for the prevention of post traumatic stress disorder after traumatic incidents. Compulsory debriefing of victims of trauma should cease.'

The controversy that ensued is well summarized in a debate article in the *British Journal of Psychiatry* in 2003[1] and highlighted the problems with reliance on evidence-based medicine—that 'by satisfying the rigorous methodological criteria demanded of level I evidence, many RCTs lose validity and become so divorced from clinical reality that their findings are

clinically meaningless.' ( Trust me, I'm an epidemiologist, p. 30). However, rather than throw the baby out with the bath water, it is now generally agreed that debriefing should be part of a comprehensive, pragmatic 'screen and treat' package that appropriately assesses psychological and practical support needs, allowing early detection and prompt treatment of stress- or trauma-related disorders.

1 Wessley S, Deahl M (2003) Psychological debriefing is a waste of time. *Br J Psychiatry* **183**:12–14.

Adjustment disorders

Adjustment disorders sit uneasily between what are regarded as normal or just 'problematic' difficulties and the major psychiatric diagnoses. They must occur within 1 (ICD-10) or 3mths (DSM-5) of a particular psychosocial stressor and should not persist for longer than 6mths after the stressor (or its consequences) is removed (except in the case of 'prolonged depressive reaction' in ICD-10). Symptoms are 'clinically significant' due to marked distress or impairment of normal functioning, and may be 'subthreshold' (due to symptom or duration criteria) manifestations of mood disorders, anxiety disorders, stress-related disorders, somatoform disorders, or conduct disorders.

Subclassification

- *ICD-10:* brief depressive reaction (>1mth), prolonged depressive reaction (>6mths, but <2yrs), mixed anxiety and depressive reaction, predominant disturbance of other emotions, predominant disturbance of conduct, mixed disturbance of emotion and conduct, and other specified predominant symptoms. Allows inclusion of bereavement/grief reactions.
- *DSM-5:* specifiers: with depressed mood, anxiety, mixed anxiety and depressed mood, disturbance of conduct, mixed disturbance of emotions and conduct, and unspecified. Specifically excludes bereavement reactions ( Normal and abnormal grief, p. 400). 'Acute' disorders <6mths; 'chronic' disorders >6mths.

Epidemiology

Prevalence in inpatient/outpatient psychiatric populations is conservatively estimated at around 5%. In general hospital settings, it may be as high as 20% (physical illness being the primary stressor for up to 70% of these cases).

Aetiology

By definition, the problems are caused by an identifiable stressor. Individual predisposition plays a greater role than in other conditions, but symptoms would not have arisen without the stressor.

Comorbidity

Possibly higher incidence of alcohol-related problems than the general population, but no different from other psychiatric disorders.

Differential diagnosis

Diagnostic uncertainty may arise if debate surrounds whether the stressor is sufficiently severe to be labelled 'exceptional' or 'traumatic' (acute stress reaction/disorder or PTSD may be considered). Equally, it may be difficult to determine whether symptoms (e.g. low mood, anxiety, sleep disturbance, anorexia, lack of energy) are attributable to a medical disorder or are primarily psychiatric in nature. Use of alcohol and drugs (illicit and prescribed) may complicate the picture.

Management

- *Psychological:* the mainstay of management is essentially supportive psychotherapy to enhance the capacity to cope with a stressor that cannot be reduced or removed, and to establish sufficient support (esp. practical help, e.g. provision of carers/childcare, financial support and benefits, OT assessment, contact with specific support groups) to maximize adaption. Ventilation/verbalization of feelings may be useful in preventing maladaptive behaviours (e.g. social isolation, destructive behaviours, suicidal acts), and understanding the 'meaning' of the stressor to the individual may help correct cognitive distortions.
- *Pharmacological:* the use of antidepressants or anxiolytics/hypnotics may be appropriate where symptoms are persistent and distressing (e.g. prolonged depression/dysphoria) or where psychological interventions have proved unsuccessful.

Outcome

- 5-yr follow-up suggests recovery in ~70% (adolescents: ~40%), intervening problems in ~10% (adolescents: ~15%), and development of major psychiatric problems in ~20% (adolescents: ~45%).
- In adults, further psychiatric problems are usually depression/anxiety or alcohol-related problems.

There is a very real risk of suicide and self-harm (esp. in younger populations). Additional risk factors include poor psychosocial functioning, previous psychiatric problems, personality disorder, substance misuse, and mixed mood/behavioural symptoms. *Do not ignore*.

Normal and abnormal grief

Controversy surrounds how we should regard normal/abnormal grief, and whether they are distinct from depression or other stress-related disorders.[24] It is very common for those suffering bereavement to have depressive symptoms. However, it is less common for people to experience a clear depressive episode that requires treatment.[25] Normal grief is variable in its intensity and duration. Some commentators regard bereavement as just another stressor and argue that, depending on the phenomenology, grief

may be regarded as an acute stress reaction/disorder, an adjustment disorder, or even a form of PTSD ('traumatic grief'). Just as the former reactive/endogenous debate surrounding depression has led to recommendations that 'clinical' symptoms should be treated, a bereaved person should not be denied effective treatment on the basis of 'understandability', nor should arbitrary time frames [e.g. <4wks (ICD-10), <2mths (DSM-5)] become more important than assessment of clinical need.

Definitions

- *Bereavement:* any loss event, usually the death of someone.
- *Grief:* feelings, thoughts, and behaviour associated with bereavement.
  - *'Normal'*—typical symptoms experienced after bereavement include: disbelief, shock, numbness, and feelings of unreality; anger; feelings of guilt; sadness and tearfulness; preoccupation with the deceased; disturbed sleep and appetite and, occasionally, weight loss; and seeing or hearing the voice of the deceased. Usually these symptoms gradually reduce in intensity, with acceptance of the loss and readjustment. A typical 'grief reaction' lasts up to 12mths (mean 6mths), but cultural differences exist. Intensity of grief is usually greatest for the loss of a child, then spouse or partner, then parent.
  - *'Abnormal (pathological/morbid/complicated)'*—grief reaction that is very intense, prolonged, or delayed (or absent), or where symptoms outside the normal range are seen, e.g. preoccupation with feelings of worthlessness, thoughts of death, excessive guilt, marked slowing of thoughts and movements, a prolonged period of not being able to function normally, hallucinatory experiences (other than the image or voice of the deceased) (see Box 8.13).

Risk factors for depression after bereavement

History of depression, intense early grief/depressive symptoms, lack of social support, little experience of death, 'traumatic'/unexpected death.

Management

Generally 'normal' grief does not require specific treatment, although BDZs may be used to reduce severe autonomic arousal or treat problematic sleep disturbance in the short term. Where there are features of 'abnormal' grief, or where there are clinical symptoms of depression/anxiety, treatment with antidepressants ought to be considered, along with culturally appropriate supportive counselling (e.g. through organizations such as CRUSE).

'Near the end of his life Sigmund Freud was consulted by a woman who had become depressed following the death of her husband. After listening to her, Freud quietly stated, "Madam, you do not have a neurosis, you have a misfortune".'

Wahl CW (1970) *Arch Found Thanatol* **1**: 137.

'I know of only one functional psychiatric disorder, whose cause is known, whose features are distinctive, and whose

course is usually predictable, and this is grief, the reaction to loss. Yet this condition has been so neglected by psychiatrists that until recently it was not even mentioned in the indexes of most of the best-known general textbooks of psychiatry.'

Parkes CM (1986) *Bereavement studies of grief in adult life*. 2nd edn. Tavistock Publications, London and New York.

Box 8.13 Prolonged grief disorder (PGD) [also known as persistent complex bereavement disorder (DSM-5), complicated grief disorder, and traumatic grief]

Prigerson *et al.*,[1] a group of international researchers, have attempted to refine this syndrome for inclusion in DSM-5 (only made it into 'Other specified trauma- and stressor-related disorder'—as a condition for future study) and ICD-11 proposals (successfully as 'Prolonged grief disorder'), with criteria to identify bereaved persons at heightened risk for enduring distress and dysfunction. Criteria require reactions to a significant loss that involve the experience of yearning (e.g. physical or emotional suffering as a result of the desired, but unfulfilled, reunion with the deceased) and at least five of the following nine symptoms experienced at least daily or to a disabling degree:

- Feeling emotionally numb, stunned, or that life is meaningless.
- Experiencing mistrust.
- Bitterness over the loss.
- Difficulty accepting the loss.
- Identity confusion.
- Avoidance of the reality of the loss.
- Difficulty moving on with life.

Symptoms must be present at sufficiently high levels for at least 6mths from the death and be associated with functional impairment.

1 Prigerson HG, Horowitz MJ, Jacobs SC, *et al.* (2009) Prolonged grief disorder: psychometric validation of criteria proposed for DSM-V and ICD-11. *PLoS Med* **6**:e1000121.

Post-traumatic stress disorder 1: diagnosis

Essence

Severe psychological disturbance following a traumatic event (Excessive stressors and traumatic events, p. 390), characterized by involuntary re-experiencing of elements of the event, with symptoms of hyperarousal, avoidance, and emotional numbing.

Symptoms/signs

Symptoms arise within 6mths (ICD-10) of the traumatic event (delayed onset in ~10% of cases) or are present for at least 1mth, with clinically significant distress or impairment in social, occupational, or other important areas of functioning (DSM-5).

Both ICD-10 and DSM-5 include:

- Two or more 'persistent symptoms of increased psychological sensitivity and arousal' (not present before exposure to the stressor): difficulty falling or staying asleep; irritability or outbursts of anger; reckless or self-destructive behaviour (DSM-5); difficulty in concentrating; hypervigilance; exaggerated startle response.

Other ICD-10 criteria

- Persistent remembering/'reliving' of the stressor in intrusive flashbacks, vivid memories, or recurring dreams; and distress when exposed to circumstances resembling or associated with the stressor.
- Actual/preferred avoidance of circumstances resembling/associated with the stressor (not present before exposure to the stressor).
- Inability to recall, either partially or completely, some important aspects or the period of exposure to the stressor.

Other DSM-5 criteria

(More specific; see Boxes 8.12 and 8.14.)

Epidemiology

Risk of developing PTSD after a traumatic event: 8–13% for men, 20–30% for women. Lifetime prevalence: around 7.8% (♂:♀ = 1:2). Cultural differences exist. Some types of stressor are associated with higher rates (e.g. rape, torture, being a prisoner of war).

Aetiology

- *Psychological/biological* (Acute stress disorder (DSM-5), p. 394).
- *Neuroimaging:* reduced hippocampal volume (may relate to appreciation of safe contexts and explicit memory deficits). Dysfunction of the amygdala, hippocampus, septum, and prefrontal cortex may lead to enhanced fear response. High arousal appears to be mediated by the anterior cingulate, medial prefrontal cortex, and thalamus; dissociation by the parietal, occipital, and temporal cortex.
- *Genetic:* higher concordance rates seen in MZ than DZ twins.

Risk factors

- *Vulnerability factors:* low education, lower social class, Afro-Caribbean/Hispanic, ♀ gender, low self-esteem/neurotic traits, previous (or family) history of psychiatric problems (esp. mood/anxiety disorders), previous traumatic events (including adverse childhood experiences and abuse).
- *Peri-traumatic factors:* trauma severity, perceived life threat, peri-traumatic emotions, peri-traumatic dissociation.
- *Protective factors:* high IQ, higher social class, Caucasian, ♂ gender, psychopathic traits, chance to view the body of a dead person.

Comorbidity (may be primary or secondary)

Depressive/mood disorders, other anxiety disorders, alcohol and drug misuse disorders, somatization disorders.

Differential diagnosis

Acute stress reaction/disorder, enduring personality change after a catastrophic event (duration at least 2yrs; Exceptional stressors and traumatic events, p. 390), adjustment disorder (less severe stressor/different symptom pattern), other anxiety disorder, depressive/mood disorder, OCD, schizophrenia (or associated psychosis), substance-induced disorders.

Box 8.14 Other DSM-5 criteria

The traumatic event is persistently re-experienced in one (or more) of the following ways:

- Recurrent and intrusive distressing recollections of the event, including images, thoughts, or perceptions (or repetitive play in which themes or aspects of the trauma are expressed in children).
- Recurrent distressing dreams of the event (or frightening dreams without recognizable content in children).
- Dissociative reactions (e.g. flashbacks)—acting or feeling as if the traumatic event were recurring (or re-enactment in play in children).
- Intense psychological distress at exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event.
- Marked physiological reactions at exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event.

Persistent avoidance of stimuli associated with the trauma (not present before the trauma), as evidenced by:

- Efforts to avoid thoughts, feelings, or memories associated with the trauma.
- Efforts to avoid external reminders (activities, places, or people) that arouse recollections of the trauma.

Negative alterations in cognition and mood associated with the traumatic event(s), as evidenced by two (or more) of:

- Inability to recall an important aspect of the trauma.
- Persistent exaggerated negative beliefs or expectations about self, others, and the world.
- Persistent distorted cognitions.
- Persistent negative emotional state.
- Markedly diminished interest or participation in significant activities.
- Feeling of detachment or estrangement from others.
- Persistent inability to experience positive emotions.

Post-traumatic stress disorder 2: management

Psychological

Meta-analyses support the superior efficacy of trauma-focused treatments,[26,27] specifically trauma-focused CBT and EMDR. These are recommended as first-line treatments in all recent guidelines.

- *CBT:* includes elements of—education about PTSD, self-monitoring of symptoms, anxiety management, breathing techniques, imaginal reliving, supported exposure to anxiety-producing stimuli, cognitive restructuring (esp. for complicated trauma), anger management.
- *EMDR:* novel treatment using voluntary multi-saccadic eye movements to reduce anxiety associated with disturbing thoughts and to help process the emotions associated with traumatic experiences (see Box 8.15).
- *Other psychological treatments*:
  - *Psychodynamic therapy*—focus on resolving unconscious conflicts provoked by the stressful events, the goal being to understand the meaning of the event in the context of the individual.
  - *Stress management (stress inoculation)*—teaching skills to help cope with stress such as relaxation, breathing, thought stopping, assertiveness, positive thinking.
  - *Hypnotherapy*—use of focused attention to enhance control over hyperarousal and distress, enabling recollection of traumatic event. Concern over possible induction of dissociative states.
  - *Supportive therapy*—non-directive, non-advisory method of exploring thoughts, feelings, and behaviours to reach clearer self-understanding.

Pharmacological

Medication may be considered when there is severe ongoing threat, if the patient is too distressed or unstable to engage in psychological therapy or fails to respond to an initial psychological approach. Where there is a good treatment response, medication should be continued long term, with trial reduction after 12mths.

- *SSRIs* (e.g. paroxetine 20–40mg/day; sertraline 50–200mg/day) are licensed for PTSD, and their use is supported by a systematic review.[28] Other unlicensed possibilities include: venlafaxine, mirtazapine, fluoxetine, escitalopram, and fluvoxamine. *Other antidepressants:* although unlicensed, there is some evidence for TCAs (e.g. amitriptyline, imipramine); MAOIs (e.g. phenelzine) may also reduce anxiety (over-arousal) and intrusiveness, and improve sleep.

It may be helpful to target specific symptoms:

- *Sleep disturbance* (including nightmares): may be improved by mirtazapine (45mg/day), levomepromazine, prazosin (mean dose 9.5mg/day), or specific hypnotics (e.g. zopiclone, zolpidem).
- *Anxiety symptoms/hyperarousal:* consider use of BDZs (e.g. clonazepam 4–5mg/day), buspirone, antidepressants, propranolol.

- *Intrusive thoughts/hostility/impulsiveness:* some evidence for use of carbamazepine, valproate, topiramate, or lithium.
- *Psychotic symptoms/severe aggression or agitation:* may warrant use of an antipsychotic (some evidence for olanzapine, risperidone, quetiapine, clozapine, aripiprazole).

Outcome

- ~50% will recover within first year, ~30% will run a chronic course.
- Outcome depends on initial symptom severity. Recovery will be helped by: good social support; lack of negative responses from others; absence of 'maladaptive' coping mechanisms (e.g. avoidance, denial, 'safety behaviours', not talking about the experience, thought suppression, rumination); no further traumatic life events (secondary problems such as physical health, acquired disability, disfigurement, disrupted relationships, financial worries, and litigation).

Box 8.15 EMDR controversy

In 1987, Francine Shapiro, a California psychologist in private practice, while walking in the woods, preoccupied with disturbing thoughts, discovered her anxiety improved during the walk. She realized that she had been moving her eyes back and forth, from one side of the path to the other, while walking. Shapiro tried out variants of this procedure with her clients and found that they felt better too. Her findings were published in 1989, and EMDR was born.

Initially developed to help clients with PTSD and other anxiety disorders, therapists have since extended EMDR to other conditions, including depression, sexual dysfunction, schizophrenia, eating disorders, and stress associated with illnesses such as cancer. Like other serendipitous discoveries, the claims for EMDR were treated with a healthy dose of scepticism, especially when its proponents tried to explain 'how' it worked, using erroneous theories of memory, right–left brain imbalance, and REM sleep-like processing. It became associated with alternative therapies, such as Roger Callahan's thought field therapy and Gary Craig's emotional freedom therapy. These therapies have all the hallmarks of pseudoscience ( Psychomythology, p. 24). Although the mechanism of action of EMDR is not fully understood, it has been shown that the eye movements are *not* a necessary component of the therapy. In fact, well-established psychological principles of attention, imaginal exposure, and methods of relaxation are probably sufficient to explain the efficacy of the EMDR procedure.

Shapiro F (1995) *Eye Movement Desensitization and Reprocessing: Basic Principles, Protocols, and Procedures*. New York, NY: Guildford Press.

Depersonalization (derealization) syndrome

Essence

A rare disorder, characterized by persistent or recurrent episodes of a distressing feeling of unreality or detachment in relation to the outside world (derealization) or the person's own body, thoughts, feelings, or behaviour (depersonalization). It is viewed as an anxiety-/stress-related disorder in ICD-10, and as one of the 'dissociative disorders' in DSM-5, along with dissociative amnesia, identity disorder, and fugue (Dissociative (conversion) disorders, p. 868).[29]

Clinical features

Patients may find it difficult to describe their experiences, often reporting feeling 'as if' they are a passive observer of what is going on around them or their own actions. This may be accompanied by an emotional numbness (inability to experience feelings) and a dream- or trance-like state. There may also be the experience of alterations in the perception of objects or people, appearing unfamiliar or different in respect to the usual colour, shape, distance, or size. Insight tends to be preserved (unlike 'passivity phenomena' in psychoses)—the patient recognizes the experiences as abnormal, unpleasant, distressing, and anxiety-provoking.

Epidemiology

Up to 50% of 'normal' individuals may experience depersonalization in their lifetime (usually in the context of psychological distress), with 1–2% having more chronic symptoms. In psychiatric populations, it is a very common experience (lifetime prevalence ~80%), with persistent symptoms (and associated functional impairment) in ~12%. In clinical populations: ♂:♀ = 1:2, whereas in the general population: ♂ = ♀. Age of onset usually adolescence/early adulthood (may go undetected in children).

Aetiology

- *Psychoanalytical:* ego defence against painful and conflicting memories, impulses, or affects; usually rooted in childhood trauma.[30]
- *Psychological:* adaptive response to overwhelming stress, allowing continued function by protecting against potentially overwhelming anxiety. Specific precipitant(s) may not be readily identifiable.
- *Biological:*[31] altered function in systems central to integrated processing of information in the brain (with functional localization in the parietotemporal and limbic areas) where serotonergic mechanisms play a key role. Possible role for the effects of illicit drugs, as 10–20% of patients describe symptoms first occurring when using drugs (esp. cannabis).

Comorbidity

Anxiety disorders (particularly phobias, panic disorder, OCD), depressive disorders, personality disorders

[anankastic/obsessional, borderline personality disorder (BPD)].

Differential diagnosis

Depersonalization may be experienced in the context of sleep or sensory deprivation, being in unfamiliar surroundings, or an acutely stressful/traumatic situation. May also be a symptom in schizophrenia/psychosis (usually accompanied by a delusional explanation, e.g. Cotard delusion), mood/anxiety disorders, acute intoxication/withdrawal from alcohol, illicit substances (particularly cannabis or hallucinogens), or medication, and in organic disorders (e.g. hyperventilation, hypoglycaemia, migraine, epilepsy—brief stereotyped episodes, other neurological conditions).

Management

- Use of rating scales[32] (e.g. the Cambridge Depersonalization Scale)[33] may assist the assessment of treatment response.
- Exclude organic causes with appropriate investigations, which may sometimes include brain imaging (CT/MRI) and EEG.
- Comorbid psychiatric conditions should be identified and treated. Despite successful treatment, depersonalization may persist.
- Evidence for successful management of depersonalization syndrome is poor. No drugs are licensed for use in the UK.
- Some evidence supports a role for SSRIs (usually citalopram or escitalopram), alone or in combination with lamotrigine (up to 500mg/day).
- Where there is marked anxiety, clonazepam (0.5–4mg/day) may be useful; anecdotal evidence supports clomipramine (if obsessional symptoms are marked), naltrexone, and bupropion.
- CBT is the only psychological treatment shown to be beneficial in an open trial, particularly in tackling anxieties, ruminations, and avoidance behaviours relating to identifiable stressors.
- Other psychotherapeutic approaches: acceptance and understanding of symptoms; identification of ‘putative’ defence functions; identifying underlying psychopathology; integration of traumatic experiences.

Course

- Onset is usually sudden, with symptoms persisting only for a brief period. Gradual onset does occur, and the course is very variable—both episodic and continuous. Occasionally, symptoms may persist for hours, days, weeks, months, or even years (rare).
- Resolution tends to be gradual. Recurrent episodes generally occur in the context of recurring (perceived) stressful situations or fatigue.
- Chronic fluctuating symptoms may be treatment-resistant.

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1 Formerly known as Da Costa syndrome. Other archaic terms include: cardiac neurasthenia, cardiac neurosis, circulatory neurasthenia, disordered action of the heart (DAH), effort syndrome, hyperdynamic–adrenergic

circulatory state, hyperkinetic heart syndrome, irritable heart, neurocirculatory asthenia, soldier's heart, and vasoregulatory asthenia.

2 'Panic' derives from the Greek god Pan, who was in the habit of frightening humans and animals 'out of the blue'.

3 ICD-10 and DSM-5 specify that panic attacks in panic disorder are *unexpected*, and not *situational*. DSM-5 now includes 'Panic attack specifier' for the presence of panic symptoms associated with any other mental disorder (not just the anxiety disorders).

4 Kessler RC, Chiu WT, Jim R, *et al.* (2006) The epidemiology of panic attacks, panic disorder, and agoraphobia in the national comorbidity survey replication. *Arch Gen Psychiatry* **63**:415–24.

5 National Institute for Health and Care Excellence (2011) *Generalized anxiety disorder and panic disorder in adults: management*. NICE guidance [CG113]. https://www.nice.org.uk/guidance/cg113 [accessed 20 June 2018].

6 Baldwin DS, Anderson IM, Nutt DJ, *et al*. (2014) Evidence-based pharmacological treatment of anxiety disorders, post-traumatic stress disorder and obsessive-compulsive disorder: a revision of the 2005 guidelines from the British Association for Psychopharmacology. *J Psychopharmacol* **28**:403–39.

7 Literally 'fear of the marketplace' (Greek).

8 Kendler KS, Neale MC, Kessler RC, *et al*. (1992) The genetic epidemiology of phobias in women. The interrelationship of agoraphobia, social phobia, situational phobia, and simple phobia. *Arch Gen Psychiatry* **49**:273–81.

9 Marks IM (1969) *Fears and Phobias*. New York, NY: Academic Press.

10 Wolpe J (1973) *The Practice of Behaviour Therapy*, 2nd edn. New York, NY: Pergamon.

11 National Institute for Health and Care Excellence (2013) *Social anxiety disorder: recognition, assessment and treatment*. Clinical guideline [CG159]. https://www.nice.org.uk/guidance/cg159 [accessed 20 June 2018].

12 British Association for Psychopharmacology Guidelines (2014) *Evidence-based pharmacological treatment of anxiety disorders, post-traumatic stress disorder and obsessive-compulsive disorder: A revision of the 2005 guidelines from the British Association for Psychopharmacology*. https://www.bap.org.uk/pdfs/BAP_Guidelines-Anxiety.pdf [accessed 20 June 2018].

13 Suarez L, Bennett SM, Goldstein CM, *et al.* (2008) Understanding anxiety disorders from a 'triple vulnerability' framework. In: Antony MM, Stein MB (eds). *Handbook of Anxiety and Anxiety Disorders*, pp. 153–72. New York, NY: Oxford University Press.

14 NICE recommends SSRIs as first-line treatment (+ CBT) and does not recommend BDZs for >2–4wks. See: National Institute for Health and Care Excellence (2011) *Generalised anxiety disorder and panic disorder in adults: management*. Clinical guideline [CG113]. https://www.nice.org.uk/guidance/cg113 [accessed 20 June 2018].

15 Buspirone should be considered as an alternative to BDZs when sedative effects are unwanted (e.g. drivers of vehicles, pilots, machine operators), in patients with a personal/family history of drug misuse, or for those already taking other CNS depressants.

16 National Institute for Health and Care Excellence (2013) *Generalised anxiety disorder: quetiapine*. Evidence summary [ESUOM12]. https://www.nice.org.uk/advice/esuom12/chapter/Key-points-from-the-evidence [accessed 20 June 2018].

17 National Institute for Health and Care Excellence (2005) *Obsessive-compulsive disorder and body dysmorphic disorder: treatment*. Clinical

guideline [CG31]. https://www.nice.org.uk/guidance/CG31/chapter/1-Guidance [accessed 20 June 2018].

18 British Association for Psychopharmacology Guidelines (2014) https://www.bap.org.uk/pdfs/BAP_Guidelines-Anxiety.pdf [accessed 20 June 2018].

19 That is roughly the equivalent of five cups of instant coffee, three cups of freshly brewed coffee, six cups of tea, seven cans of Diet Coke, or six plain chocolate bars, i.e. some patients may already be augmenting themselves!

20 The first published descriptions of olfactory reference disorder (ORD) date back to the late 1800s. Also known as autodysomophobia and bromosis, the term ORD was first used in 1971 by Pryse-Phillips to describe the consistent phenomenology observed in a large patient case series of 137 patients (*Acta Psychiatr Scand* **47**:484–509). The world literature has been comprehensively reviewed by Begum and McKenna in 2011 (*Psychol Med* **41**:453–61). Not included in the DSM-5, ORD is being considered for inclusion in ICD-11 as an OCRD.

21 Also known as Diogenes syndrome (Personality problems, p. 555)—coined by Clark *et al*. (1975) but first described by MacMillan and Shaw (1966), the name derives from Diogenes of Sinope, an ancient Greek philosopher, a Cynic who allegedly lived in a large jar in Athens. It is a misnomer as Diogenes was not a hoarder and was known to venture out each day to the Agora. Other suggested synonyms include 'senile breakdown', 'Plyushkin's syndrome' (after a character from Gogol's Dead Souls), 'social breakdown', and 'senile squalor syndrome'.

22 Stein MB, Walker JR, Hazen AL, *et al*. (1997) Full and partial posttraumatic stress disorder: findings from a community survey. *Am J Psychol* **154**:1114–19.

23 Rose SC, Bisson J, Churchill R, Wessely S (2002) Psychological debriefing for preventing post traumatic stress disorder (PTSD). *Cochrane Database Syst Rev* **2**:CD000560.

24 Stroebe MS, Hanson RO, Stroebe W, *et al*. (eds) (2007) *Handbook of Bereavement Research and Practice: 21st Century Perspectives*. Washington, DC: American Psychological Association Press.

25 Results vary, e.g. in one study 16% of late-life widows had depression 13mths after bereavement. Zisook S, Paulus M, Shuchter SR, Judd LL (1997) The many faces of depression following spousal bereavement. *J Affect Disord* **45**:85–95.

26 National Institute for Health and Care Excellence (2005) *Post-traumatic stress disorder: management*. Clinical guideline [CG26]. http://www.nice.org.uk/CG26 [accessed 20 June 2018].

27 Bisson J, Ehlers A, Matthews R, *et al*. (2007) Systematic review and meta-analysis of psychological treatments for post-traumatic stress disorder. *Br J Psychiatry* **190**:97–104.

28 Stein DJ, Ipser JC, Seedat S (2006) Pharmacotherapy for posttraumatic stress disorder (PTSD). *Cochrane Database Syst Rev* **1**:CD002795.

29 ICD-11 'dissociative disorders' proposals include depersonalization–derealization disorder, dissociative neurological symptom disorder (conversion disorders), dissociative amnesia, trance disorder, possession trance disorder, dissociative identity disorder, and partial dissociative identity disorder.

30 Dangers of attributing present psychopathology to childhood events cannot be overstated, illustrated by high-profile cases of alleged 'recovered memories' (see Box.8.10). Unsubstantiated claims of childhood (or other) abuse should be regarded with caution, and the significance of childhood trauma, even in empirical studies, finds little support. See Pope HG (1997)

Psychology Astray: Fallacies in Studies of 'Repressed Memory' and Childhood Trauma. Boca Raton, FL: Upton.
31 As early as 1935, Mayer-Gross thought psychological explanations to be of 'limited value', seeing depersonalization as 'an unspecific preformed functional response of the brain'. Mayer-Gross W (1935) On depersonalization. *Br J Med Psychol* **XV**:103–26.
32 Medford N, Sierra M, Baker D, *et al*. (2005) Understanding and treating depersonalization disorder. *Adv Psychiat Treat* **11**:92–100.
33 https://www.docdroid.net/zIAJlG7/cds-state.pdf [accessed 20 June 2018].

Chapter 9

Eating and impulse-control disorders

Anorexia nervosa 1: overview

Essence

A condition most commonly seen in young women, in which there is marked distortion of body image, a pathological desire for thinness, and self-induced weight loss by a variety of methods. Significant mortality: 10–15% (2/3 physical complications, 1/3 suicide).

Epidemiology

♂:♀ = 1:10; mean age of onset: ♀ 16–17yrs (rarely >30yrs); ♂ ~12yrs. Incidence ~0.5% of adolescent and young women.

Prognosis

If untreated, this condition carries one of the highest mortality figures for any psychiatric disorder (10–15%). If treated, 'rule of thirds' (1/3 full recovery, 1/3 partial recovery, 1/3 chronic problems). Poor prognostic factors: chronic illness, late age of onset, bulimic features (vomiting/purging).

Diagnostic criteria (ICD-10)

- *Low body weight*—15% + below expected, BMI 17.5 or less (see Table 9.1).
- *Self-induced weight loss*—avoidance of 'fattening' foods, vomiting, purging, excessive exercise, use of appetite suppressants.
- *Body image distortion*—'dread of fatness': overvalued idea, imposed low weight threshold.
- *Endocrine disorders*—HPA axis, e.g. amenorrhoea, reduced sexual interest/impotence, raised GH levels, raised cortisol, altered TFTs, abnormal insulin secretion.
- *Delayed/arrested puberty*—if onset pre-pubertal.

Table 9.1 Body mass index (BMI)*

BMI is a ratio between weight and height and is more useful for predicting health risks than the weight alone (for adults aged 18+ yrs).

BMI = Weight (in kg)/height (in m)^2

Or

BMI = Weight (in pounds) × 704.5/height (in inches)^2

Women	Men	Interpretation	Risk to health
<19.1	<20.7	Underweight	The lower the BMI, the greater the risk
19.1–25.8	20.7–26.4	Ideal weight	Normal, very low risk
25.8–27.3	26.4–27.8	Marginally overweight	Some risk
27.3–32.2	27.8–31.1	Overweight	Moderate risk
32.3–44.8	31.1–45.4	Very overweight or obese	High risk
>44.8	>45.4	Morbidly obesity	Very high risk

Note: BMI is less reliable for: children and teenagers (ranges are based on adult heights), competitive athletes and bodybuilders (muscle weight may skew the results), pregnant or nursing women, and people over 65yrs.

* The formula for BMI was developed by the Belgian statistician Adolphe Quetelet in the nineteenth century and is sometimes referred to as the 'Quetelet's formula'.

Differential diagnosis

- Chronic debilitating physical disease, brain tumours.
- GI disorders (e.g. Crohn's disease, malabsorption syndromes).
- Loss of appetite (may be secondary to drugs, e.g. SSRIs).
- Depression/OCD (features of which may be associated).

Aetiology

- **Genetic** Concordance MZ:DZ = 65%:32%, ♀ siblings: 6–10%.
- **Adverse life events** No excess of childhood physical or sexual abuse (compared to psychiatric controls).
- **Psychodynamic models**:
  - *Family pathology*—enmeshment, rigidity, over-protectiveness, lack of conflict resolution, weak generational boundaries.
  - *Individual pathology*—disturbed body image (dietary problems in early life, parents' food preoccupation, poor sense of identity).
  - *Analytical model*—regression to childhood, fixation on the oral stage, escape from the emotional problems of adolescence.
- **Biological**:
  - *Hypothalamic dysfunction*—cause or consequence?

- *Neuropsychological deficits*—reduced vigilance, attention, visuospatial abilities, and associative memory (reversible).
- *Brain imaging*—CT: sulcal widening and ventricular enlargement (corrects with weight gain).

Atypical eating disorders (ICD-10)

- In >50% of eating disorder cases in the community, one or more of the key features may be absent, or all are present but to a lesser degree.[1]
- For atypical cases, the National Institute for Health and Care Excellence (NICE) recommends considering treatment for the eating disorder that it most closely resembles.[2]

Anorexia nervosa 2: physical consequences

(See Fig. 9.1 and Box 9.1.)

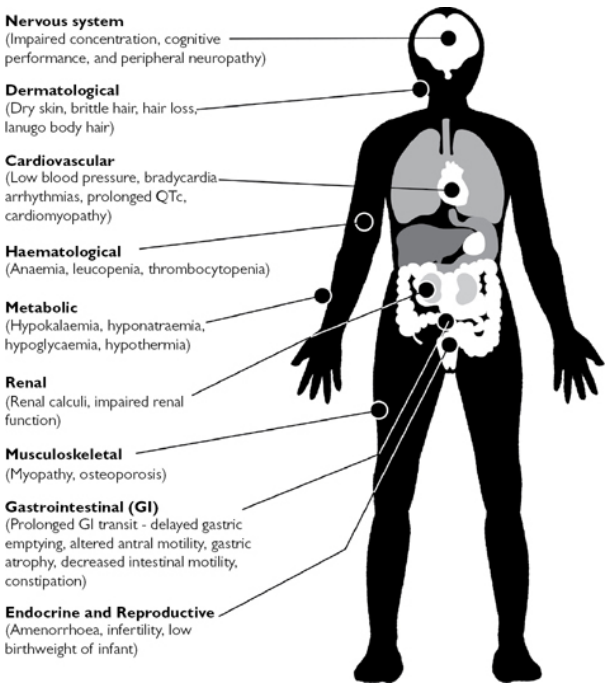

Fig. 9.1 Physical consequences of anorexia nervosa.

Cardiac complications

- The most common cause of death (mortality rate 7–10%).
- Findings may include:

- Significant bradycardia (30–40bpm) and hypotension (systolic <70mmHg).
- ECG changes (sinus bradycardia, ST-segment elevation, T-wave flattening, low voltage, and right axis deviation) may not be clinically significant, unless there are frequent arrhythmias (QT prolongation may indicate an ↑ risk for arrhythmias and sudden death).
- Echocardiogram may reveal a decreased heart size, decreased left ventricular mass (with associated abnormal systolic function), and mitral valve prolapse (without significant mitral regurgitation). These changes reflect malnutrition and are reversible.

Amenorrhoea

- Due to hypothalamic dysfunction (hypothalamic–pituitary–ovarian axis) with low levels of follicle-stimulating hormone (FSH) and LH, despite low levels of oestrogen [reversion to the pre-pubertal state occurs with LH response to gonadotrophin-releasing hormone (GnRH) blunted, leading to amenorrhoea].
- Consequences include reduced fertility, multiple small follicles in the ovaries, ↓ uterine volume, and atrophy.
- *Note:* weight loss, excessive exercise, and stress are also important. However, amenorrhoea can persist (in 5–44% of cases), even after recovery.

Osteopenia

Both cortical and trabecular bones are affected, and osteopenia persists despite oestrogen therapy. Contributing to bone loss are low levels of progesterone and ↓ insulin-like growth factor-1 (IGF-1) levels.

Treatment

- No specific treatment exists; however, 1000–1500mg/d of dietary calcium and 400IU of vitamin D are recommended to prevent further bone loss and maximize peak bone mass.
- Exercise and hormone replacement therapy (HRT), although of benefit in adult women, may be harmful for adolescents with anorexia nervosa (causing premature closure of bone epiphysis).

Box 9.1 Physical signs

- Loss of muscle mass
- Dry skin
- Brittle hair and nails
- Callused skin over interphalangeal joints (Russell sign)
- Pallor
- Hypercarotinaemia (yellow skin and sclera)
- Fine, downy, lanugo body hair
- Eroded tooth enamel
- Peripheral cyanosis

- Hypotension and postural hypotension
- Bradycardia
- Hypothermia
- Atrophy of the breasts
- Swelling of the parotid and submandibular glands
- Swollen, tender abdomen (intestinal dilatation due to reduced motility and constipation)
- Peripheral neuropathy

Anorexia nervosa 3: assessment

Full psychiatric history

(See Box 9.2.)

- Establish the context in which the problems have arisen (to inform the development of a treatment plan).
- Confirm the diagnosis of an eating disorder.
- Assess the risk of self-harm/suicide.

Box 9.2 Commonly reported psychiatric symptoms

- Concentration/memory/decision-making problems
- Irritability
- Depression
- Low self-esteem
- Loss of appetite
- Reduced energy
- Insomnia
- Loss of libido
- Social withdrawal
- Obsessiveness regarding food

Full medical history

- Focus on the physical consequences of altered nutrition (Anorexia nervosa 2: physical consequences, p. 412).
- Detail weight changes, dietary patterns, and excessive exercise.

Physical examination

- Determine weight and height (calculate BMI; see Table 9.1).
- Assess for physical signs of starvation and vomiting (see Box 9.1).
- Investigations (see Box 9.3) with special emphasis on high-risk findings (see Table 9.2).

Box 9.3 Investigations

- **FBC** Anaemia, thrombocytopenia, low white cell count (WCC), neutropenia
- **ESR** Investigate raised ESR as may indicate physical cause
- **U&Es, phosphate, magnesium, bicarbonate, LFTs** Raised urea and creatinine (dehydration), hyponatraemia,,

hypokalaemic/hypochloraemic metabolic alkalosis (from vomiting), metabolic acidosis (laxative abuse). Other abnormalities may include hypocalcaemia, hypophosphataemia, hypomagnesaemia, raised LFTs
- **Glucose** Hypoglycaemia (prolonged starvation and low glycogen stores)
- **TFTs** Low T_3/T_4, increased rT_3 (euthyroid sick syndrome—hormonal replacement not necessary; reverts to normal on refeeding)
- **ECG** Sinus bradycardia, raised QTc, signs of ischaemia, arrhythmias

Table 9.2 Physical risk assessment in anorexia nervosa

BMI	Low risk: 15–17.5 Medium risk: 13–15 High risk: <13
Rate of weight loss	>0.5kg per week = moderate risk >1.0kg per week = high risk
Vital signs	Low pulse (<40bpm risk) Low blood pressure (especially if symptomatic) Temperature(<35°C risk)
Blood tests	Low sodium (<130mmol/L: high risk) Low potassium (<3.0mmol/L: high risk) Raised transaminases Hypoglycaemia (blood glucose <3mmol/L) Raised urea or creatinine Low haemoglobin, neutrophils, platelets
ECG	Bradycardia (<40bpm risk) Raised QTc (>450ms risk), non-specific T-wave changes

Source: data from Treasure, J (2009) *A guide to the medical risk assessment for eating disorders*. Section of Eating Disorders at the Institute of Psychiatry and the Eating Disorders Unit at SLaM. Available at http://www.kcl.ac.uk/ioppn/depts/pm/research/eatingdisorders/resources/GUIDETOMEDICALRISKASSESSMENT.pdf [accessed: 4 Jul 2018].

Anorexia nervosa 4: management

General principles

- Most patients will be treated as outpatients.
- A combined approach is better:
  - *Pharmacological* Medication should not be used as sole treatment.
  - *Psychological* Anorexia nervosa-focused family therapy (indicated for children and young people); for adults, individual therapy, including adapted CBT (CBT-E),[3] up to 40 sessions.

- *Dietetic counselling* As part of multidisciplinary treatment.

Criteria for admission to hospital

(See Box 9.4 and Table 9.2.)

Box 9.4 RCPsych (2014) College Report (CR189) MARSIPAN (Management of Really Sick Patients with Anorexia Nervosa), second edition

- Written by the Royal College of Psychiatrists, the Royal College of Physicians, and the Royal College of Pathologists due to 'concerns that patients with severe anorexia nervosa were being admitted to general medical units and sometimes deteriorating and dying because of psychiatric problems, such as non-adherence to nutritional treatment, and medical complications, such as re-feeding syndrome. Sometimes overzealous application of National Institute for Health and Care Excellence (NICE) guidelines led to death from underfeeding syndrome'.
- Focuses on patients with a BMI of <15
- Contains guidance for clinicians on managing such patients

Source: data from http://www.rcpsych.ac.uk/files/pdfversion/CR189.pdf [accessed: 4 Jul 2018].

- Inpatient management may be necessary for patients with rapid or excessive weight loss, failure of outpatient treatment, severe electrolyte imbalance (e.g. hypokalaemia or hyponatraemia), serious physiological complications, e.g. temperature <36°C, fainting due to bradycardia—PR <40bpm) and/or marked postural drop in BP, cardiac complications, significantly raised LFTs, marked change in mental status due to severe malnutrition, psychosis, or significant risk of suicide.
- The location of any admission should be carefully considered—Management of really sick patients with anorexia nervosa (MARSIPAN) recommends that most patients with severe anorexia nervosa should be treated within a specialist eating disorder unit.
- Admission goals of inpatient therapy should be fully discussed with the patient (and their family) and may include:
  - Addressing physical and/or psychiatric complications.
  - Supporting the patient to manage eating-disordered behaviours and thoughts and supporting them to follow an agreed menu plan.

Refeeding syndrome

(See Box 9.5.)

- Characterized by severe electrolyte disturbances (principally low serum concentrations of phosphate, magnesium, and potassium) and metabolic abnormalities while undergoing refeeding, whether orally, enterally, or parenterally.

- Other clinical features include cardiac complications (heart failure, arrhythmias), renal impairment, and liver function abnormalities.
- Preventable, treatable, under-recognized; can be fatal.

Inpatient management

- If at high risk of refeeding syndrome, review or consult with professionals with expertise in this area (e.g. dietitian, eating disorder psychiatrist, physician with expertise in nutrition) to commence the patient on an appropriate menu plan (may start with lower calorie intake and increase over 10 days and be further adapted to reduce the risk of refeeding syndrome).
- If at high risk of refeeding syndrome, prescribe thiamine, Vitamin B Compound Strong, and a multivitamin, and consider daily bloods [full blood count (FBC), U&Es, LFTs, phosphate, magnesium, glucose) and ECGs for the first 10 days, reducing in frequency thereafter if within the normal range.
- If blood monitoring detects a reduction of phosphate, magnesium, and potassium serum levels, consider supplementation (in line with local guidance) and review dietetically.
- If signs of refeeding syndrome are detected, including electrolyte disturbances/cardiac symptoms or signs/ ECG changes, review medically and consult with senior medical colleagues with expertise in this area.

Box 9.5 Criteria for determining people at high risk of developing refeeding problems

Patient has one or more of the following:

- BMI <16kg/m^2
- Weight loss >15% within the last 3–6 months
- Little or no nutritional intake for >10 days
- Low levels of potassium, phosphate, or magnesium prior to feeding

Or patient has two or more of the following:

- BMI <18.5kg/m^2
- Weight loss >10% within the last 3–6 months
- Little or no nutritional intake for >5 days
- History of alcohol abuse or drugs, including insulin, chemotherapy, antacids, or diuretics

Source: data from NICE Clinical Guideline (CG32) *Nutrition support for adults: oral nutrition support, enteral tube feeding and parenteral nutrition*. Feb 2006. https://www.nice.org.uk/guidance/cg32 [accessed: 4 Jul 2018].

Bulimia nervosa

Essence

Characterized by recurrent episodes of binge eating, with compensatory behaviours and overvalued ideas about ‘ideal’ body

shape and weight. Often there is a past history of anorexia nervosa (30–50%) and body weight may be normal.

Epidemiology

Incidence 1–1.5% of women, mid-adolescent onset, and presentation in early 20s.

Aetiology

Similar to anorexia nervosa, but also evidence for associated personal/family history of obesity and family history of affective disorder and/or substance misuse. Possible 'dysregulation of eating', related to serotonergic mechanisms [possible supersensitivity of 5-hydroxytryptamine 2C (5-HT_{2C}) due to ↓5-HT].

Prognosis

Generally good, unless there are significant issues of low self-esteem or evidence of a severe personality disorder.

Diagnostic criteria (ICD-10)

- Persistent preoccupation with eating (see Box 9.6).
- Irresistible craving for food.
- 'Binges'—episodes of overeating (see also Box 9.7).
- Attempts to counter the 'fattening' effects of food (self-induced vomiting, abuse of purgatives, periods of starvation, use of drugs, e.g. appetite suppressants, thyroxine, diuretics).
- Morbid dread of fatness, with imposed 'low weight threshold'.

Box 9.6 The SCOFF questions

Useful as a screening tool for eating disorders in primary care. Sensitivity is low, and a score of 2+ 'yes' answers indicates that a further, more detailed history is indicated, before considering treatment or referral.

- Do you make yourself Sick because you feel uncomfortably full?
- Do you worry you have lost Control over how much you eat?
- Have you recently lost more than One stone in a 3-month period?
- Do you believe yourself to be Fat when others say you are too thin?
- Would you say that Food dominates your life?

Reprinted from Morgan JF, Reid F, and Lacey JH (1999) The SCOFF questionnaire: assessment of a new screening tool for eating disorders. *Br Med J* **319**: 1467–8 with permission from the BMJ Publishing Group Ltd.

Box 9.7 Binge eating disorder (DSM-5; ICD-11)

Increasingly recognized as a diagnosis, although not in ICD-10.

- Recurrent episodes of binge eating (1+/week) without compensatory behaviours of bulimia and 3+ of: eating more rapidly; eating until uncomfortably full; eating large amounts

when not hungry; eating alone due to embarrassment; feeling disgusted, depressed, or guilty after
- Treat with guided self-help and up to 20 sessions of adapted CBT (CBT-E, Anorexia nervosa 4: management, p. 416)

Physical signs

- May be similar to anorexia nervosa (Anorexia nervosa 2: physical consequences, p. 412), but less severe.
- Specific problems related to 'purging' include:
  - Arrhythmias.
  - Cardiac failure (sudden death).
  - Electrolyte disturbances [↓K^+, ↓Na^+, ↓Cl^-, metabolic acidosis (laxatives) or alkalosis (vomiting)].
  - Oesophageal erosions.
  - Oesophageal/gastric perforation.
  - Gastric/duodenal ulcers.
  - Pancreatitis.
  - Constipation/steatorrhoea.
  - Dental erosion.
  - Leucopenia/lymphocytosis.

Investigations

As for anorexia nervosa (Anorexia nervosa 3: assessment, p. 414).

Differential diagnosis

- Upper GI disorders (with associated vomiting).
- Brain tumours.
- Other mental disorders, e.g. personality disorder, depression, OCD.
- Drug-related ↑ appetite (Weight gain with psychiatric medication, p. 1000).
- Other causes of recurrent overeating (e.g. menstrual-related syndromes, Menstrual-related disorders, p. 488; Kleine–Levin syndrome, Hypersomnia 3: other causes, p. 452).

Comorbidity

- Anxiety/mood disorder.
- 'Multiple dyscontrol behaviours', e.g. cutting/burning, overdose, alcohol/drug misuse, promiscuity, other impulse disorders (Impulse-control disorders 1, p. 422; Impulse-control disorders 2, p. 424; Impulse-control disorders 3, p. 428).

Treatment

- **General principles**:
  - Full assessment (as for anorexia nervosa, Anorexia nervosa 3: assessment, p. 414).
  - Usually managed as an outpatient. Admission for suicidality, physical complications, extreme refractory cases, or if pregnant.
  - Combined approaches improve outcome.
- **Pharmacological**:
  - Medication should not be used as sole treatment.
  - Most evidence for high-dose SSRIs (fluoxetine 60mg).
- **Psychotherapy**:
  - Guided self-help as a first step; CBT adapted for eating disorders (CBT-E, Anorexia nervosa 4: management, p. 416), up to 20 sessions.
  - Family therapy for children and young people.

Impulse-control disorders 1

Impulse-control disorders (ICDs)[4] are disorders in which a person acts on a certain impulse that is potentially harmful, but to which they cannot resist. There is usually an increasing sense of arousal or tension prior to committing or engaging in the act and an experience of pleasure, gratification, or release of tension at the time of committing the act (unlike OCD where acts are not in themselves pleasurable). DSM-5's 'Disruptive, impulse-control, and conduct disorders' now includes: oppositional defiant disorder, intermittent explosive disorder, conduct disorder, antisocial personality disorder, pyromania, and kleptomania. Gambling disorder is moved to the 'Substance-related and addictive disorders' section, and trichotillomania and excoriation disorder are in a new 'Obsessive-compulsive and related disorders' category. ICD-11 follows similar lines but retains pyromania, kleptomania, and intermittent explosive disorder within 'Impulse control disorders', with the addition of compulsive sexual behaviour disorder (CBSD). Gambling disorder moves to 'Disorders due to addictive behaviours', with a new category—gaming disorder. (See Box 9.8.)

Pathological fire-setting/pyromania (ICD-10/11; DSM-5)

Multiple episodes of deliberate, purposeful fire-setting, leading to property damage, legal consequences, and injury or loss of life. Rare in children; more common in male adolescents, particularly those with poor social skills and learning difficulties.

Clinical features

- Tension or affective arousal before the act.
- Fascination with, interest in, or attraction to fire and its situational contexts.

- Pleasure, gratification, or relief when setting fires or when witnessing or participating in the aftermath.
- Evidence of advance preparation.
- Indifference to consequences on property or life.
- Not for financial gain, to express sociopolitical ideology, to conceal criminal activity, as an expression of anger or vengeance, to improve one's living circumstances, due to delusions or hallucinations, or as a result of impaired judgement.

Differential diagnosis Conduct disorder, ADHD, adjustment disorder, other major affective or psychotic disorder.

Comorbidity Substance misuse, past history of sexual or physical abuse, antisocial personality disorder.

Treatment Should address any underlying or comorbid psychiatric disorder. Psychotherapeutic intervention may be helpful (e.g. CBT).

Pathological stealing/kleptomania (ICD-10/11; DSM-5)

Failure to resist impulses to steal items that are not needed for their personal use or monetary value. Usually women, mean age 36yrs, mean duration of illness 16yrs (often childhood onset). ~5% of stealing in the United States (USA).

Clinical features

- Recurrent failure to resist impulses to steal objects that are not needed for personal use or their monetary value.
- Increasing sense of tension immediately before committing the theft.
- Pleasure, gratification, or relief at the time of committing the theft.
- The stealing is not committed to express anger or vengeance and is not in response to a delusion or a hallucination.
- The stealing is not better accounted for by a conduct disorder, a manic episode, or an antisocial personality disorder.

Differential diagnosis Shoplifting (usually well-planned, motivated by need or financial gain), antisocial personality disorder, OCD, depression.

Comorbidity Eating disorders, substance abuse, depression. May be precipitated by major stressors (e.g. loss events).

Treatment SSRIs (e.g. fluoxetine); psychotherapy (e.g. CBT, family therapy).

Intermittent explosive disorder (DSM-5; ICD-11)

DSM-5 (and now ICD-11) recognizes intermittent explosive disorder (IED) in individuals who have extreme explosive behaviours out of proportion to the actual trigger (e.g. a person who feels insulted by a coworker may go into the lunch area, rip down cabinets, throw the chairs, and only later feel guilty and embarrassed). Life prevalence 2–11%; occurs most often in young men. Episodes are typically infrequent [unlike ICD-10's emotionally unstable personality disorder (EUPD)-impulsive subtype] and last 20min or less. Associated symptoms: tingling, tremor, palpitations, chest tightness, head pressure, hearing an echo.

Clinical features

- Several discrete episodes of failure to resist aggressive impulses that result in serious assaultive acts or destruction of property.
- The degree of aggressiveness expressed during the episodes is grossly out of proportion to any precipitating psychosocial stressors.
- Not due to another disorder or substance use.

Differential diagnosis ADHD, bipolar disorder, conduct disorder, personality disorder (antisocial), oppositional defiant disorder.

Treatment Evaluate and treat comorbid disorders. IED is challenging to treat, and most efforts are focused on minimizing aggression. There is some evidence for the use of mood stabilizers (lithium, semisodium valproate, maybe carbamazepine), phenytoin, SSRIs, β-blockers (especially if brain injury is present), α2-agonists (clonidine), and antipsychotics.

Impulse-control disorders 2

Pathological gambling disorder (ICD-10)/gambling disorder (DSM-5; ICD-11)

Persistent and recurrent maladaptive patterns of gambling behaviour that may lead to significant personal, family, and occupational difficulties.[5] The disorder is felt to start in adolescents where the prevalence is 4–7%. Prevalence in adults is reported to be around 1–3%, whereas around 80% of the general population consider themselves 'recreational gamblers'.

Diagnostic criteria

- Preoccupation with gambling (thinking of past gambling experiences, planning the next experience, or thinking of ways to get money to gamble).
- Needing to gamble with larger amounts of money to get the same feeling of excitement.
- Unsuccessful attempts to stop gambling or to cut down.
- Restlessness or irritability when trying to cut down or stop gambling.
- Gambling to escape from problems or to relieve feelings of anxiety, depression, or guilt.
- Chasing losses (return after losing to get even).
- Lying to family or friends about gambling.
- Committing illegal acts to finance gambling.
- Has lost or jeopardized a significant relationship, job, career, or educational opportunities because of gambling.
- Relies on family or friends for money to relieve financial problems caused by gambling.
- The gambling behaviour is not better accounted for by a manic episode.

Box 9.8 The rise of 'behavioural addiction'

'Addiction' is not a unitary construct but incorporates a number of features, including: repetitive engagement in behaviours that are

rewarding (at least initially), loss of control, persistence despite negative functional consequences, and physical dependence (The dependence syndrome, p. 574). Whether certain disorders, characterized by maladaptive, repetitive behaviours, such as kleptomania, compulsive sexual behaviour, trichotillomania (hair pulling disorder), skin picking disorder, gambling disorder, and gaming disorder, should be regarded as 'behavioural addictions', 'impulse-control disorders', or 'compulsive behaviour disorders' remains controversial. The myriad of other proposed specific 'behavioural addictions' (e.g. food, sex, porn, the Internet, mobile phones, work, exercise, shopping, plastic surgery, tanning, dancing) is overwhelming. Most commentators agree that research into the aetiology, phenomenology, comorbidity, neurobiology, and treatment of such conditions is the only way to meaningfully settle such issues and to lay the foundations for future diagnostic classification systems.

Comorbidity Highly comorbid with mood disorders (both depression and bipolar), substance abuse or dependence. Other associations seen with ADHD, other impulse-control disorders, and personality disorders (especially cluster B DSM-5).

Treatment Exclusion and treatment of any comorbid psychiatric disorder. Proposed specific treatments to control addictive behaviour include SSRIs (e.g. fluoxetine, fluvoxamine, paroxetine, citalopram), lithium, clomipramine, and naltrexone. CBT may also help reduce preoccupation with gambling.

Trichotillomania (ICD-10/11; DSM-5)

Recurrent pulling of one's own hair, exacerbated by stress or relaxation (e.g. reading, watching TV).[6,7] Feelings of tension are relieved by pulling hair. Usually involves the scalp but may include eyelashes, eyebrows, axillae, and pubic and any other body regions. In children, ♀ = ♂, often with a limited course. In adults, ♀ (3.4%) > ♂ (1.5%), with a chronic or episodic course. Lifetime prevalence rate of 1–2%.

Clinical features

- Recurrent pulling out of one's hair, resulting in noticeable hair loss.
- An increasing sense of tension immediately before pulling out the hair or when attempting to resist the behaviour.
- Pleasure, gratification, or relief when pulling out the hair.
- The disturbance is not better accounted for by another mental disorder and is not due to a general medical condition (e.g. a dermatological condition).
- The behaviour causes clinically significant distress or impairment in social or occupational functioning.

Associated features Examining hair root, pulling strands between teeth, trichophagia (eating hairs), nail biting, scratching,

gnawing, excoriation.

Differential diagnosis OCD, psychotic disorder (e.g. delusional parasitosis, tactile hallucinations/formication), Tourette's syndrome, pervasive developmental disorder (e.g. autism), stereotyped behaviour, body dysmorphic disorder, factitious disorder.

Comorbidity OCD, excoriation disorder, depressive disorder, generalized anxiety disorder, personality disorder.

Treatment Address any comorbid disorder. Treat any secondary medical complications (e.g. infection). CBT/behavioural modification (substitution, positive/negative reinforcement) is key to treatment. There is some evidence for the use of SSRIs, clomipramine, pimozide, risperidone, and lithium.

Excoriation (skin picking) disorder (DSM-5; ICD-11)[7]

Recurrent skin picking resulting in skin lesions, associated with repeated attempts to decrease or stop behaviour, significant distress or impairment of social/occupational/or other areas of functioning. Not due to use of substances, a medical condition, or other mental disorder (e.g. delusions or tactile hallucinations in a psychotic disorder, attempts to improve a perceived defect or flaw in appearance in body dysmorphic disorder, stereotypies in stereotypic movement disorder, or intention to harm oneself in non-suicidal self-injury). In general population, ♀:♂ 3:1, with 1–1.4% lifetime prevalence. More common in individuals with OCD and their first-degree relatives.

Differential diagnosis/comorbidity/treatment

As for trichotillomania (Trichotillomania (ICD-10/11; DSM-5), p. 425)

Course Usual onset during adolescence, may begin with a dermatological condition such as acne. Sites of skin picking may vary over time. Course is chronic, with some waxing and waning if untreated.

Impulse-control disorders 3

Gaming disorder (ICD-11)[8]

Classified under 'Disorders due to addictive behaviours' in ICD-11, together with gambling disorder, gaming disorder is characterized by a pattern of persistent or recurrent gaming behaviour ('digital gaming' or 'video-gaming'), which may be online (i.e. over the Internet) or offline. Current epidemiological studies estimate prevalence as ~1–27%, but there are marked differences in diagnostic methods used and populations studied—more research is definitely needed.

Diagnostic criteria

- Impaired control over gaming (e.g. onset, frequency, intensity, duration, termination, context);
- Increasing priority given to gaming, to the extent that gaming takes precedence over other life interests and daily activities; and

- Continuation or escalation of gaming despite the occurrence of negative consequences.
- The behaviour pattern is of sufficient severity to result in significant impairment in personal, family, social, educational, occupational, or other important areas of functioning.
- The pattern of gaming behaviour may be continuous or episodic and recurrent. The gaming behaviour and other features are normally evident over a period of at least 12 months in order for a diagnosis to be assigned, although the required duration may be shortened if all diagnostic requirements are met and symptoms are severe.

Comorbidity Depression, ADHD, alcohol misuse, anxiety, and lack of psychosocial supports.

Treatment Address any comorbid disorder. Counselling and CBT/behavioural modification are key to specific interventions. Some evidence for use of bupropion. Self-help (12-Step Programme) such as through On-line Gamers Anonymous (http://www.olganon.org/home).

Compulsive sexual behaviour disorder (ICD-11)

Grouped with the other 'Impulse control disorders' in ICD-11, CSBD is characterized by 'a persistent pattern of failure to control intense, repetitive sexual impulses or urges resulting in repetitive sexual behaviour.'[9] Community prevalence is estimated at ~2% in young adults, but more research is needed into the aetiology and management.

Diagnostic criteria

- Repetitive sexual activities becoming a central focus of the person's life to the point of neglecting health and personal care or other interests, activities, and responsibilities.
- Numerous unsuccessful efforts to significantly reduce repetitive sexual behaviour.
- Continued repetitive sexual behaviour despite adverse consequences or deriving little or no satisfaction from it.
- The pattern of failure to control intense sexual impulses or urges and resulting repetitive sexual behaviour is manifested over an extended period of time (e.g. 6 months+) and causes marked distress or significant impairment in personal, family, social, educational, occupational, or other important areas of functioning.
- Distress that is entirely related to moral judgements and disapproval about sexual impulses, urges, or behaviours is not sufficient to meet this requirement.

Important exclusions

- High sex drive without impaired control, distress, or impairment.
- High levels of sexual interest and/or behaviour in adolescents.
- Psychological distress regarding one's sexuality.
- Self-reported 'sex addiction'/'porn addiction' where behaviours are secondary to other psychological problems (e.g. anxiety, depression).

- Behaviours symptomatic of mental disorder (e.g. bipolar disorder, ID).
- Behaviours due to a medical condition (e.g. dementia/brain injury), medication (e.g. treatment of Parkinson's disease), or illicit substances.

Comorbidity Depressive and anxiety symptoms, high levels of stress, low self-esteem, social anxiety disorder, ADHD, compulsive buying, pathological gambling, and kleptomania.

Treatment Psychodynamic therapy and CBT have shown benefit, combined with group, family, or couple's therapy. Limited evidence for pharmacotherapy—SSRIs (e.g. citalopram) may reduce sexual desire, with possible naltrexone augmentation. Support groups [e.g. Sex Addicts Anonymous (SAA), http://saauk.info/en/) offer a 12-Step program].

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1 Fairbairn CG, Cooper Z (2007) Thinking afresh about the classification of eating disorders. *Int J Eat Disord* **40**(Suppl):S107–10.

2 National Institute for Health and Care Excellence (2017) *Eating disorders: recognition and treatment*. NICE guideline [NG69]. https://www.nice.org.uk/guidance/ng69 [accessed 4 July 2018].

3 CBT-Enhanced (CBT-E) and was developed by Christopher G Fairburn in the 1970s and 1980s, originally specifically for bulimia nervosa, but later for all eating disorders. The approach deals with both eating habits and other issues that do not directly involve eating (see Fairburn CG (2008) *Cognitive behavior therapy and eating disorders*. New York, NY: Guilford Press).

4 Dell'Osso B, Altamura AC, Allen A, *et al*. (2006) Epidemiologic and clinical updates on impulse control disorders: a critical review. *Eur Arch Psychiatry Clin Neurosci* **256**:464–75.

5 Grant J, Potenza E, Marc N (2004) Impulse control disorders: clinical characteristics and pharmacological management. *Ann Clin Psychiatry* **16**:27–34.

6 Walsh KH, McDougle CJ (2001) Trichotillomania: presentation, etiology, diagnosis and therapy. *Am J Clin Dermatol* **2**:327–33.

7 Stein DJ, Grant JE, Franklin ME, *et al*. (2010) Trichotillomania (hair pulling disorder), skin picking disorder, and stereotypic movement disorder: toward DSM-V. *Depress Anxiety* **27**:611–26.

8 van Rooij AJ, Ferguson CJ, Colder Carras M, *et al.* (2018) A weak scientific basis for gaming disorder: Let us err on the side of caution. *J Behav Addict* **7**:1–9.

9 Walton MT, Bhullar N (2018) Compulsive sexual behavior as an impulse control disorder: awaiting field studies data. *Arch Sex Behav* **47**:1327–31.

Chapter 10

Sleep–wake disorders

Introduction

Disorders of sleep and wakefulness are a somewhat marginalized concern to most psychiatrists, which belies the advances that have taken place in sleep research in recent decades and their relevance to psychiatric training and practice. This is partly due to the fact that sleep research had focused on the physical causes of insomnia, such as obstructive sleep apnoea (OSA) (Sleep-related breathing disorders, p. 444)—which is more the remit of respiratory physicians—or the neurological presentations, such as narcolepsy—which have yielded interesting genetic and neurobiological findings (Hypersomnia 2: narcolepsy, p. 450). Having ventured down the cul-de-sac of dream/psychosis research in the 1960s and 1970s, few psychiatric units in the UK or Ireland still have facilities

to conduct inpatient sleep monitoring. As a result, we have to rely on good relations with our physician colleagues in order to appropriately investigate possible sleep–wake disorders (→ A brief history of sleep research, p. 434).

Relevance to psychiatric practice

Aside from the common-sense notion that 'getting a good night's sleep' is good for both physical and mental health (see Box 10.1), it is vital that mental health professionals understand the effects that mental disorder and treatment may have on the normal sleep–wake cycle (→ Sleep–wake disorders related to psychiatric disorders 1, p. 478; → Sleep–wake disorders related to psychiatric disorders 2, p. 480; → Psychiatric medication and sleep, p. 482). Perhaps even more important is the need to recognize that disorders of sleep and wakefulness may themselves manifest bizarre and difficult-to-explain psychiatric symptoms, such as hypnic hallucinations and REM sleep behaviour, which ought not to be labelled as 'psychotic' in nature (→ Parasomnias: overview, p. 458 for cautionary notes). Psychiatrists also should be aware of the principles of good sleep hygiene (→ Insomnia 2: general management strategies, p. 442) and not always be reaching for the prescription pad to sort out sleeping difficulties!

The International Classification of Sleep Disorders

In 2014, the American Academy of Sleep Medicine (AASM) published a third revision of its International Classification of Sleep Disorders (ICSD-3), replacing ICSD-2 (2005). While ICSD-3 is intended for use by sleep experts, in this chapter, we have adhered to the structure laid out in ICSD-3 for the clinical syndromes (→ ICSD-3 groupings (and DSM-5 equivalents), see below), rather than the much broader categories of ICD-10 or the older versions of DSM (→ F50–F59 Behavioural syndromes associated with physiological disturbance and physical factors, p. 1102), as this provides a more valid way of conceiving the disorders. A similar approach has been taken in DSM-5, and ICD-11 will follow suit (moving 'Sleep–wake disorders' out of 'Mental and behavioural disorders' and into a section of their own).

ICSD-3 groupings (and DSM-5 equivalents)

1. Insomnias (Insomnia disorder).
2. Sleep-related breathing disorders (Breathing-related sleep disorders).
3. Central disorders of hypersomnolence (Hypersomnolence disorder/narcolepsy).

4. Circadian rhythm sleep–wake disorders (Circadian rhythm sleep–wake disorders).
5. Parasomnias (Parasomnias).
6. Sleep-related movement disorders (DSM-5: no specific category—Parasomnias/other specified sleep–wake disorder).
7. Other sleep disorders (Other specified sleep–wake disorder).

There are also two appendices for 'Sleep-related medical and neurological disorders' and 'ICD-10-CM coding for substance-induced sleep disorders'.

ICD-11 proposals give 'Sleep–wake disorders' their own separate section, but the groupings are almost identical to DSM-5.

Box 10.1 Sleep deprivation—the cost of not getting a good night's sleep

The critical importance of sleep to good health and life is dramatically illustrated in the classic animal studies of Rechtschaffen *et al*. (1989).[1] Total sleep deprivation resulted in the death of all rats within 2–3wks. Selective deprivation of NREM and REM sleep also resulted in the death of the animals, but over a slightly longer period of time. With progressive sleep deprivation, the rats became hypermetabolic, lost weight despite increasing food intake, and developed skin lesions and erosions of the GI tract, with hypothermia developing just prior to death. Subsequent investigation found that these rats died of sepsis, suggesting that sleep deprivation may impair the ability of the immune system to deal with infection.[2]

This is an important finding, as it is known that sleep-deprived critically ill patients in ICUs often succumb to sepsis. Although it is not ethical to study prolonged sleep deprivation in humans, there is now a large body of accumulated knowledge documenting the adverse consequences of short term, total, or partial sleep deprivation on human learning, mood, risk of psychosis, behaviour, performance, the autonomic nervous system, and organ system functioning. Deviations from normal sleep have been shown to increase mortality rates in patients with cancer and the incidence of cardiovascular diseases (e.g. coronary artery disease, hypertension, arrhythmias), diabetes, and obesity.[3] PET studies have found that individuals deprived of sleep for 24hrs have ↓ perfusion in the prefrontal and parietal association areas—areas important for judgement, impulse control, attention, and visual association. Operator fatigue due to sleep deprivation has been implicated in disasters, including the Exxon Valdez oil spill, the nuclear meltdown at Three Mile Island, the Chernobyl nuclear accident, and the Space Shuttle Challenger explosion. It is also estimated that 1 in 6 fatal car crashes and >200,000 workplace-based accidents in the USA annually can be attributed to sleep deprivation, with an economic cost of US$31.1 billion.[4]

1 Rechtschaffen A, Bergmann BM, Everson CA, *et al.* (1989) Sleep deprivation in the rat: X. Integration and discussion of the findings. *Sleep* **12**:68–87.

2 Everson CA (1993) Sustained sleep deprivation impairs host defense. *Am J Physiol* **265**:R1148–54.

3 Tobaldini E, Costantino G, Solbiati M, *et al.* (2016) Sleep, sleep deprivation, autonomic nervous system and cardiovascular diseases. *Neurosci Biobehav Rev* **74**(Pt B):321–9.

4 Shahly V, Berglund PA, Coulouvrat C, *et al.* (2012) The associations of insomnia with costly workplace accidents and errors results from the America Insomnia Survey. *Arch Gen Psychiatry* **69**:1054–63.

A brief history of sleep research

> 'More has been learned about sleep in the last 60 years than in the past 6000.'
>
> Allan Hobson (1989)[1]

Sleep has forever fascinated humankind. Dreams were important to many ancient cultures,[2] and an interest in the nature of sleep is seen in the Greek writings of Alcmaeon (*c.*500 BC), Aristotle, and Hippocrates (*c.*300 BC). Many religious texts and poetic works speak of the importance of sleeping well and the prophetic nature of dreams.

It was not until the early seventeenth century that scientific theories of sleep re-emerged. Descartes espoused a hydraulic model of sleep, in which the pineal gland played the gatekeeper role between sleep and alertness. Thomas Willis, one of the fathers of neurology, wrote about sleep, sleepwalking, insomnia, and the effects of caffeine in *The Practice of Physick* (1692). In 1762, Albrecht von Haller, the father of modern physiology, theorized on the physiology of sleep in his *Elementa Physiologiae Corporis Humani*.

In the nineteenth century, there were four primary theories of sleep: vascular, chemical, neural, and behavioural. In *The Philosophy of Sleep* (1830), the Scottish physician Robert MacNish advocated the Greek idea that congestive blood flow caused sleep; however, the observations of reduced CBF (in retinal arteries and direct viewing of the brain) during sleep by a number of physicians, including the German physiologist Johann Friedrich Blumenbach, appeared to contradict the older theories. Aristotelian ideas of sleep-inducing, food-related 'fumes' led to chemical theories of substances accumulating during wakefulness, inducing sleep. A number of primary 'toxins' were suggested, including lactic acid, carbon dioxide, 'urotoxins', ↓ oxygen, and 'leucomaines' (proposed by the Belgian botanist Leo Errera). When Camillo Golgi demonstrated the nerve cell in 1873, a variety of different neural theories of sleep arose. In 1889, the neurologist Charles-Édouard

Brown-Séquard wrote of sleep as an 'inhibitory reflex'. The activity of sleep was seen as another type of behaviour, described by the Russian physician Marie de Manaceine in 1897 as the 'resting state of consciousness' and investigated by behaviourists, including Ivan Pavlov.

Interest in specific disorders of sleep and wakefulness truly began when, in 1880, Jean-Baptiste-Édouard Gélineau described 14 cases of hypersomnia, distinguished primary from secondary hypersomnia, and coined the term 'narcolepsy' (Greek: 'seized by somnolence'). In 1902, Loewenfeld noticed a common association between sleep attacks and paralysis during bouts of laughter, anger, or other strong emotions. This was referred to as 'cataplectic inhibition' by Henneberg in 1916 and later as 'cataplexy' (Greek: 'stupefaction' or literally 'strike down') by Adie in 1926. The term 'sleep paralysis'—a brief episodic loss of voluntary movement that occurs on falling asleep or awakening—was introduced by Wilson in 1928, although Mitchell had previously described the phenomenon as 'night palsy' as early as 1876.

In 1903, the work of Cajal and Tello on the morphological changes in reptilian brains during hibernation led to a renewed interest in neuronal theories of sleep. These culminated in von Economo's work on patients dying from encephalitis lethargicans, following the 1917 epidemic. The idea that there were centres in the brain that controlled sleep caught the imagination of neuroscientists, focused attention on the hypothalamus, and laid the foundations for further neurophysiological and neuropathological research.

In 1924, Berger succeeded in recording the first human EEG. Filled with doubt, it took him 5yrs to publish his first paper in 1929, but he was the first to show that cerebral electrical activity was different during sleep than arousal. It took some time for the EEG to be accepted, but, in 1937, Loomis documented the slow-wave EEG patterns of non-REM (NREM) sleep [slow-wave sleep (SWS)]. The major breakthrough came in 1949 when Moruzzi and Magoun first investigated the neural components regulating the brain's sleep–wake mechanisms, discovering the relationship between the reticular formation [reticular activating system (RAS)] and EEG activation during transitions between sleep and wakefulness.

This was followed in 1953 by Kleitman and Aserinsky publishing a paper in *Science* that described the REM stage of sleep and proposed a correlation with dreaming. With his student, Dement, Kleitman also described the 'typical' architecture of sleep in 1957. Dement went on to show that REM sleep was characterized by a characteristic desynchronized, 'active' pattern, a finding confirmed by Jouvet in 1959. Jouvet described the controlling centres in the brainstem, clarified the role of the pontine centres, and, in 1962, presented a clear neurophysiological framework for the generation of REM sleep with associated muscle atonia.

The first specific treatment for a sleep disorder came in 1959 when Yoss and Daly used methylphenidate (Ritalin®) to treat narcolepsy, and in 1965, Oswald and Priest began using the sleep laboratory to evaluate sleeping pills. Also in 1965, Gastaut and

colleagues in Marseilles and Jung and Lugaresi in Bologna independently described obstructive sleep apnoea (OSA) and a variety of surgical treatments were proposed.

The publication of Rechtschaffen and Kale's *Manual of Standardized Terminology, Techniques and Scoring System for Sleep Stages of Human Subjects* in 1968, the identification of the suprachiasmatic nuclei (SCN) as the site of the biological clock in 1971, the first formal classification of sleep disorders in 1979, and the introduction of continuous positive airway pressure (CPAP) to treat OSA by Sullivan and colleagues in 1981 were all significant advances in the diagnosis, treatment, and neurobiology of specific sleep disorders and set the stage for the next generation of sleep researchers.

Normal sleep: stages and cycles

Sleep normally follows a typical pattern of stages and cycles that can be objectively measured using electroencephalography (EEG) (see Fig. 10.1).[3,4]

Non-REM sleep stages

N1 (light sleep)[5] As wakefulness declines, posterior α activity (8–13Hz) disappears, with slow θ (4–7Hz) and δ (0.5–2Hz) activity emerging, plus occasional vertex waves. This stage lasts only a few minutes but may recur briefly during the night during sleep stage transitions or following body movements. Sudden twitches and hypnic jerks may be associated with the onset of sleep during N1. Hypnagogic hallucinations may also be experienced during this stage. During N1, there is loss of some muscle tone and most conscious awareness of the external environment.

N2 Characterized by sleep spindles (0.5s-phase fast activity, maximal at the vertex), ranging from 11 to 16Hz (most commonly 12–14Hz) and K-complexes (symmetrical high-voltage vertex waves) that arise both spontaneously and in response to sudden stimuli. During this stage, muscular activity, as measured by electromyography (EMG), decreases and conscious awareness of the external environment disappears. This stage occupies 45–55% of total sleep in adults. This lasts 15–30min, followed by the gradual appearance of high-voltage waves (>75μV) in the delta range in a semi-symmetrical distribution over both hemispheres, occupying <20% of the EEG recording.

N3 (deep or SWS) Defined by the presence of a minimum of 20% δ waves (0.5–2Hz; peak-to-peak amplitude >75μV). This is the stage in which parasomnias, such as night terrors, nocturnal enuresis, sleepwalking, and somniloquy, occur. Other texts may still describe stage 3 sleep (S3) with 20–50% δ waves, and stage 4 sleep (S4) with >50% δ waves; these have officially been combined as stage N3[3]. N3 lasts 30–45min, before reversion to N2.

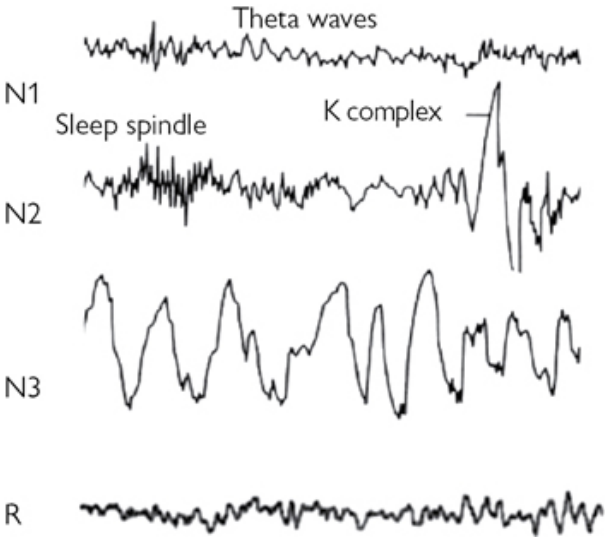

Fig. 10.1 Sleep stages: characteristic EEG traces.

REM sleep (stage R)

The end of the first sleep cycle is marked by a brief period of arousal before the onset of REM sleep. This has characteristic low-voltage, desynchronized EEG activity, with associated muscle atonia (paralysis may be necessary to protect organisms from self-damage through physically acting out scenes from the often vivid dreams that occur during this stage) and episodic REMs. Occasional bursts of EMG activity (myoclonia) may be seen in association with the phasic eye movements. There are no sleep spindles or K-complexes. and α activity is rarely seen.

Sleep cycles

A typical night's sleep has four or five cycles of these sequential stages, each lasting 90–110min (see Fig. 10.2). As the night progresses, the amount of time spent in δ sleep decreases, with consequent increase in REM sleep. Hence, the first REM period may last 5–10min, while the last, just before waking, may last up to 40min. Although the total amount of sleep needed varies between individuals and with age, total sleep time in adults is usually between 5 and 9hrs. Remarkably, REM sleep occupies 20–25% of the total sleep time in all ages.

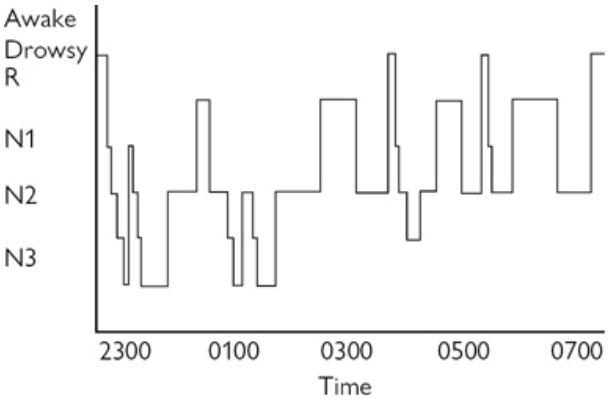

Fig. 10.2 Typical hypnogram.

Assessing sleep–wake disorders

Sleep history

Always try to obtain a third-party account from the patient's bed partner or from an informant such as a parent or carer. The main areas covered should include the following.

The presenting complaint(s): onset, duration, course, frequency, severity, effects on everyday life. Pattern of symptoms, timing, fluctuations, exacerbating/relieving factors, environmental factors, relevant current stressors.

The usual daily routine: waking (time, method, e.g. alarm, natural), usual morning routine. Daily activities (start/finish times), any daily naps (when, duration). Bedtime (preparations for bed, time of going to bed, time of falling asleep, activities in bed, e.g. TV, reading, sex).

Description of sleep: behaviour while asleep. Dreams/nightmares. Episodes of wakening (and how they are dealt with). Quality and satisfaction with sleep.

Daytime somnolence: general level of alertness during the day. When/if sleep occurs (e.g. when active, mealtimes, walking, driving, operating machinery). Effects on work/social activities. Any periods of confusion. Any episodes of collapse.

Family history

Past and current history of medical or psychiatric problems

Drug and alcohol history

- General review of regular medications (alerting/sedating effects), including timing of administration.
- Specific questions regarding: caffeine-containing drinks (tea, coffee, soft drinks), smoking, alcohol, and other recreational drugs.

Previous treatments

- Types of treatment tried.
- Benefits/problems/side effects.

Third-party/other information

- Breathing problems (snoring, gasping, choking, stopping breathing).
- Motor activity (muscle twitches, limb movements, unusual or complex behaviours, e.g. sleep-talking/sleepwalking/dream enactment).
- Frequency of occurrence and any clear pattern.
- Any recent mood changes.
- Any recent change in use of drugs or alcohol.

Methods of further assessment

Sleep diary

To create a record of the sleep–wake pattern over a 2-wk period in order to clarify any pattern or particular factors that may be present. Important information includes: daily activities, pattern of sleeping, mealtimes, consumption of alcohol/caffeine/other drugs, exercise, and daytime sleepiness/napping.

Video recording

A useful component of assessment, particularly for parasomnias. Routinely used in sleep laboratory studies; however, home videos of sleep-related behaviour may be just as informative.

Actigraphy

A method of both quantifying circadian sleep–wake patterns and identifying movement disorders occurring during sleep. Actigraphs incorporate a piezoelectric motion sensor, often in a wristwatch-like unit, that collects data on movement over several days, for later computer analysis.

Indications

Circadian rhythm sleep disorders, jet lag, paediatric sleep disorders, monitoring leg movements (e.g. in 'restless legs syndrome' or periodic movements of sleep) or other movement disorders (e.g. Parkinsonian tremor).

Polysomnography (PSG)

Detailed recording of a variety of physiological measures, including EEG, electro-oculogram (EOG), and EMG. Other parameters may be added as required: ECG, respiratory monitoring (nasal/oral airflow, diaphragm EMG), pulse oximetry, actigraphy, penile tumescence, and oesophageal pH (for oesophageal reflux). Audio and video recording help to assess nocturnal behaviours, vocalizations, and snoring. Time coding of all these measures allows temporal correlations to be made of the various parameters. In general, one night of testing, followed by a daytime multiple sleep latency test (MSLT), is sufficient to diagnose most conditions.

Indications

Hypersomnia (where common extrinsic causes, e.g. medication, shift work, have been excluded; to diagnose suspected periodic limb movements of sleep, sleep apnoea, or narcolepsy), insomnia (where periodic limb movements of sleep or sleep apnoea are suspected and initial treatment has been ineffective), parasomnias (where the clinical history is unclear, initial treatment has been unsuccessful, and PSG is likely to aid the diagnosis, e.g. REM sleep behaviour disorder or multiple parasomnias), to validate the accuracy of a sleep complaint (where a more objective measure is needed), to assess the benefits of treatment (e.g. CPAP), suspected nocturnal epilepsy, serious cases of sleep-related violence (SRV).

Multiple sleep latency test

Devised to assess daytime somnolence but also helps in identifying daytime REM sleep, e.g. in narcolepsy. The patient is put to bed at 2-hr intervals starting at 8 a.m., with the objective of measuring time to sleep onset (*sleep latency*). In adults, a mean sleep latency of 5min or less indicates a pathological level of daytime somnolence; 5–10min is 'indeterminate' but may reflect a primary psychiatric disorder; over 10min is regarded as normal. The ICSD-3 suggests specific MSLT criteria for a diagnosis of narcolepsy (Hypersomnia 2: narcolepsy, p. 450).

Insomnia 1: overview

Essence

Persistent difficulties (at least 3 days/wk for at least 1mth) with sleep initiation, duration, consolidation, or quality that occurs despite adequate opportunity and circumstances for sleep, and results in some form of daytime impairment. Individuals are preoccupied and excessively concerned with their sleep problems and distressed by them, and social or occupational functioning is affected.

Prevalence

Common complaint (~30% general population), ♀ > ♂, greater in the elderly. 'Clinically significant insomnia' (causing marked personal distress or interference with social and occupational functioning) 9–12%.

A note on ICSD-3/DSM-5/ICD-10 categories

ICSD-3 abandoned the ICSD-2 distinction between primary (caused by both extrinsic and intrinsic factors) and secondary (due to medical or psychiatric illness, other sleep disorders, or substance misuse) chronic insomnias, since the direction of causation is often difficult to prove and in clinical practice, there is little evidence that many ICSD-2 subtypes (e.g. psychophysiological insomnia, idiopathic insomnia, inadequate sleep hygiene, and paradoxical insomnia) represent distinct phenotypes. It is good practice to specify comorbidities (and their role in aggravating sleep disruption), along with the diagnosis of insomnia. Insomnia due to a drug of abuse (Sleep-wake disorders related to psychiatric

disorders 2, p. 481) or medication ( Psychiatric medication and sleep, p. 482; see Box 10.2) are classified by DSM-5 in the 'Substance-related and addictive disorders' subsection. ICD-10 'Non-organic insomnia' specifically excludes organic, neurological, medical, psychoactive substance, or medication causes. DSM-5 'Insomnia disorder' has the additional specifiers: with non-sleep disorder mental comorbidity, with other medical comorbidity, with other sleep disorder.

Box 10.2 Common medication causes of insomnia

- Antidepressants (e.g. MAOIs, SSRIs, venlafaxine, reboxetine).
- Anti-Parkinsonian medication.
- Bronchodilators (e.g. aminophylline, theophylline, pseudoephedrine).
- Cardiovascular medication (e.g. β-blockers, clonidine, high-dose digoxin, verapamil).
- Chemotherapy agents.
- Corticosteroids/anabolic steroids.
- NSAIDs (high dose).
- Stimulants (e.g. dexamfetamine, methylphenidate, amphetamine cocaine, caffeine, nicotine).
- Levothyroxine.
- Withdrawal (e.g. hypnotics, opiates, alcohol, or cannabis).

Chronic insomnia disorder (F51.01/G47.0)

The patient reports, or the patient's parent or caregiver observes, one or more of the following: difficulty initiating and/or maintaining sleep; waking up earlier than desired; resistance to going to bed on appropriate schedule; difficulty sleeping without parent or caregiver intervention. In addition, there is evidence of: fatigue/malaise; attention, concentration, or memory impairment; impaired social, family, occupational, or academic performance; mood disturbance/irritability; daytime sleepiness; behavioural problems (e.g. hyperactivity, impulsivity, aggression); reduced motivation/energy/initiative; proneness for errors/accidents; concerns about, or dissatisfaction with, sleep. Complaints cannot be explained purely by inadequate opportunity or circumstances for sleep or another sleep disorder. The sleep disturbance and associated daytime symptoms occur at least three times per week and have been present for at least 3mths.

Short-term insomnia disorder (F51.02/G47.9)

All of the criteria for chronic insomnia are met, with the exception of duration which is <3mths. There is commonly an identifiable trigger or precipitant such as particular daytime stressors.

Other insomnia disorder (F51.09/G47.09)

Full criteria for chronic/short-term insomnia are not met, but patients complain of typical insomnia symptoms such as persistent sleep

difficulty despite adequate sleep opportunity and associated daytime dysfunction.

Isolated symptoms and normal variants

Excessive time in bed (F51.01/G47.9) Individuals report isolated insomnia features such as difficulties falling asleep or prolonged awakenings during the night, without a complaint of insomnia and no daytime consequences.

Short sleeper (R29.81) Individuals who sleep, on average, fewer than 6hrs per night, yet have no sleep/wake complaints and no daytime dysfunction.

Insomnia 2: general management strategies

Education about sleep Many myths surround sleep, and the clinician should be able to educate the patient about the stages of sleep, sleep cycles, changes in sleep patterns with age, and the nature of the particular sleep problem or disorder with which the patient presents.

Sleep hygiene

Establishing good sleep habits Control environmental factors (noise, light, temperature); 'wind down' time (~1hr) before going to bed—distract from the day's stresses (reading, watching television, listening to music, having a warm bath); avoidance of caffeine-containing drinks after about 4 p.m.; not smoking for at least 1hr before bed; regular exercise (not late at night); late 'tryptophan' snack (warm milk or other milky drink); avoid naps during the day (or confine naps to the early afternoon, not longer than ~40min); set aside time during the day to reflect on problems and stresses.

Stimulus control Go to bed only when sleepy; avoid other activities (with the exception of sex) while in bed; if sleep does not occur, do not remain in bed for >10–20min, get up and go to another room (without turning on all the lights), returning to bed only when sleepy; establish a regular time to get up, with no more than 1hr variation (even at weekends and during holidays).

Relaxation training Regular practice of relaxation techniques during the day (particularly progressive relaxation) may help to provide patients with the means to reduce general arousal, which can be used, if necessary, while in bed.

Sleep restriction When sleep is fragmented, a sleep restriction strategy may help to reduce total time spent in bed and improve the quality of sleep by 'consolidation'. There are a number of steps to sleep restriction, and to complete the programme does require motivation and encouragement (see Box 10.3).

Box 10.3 Sleep restriction

- Keep a sleep diary for 5–14 days to allow the calculation of TST and SE.
- TST = (total time spent in bed) – (time spent awake during the night).
- SE = (TST × 100)/total time spent in bed.

- For the first few nights of a sleep restriction programme, spend only the same number of hours in bed as the average TST for the past week. No naps allowed during the day (despite initial tiredness).
- Continue to keep sleep diary. When the calculated mean SE for five nights reaches 85% or better, go to bed 15min earlier.
- Repeat the procedure with increases of 15min if mean SE remains 85% or better, or decreases of 15min if the mean SE falls below 85%, until a satisfactory amount of night-time sleep is achieved.

Medication[6]

Prescribing should be the last option, rather than the first. Before a hypnotic is prescribed, the cause of insomnia should be established, underlying factors addressed, and any primary medical or psychiatric disorder effectively treated. Only use to treat insomnia when it is severe, disabling, or extremely distressing. Ideally, hypnotics should be short-term adjuncts to other forms of therapy, and avoid prolonged administration. Interrupted courses (i.e. five nights with medication, two without) for no more than 4wks may help avoid tolerance and reduce 'rebound insomnia' often accompanying cessation. Choices (see Table 10.1) include: BDZs, the 'Z-drugs' [zopiclone, zolpidem, zaleplon (no longer available in the UK)—usually first line], chloral hydrate, sedating antidepressants (e.g. trazodone, mirtazapine), sedating antipsychotics, and possibly melatonin agonists.

Table 10.1 Pharmacokinetic data for drugs used as hypnotics (in order of decreasing $T_{1/2}$)

Drug	Availability (%)	Plasma-bound (%)	Time to T_{max} (hr)	$T_{1/2}$ (hr)
Mirtazapine	50	85	0.25–2	16.3–40
Nitrazepam	78	85–87	0.5–5	15–40
Olanzapine	60	93	5–6	24–30
Temazepam	91	96–98	0.75–3	2–25
Promethazine	12.3–25	–	4.39	18.6
Trazodone	60–80	89–95	1–2	6–15
Lormetazepam	70–80	92	2	7.9–12
Chloral hydrate	–	35	0.76–8.2	9.3–10.9
Quetiapine	–	83	1–2	5.3–7
Zopiclone	70–80	45–80	0.25–1.5	3.5–6.5
Zolpidem	70	90–92	0.5–2.6	1.5–4.5
Agomelatine	<5	95	1–2	1–2
Zaleplon	30	60	0.25–1.5	0.9–1.1
Melatonin	15	–	0.83	0.75

Sleep-related breathing disorders 1

Essence

Sleep-related breathing disorders commonly lead to chronic insomnia and daytime tiredness. They are often missed in psychiatric patients despite obvious risk factors. Caused by CNS dysfunction, pathological processes affecting normal lung function, and environmental factors with which they are associated: hypertension, coronary artery disease, stroke, congestive heart failure, AF, type 2 diabetes mellitus, mood disorder, and cognitive dysfunction. In DSM-5, 'Breathing-related sleep disorders' are subdivided into three distinct disorders on pathophysiology: obstructive sleep apnoea hypopnoea, central sleep apnoea (CSA) [idiopathic, Cheyne–Stokes breathing (CSB), comorbid with opioid use], and sleep-related hypoventilation (idiopathic, congenital central alveolar hypoventilation, comorbid sleep-related hypoventilation).

Obstructive sleep apnoea

Also known as Pickwickian syndrome (G47.33)[7,8,9] (see Box 10.4).

Repeated episodes of upper airway obstruction (hypopnoeas) or cessation of breathing (apnoeas) during sleep, usually associated with reduced blood oxygen (O_2) saturation, snoring, body jerks or movements, brief respiratory effort-related arousals (RERAs), dry mouth, morning headaches, and daytime somnolence. Usually middle-aged (30–60yrs), overweight ♂, with large neck circumference and excessive body fat. Prevalence 1–2%.

ICSD-3 criteria (adults): sleepiness, non-restorative sleep, fatigue, or insomnia symptoms; waking with breath-holding, gasping, or choking; habitual snoring, breathing interruptions, or both during sleep; presence of comorbidity; PSG or out-of-centre sleep testing (OCST) demonstrates: 5+ predominantly obstructive respiratory events (obstructive and mixed apnoeas, hypopnoeas, or RERAs) per hour. Alternatively, 15+ predominantly obstructive respiratory events (apnoeas, hypopnoeas, or RERAs) per hour of sleep during PSG or OCST, without other features.

ICSD-3 criteria (paediatric): snoring; laboured, paradoxical, or obstructed breathing during sleep; sleepiness, hyperactivity, behavioural problems, or learning problems; PSG 1+ obstructive apnoeas, mixed apnoeas, or hypopnoeas per hour of sleep and a pattern of obstructive hypoventilation [hypercapnia ($PaCO_2$ >50mmHg] 25%+ of total sleep time), associated with snoring, flattening of the inspiratory nasal pressure waveform, or paradoxical thoracoabdominal motion.

Management

This will depend on symptom severity, with more options for mild apnoea. Moderate to severe apnoea should be treated with nasal CPAP.[10]

- *General—conservative measures and prevention:* weight loss, avoidance of sedative drugs (at least 4–6hrs before bedtime), reduction of alcohol consumption/smoking, alternative sleeping position (not lying on the back), avoidance of sleep deprivation.
- *Specific:* mechanical measures—oral appliances [for milder cases, e.g. sleep and nocturnal obstructive apnoea redactor (SNOAR); nasal CPAP; bi-level positive airways pressure (BiPAP)].
- *Surgical (for severe cases):* nasal reconstruction, tonsillectomy, soft palate implants,[11] uvulopalatopharyngoplasty (UPPP), bimalleolar advancement, and rarely tracheostomy.
- *Pharmacological:* not usually part of primary treatment. CNS stimulants (e.g. modafinil, armodafinil) sometimes used for residual daytime sleepiness despite optimal use of CPAP (unlicensed in the UK).

Box 10.4 Mr Dickens's 'Pickwickian' syndrome

'Mr. Lowton hurried to the door … The object that presented itself to the eyes of the astonished clerk was a boy—a wonderfully fat boy—… standing upright on the mat, with his eyes closed as if in sleep. He

had never seen such a fat boy, in or out of a traveling caravan; and this coupled with the utter calmness and repose of his appearance … smote him in wonder.'

Charles Dickens (1836)

The Posthumous Papers of the Pickwick Club

The introduction of the name Pickwick and its association with obesity and daytime somnolence can be traced back to Caton's 1889 paper on narcolepsy in the *BMJ*. The eponym is usually attributed to Sir William Osler, but it is in Burwell *et al.*'s 1956 paper in the *American Journal of Medicine* that the connection is made explicitly. Over the years, the term 'Pickwickian syndrome'[1] has proved controversial, justified more by poetic licence and medical fashions than literary history or clinical accuracy.

1 Bray (1994) What's in a name? Mr. Dickens' 'Pickwickian' fat boy syndrome. *Obesity Res* **2**:380–3.

Sleep-related breathing disorders 2

Central sleep apnoea syndromes

Central sleep apnoea with Cheyne–Stokes breathing [CSB-CSA] (R06.3) Recurrent apnoeas and/or hypopnoeas, alternating with prolonged hyperpnoea in a crescendo–decrescendo pattern. In NREM sleep; associated with heart or renal failure and cerebrovascular disorders.

Central sleep apnoea due to a medical condition without Cheyne–Stokes breathing (G47.37) Vascular, neoplastic, degenerative, demyelinating, or traumatic condition involving the brainstem.

Central sleep apnoea due to high-altitude periodic breathing (G47.32) At heights of >2600m; symptoms include sleepiness, difficulty initiating or maintaining sleep, frequent awakenings or non-restorative sleep, awakening with shortness of breath, morning headache, or witnessed apnoea.

Central sleep apnoea due to a medication or substance (G47.39) Most commonly associated with long-term opioid use, due to suppression of respiration through μ-receptors in the ventral medulla.

Primary CSA (G47.31) Unknown aetiology, characterized by recurrent episodes of breathing cessation during sleep, without associated respiratory effort. Leads to excessive daytime sleepiness (EDS), insomnia, or breathing difficulties during sleep. PSG—no evidence of hypercapnia and 5+ apnoeas/hr.

Primary sleep apnoea of infancy/prematurity (P28.3) Developmental or secondary to other medical problems.

Treatment-emergent central sleep apnoea (G47.39) Apnoeas/hypopnoeas occur during sleep testing with positive airway pressure treatment.

Management

- *General: as for OSA*—treat the underlying disorder, e.g. descending to a low altitude for high-altitude periodic breathing;

nocturnal dialysis/optimizing medical treatment for CSB-CSA in renal and heart failure.

- *Specific:* positive airway pressure, adaptive servo ventilation (ASV), O_2, added dead space, CO_2 inhalation, and overdrive atrial pacing.
- *Medication:* acetazolamide and theophylline in CSA due to heart failure or high altitude; sedativehypnotic agents (temazepam, zolpidem) in non-hypercapnic CSA.

Sleep-related hypoventilation disorders

Obesity–hypoventilation syndrome [OHS] (E66.2) Obesity leads to raised $PaCO_2$ during sleep, associated with daytime hypoventilation ($PaCO_2$ >45mmHg); 90% will have associated OSA.

Idiopathic central alveolar hypoventilation (G47.34) Alveolar hypoventilation, leading to sleep-related hypercapnia and hypoxaemia in individuals where no physical cause is found.

Congenital central hypoventilation syndrome [CCHS] (G47.35) 'Ondine's curse': the extremely rare (1:200,000) failure of automatic central control of breathing in infants who do not breathe spontaneously, or only shallowly and erratically; linked to a mutation in the *PHOX2B* gene.[12]

Late-onset central hypoventilation with hypothalamic dysfunction [LO-CHS/HD] (G47.36) Similar to CCHS, but after infancy and with evidence of hypothalamic dysfunction: hyperphagia, hypersomnolence, thermal dysregulation, emotional lability, and endocrinopathies.

Sleep-related hypoventilation due to medication or substance (G47.36) Due to inhibition of respiratory drive.

Sleep-related hypoventilation due to a medical disorder (G47.36) Specific pulmonary disease: COPD, cystic fibrosis, and interstitial lung disease; other causes of abnormality in lung or vascular pathology, lower airways obstruction, neuromuscular or chest wall disorders.

Management

- *General:* weight loss; avoidance of alcohol, nicotine, and other drugs.
- *Specific:* treat the underlying disorder—approaches may include ventilation, home O_2, surgery (e.g. bariatric procedures, diaphragmatic pacing, corrective surgery for kyphoscoliosis).
- *Medication:* limited benefit—respiratory stimulants (acetazolamide, theophylline, medroxyprogesterone).

Sleep-related hypoxaemia (G47.36)

Characterized by periods of significantly reduced oxyhaemoglobin saturation when sleep-related either hypoventilation is not present or the status is unknown. Causes relate to hypoventilation, V/Q mismatch, low partial pressure of O_2, shunt, or a combination.

- *Management* As for hypoventilation disorders—address the cause.

Isolated symptoms and normal variants

Snoring (R06.83) No apnoea, hypopnoea, RERAs, or hypoventilation. Symptoms—respiratory pauses, daytime sleepiness, fatigue, or insomnia. OSA needs to be ruled out (with PSG or OCST), especially if there is comorbid cardiovascular disease. *Management*—treatment of comorbidity, general measures, earplugs (for bed partners!), anti-snoring devices [nasal, oral, mandibular advancement devices [MADs)], rarely surgery (as for OSA).

Catathrenia (G47.59) ('sleep-related groaning') Characterized by prolonged expiration, usually during REM and NREM sleep, with monotonous vocalization resembling groaning, prolonged bradypnoea, and/or central apnoea, starting with the expiratory phase of the respiratory cycle and without oxyhaemoglobin desaturation. CPAP and sleep-consolidating pharmacotherapy may help.

Hypersomnia 1: overview


Excessive sleepiness is a leading cause of RTAs.

Essence

'Hypersomnia' covers a number of different forms of EDS. Patients may complain of 'sleep attacks' (recurrent daytime sleep episodes that may be refreshing or unrefreshing), 'sleep drunkenness' (prolonged transition to a fully aroused state on waking), lengthening of night-time sleep, almost constant EDS, and even recurrent periods of more or less permanent sleep lasting several days over several months. Diagnosis and treatment particularly relevant when the individual works in an industry or profession where vigilance and concentration are essential (e.g. hospital workers, pilots, train drivers, the military). The most commonly used rating scale is the Epworth Sleepiness Scale (ESS) (see Table 10.2). DSM-5 differentiates 'Hypersomnolence disorder' (with specifiers: with mental disorder; with medical condition; with another sleep disorder) and 'Narcolepsy' (with specifiers: with/without cataplexy, with/without hypocretin deficiency; autosomal dominant cerebellar ataxia, deafness, and narcolepsy; autosomal dominant narcolepsy, obesity, and type 2 diabetes; narcolepsy secondary to another medical condition).

Prevalence Common: moderate (occasional) EDS reported in up to 15% in the general population (severe EDS ~5%).

Differential diagnosis

- Sleep attacks in narcolepsy are usually irresistible and refreshing, whereas in other forms of hypersomnia, they tend to be more frequent, of longer duration, easier to resist, and unrefreshing.
- The attacks also tend to occur in unusual, and often dangerous, situations in narcolepsy (e.g. talking, eating, standing, walking, or driving).
- Disturbances and shortening of nocturnal sleep are more common in narcolepsy—in other causes of hypersomnia, nocturnal sleep is usually prolonged and there is difficulty in waking in the morning.

- Always consider other conditions: Prader–Willi syndrome (PWS) ( Deletions and duplications syndromes, p. 808); syndrome of autosomal dominant cerebellar ataxia, deafness, and narcolepsy; delayed sleep-phase syndrome ( Circadian rhythm sleep-wake disorders, p. 454); autism; depression; diencephalic lesions; drug abuse; insufficient sleep syndrome ( Hypersomnia 3: other causes, p. 453); Kleine–Levin syndrome ( Hypersomnia 3: other causes, p. 452); medication effect ( Psychiatric medication and sleep, p. 482); Norrie disease (cataplexy + monoamine oxidase deficiency); poor sleep hygiene; post-traumatic narcolepsy;  ICP ( Hypersomnia due to a medical condition, p. 452); and even conversion disorder, factitious disorder, and malingering ( Medically unexplained symptoms, p. 858).

Table 10.2 Epworth Sleepiness Scale (ESS)*

Chance of dosing situation	Score[a]
Sitting and reading	0 1 2 3
Watching television	0 1 2 3
Sitting inactive in a public place (e.g. in a theatre or a meeting)	0 1 2 3
As a passenger in a car for an hour without a break	0 1 2 3
Lying down to rest in the afternoon when circumstances permit	0 1 2 3
Sitting and talking to someone	0 1 2 3
Sitting quietly after a lunch without alcohol	0 1 2 3
In a car, while stopped for a few minutes in traffic	0 1 2 3

[a] Patient is instructed to use scale to choose the most appropriate number for each situation: 0 = no chance of dozing, 1 = slight chance, 2 = moderate chance, 3 = high chance. Maximum score on this scale is 24; however, scores of >10 often considered to be consistent with some degree of daytime sleepiness, while scores of >15 are considered to be consistent with EDS.

* Reprinted from Johns MW (1991) A new method for measuring daytime sleepiness: the Epworth Sleepiness Scale. *Sleep* **14**: 540–5 with permission from Oxford University Press.

Hypersomnia 2: narcolepsy

Narcolepsy 1 (G47.411)

First described by Westphal in 1877[13] and given its name by Gélineau in 1880,[14] narcolepsy is now divided into two separate entities: narcolepsy 1 (with cataplexy) and narcolepsy 2 (without cataplexy). Narcolepsy seriously impacts on education, work, relationships, the ability to drive, and recreational activities, and can have negative effects on self-esteem and mood.

Prevalence The most common neurological cause of hypersomnia; estimated prevalence 0.20–0.40 per 1000 in the general population. ♂:♀ = 1.64:1. Age range: 10–50+ yrs—bimodal, with peaks at 15yrs and 35yrs (70–80% before 25yrs).

Aetiology Genetic predisposition, abnormal neurotransmitter functioning and sensitivity, and abnormal immune modulation. Recent research suggests human leucocyte antigen (HLA) subtypes and abnormal hypocretin (orexin) neurotransmission lead

to abnormalities in monoamine and ACh synaptic transmissions, particularly in the pontine RAS.

Clinical features

- The classical 'tetrad' of symptoms—excessive sleepiness, cataplexy, sleep paralysis, and hypnagogic hallucinations—are suffered by only a minority of patients with narcolepsy.
- EDS and associated cataplexy (sudden bilateral loss of muscle tone, with preserved consciousness, triggered by a strong emotional reaction such as laughter or anger) are by far the most common complaints. More often, a cataplectic attack will be partial, e.g. involving jaw muscles (difficulty with articulation), facial muscles (grimacing), or thigh muscles (brief unlocking of the knees). Attacks vary from seconds to minutes, with a frequency of a few a year to several a day, and very rarely repeated 'status cataplecticus'.
- Other REM sleep phenomena also occur but are not necessary for the diagnosis to be made. These include sleep paralysis (sometimes up to 10min long) and vivid hallucinations on falling asleep (hypnagogic) or, less commonly, on waking up (hypnopompic).
- Sleep may also be disturbed due to frequent awakenings, disturbing dreams, sleep-talking, and REM-related sleep behaviours (from phasic muscle twitching to more dramatic dream enactment).

ICSD-3 criteria

- Daily periods of irrepressible need to sleep or daytime lapses into sleep, occurring for at least 3mths.
- The presence of one or both of the following: (1) cataplexy and a mean sleep latency of ≤8 min and 2+ sleep-onset REM periods (SOREMPs) on MSLT; (2) CSF hypocretin-1 concentration, measured by immunoreactivity, is either ≤110pg/mL or <1/3 of mean values obtained in normal subjects with the same standardized assay.

Course Usually chronic, although some of the symptoms may improve or remit. Hallucinations and sleep paralysis present variably, and sometimes cataplexy may disappear over time. Poor sleep quality tends to persist. Treatments are directed at the most troublesome symptoms.

Investigations

- *PSG* (sleep EEG and MSLT): SOREMP is highly specific (25–50% of cases); ↑ N1 sleep and repeated awakenings (see  ICSD-3 criteria, p. 450).
- *CSF hypocretin-1 levels:* levels ≤110pg/mL are highly specific and sensitive for narcolepsy with cataplexy (in 10%, levels may be normal or even high).
- *HLA typing:* there is a strong association between HLA-DR2 haplotypes coded on chromosome 6 and narcolepsy—HLA

DQB1*0602 and DQA1*0102 are found in up to 85–95% of individuals, compared with 12–38% in the general population.
- *Imaging:* MRI useful to exclude some rare causes of secondary narcolepsy (abnormalities of the brainstem and diencephalon).

Management

- *Daytime somnolence* Regular naps, stimulants (modafinil, methylphenidate, dexamfetamine). Possibly sodium oxybate (GHB).
- *Cataplexy* TCAs (clomipramine 10–75mg/day is licensed) or SSRIs (and possibly other antidepressants: venlafaxine, nefazodone, mirtazapine, atomoxetine). These drugs may also improve REM-related symptoms, hypnagogic/hypnopompic hallucinations, and sleep paralysis. *Note:* abrupt withdrawal of antidepressants may potentially cause cataplectic episodes or even 'status cataplecticus'. Sodium oxybate is newly licensed for cataplexy (under specialist supervision); it is not associated with a rebound cataplexy on withdrawal but can cause significant side effects (nausea, nocturnal enuresis, confusional arousals, headache), and there is a danger of abuse.
- *Other treatments for poor sleep and REM-related symptoms:* BDZs (e.g. clonazepam) and possibly sodium oxybate.

Narcolepsy 2 (G47.419)

Nocturnal sleep is usually less disturbed than in narcolepsy 1, but other symptoms may still be present, e.g. automatic behaviour, hypnic hallucinations, or sleep paralysis. Cataplexy may develop later in the course of the disorder. Investigations and management as for narcolepsy 1.

ICSD-3 criteria

- As for narcolepsy 1, but without cataplexy and CSF hypocretin-1 levels have not been measured or are >110pg/mL.
- Symptoms cannot be explained by any other condition (Differential diagnosis, p. 448).

Hypersomnia 3: other causes

Idiopathic hypersomnia (G47.12)

Clinical features

Objective EDS without cataplexy, and with no more than one SOREMP on MSLT, that cannot be explained by another disorder.

Course A chronic condition with marked impact on social and occupational functioning.

Diagnosis Detailed history (to exclude other causes of hypersomnia); PSG normal; MSLT <8min (longer than narcolepsy), <2 SOREMPs.

Differential diagnosis Narcolepsy, sleep apnoea syndromes, periodic limb movement disorder (PLMD), or upper airways resistance syndrome.

Management As for narcolepsy (but naps do not help).

Kleine–Levin syndrome (G47.13)

A rare syndrome of 'periodic somnolence and morbid hunger', occurring almost exclusively in ♂ adolescents (although a menstrual-related subtype is described), usually following a course of decreasing frequency of attacks, which may persist for many years before complete cessation.

Clinical features Periods lasting from days to weeks of attacks of hypersomnia, accompanied by excessive food intake (megaphagia). Other behavioural symptoms may occur, including sexual disinhibition (which may appear compulsive in nature), along with a variety of other psychiatric symptoms such as confusion, irritability, restlessness, euphoria, hallucinations, delusions, and schizophreniform states. Attacks may occur every 1–6mths, and last from 1 day to a few weeks. Between attacks, the patients recover completely, and the syndrome may easily be confused for other neurological, metabolic, or psychiatric disease.

Management

- *Hypersomnia:* stimulants (only effective for short periods of time).
- *Preventative measures:* for sufficiently frequent episodes causing major disruption of social or occupational functioning—lithium, carbamazepine, or valproate.

Hypersomnia due to a medical condition (G47.14)

Differential diagnosis Neurological (altered ICP, diencephalic tumours, thalamic infarcts, Parkinson's disease, MSA, NPH, Arnold–Chiari malformation, myotonic dystrophy, head injury—'post-traumatic hypersomnia': lesions (when they can be demonstrated) generally involve the brainstem (the tegmentum of the pons or thalamic projections) or the posterior hypothalamus, infectious (EBV, atypical viral pneumonia, hepatitis B, Guillain–Barré syndrome, viral encephalitis, sleeping sickness (trypanosomiasis—sleepiness, headache, trembling, dyskinesias, choreoathetosis, mood changes), metabolic, and endocrine disorders (hypothyroidism, acromegaly, cause OSA).

Hypersomnia due to a medication or substance (F10–19.x82)

( Psychiatric medication and sleep, p. 482.)

Differential diagnosis Dependency-related sleep disorders (alcohol, hypnotics, opiates), toxins (arsenic, bismuth, mercury, copper, other heavy metals, CO, vitamin A), medication-related (e.g. anticonvulsants, antidepressants, anti-emetics, antihistamines, anti-Parkinsonian drugs, antipsychotics, anxiolytics/hypnotics, clonidine, methyldopa, prazosin, reserpine, hyoscine, progestogens).

Hypersomnia associated with a psychiatric disorder (F51.13)

(Sleep–wake disorders related to psychiatric disorders 1, p. 478.)

EDS due to underlying (undiagnosed) psychiatric disorder, e.g. bipolar II disorder, dysthymic disorder, seasonal affective disorder

(SAD), undifferentiated somatoform disorder, adjustment disorder, personality disorder.

Prevalence May be the cause of up to 7% of hypersomnia referred to sleep centres. More common in women.

Clinical features Marked reported EDS, high ESS scores, sleep perceived as poor quality and non-restorative, excessive time spent in bed during both day and night ('clinophilia').

Diagnosis Careful history essential. PSG (not usually necessary): ↑ sleep latency, ↑ wake time after sleep onset, low sleep efficiency (SE). MSLT usually normal.

Management Directed at the underlying psychiatric disorder.

Insufficient sleep syndrome (F51.12)

Persistently failing to obtain sufficient nocturnal sleep required to support normally alert wakefulness.

Prevalence Unknown, but may be the most common cause of hypersomnia in the general population, particularly among parents of young children, doctors, students, long-distance lorry drivers, and other occupations where unsociable long hours of work are commonplace.

Clinical features Periods of excessive sleepiness concentrated in the afternoon and early evening. Rest days usually characterized by late rising from bed and frequent naps. Associated reduced productivity, difficulty in concentration and attention, low mood or irritability, and somatic symptoms (usually GI or musculoskeletal).

Diagnosis Made on history alone.

Management Directed towards scheduling ↑ time asleep, either at night or with regular short naps during the day.

Isolated symptoms and normal variants

Long sleeper (R29.81) Sleep is normal in architecture and quality but lasts longer than normal (i.e. >10hrs). The person may complain of EDS if they do not get their usual amount of sleep.

Circadian rhythm sleep–wake disorders (CRSD) 1: overview

Essence

When an individual's sleep/wake schedule is not in synchrony with the sleep–wake schedule of their cultural environment or society, it may lead to complaints of insomnia or EDS, causing marked distress or interference with social or occupational functioning. ICSD-3 categories are used here, but it is worth noting that in DSM-5, 'jet lag' has gone and 'Circadian rhythm and sleep–wake disorders' includes: delayed sleep phase type (familial or overlapping with non-24-hour type), advanced sleep phase type (familial), irregular sleep–wake type, non-24-hour sleep–wake type, shift work type, and unspecified type.

Investigations

- Comprehensive history.

- Use of a 14-day sleep–wake chart.
- Actigraphy—objective measurement of the rest–activity cycle.
- Physiological measures of endogenous circadian timing (e.g. salivary or plasma dim light melatonin onset and urinary 6-sulphatoxymelatonin) can be useful.
- PSG is rarely needed.

Differential diagnosis

- Poor sleep hygiene.
- Depressive disorder.
- Misuse of drugs (particularly stimulants or sedatives) and alcohol. *Note:* lifestyle factors are also clearly important.
- Physical conditions such as: dementia, head injury, other causes of brain damage or injury, and recovery from coma.

Delayed sleep–wake phase disorder (DSWPD) (G47.21)

The late appearance of sleep (typically around 2 a.m.), but normal TST and architecture, which may lead to complaints of sleep-onset insomnia and difficulty awakening at the desired time in the morning. Some cases are related to head injury, psychiatric disorder, or personality traits (e.g. schizoid, avoidant). Predisposing/precipitating factors: evening chronotype, adolescent age, polymorphism in the circadian clock gene *hPer3*, ↓ exposure to light in the morning or ↑ exposure to bright light late in the evening, changes in work and social schedules, travel across time zones, and shift work. Usually presents in adolescence, running a continuing course until old age. Individuals may adapt to the condition by taking evening or night jobs.

Advanced sleep–wake phase disorder (ASWPD) (G47.22)

The opposite of DSWPD, this syndrome leads to complaints of evening sleepiness, early sleep onset (e.g. 18.00–20.00), and early morning wakening. May be confused with depression (due to early morning wakening), particularly in elderly patients in whom the syndrome occurs more frequently. Although heritability is evident in some families, definite genes have not been identified. ASWPD has also been observed in children with neurodevelopmental disorders (ASD and Smith–Magenis syndrome) with abnormal melatonin secretion profiles.

Irregular sleep–wake rhythm disorder (G47.23)

Sleep occurrence and waking behaviour are very variable, leading to considerable disturbance of the normal sleep–wake cycle and complaints of insomnia (inadequate nocturnal sleep and EDS/frequent napping). The idiopathic form is rare, and it is associated with old age, neurodegenerative disorders (Alzheimer's disease, Parkinson's disease, Huntington's disease), head injury, neurodevelopmental disorders in children, and hypothalamic tumours. In institutionalized individuals (especially the elderly), this disorder can be related to poor sleep hygiene and insufficient

exposure to synchronizing agents (light, activity, and social schedules).

Non-24-hr sleep–wake rhythm disorder (G47.24)

Rare occurrence of a >24-hr sleep–wake period (also called 'free-running' or 'non-entrained'), leading to a chronic pattern of 1–2hr daily delays in sleep onset and wake times, with an 'in-phase' period every few weeks (free of symptoms). Common in totally blind individuals. In non-blind patients, some environmental conditions can lead to its appearance (insufficient or time-inappropriate exposure to circadian-entraining agents such as light). DSWPD may predispose, and it may occur after chronotherapy in adults with TBI. Also associated with schizoid personality traits.

Shift work disorder (F51.22)

Symptoms of insomnia or excessive sleepiness occur as transient phenomena in most people working shifts. Adaptation to a change in shift work schedule usually takes 1–2wks; however, rotating day/night shifts may present particular difficulties. Often sufferers consult with somatic complaints (general malaise, GI upset), rather than the underlying disorder of sleep. Predisposing/precipitating factors: chronotype, presence of other sleep disorders (e.g. OSA), and social pressures.

Jet lag disorder (F51.21)

Sleep disorder secondary to moving between time zones. Symptoms include varying degrees of difficulty in initiating or maintaining sleep, daytime fatigue, decrements in subjective daytime alertness and performance, feelings of apathy, malaise, or depression, and somatic symptoms (GI upset, muscle aches, or headaches).

Circadian rhythm sleep–wake disorder NOS (G47.20)

The specific criteria for one of the circadian rhythm sleep–wake disorders listed in the previous sections are not met. This category includes those with alterations in circadian sleep–wake patterns due to underlying medical, neurological, and psychiatric disorders.

Circadian rhythm sleep–wake disorders 2: management[15]

General measures

These include education about the nature of sleep and establishing good sleep habits. This is particularly important for shift work sleep disorder in which alcohol, nicotine, and caffeine may be used to self-medicate symptoms. Other advice for shift workers should emphasize maintenance of regular sleep and mealtimes, whenever possible, use of naps to limit sleep loss, and minimization of environmental factors (noise, light, other interruptions) when sleeping during the day.

Chronotherapy

DSWPD

- Establishing a regular waking time, with only 1hr variability at weekends and holidays, may help initially.
- If unsuccessful, '*phase-delay*'[16] methods may be employed to achieve a phase shift of the sleep–wake cycle. This involves:
  - Establishing a 27-hr day to allow progressive delay of the usual onset of sleep by about 3hrs in each sleep cycle.
  - Sleep should only be permitted for 7–8hrs, with no napping.
  - Disruption to the person's normal routine caused by undergoing this regime (which may take 5–7 days to complete) requires appropriate measures to be taken to ensure other family and work commitments are attended to.
- An alternative strategy is to advise the individual to remain awake at the weekend for one full night, and to go to bed the next evening 90mins earlier than usual.
  - Sleep periods should again be limited to 7–8hrs, with no napping.
  - The procedure can then be repeated each weekend until normal bedtime is achieved.

ASWPD

- Delaying sleep onset by increments of 15mins may be effective.
- Alternatively, '*phase-advance*'[17] methods may be used:
  - The patient goes to bed 3hrs earlier each night until the sleep cycle is advanced back to normal bedtime.
  - May be difficult to implement, particularly with elderly patients.

Light therapy

This includes both the use of bright light (2500–10,000lx), with ultraviolet (UV) rays filtered out, and light restriction. Bright light is assumed to suppress melatonin (which is sleep-promoting).

DSWPD

Exposure to bright light is scheduled on waking to prevent morning lethargy, usually for 2hrs daily for 1wk, often with adjunctive light restriction after 4 p.m.

ASWPD

Exposure to bright light is recommended 2hrs before the scheduled bedtime, to delay this to a more sociable time.

Other disorders

Evidence for the effectiveness of light therapy in other intrinsic circadian rhythm disorders of sleep (e.g. shift work sleep disorders, jet lag) is lacking, with the exception perhaps of the elderly with dementia and irregular sleep–wake rhythm disorder (alone or in combination with melatonin).

Medication

- *Short-acting BDZ/hypnotics*:
  - Should not be used in the elderly with dementia.
  - May help entrain circadian rhythms if appropriately timed in the treatment of jet lag (e.g. lormetazepam, zolpidem).[18]
- *Melatonin* (0.5–5mg):

- Strategically timed administration may improve non-24-hr sleep–wake rhythm disorder in blind adults and irregular sleep–wake rhythm disorder in children/adolescents with neurological disorders.
- May help in advancing the sleep phase and resetting the circadian rhythm in travellers with jet lag syndrome flying across five or more time zones, particularly in an easterly direction and especially if they have experienced jet lag on previous journeys.[19]
- Weak evidence of efficacy in DSWPD in: adults with or without depression and children/adolescents with or without psychiatric comorbidity.

Parasomnias: overview

Essence

Parasomnias may be defined as undesirable physical and/or experiential phenomena accompanying sleep. They include unusual behaviours and motor acts, autonomic changes, and/or emotional–perceptual events. Sometimes these events occur when arousal is incomplete or they are associated with REM sleep. Other episodes may arise during the transition from sleep to wakefulness or from wakefulness to sleep, or in transitions between sleep stages. They can usually be objectively diagnosed using PSG and successfully treated. Parasomnias are of academic interest, as they may provide insights into the biological underpinnings of species-specific behaviours such as locomotion, exploratory behaviour, appetitive states (hunger, sexual arousal), fear, and aggression, that may be released from control during sleep, itself a biological imperative.

Points to note

- The often 'bizarre' nature of the parasomnias frequently leads them to being misdiagnosed as psychiatric disorders, particularly if they appear temporally related to stressful situations.
- This may, in turn, lead to inappropriate treatment, with associated problems, including exacerbation of the parasomnia.
- Often there will be associated psychological distress or psychiatric problems secondary to the parasomnia.
- Rarely there may also be forensic implications, e.g. due to SRV (Sleep-related violence, p. 472), sexual activity (Box 10.6, p. 463), or even driving (see Box 10.5 p. 461).

Classification of parasomnias

ICSD-3 categories

- *NREM-related parasomnias:* disorders of arousal, confusional arousals, sleepwalking, sleep terrors, sleep-related eating disorder (SRED).
- *REM-related parasomnias:* REM sleep behaviour disorder (RBD), recurrent isolated sleep paralysis, nightmare disorder.
- *Other parasomnias:* exploding head syndrome, sleep-related (hypnic) hallucinations, sleep enuresis, due to a medical disorder,

due to medicine or substance, and unspecified.
- *Isolated symptoms and normal variants:* sleep-talking.

DSM-5 categories

- *Non-REM sleep arousal disorders* (sleepwalking type, with/without sleep-related eating/sexual behaviour; sleep terror type).
- *Nightmare disorder* (during sleep onset; with associated non-sleep disorder/medical condition/other sleep disorder).
- *REM sleep behaviour*.
- *Restless legs syndrome (RLS)* (Restless legs syndrome (Willis–Ekbom disease) (RLS/WED) (G25.81), p. 474).

ICD-10

There is no specific section for parasomnias in Section F, but sleepwalking, sleep terrors, and nightmares are listed. In Section G, parasomnias are listed—unspecified, confusional arousal, RBD, recurrent isolated sleep paralysis, in conditions classified elsewhere, and other.

Parasomnia overlap disorder

- *Clinical features:* the occurrence of disorders of NREM sleep (e.g. sleepwalking, sleep terrors), along with RBD.[20]
- *Prevalence:* 70% of cases are young men (mean age 34yrs). Idiopathic cases, occurring at a younger age, are associated with other medical (brain injury, nocturnal paroxysmal AF), psychiatric (PTSD, depression, schizophrenia), or substance abuse (alcohol, amphetamine) disorders.
- *Associated disorders:* no ↑ risk of psychiatric disorder. Status dissociatus (Status dissociatus/agrypnia excitata, see below).
- *Differential diagnosis:* confusional arousals and sleepwalking co-occurring with RBD; dream enactment behaviour (in the general population or patients with NREM-related parasomnias).
- *PSG:* NREM sleep instability with a lack of REM sleep atonia (at times with dream enactment behaviours).
- *Management:* resolve any comorbid condition that may be fragmenting sleep (e.g. sleep-disordered breathing, drugs, or alcohol). Customized bed alarm may help prevent sleep-related injury. Clonazepam (0.5–2mg nocte) may be effective, particularly when there is violent dream-enacting behaviour.

Status dissociatus/agrypnia excitata

Agrypnia (Greek: to chase sleep) excitata (AE)[21] or 'status dissociatus' is a syndrome regarded as an extreme form of parasomnia overlap where features of NREM sleep, REM sleep, and wakefulness coexist.

- *Clinical features:* (1) disruption of the sleep–wake rhythm (disappearance of spindle-delta activities, persistence of N1 sleep, short bursts of REM sleep); (2) diurnal and nocturnal motor, autonomic, and hormonal over-activity (excitata), with markedly

elevated NA secretion (associated with sweating, tachypnoea, and hypertension) and lack of the nocturnal melatonin peak; (3) oneiric stupor ('wakeful dreaming')—recurrence of stereotyped gestures mimicking simple daily life activities.

- *Associated disorders:* AE is seen in such diverse conditions as FFI—an autosomal dominant prion disease; Morvan syndrome (MnS)—an autoimmune encephalitis; and delirium tremens (DT)—alcohol withdrawal syndrome.
- *Aetiology:* AE is due to an intralimbic disconnection releasing the hypothalamus and brainstem reticular formation from cortico-limbic inhibitory control. In FFI, the pathogenic mechanism is thalamic degeneration; in MnS, it may depend on auto-antibodies blocking VGKCs within the limbic system; and in DT, sudden changes in GABA synapses down-regulated by chronic alcohol abuse.

NREM-related parasomnias 1

Disorders of arousal (from NREM) (G47.59)

- *Clinical features:* recurrent episodes of incomplete awakening from sleep, with inappropriate or absent responsiveness when others intervene or try to redirect, limited or no associated cognition or dream imagery, and partial or complete amnesia for the episode. Very common and usually can be managed solely with sleep hygiene measures.

Confusional arousals ('sleep drunkenness') (G47.51)

- *Clinical features:* confusion during and following arousals from sleep, most typically from deep sleep in the first part of the night. Individuals appear disorientated, incoherent, hesitant, and slow but may walk about, get dressed, and even perform complex motor behaviours. Violence, assault, and even homicide may occur (rare: planning or premeditation is not possible).
- *PSG:* arousal from NREM sleep, usually in first third of the night.
- *Prevalence:* almost universal in young children (under 5yrs), becomes less common in older childhood. Fairly rare in adulthood, usually occurring in the context of sleep deprivation, exacerbated by alcohol or other depressant drugs.
- *Associated disorders:* sleep-related breathing disorders, narcolepsy, idiopathic hypersomnia, encephalopathy.
- *Differential diagnosis:* acute confusional states, sleep terrors (evident autonomic arousal), sleepwalking (usually docile, not aggressive when challenged), and RBD (evident dream enactment; REM-related parasomnias, p. 464).
- *Management*:
  - Prevent the patient from falling into deep, prolonged NREM sleep—avoid sleep deprivation.
  - Restrict use of alcohol and other sedative drugs (illicit and prescribed).

- Sleep hygiene measures ( Insomnia 2: general management strategies, p. 442).

Sleepwalking (somnambulism) (F51.3)

- *Clinical features:* complex, automatic behaviours (automatisms) [e.g. aimless wandering, attempting to dress or undress, carrying objects, eating ( Sleep-related eating disorder (G47.59), p. 462), urinating in unusual places, and rarely driving a car (see Box 10.5) or sexual behaviour (see Box 10.6)]. Episodes often follow a period of sleep deprivation or  stress. There is often a personal and/or family history of sleepwalking or other related disorders. Behaviours of variable duration usually occur 15–120min following sleep onset but may occur at other times. Eyes usually wide open and glassy, and talk is incoherent, with communication usually impossible. Injury may occur (e.g. falling down the stairs, exiting through a window). Activity never appears intentional or planned, and only rarely aggressive behaviour occurs. The person is usually easily returned to bed, falls back into normal sleep, and has no recollection of the episode the following morning. If awakened during the episode—confused and disorientated. Dream content (if present) is fragmented, without specific themes.
- *PSG:* light, NREM sleep, with episodes sometimes preceded by hypersynchrony of generalized (non-epileptic) high-voltage delta waves.
- *Prevalence:* up to 17% in childhood (peak age 4–8yrs); 4–10% in adults. Familial forms do occur. Precipitants similar to confusional arousals.
- *Associated disorders:* sleep-related breathing disorders, PLMD, nocturnal seizures, medical/neurological disorders, febrile illness, alcohol use/abuse, pregnancy, menstruation, psychiatric medication (lithium, anticholinergics), stress (no specific psychiatric illness).
- *Differential diagnosis:* confusional arousals, episodic wandering (N2 sleep, second half of the night), epileptic fugue states, and RBD in the elderly.
- *Management*:
  - Reassurance.
  - Protect the patient from coming to harm (e.g. closing windows, locking doors, sleeping downstairs).
  - Relaxation techniques and minimization of stressors.
  - Sleep hygiene measures ( Insomnia 2: general management strategies, p. 442).
  - Avoidance of sleep deprivation.
  - Medication—for patients with frequent episodes/high-risk behaviours: small night-time doses of a BDZ (e.g. diazepam 2–10mg, clonazepam 1–4mg) or a low-dose sedating antidepressant at night.

Note: treatment of any concurrent psychiatric disorder does not control the parasomnia.

Box 10.5 Sleep driving and the Z-drugs

Sleep driving is regarded as a highly unusual variant of sleepwalking but may be confused with impaired driving due to misuse or abuse of sedative/hypnotic drugs when the driver may appear 'asleep'. The majority of case reports relate to the Z-drugs[1]—especially zolpidem and zopiclone—and drivers have excessively high blood levels of Z-drugs, fail to take the medication at the correct time, or remain in bed for sufficient time and/or combined Z-drugs with other CNS depressants/alcohol. True sleep driving can be distinguished by the fact that sleepwalkers are completely unable to understand or interact with the police but can stand and walk unaided. In contrast, drivers under the influence of sedative drugs are still able to respond to the police but are unable to stand up or maintain balance. If in doubt, sleep studies may be indicated, especially if there are significant legal proceedings. Treatment of sleep driving is as for sleepwalking (NREM-related parasomnias 1, p. 460).

1 Pressman MR (2011) Sleep driving: sleepwalking variant or misuse of z-drugs? *Sleep Med Rev* **15**:285–92.

NREM-related parasomnias 2

Sleep terrors (parvor nocturnes, incubus) (F51.4)

- *Clinical features:* sudden awakening with loud, terrified screaming (the person may sit up rapidly), with marked autonomic arousal (tachycardia, tachypnoea, diaphoresis, mydriasis). Sometimes frenzied activity occurs—may lead to injury. Episodes usually last for 10–15min, with increase in muscle tone and resistance to physical contact. If wakened, individual appears confused and incoherent, but soon falls asleep, wakening next morning with no memory of the event. In children, usually occurs in the first third of the night. In adults, can occur at any time of the night.
- *PSG:* abrupt wakening out of N3 sleep is seen on EEG, with generation of α activity, usually in the first third of the night. Partial arousals out of N3, occurring up to 10–15 times in one night, are also seen, even when a full episode is not recorded.
- *Prevalence:* children—3%, adults—1% (may be more common in ♂), evidence for heritability. Deep and prolonged N3 is a predisposing factor, precipitated by fever, sleep deprivation, and depressant medication.
- *Associated disorders:* as for sleepwalking.
- *Differential diagnosis:* nightmares, nocturnal epilepsy, nocturnal panic attacks (NPs) (see Box 10.7 for drugs that cause vivid dreams or nightmares).
- *Management:* reassure the individual (and partner/parents) of the benign character of the disorder. If episodes are frequent (more

than once a week), use similar methods as for sleepwalking.

Sleep-related eating disorder (G47.59)

First reported in 1955; received very little attention until more recently. SRED[22] is usually described in 20- to 30-yr-old women. Consists of recurrent episodes of involuntary eating and drinking during partial arousals from sleep.

- *Clinical features:* sometimes there may be particularly unusual consumption of inedible (pica), or even toxic, substances such as raw meat, frozen pizza, or pet food. Sleep is disrupted, and patients report often significant (sometimes unexplained) weight gain.
- *PSG:* reports show multiple confusional arousals with or without eating, arising predominantly from N3 sleep, but also occasionally from N1, N2, and REM sleep.
- *Differential diagnosis:* can be either idiopathic or comorbid with other sleep disorders, e.g. sleepwalking, RLS-PLMD, OSA, narcolepsy, circadian rhythm disorders. Various medications associated with SRED, e.g. triazolam, zolpidem, olanzapine, and risperidone.
- *Management:* treatment is best directed at any comorbid sleep disorder and cessation of provoking medication. If pharmacotherapy is indicated, case reports suggest use of: topiramate, dopaminergics, clonazepam, and fluoxetine.

Box 10.6 The curious case of sexsomnia, 'sleepsex', or somnambulistic sexual behaviour

Regarded as an NREM-related parasomnia variant, as most cases have also been diagnosed with confusional arousals alone, but on occasion with sleepwalking, sleep-related driving (see Box 10.5), or SRED. The sorts of sexual behaviour seen during sleep can include:[1] explicit vocalizations (with sexual content), violent masturbation, and complex sexual activities, including oral sex and vaginal or anal intercourse. Sexual behaviour during sleep may be associated with injury to the subject or his/her bed partner, when it is a special form of SRV (Sleep-related violence, p. 472). Sexsomnia appears more common in men. There are sex differences in presentation, with women almost exclusively engaging in masturbation and sexual vocalizations, whereas men are more likely to engage in sexual fondling and intercourse. It can be quite challenging to distinguish between typical sleepwalking and sexsomnia, but uniquely there is often involvement of a partner who is usually more than a witness. Most people with this disorder have a previous and/or family history of sleepwalking. PSG is necessary to confirm diagnosis, and diagnoses associated with sexual behaviour during sleep include not only NREM sleep somnambulism, but also RBD and frontal lobe seizures. Treatment involves general measures of good sleep hygiene and addressing precipitating factors such as sleep deprivation, drug misuse, alcohol, stress, RLS, and OSA. If

medication is being considered, evidence supports the use of clonazepam (0.5–2mg nocte), sertraline, valproic acid, and lamotrigine.

1 Anderson ML, Poyares D, Alves RSC, *et al.* (2007) Sexsomnia: abnormal sexual behaviour during sleep. *Brain Res Rev* **56**:271–82.

Box 10.7 Drugs associated with vivid dreams or nightmares

- Baclofen
- β-blockers (atenolol, propranolol)
- Clonidine
- Digoxin toxicity
- Famotidine
- Indometacin
- Methyldopa
- Nalbumetone
- Nicotine patches
- Pergolide
- Reserpine
- Stanozolol
- Verapamil
- Withdrawal (alcohol, BDZs, opiates, and other hypnotics)

REM-related parasomnias

REM sleep behaviour disorder (G47.52)

- *Clinical features:* vivid, intense, action-packed, violent dreams (reported as 'nightmares'), dream-enacting behaviours (verbal and motor), sleep injury (ecchymoses, lacerations, fractures—of self and bed partner), general sleep disruption.[23]
- *PSG:* elevated submental EMG tone and/or excessive phasic submental/limb EMG twitching during REM sleep, in the absence of EEG epileptiform activity.
- *Prevalence:* a rare sleep disorder, more common in older ♂.
- *Associated disorders:* over 80% associated with synucleinopathies (see Box 10.8); narcolepsy type 1 (characterized by lack of sex predominance, less complex and more elementary movements and less violent behaviour in REM sleep, earlier age of onset, and hypocretin deficiency); rarely associated with other psychiatric disorders but may be induced or aggravated by psychiatric drugs (e.g. TCAs, MAOIs, high-dose SSRIs, SNRIs), cessation/misuse of REM-suppressing agents (e.g. alcohol, amphetamine, cocaine), or severe stress related to traumatic experiences.
- *Differential diagnosis:* sleepwalking, sleep terrors, nocturnal dissociative disorders, nocturnal epilepsy, OSA (where arousals from REM sleep associated with aggressive behaviour and vivid REM-related dreams), states of intoxication, malingering.
- *Management*:
  - Ensure a safe sleeping environment (for the patient and sleeping partner).

- Eliminate any factors that might be inducing or aggravating the condition (including treatment of any primary neurological, medical, or psychiatric disorder).
- If symptoms persist and are problematic, clonazepam (0.5–1.0mg nocte) is the treatment of choice, effectively controlling both behaviours and dreams, with good evidence of long-term safety and sustained benefit. Alternatives include carbamazepine, melatonin, levodopa, and imipramine.

Recurrent isolated sleep paralysis (G47.52)

- *Clinical features:* the frightening experience of being unable to perform voluntary movements either at sleep onset (hypnagogic or pre-dormital form) or awakening (hypnopompic or post-dormital form), either during the night or in the morning.
- *PSG:* atonia in peripheral muscles (as in REM sleep) despite desynchronized EEG with eye movements and blinking (i.e. awake). H-reflex activity is also abolished during an episode (as in REM sleep).
- *Prevalence:* as an isolated phenomenon, reported to occur at least once in the lifetime of 40–50% of normal individuals (usually due to sleep deprivation). As a chronic complaint, however, it is much less common. Familial sleep paralysis (without sleep attacks or cataplexy) is exceptionally rare.
- *Differential diagnosis:* narcolepsy (occurs in up to 40% of cases), periodic hypokalaemia (in adolescents, following a high carbohydrate meal, and with low-serum potassium levels during the attack).
- *Management*:
  - Sleep hygiene (Insomnia 2: general management strategies, p. 442), especially avoidance of sleep deprivation, may help to prevent episodes.
  - Persistent problems may respond to REM-suppressant medication (e.g. clomipramine 25mg or an SSRI).

Box 10.8 RBD and synucleinopathies

Recent reports support the association between RBD and synucleinopathies, a set of neurodegenerative disorders that share a common pathological lesion composed of aggregates of insoluble asynuclein protein in selectively vulnerable populations of neurons and glial cells. The major synucleinopathies include Parkinson's disease, DLB, and MSA.[1] Emergence of these disorders, often more than a decade after the onset of idiopathic RBD, is very common. Over 80% of patients with idiopathic RBD develop Parkinsonism/dementia, and conversely the rate of RBD in MSA is >90%, in DLB 50%, and in Parkinson's disease 46%. The fact that a sleep disorder might herald the full expression of a neurodegenerative disease means that an accurate diagnosis could allow early detection and possible early intervention (if such treatments could be developed) to stop or slow

neurodegenerative deterioration before motor and cognitive symptomatology emerge.

1 Iranzo A, Santamaria J, Tolosa E (2016) Idiopathic rapid eye movement sleep behaviour disorder: diagnosis, management, and the need for neuroprotective interventions. *Lancet Neurol* **15**:405–19.

Nightmare disorder (F51.5)

- *Clinical features:* frightening dreams that usually awaken the sleeper from REM sleep, without associated confusion. May be preceded by a frightening or intense real-life traumatic event.
- *PSG:* ↑ REM density, lasting about 10min, terminated by an awakening, usually in the second half of the night.
- *Prevalence:* common (occasional occurrence in ~50% of adults). Frequent nightmares (one or more a week) occur in about 1% of adults.
- *Differential diagnosis:* sleep terrors, RBD, NPs (Nocturnal panic attacks, p. 470), drug and medication side effects (see Box 10.7).
- *Management:* treatment usually unnecessary. If episodes are frequent, distressing, or causing major disturbance to the individual's carers or bed partner—*general measures:* avoidance of stress, discontinuation of drugs that may potentially promote nightmares (see Box 10.7), principles of sleep hygiene (Insomnia 2: general management strategies, p. 442); *medication:* REM-suppressing drugs (e.g. antidepressants). *Note:* sudden discontinuation may lead to exacerbation of the problem with REM rebound.

Other parasomnias

Exploding head syndrome (G47.59)

Despite its name,[24] a benign condition characterized by the experience of a loud noise or the sense of an explosion in the head while falling asleep or awakening. May be associated with seeing a bright flash of light and occasionally with pain. Management is usually just education and reassurance, but case reports suggest efficacy of pharmacotherapy (e.g. clomipramine, flunarizine, nifedipine, topiramate, carbamazepine, methylphenidate).

Sleep-related hallucinations (R29.81)

Not due to narcolepsy or other primary disorder (e.g. Parkinson's disease or dementia), these hypnic hallucinations occur more frequently in adolescents and young adults and may be associated with sleep-onset REM. Often are vivid enough to cause the person to react by jumping out of bed and may lead to injury.

Sleep enuresis (N39.44)

Also known as nocturnal enuresis or bedwetting; there are repeated episodes of involuntary micturition during sleep. Normal in infants

and children under 5yrs; criteria require 2+ episodes per week. May be a secondary symptom in patients with PTSD, victims of abuse, and those with other medical conditions (e.g. diabetes). For management, see Enuresis, p. 680.

Parasomnia due to medical disorder (G47.54)/due to medication or substance (F10-19.x82)/unspecified (G47.50)

These categories capture other parasomnias secondary to medical disorders, medication, other substances, and unknown causes.

Parasomnias: isolated symptoms and normal variants

Sleep-talking (somniloquy) (G47.8)

The common uttering of words or sounds during sleep, without subjective awareness, and speech generally devoid of meaning. Rarely, emotionally charged long 'tirades' occur, with content related to the person's occupation or preoccupation.

- *PSG:* brief partial arousal during non-REM sleep is usually seen on EEG in about 60% of cases. Less commonly, somniloquy may occur during REM sleep, if related to dream content or in association with another disorder of REM sleep.
- *Associated disorders:* confusional arousals, sleep terrors, RBD, SRED.
- *Management:* unless the problem is leading to disruption of sleep in a bed partner or is a secondary symptom of other sleep pathology, treatment is rarely necessary.

Sleep-related dissociative disorders

(See Box 10.9.)

Box 10.9 Sleep-related dissociative disorders

First reported in 1976,[1,2] there is usually a history of traumatic life events such as repeated physical and/or sexual abuse in childhood and/or adulthood. Dissociation also occurs during the day and may be associated with self-harm behaviours. Because they occur during wakefulness (as seen on EEG), they have not been included in parasomnia classifications. They are also known as dissociative pseudoparasomnias, nocturnal (psychogenic) dissociative disorders, and hysterical somnambulistic trance.

They should not be confused with status dissociatus (Status dissociatus/agrypnia excitata, p. 459).

- *PSG:* complex and lengthy behaviours; appear to be re-enactments of previous trauma/abuse; occur during wakefulness after an episode of sleep.
- *Differential diagnosis:* other disorders of arousal (these occur immediately on arousal, whereas dissociative disorders arise 15–60s after arousal, i.e. wakefulness).

- *Management:* treatment involves long-term therapy for the dissociative disorder, which may require inpatient assessment. Night-time BDZs may exacerbate the problem and are best avoided.

1 Schenck CH, Milner DM, Hurwitz TD, *et al.* (1989) Dissociative disorders presenting as somnambulism: polysomnographic, video and clinical documentation (8 cases). *Dissociation* **2**:194–204.

2 Rice E, Fisher C (1976) Fugue states in sleep and wakefulness: a psychophysiological study. *J Nerv Ment Dis* **163**:79–87.

Sleep-related epilepsy

Both sleep and sleep deprivation may activate epileptiform discharges.[25] Indeed there are some epilepsies that occur almost exclusively during sleep. It is generally accepted that NREM is a facilitator of seizure activity (due to progressive neuronal synchronizations that occur in deep sleep stages), whereas REM sleep is a suppressor. Sleep deprivation is thought to increase neuronal excitability and precipitates seizures, especially in patients with awakening epilepsies. Epilepsies with a clear association with sleep occur in West syndrome, Lennox–Gastaut syndrome, benign epilepsy with centrotemporal spikes (BECTS), Panayiotopoulos syndrome, electrical status epilepticus during slow sleep (ESES), genetic generalized epilepsies [e.g. juvenile myoclonus epilepsy (JME), epilepsy with tonic–clonic seizures on awakening], nocturnal frontal lobe epilepsy (NFLE), and other focal nocturnal epilepsies.

Nocturnal frontal lobe epilepsy

NFLE is of particular interest because it may be confused with NREM parasomnias (sleepwalking and night terrors). It is a frontal lobe epilepsy, in which >90% of attacks occur during sleep (usually NREM). Idiopathic, sporadic, familial, or symptomatic forms exist. In fact, it was the first epilepsy in which a genetic basis was detected. The genetic form is heterogenous with autosomal dominant inheritance (ADNFLE). The most frequent (~12%) mutations involve genes coding for subunits of the heteromeric neuronal nicotinic AChRs (nAChRs), and the most frequent aetiology of symptomatic forms is type II focal cortical dysplasia. NFLE usually presents before 20yrs with different types of seizures: (1) brief stereotyped movements of the limbs, axial musculature, or head; (2) paroxysmal arousals that are sudden and brief (5–10s), sometimes accompanied by stereotyped movements, vocalizations, frightened expression, or fear; and (3) major attacks, (lasting 20–30s) with tonic or dystonic posturing, or complex movements such as pelvic thrusting, pedalling, or more violent movements of limbs. Nocturnal PSG with audiovisual recording is often normal, and when the diagnosis is unclear, sphenoidal electrode recording can be helpful.

Management

Treatment of sleep-related epilepsy involves anticonvulsant drugs, BDZs, high-dose steroids, and, for resistant cases, neurosurgery. Other sleep disorders that may worsen epilepsy (e.g. OSA or

insomnia) should be adequately treated to improve seizure frequency. It is worth noting that nocturnal seizures are an independent risk factor for sudden unexpected death in epilepsy (SUDEP), with 56% of events occurring during sleep. Compliance with medication, adequate control of seizures during sleep (especially generalized tonic–clonic seizures), night supervision, use of monitoring devices, avoiding prone position, and treating sleep disorder comorbidities all help to reduce the risk of this fatal complication of epilepsy.

Nocturnal panic attacks

Clinical features

Although not included under NREM-related parasomnias, NPs[26] may be difficult to distinguish from other sleep disorders and are characterized by waking from NREM sleep, with no obvious trigger, in a state of intense fear or discomfort, accompanied by cognitive and physical (autonomic) symptoms of arousal. Symptoms as for panic disorder (Panic disorder 1: clinical features, p. 368). Avoidance of sleep may lead to delayed sleep onset and chronic sleep deprivation.

Polysomnography

- Usually occurs in late N2 or early N3 sleep (particularly during the transition).

Prevalence

- Lifetime prevalence may be 3–5% in non-clinical populations. NPs are common among patients with panic disorder (44–71%).

Risk factors

- Periods of sleep deprivation, withdrawal from alcohol/drugs (especially BDZs, antidepressants); mitral valve prolapse; stimulant use (including caffeine).

Aetiology

- *Physiological*—respiratory drive dysregulation, possibly due to extreme hypercapnia or chronic hyperventilation; heart rate variability during NREM sleep.
- *Psychological*—↑ discomfort related to relaxation, fatigue, and 'letting go' (possible fear of loss of vigilance); low-level somatic sensations of arousal or anxiety act like conditioned stimuli during sleep to elicit fear response and panic.

Associated disorders

- Panic disorder, PTSD, depressive disorder, other anxiety and related disorders, alcohol and substance misuse.

Differential diagnosis

- Panic attacks (*after* awakening), nightmares (during REM sleep), withdrawal syndromes (especially BDZs), sleep terrors, sleep-

related breathing disorders, sleep paralysis (Recurrent isolated sleep paralysis (G47.52), p. 464), nocturnal seizures, PTSD nightmares, anxiety due to nocturnal hallucinations.

Assessment

- Full history, with an emphasis on possible comorbidity (i.e. other anxiety disorders), use of alcohol and drugs. Rating of severity using specific scales, e.g. Nocturnal Panic Screen,[26] and self-monitoring using sleep diary. Additional formal assessment may be necessary for difficult cases and to exclude other treatable sleep disorders (e.g. sleep apnoea, nocturnal seizures).

Management

- *CBT*—most evidence as for panic disorder (Panic disorder 3: management guidelines, p. 372), including modification of maladaptive behaviours (e.g. sleeping with lights or TV on).
- *Pharmacological*—little specific evidence (not systematically studied yet). Case reports support alprazolam or TCAs. Rational approach to prescribing as for daytime panic (Panic disorder 3: management guidelines, p. 372) and/or short-term use of hypnotics to help with secondary sleep avoidance.

Sleep-related violence

Violence and sleep are commonly thought to be mutually exclusive but, in fact, can coexist (see Box 10.10 and Table 10.3). Particularly in more serious forensic cases, a sleep expert workup should include the following.[27]

History of any underlying sleep disorder

- A complete description of the defendant's lifetime history of any sleep-related problems—preferably with third-party corroboration–including details about age at onset, the usual timing of the event, the degree of amnesia, and both the duration and frequency of episodes.
- Information about sleep/wake habits, drugs (prescribed or illicit), herbal products, and habitual caffeine and alcohol consumption/abuse.
- Investigation of any family history of sleep disorders.

Characteristics of the act

- Information about the event including precipitating factors such as attempts to waken the defendant, possible ingestion of drugs/alcohol or medication (recent changes or covertly given), and other circumstantial factors—stressful events, sleep deprivation, excessive fatigue, and intake of alcohol and other substances.

On return to consciousness

- A description of the defendant's reaction (corroborated, if possible), e.g. perplexity, horror, no attempt to escape, amnesia

for the event.

Investigations

- Complete physical, neurologic, and psychiatric evaluations, along with administration of standardized questionnaires for sleep disorders.
- PSG/video evidence to identify or rule out other sleep disorders associated with abnormal motor behaviours (e.g. RBD, NFLE) or triggering events (e.g. OSA, PLMS)—best to combine sleep laboratory studies with home video/PSG recordings.

Box 10.10 Case reports in the medical literature

A recent systematic review[1] of medico-legal cases of SRV and sexual behaviour in sleep (SBS) from 1980 to 2012 identified 18 cases (9 SRV and 9 SBS). All SRV cases were related to a charge of murder or attempted murder, while in SBS cases, the charges ranged from sexual touching to rape. The most used defence was of sleepwalking in 11/18 cases. The outcome was in favour of the defendant in 14/18 cases. Defendants were young ♂ in all cases, and victims were usually adult relatives (in SRV cases) or unrelated young girls or adolescents (in SBS cases). The criminal events occurred 1–2hrs after sleep onset, and both proximity (usually in the same room) and other potential triggering factors (stress, sleep deprivation, excessive alcohol intake, and fatigue, along with caffeine overuse) were reported.

1 Ingravallo F, Poli F, Gilmore EV, *et al*. (2014) Sleep-related violence and sexual behavior in sleep: a systematic review of medical-legal case reports. *J Clin Sleep Med* **10**:927–35.

Table 10.3 Disorders associated with sleep-related violence*

Disorder	State of occurrence	Clinical features	Circumstances of violence
Confusional arousal	Wake/NREM	Incomplete awakening, reduced vigilance, impaired cognition, amnesia	When being forced to wake from sleep
Sleepwalking	Wake/NREM	Like confusional arousals with complex motor activity	Incidental encounter or when approached
Sleep terror	Wake/NREM	Incomplete fearful awakening from NREM sleep	Linked to frightening dream
RBD	Wake/REM	Acting out of dreams	Linked to dream content
RLS/PLMD	All sleep stages	Repetitive, stereotyped limb movements	Accidental
Nocturnal paroxysmal dystonia	All sleep stages (especially N2)	Bipedal automatisms, twisting of trunk/pelvis, vocalizations, posturing of head/limbs	Accidental or related to hyperkinetic features
Epileptic nocturnal wandering	All sleep stages (especially N2)	Like sleepwalking, but more directed violence possible	Accidental or when approached/restrained
Confusional states	Awake	Variable	Variable
Dissociative disorder	Awake	Variable, frequently wandering, amnesia	Self-harm, thrashing, assaults
Malingering	Awake	Variable	Variable

	(evident primary or secondary gain)

[*] Source: data from Mahowald MW, Bundlie SR, Hurwitz TD, *et al.* (1990) Sleep violence—forensic science implications: polygraphic and video documentation. *J Forensic Sci* **35**: 413–32.

Sleep-related movement disorders 1

Essence

Usually relatively simple, stereotyped movements disturbing sleep, and causing insomnia and EDS. Can also be a cause of sleep-related violence (see Table 10.3) and lead to harm to self or others. In DSM-5, 'Restless legs syndrome' is the only specific sleep-related movement disorder (RMD) classified and is included within 'Parasomnias'—all other disorders need to be diagnosed as 'Other specified sleep–wake disorder'. In ICD-10, they may be diagnosed as 'Other non-organic sleep disorder' (F51.8) or coded in other sections—codes in brackets.

Restless legs syndrome (Willis–Ekbom disease) (RLS/WED) (G25.81)

Unpleasant, often painful sensations in the legs, particularly on sleep onset. Significantly interferes with the ability to get to sleep. Usually idiopathic or familial. Exacerbated by caffeine, fatigue, or stress. Associated with sleep disturbance, daytime fatigue, and involuntary, repetitive, periodic, jerking limb movements (when awake or asleep).[28]

- *ICSD-3 criteria*: an urge to move the legs, usually accompanied or thought to be caused by uncomfortable and unpleasant sensations in the legs that: (1) begin or worsen during periods of rest or inactivity (e.g. lying down or sitting); (2) are partially or totally relieved by movement (e.g. walking or stretching); and (3) occur exclusively or predominantly in the evening or night, rather than during the day. Features are not due to a medical or behavioural condition (e.g. leg cramps, positional discomfort, myalgia, venous stasis, leg oedema, arthritis, habitual foot-tapping). The symptoms cause concern, distress, sleep disturbance, or other functional impairment.
- *Prevalence:* ~10% of general population, ♂:♂ = 1:2 (related to parity), greater in over 50s, familial forms present before 45yrs.
- *Pathophysiology:* genetic (autosomal dominant and recessive heritability linked to 12q, 14q, 9p, 20p, 4q, and 17p); abnormalities in the central subcortical DA pathways (SPECT—D2 receptor deficiency); reduced serotonin transporter availability in the brainstem (↑ 5HT levels); impaired iron homeostasis.
- *Associations/secondary causes:* PLMD (85%), pregnancy, uraemia, rheumatoid arthritis, iron deficiency anaemia, folate deficiency, Mg^{2+} deficiency, hypothyroidism, poliomyelitis,

peripheral neuropathy (e.g. diabetes, alcohol), chronic myelopathy, Parkinson's disease, drug-related (e.g. antidepressants; phenothiazines; lithium; Ca^{2+} channel blockers; β-blockers; caffeine; withdrawal from barbiturates, other sedatives, and opiates).

- *Differential diagnosis:* antipsychotic-induced akathisia, ADHD, nocturnal leg cramps, peripheral vascular disease.
- *Investigations:* full history, examination, routine blood tests (FBC, B12, folate, urea, creatinine, fasting blood glucose, TSH, Mg^{2+}, iron levels, ferritin, transferrin saturation, total iron-binding capacity), EMG and nerve conduction studies if neuropathy suspected, PSG rarely needed (unless sleep disturbance persists after treatment).
- *Management*:
  - *General* Treat any secondary causes. Sleep hygiene measures. Avoid caffeine, alcohol, nicotine. Discontinue any medications that are not essential.
  - *Non-pharmacological* Exercise. Movement (walking, stamping) or stimulation of the legs (limb massage, hot/cold showers/baths, hot packs, ointments, vibratory or electrical stimulation).
  - *Medication* Possible agents include: anti-Parkinson agents [L-dopa with carbidopa, ropinirole, rotigotine (patch), pramipexole, bromocriptine], clonazepam, opiates (codeine, oxycodone, methadone, levorphanol tartrate), anticonvulsants (gabapentin, pregabalin), clonidine, iron salts, either alone or in combination.

Periodic limb movement disorder (G47.61)

Also called periodic leg movements in sleep (PLMS)[29]—periodic episodes of repetitive, stereotyped limb movements (involuntary, forceful dorsiflexion of the foot, lasting 0.5–5s occurring every 20–40s throughout sleep). Rare in children, common in over 60s (~34%). May be a feature in up to 15% of patients with insomnia. Movements usually reported by bed partner. Associated with hypertension, headaches (migraine and tension-type), and learning and memory difficulties secondary to disrupted nocturnal sleep and daytime somnolence. PSG may aid diagnosis.

- *Differential diagnosis:* sleep starts (Sleep starts (hypnic jerks) (R25.8), p. 477), drug-related exacerbation (e.g. TCAs, lithium).
- *Management:* reassurance, remove exacerbating factors, clonazepam, levodopa.

Sleep-related leg cramps (G47.62)

Sensations of painful muscular tightness or tension, in the calf (or the foot), occurring during sleep, which awaken the sufferer.

- *Prevalence:* up to 16% of healthy individuals, more common in the elderly.
- *Associated problems:* excessive muscular activity, dehydration, diabetes, arthritis, pregnancy, and Parkinson's disease.

- *Differential diagnosis:* PLMD (painless), muscle spasm due to spasticity following stroke, other neurological causes of muscle spasticity.
- *Management:* only for severe, recurrent symptoms—heat, massage, muscle stretching; quinine sulfate (300mg nocte).

Sleep-related movement disorders 2

Sleep-related bruxism (G47.63)

Clenching and grinding of the teeth during sleep that can result in arousals. The activity may be severe or frequent enough to result in symptoms of temporomandibular joint pain, wearing down of the teeth, or severe injury to the tongue and mouth.

- *Management:* general sleep hygiene measures, removal of exacerbating factors, occlusal splints/night-time bite guard, use of clonazepam.

Sleep-related rhythmic movement disorder (G47.69)

Stereotyped, repetitive movements involving large muscles, usually head and neck (may lead to head injury), typically immediately prior to sleep, sustained into light sleep. Common forms: head banging (*jactatio capitis nocturna*), head rolling, body rocking, body rolling, leg banging, and leg rolling. Sometimes accompanied by loud sound emissions.

- *PSG:* rhythmic movement artefacts during light non-REM sleep, without evidence of epileptiform activity.
- *Prevalence:* common in young children (60% at 9mths), decline with age (25% at 18mths, 8% at 4yrs). More frequent in boys.
- *Associated problems:* developmental problems/psychopathology (older children).
- *Management:* unnecessary in most cases. Parents can be reassured that, in the majority of infants, the disorder will resolve by around the age of 18mths. If injury or social disruption occurs, medication may be used (e.g. low-dose BDZ or antidepressant).

Benign sleep myoclonus of infancy (R25.8)

- A disorder of myoclonic jerks that occur during sleep in infants, typically from birth to 6mths, resolving spontaneously.

Propriospinal myoclonus at sleep onset (R25.8)

Recurrent, sudden muscular jerks in the transition from wakefulness to sleep, which may be associated with severe sleep-onset insomnia.

Sleep-related movement disorder due to a medical disorder (G47.69)/due to a medication or substance (G25.79/F10-F19.x82)

Those disorders that are secondary to either an underlying medical disorder or a particular medication of drug of abuse. Treatment is directed at treating the primary disorder or eliminating the causative agent.

Sleep-related movement disorder unspecified (G47.60) and other sleep-related movement disorder, unspecified (G47.60)

All other movement disorders that do not meet the specific criteria for the other categories.

Isolated symptoms and normal variants

Excessive fragmentary myoclonus (R25.8) Small muscle twitches in the fingers, toes, or corner of the mouth that do not cause actual movements across a joint. Often an incidental finding during PSG. Usually asymptomatic, but sometimes associated with EDS or fatigue.

Hypnagogic foot tremor and alternating leg muscle activation (R25.8) Occurs at the transition between wake and sleep or during light NREM sleep. PSG shows recurrent EMG potentials in one or both feet that are longer than the myoclonic range (>250ms).

Sleep starts (hypnic jerks) (R25.8) Occur at sleep onset and present as sudden, abrupt contractions of muscle groups, usually the legs, but sometimes also involving the arms, neck, or even the entire body. When wakened by jerks, an individual may have the feeling of falling in space ('siderealism'). Sometimes this feeling is so intense and frightening that it can lead to fear of going to sleep, with subsequent sleep-onset difficulties.

- *PSG:* occasional vertex waves, associated with muscular contraction.
- *Prevalence:* 60–70% (essentially a universal component of the sleep onset process).
- *Differential diagnosis:* nocturnal myoclonic jerks (with evident epileptiform activity on EEG), fragmentary myoclonus (during NREM sleep), nocturnal leg myoclonus/PLMD (often associated with RLS), and the rare 'startle disease' or 'hyperekplexia' syndrome (myoclonus occurs following minor stimuli both during wakefulness and sleep).
- *Management:* treatment usually unnecessary. If there is significant interference with sleep—general measures (e.g. avoidance of stimulants such as caffeine and nicotine) or low-dose clonazepam at night.

Sleep–wake disorders related to psychiatric disorders 1

Although unusual for psychiatric patients to present with a primary sleep disorder, it is not uncommon for psychiatrists to have to deal with secondary problems of *insomnia* (not getting enough sleep or feeling 'unrefreshed') or *hypersomnia* (feeling excessively sleepy during the day or sleeping too much), in the context of a primary psychiatric disorder or as a consequence of medication. Equally, *sleep deprivation* may have its own psychological consequences or may precipitate the onset of a psychiatric illness, particularly a manic episode.

Major affective disorders

Alterations in sleep are central symptoms in mood disorders. Initial insomnia, frequent waking (for often prolonged periods), EMW, vivid or disturbing dreams, and daytime fatigue are frequently seen in

major depressive disorder. These features are associated with changes in sleep architecture: shortened REM sleep onset latency, ↑ REM density, reduced TST, reduced SE, ↑ awakenings, ↓ N3 sleep (WS), and a shift of N3 from the first NREM cycle to the second. Occasionally, hypersomnia may be a feature in atypical cases, bipolar affective disorder, and SAD. Episodes of mania may be characterized by marked insomnia and a ↓ need for sleep associated with much reduced TST, reduction in N3 sleep, and no consistent change in REM sleep.

Management

- Treat the primary disorder.
- *Initial insomnia:* use a more sedating antidepressant (e.g. TCA, trazodone, nefazodone, mirtazapine, agomelatine).
- *Hypersomnia:* use a more 'activating' antidepressant (SSRI, reboxetine, bupropion, MAOI, RIMA).

Note: most antidepressants are REM-suppressant and may exacerbate underlying primary sleep disorders (e.g. parasomnias and sleep-related movement disorders), either on commencement or on cessation.

Anxiety disorders

Anxiety disorders commonly disrupt the normal sleep pattern, leading to insomnia, which may be triggered by an acute stressful event. Symptoms include: initial insomnia, frequent waking, reduced TST, and EMW.

Generalized anxiety Typically prolonged sleep onset latency, ↑ stages N1 and N2, less N3, a smaller percentage of REM, and ↑ or normal REM sleep latency.

Panic disorder Sleep-related (nocturnal) attacks may occur with associated intense fear, feelings of impending doom, autonomic arousal, somatic symptoms, and fear of going to sleep (leading to avoidance behaviour, which may present as 'insomnia') (Nocturnal panic attacks, p. 470). As many as 70% of patients with panic disorder have difficulty with sleep-onset and maintenance insomnia, and often report sleep paralysis and hypnagogic hallucinations. Studies in non-depressed patients with panic disorder report normal sleep onset latency and modestly reduced TST and sleep. However, studies in patients with panic and comorbid major depression report features typical of major depression, with substantially prolonged sleep onset latency, reduced TST, sleep disruption, reduced N3, and early REM sleep onset.

PTSD Sleep complaints almost universal in individuals diagnosed with PTSD; indeed, recurrent distressing dreams related to a traumatic event are a core feature of the disorder. Complaints include: nightmares, difficulties initiating and/or maintaining sleep (in 70–90%), sleep paralysis, and RBD. Sleep disturbance soon after

the traumatic event is a risk factor for PTSD, and more severe sleep symptoms in PTSD are associated with depression severity, suicidal tendencies, anxiety, and substance use. Studies find ↑ sleep onset latency, ↓ SE, ↑ wakefulness after sleep onset, ↓ TST, reduction in N2 sleep, ↑ N1 sleep, and variable effects on REM (normal parameters vs reduced REM latency and ↑ REM density).

Social phobia ↑ sleep onset latency, awakening after sleep onset, and reduced TST.

OCD Sleep can become restricted due to engagement in compulsive behaviours. Sleep studies show ↓ TST, ↑ awakenings, shortened REM latency, reduced N3 sleep, and reduced SE.

Management

- Treatment of the primary anxiety disorder will generally improve the patient's ability to initiate and sustain sleep.
- Most anxiolytics tend to be sedating, and it is usual to prescribe a higher dose at night.
- When less sedating drugs, such as SSRIs, are used, additional treatment may be necessary to target persistent sleep problems (e.g. cognitive behavioural techniques, short-term use of hypnotics, or a small dose of a more sedating antidepressant at bedtime).
- Behavioural sleep interventions are effective in reducing night-time symptoms in PTSD, e.g. imagery rehearsal for chronic nightmares, stimulus control/sleep restriction for insomnia (see Box 10.3).
- Prazosin, an α_1-adrenergic receptor antagonist, has emerged as a promising treatment of PTSD-related sleep disturbance, including both nightmares and insomnia symptoms (off licence in the UK).

Borderline personality disorder

Sleep architecture changes very similar to those seen in depresssion: reduced TST, reduced SE, reduced N3, ↑ N2, reduced REM latency, and ↑ REM density.

Sleep–wake disorders related to psychiatric disorders 2

Schizophrenia

Patients with schizophrenia demonstrate ↑ nocturnal wakefulness and daytime somnolence. PSG shows sleep continuity disturbance, reduced N3, ↓ REM latency, and ↑ REM sleep. It is often difficult to disentangle the effects of medication, active positive symptoms, persistent negative symptoms, and disorganized behaviour, and

some studies show relatively little change in sleep. Research has suggested an inverse relationship between SWS (N3)/sleep maintenance and brain ventricle size/negative symptoms in schizophrenia.

Management

- *EDS*: monitor effects of antipsychotic medication; adjust timing and dosage.
- *Insomnia:* general sleep hygiene measures, with emphasis on behavioural approach when 'disorganization' is a central feature; judicious use of hypnotics or higher dose of sedating antipsychotic before bedtime.

Eating disorders

Patients with bulimia may report EDS, but sleep studies show very little change in sleep parameters. Studies in anorexia nervosa have been more contradictory, perhaps due to the high rates of comorbidity with affective disorders and frequent family history of affective disorders in anorexia patients (hence, PSG similar to depression). In *severe* or untreated cases of anorexia nervosa, insomnia and frequent waking are very common. Sleep studies show reduced TST, ↓ SE, ↑ wakefulness after sleep onset, shortened REM latency, ↑ N1, and ↓ N3 sleep, which normalize after weight is gained.

Management

- Treatment of the primary eating disorder to establish better eating behaviours and re-establish normal BMI.
- General principles for insomnia and EDS (Insomnia 2: general management strategies, p. 442).
- Possible use of SSRI or alternative antidepressant.

Dementia

Normal ageing is associated with ↑ sleep latency, reduced TST, loss of NREM sleep, frequent arousals leading to fragmentation of nocturnal sleep, and an increase in daytime napping.

- Some sleep–wake disorders (e.g. sleep apnoea syndromes, PLMD) occur more frequently in the elderly population.
- Dementia generally causes further increases in sleep latency, further reductions in TST, and ↑ fragmentation of nocturnal sleep, in proportion to the severity of the illness.
- Disorders of normal circadian rhythm are also commonly seen, with a characteristic 'sundown syndrome' of confusion and agitation at bedtime (nocturnal agitated wandering).

Management

- General sleep hygiene measures (with an emphasis on establishing and reinforcing a normal 24-hr circadian cycle

through the use of environmental cues, daily routine, avoidance of daytime napping, and regular activities).
- 'Sundown syndrome' may respond to low-dose antipsychotics (e.g. haloperidol, risperidone) or antidepressants (e.g. trazodone).

Alcohol use

Alcohol most probably exerts its sedative effects through a combination of GABA facilitation and glutamate inhibition. The acute effects of alcohol lead to reduced sleep latency, ↑ TST, ↑ N3, mild suppression of REM sleep in the first half of the night, and subsequent ↑ REM sleep in the second half, associated with sleep disruption, intense dreaming, and even nightmares. Chronic effects of alcohol abuse include loss of N3, sleep disruption, and significant insomnia. Withdrawal from alcohol is also associated with insomnia. Sleep architecture is disrupted, with ↑ sleep latency, reduced TST, loss of N3, and ↑ REM density and/or amount. 'Delirium tremens', with marked agitation, confusion, and hallucinations, is characterized by intense REM rebound.

Use of other recreational drugs

- *Nicotine:* this tends to cause initial insomnia and may be associated with sleep disruption and ↑ REM sleep. Use of nicotine patches has been associated with vivid dreams and nightmares.
- *Cannabis:* hypnotic effects modulated by cannabinoid-1 receptors. Appear to be similar to the effects of BDZs and alcohol, increasing NREM and suppressing REM sleep. Cessation may lead to problems of initial insomnia, sleep disruption, and REM rebound.
- *Opiates:* although sleep is improved when opiates are used therapeutically for pain relief or in the treatment of RLS, misuse is associated with generalized sleep disruption. Changes in sleep architecture include decrease in SE, TST, N3, and REM sleep. Withdrawal symptoms include insomnia, with fragmentation of sleep and disruption of normal sleep architecture, related to ↑ arousal and REM rebound.
- *Stimulants:* the effects of amphetamine and cocaine include reduced REM sleep and ↑ sleep and REM latency. Xanthines (caffeine, theophylline) have similar effects, acting through adenosine receptors, directly interfering with the generation of sleep. Amphetamine derivatives, e.g. fenfluramine and MDMA (ecstasy), have a pharmacological action that is primarily serotonergic, which may lead to both daytime sedation and disturbed sleep (due to periods of drowsiness and wakefulness), as well as a reduced duration of REM sleep. SWS may be ↑ during the withdrawal phase as a rebound phenomenon.

Psychiatric medication and sleep

Antipsychotic drugs

Most antipsychotics cause drowsiness and impaired performance. There is a great degree of variability, even within groups of antipsychotics (see Table 10.4).

Table 10.4 Sedative effects of antipsychotics

Marked sedation	Moderate sedation	Mild sedation	Minimal sedation
Chlorpromazine	Asenapine	Flupentixol	Amisulpride
Clozapine	Benperidol	Haloperidol	Aripiprazole
Levomepromazine	Droperidol	Lurasidone	
Pericyazine	Fluphenazine	Paliperidone	
	Loxapine	Pimozide	
	Olanzapine	Pipotiazine	
	Perphenazine	Quetiapine	
	Promazine	Risperidone	
	Thioridazine	Sulpiride	
	Zuclopenthixol	Trifluoperazine	

Antidepressants

Sedating

- TCAs are usually sedative due to their anticholinergic effects. Amitriptyline, trimipramine, doxepin, imipramine, clomipramine are the most sedating, and nortriptyline is the least sedating.
- Tetracyclic antidepressants (mianserin) and trazodone also have marked sedating properties, although less related to anticholinergic properties and may be due to 5-HT_2 and histamine antagonism—properties shared by some newer antidepressants (e.g. mirtazapine).
- Agomelatine may promote sleep by melatonin (MT1/MT2) agonism.

Alerting

MAOIs, SSRIs, NA reuptake inhibitors (NARIs) (reboxetine), DA reuptake inhibitors (DARIs) (bupropion), and SNRIs (venlafaxine, duloxetine) all tend to have alerting effects, which may be useful in the treatment of hypersomnolence associated with 'atypical' depression, and should be taken in the morning or early afternoon.

Mood-stabilizing drugs

- *Lithium:* mildly sedating (increasing N3 and reducing REM).
- *Carbamazepine:* may cause drowsiness at start of treatment or when dose is being i, but this is usually a transient effect.

- *Sodium valproate:* mild effects on sleep—less than carbamazepine.
- *Lamotrigine:* iREM and dδ with little daytime somnolence—some patients (~7%) may notice an alerting effect with associated insomnia.

Benzodiazepines and associated hypnotics

By definition, BDZs and barbiturates are sedating. Problems arise due to withdrawal insomnia on discontinuation, tolerance to the beneficial hypnotic effects after long-term use, and problems of dependence. Newer hypnotics, such as the z-drugs, share the sleep-enhancing properties of BDZs but may be less likely to cause rebound or dependence (see Table 10.5).

Table 10.5 Polysomnographic effects of hypnotics

Drug	Acute effects	Withdrawal	Comments
Barbiturates	TST, N2, spindles WASO, REM δ	TST	Rapid development of tolerance, withdrawal insomnia, daytime sedation
BDZs	TST, N2, spindles SL, WASO, REM, δ	TST	Wide variation in onset and duration of action (see Table 10.1) Long $T_{1/2}$: EDS Short $T_{1/2}$: tolerance, withdrawal insomnia
Z-drugs/melatonin	TST SL δ, REM	or WASO	No typical alteration of sleep architecture or withdrawal effects

Key: BDZ = benzodiazepine; TST = total sleep time; WASO = waking after sleep onset; SL = sleep latency; δ = N3/slow-wave sleep; EDS = excessive daytime somnolence.

Psychostimulant drugs

Although very useful in the treatment of hypersomnia (particularly in narcolepsy) and ADHD and to suppress appetite, this group of drugs all tend to cause insomnia, with fragmented sleep due to frequent awakenings (e.g. dexamfetamine, methylphenidate, methamphetamine, mazindol, pemoline, and modafinil) and should not be taken in the evening. Cessation, with the notable exception of modafinil, leads to increases in TST and REM rebound.

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3 Rechtschaffen A, Kales A (1968) *A Manual of Standardized Terminology, Techniques and Scoring System for Sleep Stages of Human Subjects*. Washington, DC: US Government Printing Office, Public Health Service.

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Chapter 11

Reproductive psychiatry, sexual health, and gender-related issues

Introduction

Of necessity, this chapter is an amalgam of a number of areas in psychiatry that overlap but which are important subspecialties in themselves. They intersect with other medical specialties, including gynaecology, obstetrics, urology, and general practice. Most services will be integrated with their medical counterparts, as the assessment process necessitates a more holistic approach, even to the point where psychiatrists are employed in obstetric departments and offer a perinatal service for pregnant and post-partum women. It is true to say that research has formerly focused more on ♀ reproductive psychiatry. This does not mean that men do not have their share of problems in this area, rather that the research base is relatively lacking at this point in time.

Mental health problems can arise at various milestones in an individual's physiological, psychological, and social development. It is important to include issues relating to normal physiological changes, hormonal factors, sexual orientation and its expression, and sexual function when considering associated predisposing, precipitating, and perpetuating factors.

Other important considerations relate to side effects and risks of the medications we prescribe for the treatment of mental disorders. These are covered in the therapeutic section of this handbook, e.g. prescribing during pregnancy (Prescribing in pregnancy, p.

1028) and prescribing during lactation (Prescribing in lactation, p. 1030).

It is also vital that psychiatrists are involved in assessing the presence or *absence* of psychiatric disorder when it comes to major life decisions such as those generated by disorders of gender identity (Gender identity and gender dysphoria 1: overview, p. 508). The taboo associated with many of the topics covered in this section, even in the twenty-first century (and despite—or perhaps *because of*—the popular media), means that psychiatrists will often have an educative role. There are still many myths that need to be dispelled.

Equally, many psychiatrists have neither the theoretical framework nor the experience to deal competently with reproductive or sexual issues. While this text can serve as an introduction to the topic and offers some signposts to management, there is no substitute for seeking expert advice when confronted with complex problems.

Menstrual-related disorders

Premenstrual symptoms

Characteristic physical signs and symptoms affect up to 75% of women with regular menstrual cycles. The most common presentations are abdominal bloating (in 90% of women with any symptoms), breast tenderness, and headaches. These mild symptoms do not usually interfere with a woman's ability to function. *Management*—premenstrual symptoms that do not meet premenstrual syndrome (PMS) or premenstrual dysphoric disorder (PMDD) criteria are initially managed conservatively, unless there is significant psychiatric comorbidity. Management involves a diet low in salt, fat, caffeine, and sugar; restriction of alcohol and tobacco; exercise; and stress reduction. If there is no adequate response to conservative management in 2–3mths, a trial of an SSRI may be considered.

Premenstrual syndrome or tension

(For further details, see Premenstrual disorders, p. 490.) Clinically significant PMS occurs in 20–30% of women, with severe impairment in about 5%, including associated PMDD. PMS is characterized by the presence of both physical and behavioural symptoms that recur in the second half of the menstrual cycle, and often in the first few days of menses. The most common behavioural symptoms are fatigue, labile mood, irritability, tension, depressed mood, ↑ appetite, forgetfulness, and difficulty concentrating (see Table 11.1). These symptoms must be severe enough to impair the patient's social and occupational functioning. The most common diagnostic criteria used are: University of California San Diego (UCSD) criteria for PMS.[1] Women with PMS

have a higher incidence of affective and anxiety disorders and are at greater risk of having them in the future. The reason for this correlation is not yet known. Premenstrual tension (PMT) syndrome is in ICD-11's 'Diseases of the genitourinary system'.

Premenstrual dysphoric disorder

(See also Premenstrual disorders, p. 490.) After appearing as a research diagnosis in DSM-IV, PMDD appears in the main index of DSM-5 as one of the depressive disorders, characterized by the regular presence of dysphoric and labile mood, irritability, and anxiety in the premenstrual period, relieved around the onset of menses. There must be associated distress and functional impairment. *Incidence:* 2–8% of women with regular menstrual cycles. There is no evidence for cultural, ethnic, or socio-economic differences in prevalence. *Note:* criteria require behavioural symptoms only; the presence of physical symptoms is not required. PMDD may be diagnosed in addition to other mental disorders if symptoms can be clearly differentiated. In ICD-11, it appears in 'Diseases of the genitourinary system'.

Menopausal disorders

There is an ↑ incidence of anxiety and depression in peri- or post-menopausal women. This is not related directly to hormonal changes. Rather, patients presenting with mood-related problems around the menopause experience coincident psychosocial stressors,[2] and the changes in gonadal hormones may exacerbate pre-existing mood disorders.[3] *Assessment*—exclude other causes of mood disturbance. Particular attention paid to past psychiatric history and current social history. *Management*—evidence for HRT is inconclusive, although if mood symptoms are secondary to physical symptoms, this may have a role (HRT may also augment the effects of antidepressants).[4] Treatment is with standard approaches for depression/anxiety.

Table 11.1 Most frequent premenstrual symptoms*

Symptom	Frequency (% of cycles)
Fatigue	92
Irritability	91
Bloating	90
Anxiety and/or tension	89
Breast tenderness	85
Mood lability	81
Depression	80
Food cravings	78
Acne	71
appetite	70
Over-sensitivity	69
Swelling	67
Expressed anger	67
Crying easily	65
Feeling of isolation	65
Headache	60
Forgetfulness	56
GI symptoms	48
Poor concentration	47

* Reprinted from Mortola JF, Girton L, Beck L, *et al.* (1990) Diagnosis of premenstrual syndrome by a simple prospective reliable instrument. *Obstet Gynecol* **76**(2):302–307 with permission from Wolters Kluwer.

Premenstrual disorders

Aetiology

Evidence supports a genetic vulnerability conferring ↑ sensitivity to normal changes in hormone levels throughout the menstrual cycle. This causes alterations in the normal cyclic ovarian steroid interactions with central neurotransmitters and neurohormones. Cyclic changes in ovarian steroids alone do not lead to PMS/PMDD. Most evidence supports involvement of the serotonergic system, endorphins, and GABA and the renin–angiotensin–aldosterone system. The autonomic and peripheral nervous systems may be involved in certain symptoms. Minimal or no evidence for: trace vitamin and element deficiencies, personality factors, and stress. Stress also has little effect on PMS severity, and PMS is more likely to cause stress than vice versa.

Morbidity

These disorders can extend over a woman's entire reproductive cycle, from age of ~14 to 50. Symptoms are relatively constant between cycles and can cause an aggregate total of years of disability over a lifetime. This negatively affects quality of life and can have both direct and indirect economic consequences.

Psychiatric consultation

For already diagnosed premenstrual symptoms, this is rare unless emotional symptoms are marked and/or there are vegetative symptoms, suicidal ideation, or a frequent inability to function.

Differential diagnosis

Up to 40% of women presenting to a physician with presumed PMS have another mood disorder; many meet the criteria for a depressive or anxiety disorder.[5] PMDD can be a premenstrual exacerbation of an underlying psychiatric disorder or of a medical condition. Medical disorders such as migraine, CFS, and IBS can have exacerbations prior to, or during, menses. Exclude perimenopause, gynaecological disorders (dysmenorrhoea, post-partum status, polycystic ovary disease, and endometriosis), hypothyroidism, and nutrient deficiencies (e.g. manganese, magnesium, B vitamins, vitamin E, and linoleic acid).

Investigations

- There are no specific tests diagnostic of premenstrual disorders. Prospective charting of daily symptoms for at least two menstrual cycles is essential to confirm the cyclical pattern.
- If menses are not regular and/or if they have a length of <25 days or >36 days, referral should be made for a reproductive endocrine evaluation.
- For concomitant medical conditions, consultation with a GP or gynaecologist for a physical examination and exclusion of medical disorders, as well as appropriate routine blood tests, including TFTs, may be warranted.

Assessment tools

The Prospective Record of the Impact and Severity of Menstruation (PRISM), the Calendar of Premenstrual Experiences (COPE), and the Daily Record of Severity of Problems (DRSP). The DRSP is available online at: www.aafp.org/afp/2011/1015/afp20111015p918-fig1.pdf [accessed 8 July 2018].

Treatment of PMS and PMDD

First-line therapy

- Antidepressants are effective for PMDD, with fluoxetine the most studied. At a dose of 20mg/day, the overall response is 60–75%. Other SSRIs and venlafaxine have also shown efficacy in placebo-controlled trials.
- Luteal phase therapy: therapy in the luteal phase alone, starting 14 days prior to the expected next menses, and terminating with

the onset of menses.

Second-line therapy

- Alprazolam (250–500µg tds) for luteal phase depression.
- For severe PMDD refractory to other treatment, refer to a specialist. Potential treatments include medical oophorectomy with a GnRH agonist (e.g. leuprorelin, danazol). There are significant side effects related to hypo-oestrogenism (e.g. hot flashes, long-term effects of oestrogen deficiency, osteoporosis, etc.). For patients who respond well, treatment can continue over the long term (>6mths), with continuous add-back of oestrogen (+ progesterone when indicated) to decrease and/or prevent these side effects. For rare, refractory cases with severe disabling symptoms, surgical bilateral oophorectomy may be considered.

Other promising possible treatments or adjuncts

- RCTs initially failed to demonstrate the effectiveness of OCP in treating PMS or PMDD. Newer placebo-controlled trials are showing that a 24-day (rather than 21-day) hormonal formulation is efficacious for PMDD.[6]
- Diuretics for severe oedema, e.g. furosemide, spironolactone; danazol for mastalgia.
- There is some evidence for the efficacy of pyridoxine (vitamin B6) (no more than 100mg/day), vitamin E, calcium, vitamin D, and magnesium.
- No evidence for multiple other treatment options, including progesterone treatment, ginkgo biloba, evening primrose oil, and essential free fatty acids.

Disorders associated with pregnancy

Anxiety/mood symptoms in normal pregnancy

Although there is usually an increase in symptoms of anxiety and depression during pregnancy, these are quite normal and usually related to 'adjustment' in the first trimester and 'fears' in the third trimester. Unless there is a past history of psychiatric illness, there is no reported increase in the incidence of psychiatric disorders.[7] *Risk factors*—family or personal history of depression; ambivalence about the pregnancy; high levels of neuroticism; lack of marital, family, or social supports. *Treatment*—usually will focus on psychosocial interventions; specific psychiatric disorders should be identified and treated appropriately (Prescribing in pregnancy, p. 1028).

Miscarriage and abortion

There is an increase in psychiatric morbidity, with over 50% of women experiencing an adjustment disorder (grief reaction) with significant depressive symptoms.[8] Chronic symptoms are rare, but risk is ↑ when there is a history of previous miscarriage or

abortion, or where conflict is experienced related to religious or cultural beliefs.

Hyperemesis gravidarum[9]

Vomiting in pregnancy that is sufficiently pernicious to produce weight loss, dehydration, acidosis from starvation, alkalosis from loss of hydrochloric acid (HCl) in vomitus, and hypokalaemia. Occurs in 1–20/1000 pregnant women. Although psychological factors may be important in benign forms, these are now regarded as secondary, rather than primary (i.e. *not* a somatoform disorder). *Complications*—muscle weakness, ECG abnormalities, tetany, psychological disturbance, and more seriously (but rarely): oesophageal rupture, Wernicke's encephalopathy, central pontine myelinosis, retinal haemorrhage, renal damage, spontaneous pneumomediastinum, intrauterine growth retardation, and fetal death. *Associations*—transient hypothyroidism (60%), *Helicobacter pylori* infection. *Management*—admission to hospital (~24%), parenteral fluid, electrolyte replacement, vitamin supplementation, anti-emetics or short-term steroids, diazepam (for nausea and associated distress).

Pseudocyesis

A condition in which a woman firmly believes herself to be pregnant and develops objective pregnancy signs (abdominal enlargement, menstrual disturbance, apparent fetal movements, nausea, breast changes, labour pains, uterine enlargement, cervical softening, urinary frequency, positive pregnancy test) in the absence of pregnancy.[10] *Differential diagnosis*—possible medical disorders should be excluded (ectopic pregnancy, corpus luteal cyst, placenta praevia, pituitary tumour, pelvic tumour). *Aetiology*—regarded as a somatoform disorder or a variant of depression, it may present as a complication of post-partum depression or psychosis with amenorrhoea. It may be related to Couvade's syndrome in expectant fathers (Dictionary of psychiatric symptoms, p. 105). *Treatment*—tends to include supportive or insight-orientated psychotherapy and a trial of an antidepressant.

Childbearing in patients with pre-existing mental disorders

Schizophrenia Patients who remain on treatment are less likely to relapse post-partum, compared to affective disorders or other psychosis diagnoses. Around 20% of those admitted to inpatient setting prior to pregnancy will relapse. Lifestyle factors related to illness are linked to poorer outcomes for the parent/child, e.g. multiple partners, no current partner, unplanned pregnancy, risky behaviours, victims of violence, unemployment, young, socially disadvantaged, substance misuse, poor antenatal care attendance.

Bipolar disorder Two-thirds of women will experience a relapse of illness post-partum. ↑ risk: family history of post-partum psychosis, 4+ illness episodes pre-pregnancy, (rapid)

discontinuation of medication during pregnancy. Recurrence of relapse in later pregnancies: 50–90%.

Anxiety and panic disorders Anxiety symptoms and potential harm to baby unclear across multiple studies. Evidence of panic disorder relapse is conflicting—some studies show symptom reduction during pregnancy.

PTSD No clear data regarding relapse; however, possible ↑ risks for complications of pregnancy.

OCD Small studies indicate ~30% worsening in symptoms during pregnancy.

Eating disorders Several studies report symptoms improve during pregnancy; however, ↑ risk of postnatal depression and poorer health outcomes for baby.

ID Borderline and mild ID patients are more likely to become pregnant than moderate or severe ID patients. Parent's IQ is not main issue, unless <60; rather, child's age, gender, temperament, family size, other mental health issues in the family result in social difficulties similar to schizophrenia.

Personality disorders Many can parent adequately; others cannot, and diagnosis cannot discriminate between them. Assessment of their ability to meet a child's needs and awareness of exposure to social factors similar to ID and schizophrenia is important. Multidisciplinary input is required when associated with chaotic lifestyles, substance misuse, and comorbidity.

Disorders related to childbirth

Always ask about thoughts of self-harm or harming the baby.

Despite the significant life event that pregnancy is, psychiatric admission and completed suicide are surprisingly less common in pregnancy. There may be subclinical mild anxiety or mood disturbance, worse in the third and first trimesters. A 10% risk of significant depression is seen in the first trimester, associated with a history of depression, abortion, intrauterine loss, or unwanted pregnancy. Third trimester depression may persist as post-partum depression. DSM-5 includes 'with peripartum onset' as a specifier for depression or mania occurring during pregnancy or in the 4wks following delivery, and 'with post-partum onset' for brief psychotic episodes. ICD-10 coded these disorders as 'Mental and behavioural disorders associated with the puerperium', whereas ICD-11 has a separate broader category 'Mental or behavioural disorders associated with pregnancy, childbirth or the puerperium, with/without psychotic symptoms'.

Baby blues

Up to three-quarters of new mothers will experience a short-lived period of tearfulness and emotional lability, starting 2–3 days after birth and lasting 1–2 days. This is easily recognizable by midwifery staff and requires only reassurance and observation towards resolution. There is weak evidence that it may relate to post-partum

reductions in the levels of oestrogen, progesterone, and prolactin (which do occur around 72hrs after the birth).

Postnatal depression

A significant depressive episode, temporally related to childbirth, occurring in 10–15% of women within 6mths post-partum (peak 3–4wks). The clinical features are similar to other depressive episodes, although thought content may include worries about the baby's health or being able to cope with the baby. There may be a significant anxiety component. Ninety per cent of cases last <1mth; 4% >1yr. **Risk factors** Personal/family history of depression, older age, single mother, poor relationship with own mother, ambivalence towards or unwanted pregnancy, poor social support, additional psychosocial stressors, severe 'baby blues', previous post-partum psychosis (no evidence for association with obstetric complications). **Management** Early identification; close monitoring of those 'at risk' [Edinburgh Postnatal Depression Scale (EPDS) in primary care setting'; see Box 11.1]; education, support, and appropriate pharmacological intervention; depressive episode treated in usual way with antidepressants and/or brief CBT; if severe or associated with thoughts of self-harm or harm to baby, may require hospital admission.

Post-partum psychosis

An acute psychotic episode, occurring following 1.5/1000 live births, peak occurrence at 2wks post-partum. **Aetiology** Unknown, but may relate to a reduction in oestrogen levels (leading to DA super-sensitivity), cortisol levels, or post-partum thyroiditis. **Symptoms** Three common clinical presentations: *prominent affective symptoms* (80%): mania or depression with psychotic symptoms; *schizophreniform disorder* (15%); *acute organic psychosis* (5%). **Common features** Lability of symptoms; insomnia; perplexity, bewilderment, and disorientation; thoughts of suicide or infanticide. **Risk factors** Personal or family history of major psychiatric disorder; lack of social support; single parenthood; previous post-partum psychosis (30% risk of psychosis; 38% risk of postnatal depression). **Management** *Prevention*—identification, education, support, and treatment of 'at-risk' individuals; *Treatment*—admission to hospital (specialist mother–baby unit, if possible); for major affective disorder, there is good evidence for ECT, mood stabilizers (especially carbamazepine), and early use of antidepressants; psychotic symptoms should be treated with usual protocol (Initial treatment of acute psychosis, p. 200).

Box 11.1 Edinburgh Postnatal Depression Scale (EPDS)*

As you have recently had a baby, we would like to know how you are feeling. Please UNDERLINE the answer which comes closest to how you have felt IN THE PAST 7 DAYS, not just how you feel today.

I have been able to laugh and see the funny side of things.

As much as I always could/Not quite so much now/Definitely not so much now/Not at all

I have looked forward with enjoyment to things.

As much as I ever did/Rather less than I used to/Definitely less than I used to/Hardly at all

*__I have blamed myself unnecessarily when things went wrong__.

Yes, most of the time/Yes, some of the time/Not very often/No, never

I have been anxious or worried for no good reason.

No, not at all/Hardly ever/Yes, sometimes/Yes, very often

*__I have felt scared or panicky for not very good reason__.

Yes, quite a lot/Yes, sometimes/No, not much/No, not at all

*__Things have been getting on top of me__.

Yes, most of the time I haven't been able to cope at all/
Yes, sometimes I haven't been coping as well as usual/
No, most of the time I have coped quite well/
No, I have been coping as well as ever

*__I have been so unhappy that I have had difficulty sleeping__.

Yes, most of the time/Yes, sometimes/Not very often/No, not at all

*__I have felt sad or miserable__.

Yes, most of the time/Yes, quite often/Not very often/No, not at all

*__I have been so unhappy that I have been crying__.

Yes, most of the time/Yes, quite often/Only occasionally/No, never

*__The thought of harming myself has occurred to me__.

Yes, quite often/Sometimes/Hardly ever/Never

Responses are scored 0, 1, 2, and 3, according to  severity of symptoms. Items marked with an asterisk are reverse scored (i.e. 3, 2, 1, and 0). Total score of 12+ is significant.

Sexual dysfunction 1: general principles

A brief note on 'talking about sex'

Discussing sexual issues, particularly sexual dysfunction, may be embarrassing for the individual, and this is compounded if the clinician is also uncomfortable. Aside from experience of asking about these issues, a few general principles should be borne in mind.

- An empathic, non-judgmental, understanding approach is essential.
- Acknowledge the difficulty in talking about sexual problems.

- Reassure that such problems are common and are treatable.
- Avoid 'medical' terminology (or explain adequately any terms used).
- Start with general enquiries before moving on to more specific issues.
- Do not make *any* assumptions (especially orientation, practices, experience, number of partners).
- Be aware of common sexual myths (see Box 11.2).

Defining sexual dysfunction

Despite disagreement about what constitutes 'normal', there is general consensus that sexual dysfunction is present when there are persistent impairments of normal patterns of sexual interest or response. Usually these manifest as lack or loss of interest/enjoyment of sexual activities, the inability to experience or control orgasm, or a physiological barrier to successful sexual intercourse. Criteria for a diagnosis of sexual dysfunction include:

- Inability to participate in a preferred sexual relationship.
- Presence of sexual dysfunction on (almost) all occasions.
- Duration of at least 6mths.
- Significant stress or interpersonal difficulties.
- Not accounted for by a physical disorder, drug treatment (or use), or other mental or behavioural disorder.

Subclinical problems

Certain individuals will not meet strict criteria for a specific diagnosis but nevertheless experience significant distress. Usually these problems are adjustment difficulties related to timing, frequency, and method of initiating sexual activity. Any treatment tends to be supportive (for the patient and their partner) and educative (sex education; see Box 11.3).

Classification of sexual dysfunctions

ICD-10 separates dysfunction due to physical causes from those due to psychological problems, classifying the latter in the category 'Sexual dysfunction, not caused by organic disorder or disease', within 'Behavioural syndromes associated with physiological disturbances and physical factors'. DSM-5 has a separate section 'Sexual dysfunctions', and ICD-11 places 'Sexual dysfunctions' and 'Sexual pain disorders' within a new section 'Conditions related to sexual health', separate from 'Mental, behavioural or neurodevelopmental disorders'.

Box 11.2 Common sexual myths

- Men should not express their emotions.
- All physical contact must lead to sex.
- Good sex leads to a wild orgasm.
- Sex = intercourse.
- The man should be the sexual leader.
- Women should not initiate sex.
- Men feel like sex all the time.

- Women should always have sex when her partner makes sexual approaches.
- Sex is something we instinctively know about.
- 'Respectable' people should not enjoy sex too much and certainly never masturbate.
- All other couples have 'great' sex, several times a week, have an orgasm every time, and always orgasm simultaneously.
- If sex is not good, there is something wrong with the relationship.

Source: data from Andrews G and Jenkins R (eds) (1999) Management of mental disorders, UK edn, vol. 2, *Sexual Dysfunction*, pp. 612–13. Sydney: World Health Organization Collaborating Centre for Mental Health and Substance Abuse.

Box 11.3 Common triggers for sexual problems

- *Psychological* Relationship problems; life stressors; anxiety/depression; low self-esteem; sexual performance anxiety; excessive self-monitoring of arousal; feelings of guilt about sex; fear of pregnancy or STDs; lack of knowledge about sexuality/'normal' sexual responses; previous significant negative sexual experience (especially rape or childhood sexual abuse issues).
- *Environmental* (Fear of) interruptions (e.g. from children, parents); physical discomfort.
- *Physical* Use of drugs or alcohol; medication side effects; pain or discomfort due to illness; feeling tired or 'run down'; recent childbirth.
- *Factors related to the partner* Sexual attractiveness (gender, physical characteristics); evidence of disinterest, constant criticism, inconsideration, and inability to cope with difficulties (especially sexual); sexual inexperience/poor technique; preference for sexual activities that are unappealing to the partner.

Sexual dysfunction 2: problems common to men and women

Sexual dysfunction is common in the general population, with a lifetime prevalence in young adults as estimated in Table 11.2.[11]

Table 11.2 Prevalence of sexual dysfunction in young adults

Problem	♂	♀
Reduced libido	30%	40%
Arousal difficulties	50%	60%
Reaching orgasm too soon	15%	10%
Failure to have orgasm	2%	35%
Dyspareunia	5%	15%

Lack or loss of sexual desire

Lack of pleasure in anticipating, or reduced urge to engage in, sexual activity. May be *primary* (always has been absent) or *secondary* (has declined recently), *situational* (specific settings or partners), or *total*. For a diagnosis, the loss of desire ought not to be secondary to other sexual problems (e.g. dyspareunia or erectile failure). **Differential diagnosis** Sexual aversion, lack of sexual enjoyment, depression, physical causes (chronic pain, endocrine disturbance, effects of drugs or alcohol).

Management

- Treat any primary cause found (physical, psychological, psychiatric).
- Establish the reasons for seeking help, provide information (e.g. common triggers; see Box 11.3).
- Address general relationship issues.
- Consider specialist referral (behavioural work and graded individual and couple exercises require an experienced therapist (e.g. 'sensate focus' techniques; see Box 11.4).

Sexual aversion and lack of sexual enjoyment

Sexual aversion Strong negative feelings, fear, or anxiety due to prospect of sexual interaction; of sufficient intensity to lead to active avoidance of sexual activity.

Lack of sexual enjoyment Lack of appropriate pleasure, despite normal sexual responses and achievement of orgasm.

Management Both conditions tend to be related to difficult and complex psychosocial factors, often stemming from a previous traumatic sexual experience (e.g. rape or molestation). For this reason, only a skilled, experienced therapist should attempt treatment. Where possible, refer to a specialist service. Establishing the reasons for seeking help may clarify sensible outcome goals.

Excessive sexual desire

Occasionally, ↑ sexual drive may occur, presenting as a problem for individuals, partners (on whom 'unreasonable' demands are made), or carers (when sexual disinhibition occurs). Referred to as *nymphomania* (women) or *satyriasis* (men). Usually occurs in late

teenage/early adulthood, secondary to a mood disorder (e.g. mania), in the early stages of dementia, associated with ID, secondary to brain injury, or as a side effect of some drugs. **Management** Treatment should address any problem and general relationship issues. When the problem is persistent, specialist referral may be appropriate (for cognitive, behavioural, or, rarely, pharmacological therapy).

Box 11.4 'Sensate focus' (Masters and Johnson, 1966)*

A series of specific exercises for heterosexual couples (essentially a form of *in vivo* 'desensitization' to reduce sexual anxiety), initially encouraging each partner to take turns in paying attention to their own senses. There are a number of stages to a course of therapy:

Stage one The couple take turns to touch each other's body (with the breasts and genitals off limits), to establish an awareness of sensations (touching and being touched) and usually in silence (to avoid distractions). If sexual arousal does occur, they are not to proceed to intercourse. If any touch is uncomfortable, the partner being touched must let his or her partner know, either verbally or non-verbally.

Stage two Touching is expanded to include the breasts and genitals, still with an emphasis on awareness of sensations, and not the expectation of a sexual response (intercourse and orgasm are still prohibited). A 'hand-riding' technique is used (placing one hand on top of the partner's hand while being touched) to indicate more or less pressure, faster or slower pace, or change to a different spot.

Stage three The couple tries mutual touching (not taking turns), to practise a more natural physical interaction. Intercourse still off limits.

Stage four Mutual touching continues, moving to the ♀-on-top position, without attempting penetration. The woman can rub the penis against her clitoral region, vulva, and vaginal opening, regardless of whether or not there is an erection, still focusing on the physical sensations, and stopping or returning to non-genital touching if either partner becomes orgasm-orientated or anxious. In later sessions, she may progress to putting the tip of the penis into the vagina if there is an erection, and after completing a few sessions in this way, couples are usually comfortable enough to proceed to full intercourse.

* Source: data from Masters WH and Johnson VE (1966) *Human sexual response*. New York: Bantam Books.

Sexual dysfunction 3: problems specific to women

Failure of genital response

This is usually due to vaginal dryness or lack of lubrication; due to psychological factors (e.g. anxiety), physical problems (e.g.

infection), oestrogen deficiency (especially post-menopausal); or secondary to lack or loss of sexual desire.

Management

- General aims: increasing arousal levels during periods of sexual activity ( Orgasmic dysfunction, see below), alleviating vaginal dryness (with use of lubricating gel, oestrogen replacement), and reducing factors that may inhibit arousal (see Box 11.3).
- If problems persist, referral to a specialist should be considered.

Orgasmic dysfunction

The most common sexual complaint in women. Experience of orgasm is delayed or does not occur at all, despite normal sexual arousal and excitement. Individuals may consider this to be normal and not complain of dysfunction. Problems may be *primary* (never had an orgasm in any situation), *secondary* (previously able, but not currently), *situational* (problems only occur in certain situations), or *total* (in all situations). Complicating factors may include secondary lack or loss of sexual desire, other sexual dysfunctions, and relationship problems.

Management

- Complex cases should be referred to a specialist sex therapist.
- Less complex cases may respond to a directed self-help programme.[12] This usually includes directed masturbation, 'sensate focus' for couples, Kegel's pelvic floor exercises, and use of sexual fantasy.

Non-organic vaginismus

Penetration is impossible or painful due to blockage of the vaginal opening caused by spasms of the pelvic floor muscles. Usually related to anxieties or fearful thoughts, e.g. fear of pain on penetration, previous sexual assault, belief in premarital sex being wrong or sinful, childhood punishment for masturbation, general fear of sex (especially the first experience of intercourse is likely to be painful or bloody), fear of pregnancy, and painful labour. Vaginismus leads to pain during intercourse, thus reinforcing these beliefs.

Management

- Physical examination (to exclude vaginal obstruction due to a growth, a tumour, or the hymen).
- Vaginismus is best treated by an expert, and management will include: education (to dispel myths and tackle misunderstandings or negative attitudes), relaxation techniques, and strategies to achieve penetration (e.g. self-exploration, Kegel's exercises, use of graded trainers, sensate focus exercises, involvement of partner, graded attempts at intercourse, reassurance for the partner; see Box 11.5).

Non-organic dyspareunia

Pain during intercourse that may be felt superficially (at the entrance of) or deep within the vagina.

Management

- Exclude physical causes of pain (e.g. infection, tender episiotomy scar, endometriosis, ovarian cyst).
- Provide information about ensuring adequate arousal, variation of intercourse positions to avoid 'deep' penetration.
- Relaxation techniques (including Kegel's exercises) and 'positive self-talk' may help reduce anxiety and ensure the woman feels 'in control'.
- Where deep pain is experienced *after* intercourse, this may be due to *pelvic congestion syndrome* (with symptoms similar to PMS), caused by accumulation of blood during arousal without occurrence of orgasm. Achieving orgasm (by intercourse, masturbation, or use of a vibrator) may help to alleviate this congestion.
- For complex cases, with vague or intermittent problems or associated secondary sexual or psychiatric problems, or when initial treatment is unsuccessful, referral to a specialist is indicated.

Box 11.5 Kegel's exercises

These are pelvic floor muscle exercises. The muscle can be identified by attempting to stop urine flow, and contraction of this muscle may need to be practised before voluntary control is mastered. The exercises should be practised for a few minutes every day. Repeat (a) and (b) ten times initially (building up to 30 times over 4–6wks) and (c) and (d) five times (building up to 20 times over 4–6wks).

(a) Breathing normally, quickly contract and relax the muscle.
(b) Breathing normally, contract the muscle for a count of 3, and then relax.
(c) Inhale slowly, contracting the muscle for a count of 3, hold for a count of 3, then, exhaling slowly, relax to a count of 3.
(d) With the muscle relaxed, bear down (as if trying to push something out of the vagina) for a count of 3.

Sexual dysfunction 4: problems specific to men

Erectile failure (failure of genital response)

Inability to develop or maintain an erection, leading to failure of coitus or sexual intercourse. **Subtypes** *Primary*—never been able to sustain an erection; *secondary*—able to do so in the past; *situational*—only successful under certain circumstances; *total*—not under any circumstances. **Contributing factors** Moral/religious views on sex and masturbation; previous negative sexual experiences (may undermine sexual confidence and increase 'performance anxiety'); secondary to other sexual dysfunction (e.g. premature ejaculation); use of alcohol and drugs; stress and

fatigue. **Management** Physical assessment to exclude organic causes (disease or surgery affecting the blood supply of the penis, side effects of drugs or medication) especially in older men; refer to an expert on sexual problems if *primary, total, long-standing* (years), or not associated with obvious triggers. *General*—education (about physical and psychological factors that may contribute to erectile failure) and self-help exercises[13,14] (better if partner involved). *Physical*—phosphodiesterase 5 (PDE5) inhibitor drug [e.g. sildenafil (Viagra®, Granpidam®, Revatio®, Vizarsin®), tadalafil (Adcirca®, Talmanco®)]; training in self-administration of papaverine or prostaglandin E_1 into the penis prior to intercourse; use of a vacuum constriction device; surgical implantation of semi-rigid or inflatable penile prostheses. *Note:* relapse common (~75%), usually related to clear triggers and improves naturally or through use of previously successful techniques. (Seeing this as a 'normal' situation helps relieve anxiety and reduce the sense of failure, which might otherwise prolong problems.)

Orgasmic dysfunction (or 'inhibited ejaculation')

Relatively rare in men. Orgasm delayed/does not occur at all, despite normal sexual excitement and arousal. *Situational dysfunction* Usually has a psychological cause (see Box 11.3); *total dysfunction* may have a variety of causes. **Management** Main aims—reducing 'performance anxiety', increasing arousal and physical stimulation, i.e. addressing common triggers, relationship problems, associated feelings of anxiety or guilt, or memories of past traumatic/unpleasant sexual experiences. *Education*—dispelling myths, understanding 'normal' physiology and the effects of alcohol; use of sensate focus techniques. *Persistent problems*—should be referred to an expert.

Premature ejaculation

The inability to control ejaculation adequately for both partners to enjoy the sexual interaction. Ejaculation may occur immediately after penetration, or in the absence of an erection. **Differential diagnosis** Delayed erection (prolonged stimulation needed to achieve adequate erection; short time to ejaculation); organic impairment (especially pain); 'normal' rapid ejaculation in young or sexually inexperienced men (control is learnt with practice); secondary to psychological stressors; transient problem following a period of reduced sexual activity. **Management** Expert advice should be sought for complex cases or where there is associated orgasmic dysfunction/lack or loss of sexual desire. Sympathetic partner is crucial to successful management. *General education*—specific issues of 'normal' time before ejaculation occurs; reduction of 'performance anxiety' (as for orgasmic dysfunction). Use of self-help guides.[14] *Specific exercises*—may include: the 'stop–start' technique, the 'squeeze technique' (see Box 11.6), and sensate focus (see Box 11.4).

Non-organic dyspareunia

Pain during intercourse in men; usually has a physical cause [e.g. urethral infection, scarring secondary to sexually transmitted disease (STD), tight foreskin] that can be directly treated. If psychological factors are the root cause, reassurance, education, and use of relaxation and cognitive techniques may be helpful. Complex cases require expert management.

Box 11.6 Stop–start (Semans') technique

Developed by Masters and Johnson;[1,2] effective in up to 90% of cases.

Aims: To increase the frequency of sexual contact and increase the sensory threshold of the penis.

Setting: Best performed in the context of sensate focus exercises—to ensure non-genital areas are focused on first (less threatening for anxious individuals, allowing recognition of sensations leading up to ejaculation, and may make the 'quality' of the sexual experience better), to limit the number of 'accidental' ejaculations (may discourage couples early on), and to increase good communication and cooperation.

Technique:

- Stimulation of the penis until high arousal (but not the ejaculation threshold) is achieved.
- Cessation of stimulation for a few minutes to allow arousal to subside.
- Repetition 4–5 times until ejaculation is permitted.

Squeeze technique

If control does not develop using the 'stop–start' technique, this method may be used to inhibit the ejaculatory reflex:

- Stimulation of the penis until high arousal (but not the ejaculation threshold) is achieved.
- The man (or his partner) applies a firm squeeze to the head of the penis for 15–20s. (The forefinger and middle finger placed over the base of the glans and shaft of the penis, and the thumb applies pressure on the opposite side at the base of the undersurface of the glans.)

Note: this technique should be practised before high arousal occurs, to establish how firmly the penis may be squeezed without causing pain.

1 Masters WH, Johnson VE (1966) *Human Sexual Response*. New York, NY: Bantam Books.

2 Masters WH, Johnson VE (1980) *Human Sexual Inadequacy*. New York, NY: Bantam Books.

Disorders of sexual preference 1: general aspects

Essence

Disorders of sexual preference (ICD-10) or paraphilic disorders (DSM-5/ICD-11) are disorders in which an individual is sexually aroused by inappropriate stimuli. There is overlap between these disorders, sex offending, and inappropriate sexual behaviour, but

the three are separate concepts. In some cases, more than one disorder may be present.[15]

Definition

In DSM-5, each individual paraphilic disorder is defined as at least 6mths of recurrent, intense sexual arousal involving a particular inappropriate act or object, with associated clinically significant distress or functional impairment. ICD-10 has less strict or detailed criteria, requiring the particular object or act to be the most important source of sexual arousal or essential for satisfactory sexual response. ICD-11 specifies the presence of a 'sustained, focused, and intense pattern of sexual arousal'.

Classification

There are many different objects and acts that may be the focus of disorders of sexual preference. Most of the defined categories are extreme forms of behaviours that are common parts of 'normal' sexual activity. The classification systems in DSM-5 and ICD-10 are very similar (see Table 11.3). In ICD-11, the ICD-10 categories of 'Fetishism', 'Fetishistic transvestism', and 'Sadomasochism' have been replaced by new categories of 'Coercive sexual sadism disorder', 'Frotteuristic disorder', 'Other paraphilic disorder involving non-consenting individuals', and 'Other paraphilic disorder involving solitary behaviour or consenting individuals'.

Aetiology

Physiological factors These may include genetic factors, prenatal influence of hormones *in utero*, hormonal abnormalities in adults, and perhaps brain abnormalities.

Psychological theories Include absence of an effective father with over-protective/close-binding/intimate mother; failure of successful resolution of Oedipal conflict; modelling and conditioning; and masculine insecurity.

The various factors may lead to sexual deviation by: (1) preventing normal sexual development and relationships; and/or (2) promoting deviant sexual interest.

Epidemiology

It is difficult to estimate the prevalence of these disorders, as many individuals do not present for help and are unlikely to admit to sexually deviant arousal in surveys. Rates of sexual offending do not give a good approximation of rates of disorders of sexual preference, as these disorders represent one of many factors that may lead to such offending (Table 16.2 Crime statistics for the British Isles, p. 729). There is probably a wide range of sexual practices in the 'normal' population. Disorders of sexual preference are more common in ♂ than ♀ (perhaps 30 times more common). From clinical samples, age of onset is usually between 16 and 20yrs, and many individuals have multiple paraphilias, in series and/or in parallel.

Table 11.3 Classification of disorders of sexual preference

ICD-10	DSM-5	Sexually arousing object or act
Fetishism	Fetishistic disorder	Non-living object (e.g. clothing, shoes, rubber)
Fetishistic transvestism	Transvestic disorder	Cross-dressing (not few articles—complete outfit, wig and make-up). Association with sexual arousal distinguishes from transsexual tranvestism, but may be an early phase in some transsexuals
Exhibitionism	Exhibitionistic disorder	Exposure of genitals to strangers
Voyeurism	Voyeuristic disorder	Watching others who are naked, disrobing, or engaging in sexual acts
Paedophilia	Paedophilic disorder	Children (usually pre-pubertal or early pubertal). May be specified as attracted to ♂, ♀, or both, or as limited to incest
Sadomasochism	Sexual masochism disorder	Being humiliated, beaten, bound, or made to suffer
	Sexual sadism disorder	Psychological or physical suffering of others
–	Frotteuristic disorder	Touching and rubbing against non-consenting person
Other disorders of sexual preference	Other specified paraphilic disorder	Includes telephone scatalogia (obscene phone calls), necrophilia (corpses), partialism (exclusive focus on part of body), zoophilia (animals), coprophilia (faeces), urophilia (urine), klismaphilia (enemas), autoerotic asphyxia (self-asphyxiation)
Multiple disorders of sexual preference	–	Many individuals manifest multiple disorders. The term ‘polymorphous perversity’ has been used. The most common combination is fetishism,

transvestism, and sadomasochism

Disorders of sexual preference 2: assessment and management

Assessment

Why is the person presenting now?

- May present directly or at the request of spouse when behaviour is discovered or starts to cause problems in relationships. Occasionally present as sexual dysfunction, with disorder of preference coming to light on further assessment.[16]
- May present at own request, or more likely at request of the court, prosecutor, or solicitor, after committing offence.

Is there another mental disorder?

Various psychiatric disorders may lead to the release of sexually deviant behaviour, perhaps in individuals who have experienced fantasies but not acted on them previously. Particularly important to exclude in someone presenting for the first time in middle age or later. So full psychiatric history, MSE, and perhaps neurological examination/investigation important.

Psychosexual assessment

Full psychosexual assessment essential in anyone presenting with sexual problems. The interviewer should put the person at ease and be able to facilitate by being open, sensitive, and able to discuss sexual matters. Involvement of the sexual partner in assessment (either at the same time or through another interview) is usually helpful. The following areas should be covered:

- *Sexual knowledge* and sources of information.
- *Sexual attitudes* to self and others.
- Age of onset and development of sexual interest, masturbation, dating, sexual intercourse.
- *Relationship history*, including: age of self and partner, gender of partners, duration, quality, problems, and abuse.
- *Fantasy* (content/use/development).
- *Orientation*.
- *Drive* (frequency of masturbation/intercourse) and *dysfunction* (specific inquiry about arousal, impotence, premature ejaculation).
- *Experience* (range of sexual behaviours, with specific enquiry about paraphilias).
- *Current sexual practices:* mood, thoughts, visual images, material used, and conditions for arousal during both intercourse and masturbation (many men with paraphilias report 'normal' intercourse, although, at the time, they are imagining deviant scenarios); where various forms of arousal are reported, estimate the proportion of sexual practice devoted to each.

What does the person want from treatment?

- Do they want help at all, or have they just come as they have been forced to (by spouse, courts, etc.)?
- Do they want to change the focus of their sexual arousal and/or desist from the overt behaviour?
- Do they want to adapt better to the behaviour without changing it?
- Are they motivated to engage in treatment?

Further investigations

Physical examination and investigations may be indicated, particularly if sexual dysfunction coexists. Penile plethysmography, polygraphy, and visual reaction times may be useful in assessing paraphilias.

Management

General issues

Treatment should not be imposed on people who do not want it. Patients should realize that treatment will take considerable effort on their part. The aims of treatment should be clear from the beginning, e.g.:

- Better adjustment without changing the behaviour.
- Desisting from overtly problematic behaviour, but retaining 'deviant' arousal.
- Changing the focus of the arousal.

Where treatment is aimed at change, the following may need to be addressed:

- Encouraging development of 'normal' relationships.
- Addressing sexual inadequacy (perhaps using approaches similar to those for sexual dysfunction).
- Develop interests, activities, and relationships that will fill the time previously taken up by fantasizing about, preparing for, and taking part in the deviant activity.
- Decreasing masturbation to deviant fantasies and encouraging masturbation to more appropriate fantasies.

Specific treatment approaches

Physical treatments Neurosurgery and bilateral orchidectomy ('castration') are of historical interest only. Various medications have been used: antipsychotics, oestrogens, progestogens, LH-releasing hormone (LHRH) analogue, anti-androgens, and SSRIs. There is evidence for the efficacy of cyproterone acetate (an anti-androgen) and medroxyprogesterone acetate (a progestogen) in the treatment of hypersexuality and paraphilias. Recently, SSRIs have been used increasingly, and some use them first line due to their relative lack of side effects.

Psychodynamic psychotherapy Individual and group approaches have been used, ranging from sophisticated psychoanalysis to primarily supportive therapy.

CBT Specific techniques may be used to decrease deviant (covert sensitization, aversive therapy, masturbatory satiation, biofeedback) and increase 'normal' arousal (orgasmic

reconditioning, shaping, fading, exposure to explicit stimuli, biofeedback, systematic desensitization). Controversially used to treat homosexuality until the 1970s. Social skills training, assertiveness training, sexual education, and relapse prevention can also be helpful. Addressing cognitive distortions regarding sex, women, or children may also be important.

Gender identity and gender dysphoria 1: overview

Introduction

People who identify as transgender were previously regarded as having a disorder of gender identity, characterized by the desire to live and be accepted as a member of the opposite sex, usually accompanied by a sense of discomfort with one's anatomical sex. In recent years, there has been a significant shift in how this group of people are conceptualized within the medical profession and in wider society. They are now accepted as displaying a normal variant of gender identity, rather than a disorder. Transgender people usually come to psychiatric attention, not with a wish to change these feelings, but rather seeking onward referral to specialist services for assessment and management of gender reassignment.

Gender specialists are often psychiatrists but may be chartered psychologists or medical practitioners from other specialties with specific experience in the assessment and management of people with gender dysphoria. Most treatment is provided by gender identity clinics, with input from a range of specialists, including surgeons, endocrinologists, sexual health physicians, speech and language therapists, psychologists, and counsellors. The aim is to make an accurate diagnosis, to assess and treat comorbidity, and to provide support through the period of assessment and transition. Ongoing care is increasingly provided in primary care, with specialist advice as needed.

Cultural context

The terms gender non-conformity, gender variance, gender incongruence, or transgender are attempts to describe individuals for whom gender identity does not match the identity usually identified with the sexual anatomy at birth. The language used is shifting, as medical models of illness are increasingly abandoned for this group of people (see Box 11.7). There is tension regarding the role of psychiatry and medicine in the lives of people who are transgender. Like the historical inclusion of homosexuality in the *Diagnostic and Statistical Manual of Mental Disorders*, the application of a medical diagnosis (such as 'Gender identity disorder' or 'Transsexualism') to transgender individuals is felt by some to ascribe pathology to a normal variant of human experience.

Evidence for the separation between gender identity and natal sex is found across cultures. Anthropological and historical studies describing gender identities that do not conform with rigid biological boundaries are numerous. It is important to note that cultural

recognition of communities, categories, and roles for people who have minority gender identity does not prevent marginalization, discrimination, violence, or social control. These cross-cultural definitions may not map in an uncomplicated way to a diagnosis of transsexualism or gender dysphoria.

Epidemiology

Data regarding the prevalence of transgender individuals in the population is difficult to gather. Research has largely depended on people presenting for treatment. A primary care survey in Scotland estimated a population prevalence of transgender individuals, either receiving treatment or requesting assessment, of 78 per 100,000.[17] More recent attempts to estimate the actual population, rather than the treatment population, of transgender individuals in the UK suggest a prevalence of about 600 per 100,000.[18] This is extrapolated from treatment data and assumes that 80% of transgender individuals are natal ♂. Emerging data suggest the sex ratio is likely to be closer to equal, which would make the above figures an underestimate, potentially putting the actual prevalence closer to 1%.

Box 11.7 Language

- **Gender:** an individual's internalized sense of masculinity or femininity. This may be apparent through the outward signs of gender expression, including gendered behaviours or roles.
- **Sex:** ♂ or ♀ biological phenotype. This is often referred to as *natal sex* or *birth-assigned sex*.
- **Sexuality:** the range of people to whom a person is sexually attracted (including, but not limited to, heterosexuality, homosexuality, bisexuality, etc.) and unrelated to a person's gender identity.
- **Transgender:** a description for an individual or group of people with a gender identity that challenges the cultural expectations of their natal sex. Other terms with subtle variations of meaning include *gender non-conformity, gender incongruence*, and *gender variance*.
- **Transsexual:** a medical description of a transgender individual who has modified, or is seeking to modify, their gender expression. Although this terminology is used in ICD-10, its usage has become regarded as stigmatizing and inappropriately pathological.
- **Transgender woman:** a person of ♂ natal sex who identifies as a woman (also: *transwoman; ♂-to-♀; MtF*).
- **Transgender man:** a person of ♀ natal sex who identifies as a man (also: *transman; ♀-to-♂*; *FtM*).
- **Non-binary:** a person of either ♂ or ♀ natal sex who identifies as neither ♂ nor ♀.
- **Cisgender:** a person with gender identity matching their natal sex.

- **Gender-affirming treatment:** medical, surgical, and psychosocial interventions aimed at achieving lasting comfort with an individual's gender identity.

Gender identity and gender dysphoria 2: diagnosis

Current practice is to diagnose the distress associated with a gender identity that is divergent from biological sex. This distress is referred to as gender dysphoria. Gender non-conformity is not synonymous with gender dysphoria. Medical and/or psychiatric treatment is offered to relieve gender dysphoria. This approach is integrated into DSM-5 and extends to ICD-11, with the new diagnosis of 'Gender incongruence' moved from the chapter 'Mental, behavioural, and neurodevelopmental disorders' to 'Conditions related to sexual health'.

Using DSM-5 criteria, gender dysphoria is identified by incongruence between an individual's gender identity or expression and their natal sex of at least 6mths' duration. It requires clinically significant distress or impairment in function. An ICD-10 diagnosis of transsexualism requires the features of incongruence to exist for 2yrs. In ICD-11, 'Gender incongruence of childhood' requires at least 2yrs' duration, but 'Gender incongruence of adolescence or adulthood' should be present for only 'several months'.

Differential diagnosis

- *Non-conformity to gender roles:* the diagnosis of gender dysphoria should be restricted to individuals with distress or functional impairment and is differentiated from uncomplicated non-conformity by the strong and pervasive desire to be of another gender.
- *Transvestic disorders/fetishistic transvestism:* engaging in cross-dressing for sexual excitement is not a feature of gender dysphoria. The diagnoses may rarely coexist, and transvestic behaviours may be part of gender role exploration.
- *Dual-role transvestism:* adopting the outward expression of the opposite sex to gain temporary membership of that gender category. This does not carry with it the desire for permanent adoption of a new gender identity.
- *Body dysmorphic disorder/dysmorphobia:* an expressed dissatisfaction with specific body parts, possibly including primary or secondary sexual characteristics, but without a desire to change gender. Careful assessment to exclude these disorders is required, as misdiagnosis reduces the success of surgical interventions.
- *Intersex conditions:* disorders of sexual development or intersex conditions are usually identified in childhood (e.g. congenital adrenal hyperplasia, androgen insensitivity syndrome, Klinefelter's syndrome, Turner's syndrome, Rokitansky syndrome[19]). They previously precluded the diagnosis of transsexualism or gender identity disorder. The possibility of

gender dysphoria existing within this population is now acknowledged in DSM-5.

- *Schizophrenia and other psychoses:* delusions of being the wrong sex or needing to change sex arising in the context of a functional psychosis do not constitute gender dysphoria.

Comorbidity

Transgender populations have poorer health outcomes than the general population, with an ↑ prevalence of affective, anxiety, and substance misuse disorders. There are conflicting data regarding any difference in the prevalence of personality disorders. A Swedish long-term cohort study has shown that high rates of premature mortality, suicidal behaviour, and psychiatric comorbidity exist, even after treatment for gender dysphoria.[20] It remains impractical to design long-term prospective, controlled studies comparing psychiatric outcomes in transgender individuals who do and do not receive treatment.[21]

Transgender women are regarded as being a high-risk group for HIV and other sexually transmitted infections (STIs). Other sexual and reproductive health issues affecting transgender women and men are not well studied.

Legal aspects

In the UK, the Equalities Act (2010) defines protected characteristics that afford an individual specific legal protection. In particular, 'gender reassignment' is a protected characteristic under the Act afforded to any individual who identifies as transgender. This protection does not depend on a medical or psychiatric diagnosis or the undertaking of any medical or surgical treatment. The Equalities Act does not make provisions for the legal recognition of a change in gender.

The Gender Recognition Act (2004) allows transgender individuals to change their legal gender. The change is by application to the Gender Recognition Panel and the granting of a Gender Recognition Certificate, which can be used to have a new birth certificate issued. A person is required to show evidence that they have lived in their acquired gender for the last 2yrs and that they intend to live permanently in their acquired gender.

Differing from protection under the Equalities Act, the application for a Gender Recognition Certificate requires a diagnosis of gender dysphoria. It needs to be supported by two medical reports, one completed by a registered medical practitioner or a psychologist who has been recognized as a gender specialist by the Gender Recognition Panel and the other a registered medical practitioner who may or may not be a specialist. In practice, this means that a person has been assessed over a sufficient period in a gender identity clinic and has had their diagnosis confirmed by a second opinion.

A legal change of name is often sought as part of a transition to the acquired gender. This is accomplished by the same

mechanisms as any other person wishing to change their name and depends on jurisdiction.

Gender identity and gender dysphoria 3: assessment

Many patients will arrive with a clear idea of their diagnosis and preferred treatment options. The task of assessment is to establish a clear diagnosis and identify any important psychiatric or medical comorbidities. Learning disability, affective illness, personality disorder, and stable psychotic illnesses, for example, are not contraindications to treatment for gender dysphoria, but rather demand care with diagnostic accuracy, coordinated treatment of comorbidity, and careful consideration of capacity to consent. Most patients presenting to general psychiatric services with a confirmed diagnosis of gender dysphoria will require onward referral to specialist gender identity clinics. In many cases, this referral will be made directly from primary care.

During assessment, subsequent contact, and communication with colleagues, it is important to respect the personal pronoun and terminology choices of an individual being assessed. In general, simply asking how an individual prefers to be addressed at an early stage avoids later issues.

Psychiatric history

- Obtain a comprehensive psychiatric history, focusing on the development of gender identity and gender dysphoria, the impact of gender dysphoria over the lifespan, and the availability of support, whether family or not.
- Some patients have social circumstances that prevent a social transition prior to medical intervention.
- A collateral history is likely to be useful in establishing an accurate diagnosis, but care needs to be taken to establish appropriate consent.
- In young people, corroboration of the history is essential.
- *Note:* a 'real life test' is no longer required before treatment.

Medical history

- Obtain a thorough medical history, including family history, to establish the cardiovascular state, vulnerability to thromboembolic disease, and risk factors for malignancies potentially exacerbated by cross-sex hormone treatment.
- Ask about current and past substance use.

Physical assessment

- Weight, height, BP, fasting lipids, and fasting glucose are checked as part of a cardiovascular risk assessment and form a useful baseline prior to treatment.
- High BMI is a potential contraindication to endocrine and surgical interventions and will need to be discussed with the patient early on.
- FBC, electrolytes, and liver enzymes can be affected by hormone regimes and, along with prolactin in natal ♂, form part of an initial

assessment for treatment.
- If there are signs of endocrine abnormalities (e.g. irregular menstruation in natal ♀), a sex hormone profile is obtained.
- Natal ♂ should have any signs of prostate disease appropriately evaluated, and natal ♀ should be up-to-date with routine smear testing.
- HIV, hepatitis C, and general sexual health screening should be offered, if indicated, by a patient's risk profile.

Gender identity and gender dysphoria 4: management[22]

Treatment

Care for patients with gender dysphoria encompasses a spectrum of treatments and should be individualized for each patient. Careful selection of treatments, review of goals, and regular assessment of clinical response are particularly important for non-binary patients.

- *Non-medical treatments*—such as facial hair removal, voice training, and supportive counselling are low-risk interventions with significant benefit.
- *Endocrine treatments*—aim to supress endogenous sex hormone levels and replace with cross-sex hormones at a normal physiological level (see Box 11.8). All patients should be offered fertility preservation where endocrine treatment is being considered. Suppression of puberty may be appropriate in adolescents who have been assessed by specialist services.
- *Surgical treatments* —generally have a higher threshold for assessment and consent. In the UK, a second opinion and 12mths of social transition are required for genital reassignment surgeries. This is not the case for less invasive procedures such as chest reconstruction.

Prognosis

Most studies show a positive impact of treatment for gender dysphoria. Almost all patients are satisfied with sex reassignment at follow-up. A majority have both subjective and objective improvements in psychological well-being (including intensity of gender dysphoria) and quality of life. Less than 2% of patients express regret regarding their treatment. Published studies do not readily distinguish the relative benefits of each specific intervention. A sustained positive response to treatment depends on appropriate ongoing support. Regulatory bodies are increasingly clear about the responsibility non-specialist clinicians have in delivering high-quality and prejudice-free care to transgendered patients.

Box 11.8 Endocrine treatments

Feminizing hormones

- *Synthetic oestrogen and androgen suppression*—produces breast development, body fat redistribution, thinning of body hair, reduced erectile function and libido, reduced muscle mass, and emotional changes. Regimes include oral or

transdermal oestrogen and a GnRH analogue or cyproterone. Finasteride or spironolactone may be used. Oestrogen alone may provide sufficient androgen suppression.

- *Side effects*—include ↑ risk of venous thromboembolism, liver dysfunction, migraine, cardiovascular and cerebrovascular disease. Data regarding breast cancer risk is inconclusive.

Masculinizing hormones

- *Testosterone*—produces ↑ muscle mass, ↑ growth of facial and body hair, cessation of menses, clitoral enlargement, and deepening of the voice. Administration is parentaral or transdermal. Rarely, androgen supression is required for incomplete cessation of menses.
- *Side effects*—include polycythaemia, liver dysfunction, ♂ pattern baldness, and metabolic changes, including weight gain (impacting cardiovascular and cerebrovascular risk). ↑ aggression has been reported. Exogenous testosterone is teratogenic.

Monitoring

- Cardiovascular risk at baseline and during treatment. Assessment should encompass physical and metabolic parameters, including lipids, glucose, BP, and BMI.
- Blood monitoring should additionally include liver enzymes, U&Es (if prescribed spironolactone), FBC (if prescribed testosterone), and hormone profile for dose adjustment.
- Surveillance for specific malignancies (e.g. breast and cervical).

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Chapter 12

Personality disorders

The concept of personality disorder

Essence

Personality describes the innate and enduring characteristics of an individual which shape their attitudes, thoughts, and behaviours in response to situations. We all recognize, among people we know well, some who manifest certain characteristics more than others: shyness, confidence, anger, generosity, tendency to display emotions, sensitivity, and being pernickety, to name but a few. When these enduring characteristics of an individual are such as to cause distress or difficulties for themselves or in their relationships with others, then they can be said to be suffering from *personality disorder* (PD). PD is separate from mental illness, although the two interact.

Definition

The following definition is based on ICD-10 and DSM-5 (both are very similar). PD are enduring (starting in childhood or adolescence and continuing into adulthood), persistent, and pervasive disorders of inner experience and behaviour that cause distress or significant impairment in social functioning. PD manifests as problems in *cognition* (ways of perceiving and thinking about self and others), *affect* (range, intensity, and appropriateness of emotional response), and *behaviour* (interpersonal functioning, occupational and social functioning, and impulse control). To diagnose PD, the manifest abnormalities should not be due to other conditions (such as psychosis, affective disorder, substance misuse, or organic disorder) and should be out of keeping with social and cultural norms.

Development of the concept

The development of clinical concepts of conditions which would today be recognized as PD started in the early nineteenth century, at a time when the main two groups of mental conditions acknowledged by psychiatrists were insanity and idiocy. It became clear that there were individuals who were neither insane (i.e. suffering from delusions or hallucinations) nor clearly idiots, imbeciles, or morons (to use the then contemporary terminology for ID), but who nevertheless had abnormalities in their behaviour.

In 1801, Pinel described non-psychotic patients with disturbed behaviour and thinking as '*manie sans délire*', while the term 'moral insanity' was introduced by Prichard in 1835. 'Moral' then meant 'psychological' (rather than the modern meaning concerning ethics), and among the patients described were people who had affective disorders, as well as people who were personality-disordered. Koch in 1873 described 'psychopathic inferiority', making the socially maladaptive nature of the disorder the key to diagnosis.

Kraeplin is reported as finding 'the classification of PD defeating'. Nonetheless, he attempted to find a place for the description of its subtypes within his evolving classification system. In 1921, he postulated that PDs, as they were then described, were biologically related to the major psychotic and affective illnesses.

In 1927, Schneider introduced a classification system which can be seen as a forerunner of the current categorical approaches in DSM-5 and ICD-10. He did not use a spectrum concept but saw PD as representing a pronounced and maladaptive variation of normal personality traits and used social deviance as a diagnostic marker for his ten subtypes.

The individual PD subtypes in use today derive from a number of different academic and theoretical backgrounds: antisocial (dissocial) PD from child psychiatric follow-up studies; borderline, histrionic, and narcissistic PDs from dynamic theory and psychotherapeutic practice; schizoid and anankastic PDs from European phenomenology; and avoidant PD from academic psychology. Notably absent from the list of academic sources is the psychological study of normal personality, which has developed a trait model of normal personality along a varying number of axes ( Is personality stable?, p. 521) Despite major moves to significantly revise DSM-5 to reflect this trait approach, the changes did not make the final version but are included in Section III 'for further study'. ICD-11 proposes using a primary dimension of severity (mild, moderate, or severe) and five trait domains: negative affectivity (the tendency to manifest distressing emotions), dissociality (the tendency to disregard social conventions and the rights of others), disinhibition (the tendency to act impulsively), anankastia (the tendency to control one's own and others' behaviour), and detachment (the tendency to maintain emotional and interpersonal distance). In this chapter, we hold to PD subtypes —for the time being.

Controversy

A frequently repeated criticism of the present clinical concept has been the problem of tautology, i.e. the same features displayed by a patient, which suggest a diagnosis of PD, are then 'explained' by the presence of that diagnosis. For example, a patient may, among other features, display 'an incapacity to experience guilt' and 'a low threshold for discharge of frustration, including violence'. This may lead to an ICD-10 diagnosis of dissocial PD. It is then illogical to use that same diagnosis to 'explain' a subsequent episode of violence without remorse in that individual.

Some psychiatrists believe that psychiatry has *no* role in the treatment of people with PDs. They argue that: personality is, by definition, unchangeable; there is no evidence that psychiatry helps individuals with PD; these people are disruptive and impinge negatively on the treatment of other patients; these people are not ill and are responsible for their behaviour; and psychiatry is being asked to deal with something that is essentially a social problem.

On the other hand, there are those who believe that people with PD clearly fall within the remit of psychiatry, arguing that: people with PD suffer from symptoms related to their disorder; they have high rates of suicide, other forms of premature death, and other mental illnesses; there are treatment approaches which are effective; their opponents are rejecting patients because they dislike them; and the problem is not that these people cannot be helped, but that traditional psychiatric services do not provide the type of approach and services that are necessary.

'Normal' personality

Psychologists have sought to conceptualize and describe the variations in normal personality. There are two main approaches: *nomothetic* and *ideographic*. In general, these approaches have developed separately from concepts of abnormal personality and PD.

Nomothetic approaches

Personality seen in terms of attributes shared by individuals. Two subdivisions: *type (or categorical) approaches* (discrete categories of personality); and *trait (or dimensional) approaches* (a limited number of qualities, or traits, account for personality variation). Type approaches dominate the description and classification of PD, but trait approaches are pre-eminent in modern personality psychology.

Type approaches These describe individual personality by similarity to a variable number of predefined archetypes. These may attempt to include all aspects of personality and behaviour—the 'broad' models—or they may describe one aspect of personality—the 'narrow' models. An example of the former is the humoral model of Hippocrates which described four fundamental personality types (choleric, sanguine, melancholic, and phlegmatic); an example of the latter is type A vs type B model which describes

groups of behaviours exhibited by people at higher and lower risk of cardiac disease.

Trait approaches These view a variable number of traits as continuous scales, along which each person will have a particular position; the positions on all the traits represent a number of dimensions which describe personality. Examples include: *Eysenck's three-factor theory* (neuroticism, extraversion, psychoticism); *Costa and McCrae's five-factor model* (neuroticism, extraversion, openness, agreeableness, conscientiousness); *Cloninger's seven-factor model* (novelty-seeking, harm avoidance, reward dependence, persistence, self-directedness, cooperativeness, self-transcendence; originally only first three factors); and *Cattell's 16-factor theory*. A consensus has emerged from personality questionnaire research and from lexical approaches that there are five fundamental traits (the 'big five') similar to those of Costa and McCrae. The heritability of personality traits in twin and adoptive studies has been found to be moderately large (about 30%).

Ideographic approaches

Unlike nomothetic approaches, these emphasize individuality and seek to understand an individual's personality by understanding that individual and their development, rather than by reference to common factors. Examples are psychoanalytic, humanistic, and cognitive–behavioural approaches. The first two have little scientific validity, and the last has compromised with trait theorists.

Is personality stable?

Are there traits which are persistent and predict a person's behaviour over time in a number of situations? Situationists have argued that the situation was a stronger determinant of behaviour than personality traits. However, more recent research has demonstrated the long-term stability of a number of personality traits, and, perhaps unsurprisingly, most now agree that both the situation and personality traits are important in determining behaviour.

Classification of personality disorder

It is largely accepted that normal personality is best described and classified in terms of dimensions or traits. Although this also applies to PD, our current psychiatric classifications are categorical. The various categories of PD described in ICD-10 and DSM-5 have a number of origins: psychodynamic theory, apparent similarities between certain PDs and certain mental illnesses, and descriptions of stereotypical personality types. The various categories used come together in a piecemeal and arbitrary fashion and do not represent any systematic understanding or study of PD. The categorical classification of PD is psychiatric classification at its worst.

There are a number of important points to bear in mind when using standard categorical approaches in the diagnosis of PDs:

- Due to their heterogenous origins, there is overlap between the criteria for some categories.
- It is more common for individuals to meet the criteria for >1 category of PD than to meet only the criteria for a single category.
- When making a diagnosis, one should use all the categories for which a person meets the criteria.
- If a person meets the criteria for >1 category, then they do not suffer from >1 actual disorder. A person has a personality, and this may or may not be disordered. If it is disordered, it may have various features which are rarely described adequately by a particular category.
- Clinically, it is more important to understand and describe the specific features of a person's personality than it is to assign them to a particular category.
- The diagnosis of PD is a particular area where one may believe, wrongly, that one has a better understanding of a person by assigning them to a specific category (an example of 'tautology').[1]

ICD-10 and DSM-5

The PD categories in ICD-10 and DSM-5 are set out in Table 12.1. The two schemes are similar, but there are categories that appear in one but not the other, and for some categories, different terms are used. Each category has a list of features, a number of which should be present for the person to be diagnosed as manifesting that particular aspect of PD. DSM-5 has lost the multi-axial approach of DSM III (and other subsequent editions), and now PD is not diagnosed separately from other mental illnesses or reasons for consulting a psychiatrist (The ICD-10 multi-axial system, p. 1118).

Table 12.1 ICD-10 and DSM-5 classifications of personality disorder

ICD-10	DSM-5*	Description
Paranoid	Paranoid	Sensitive, suspicious, preoccupied with conspiratorial explanations, self-referential, distrust of others
Schizoid	Schizoid	Emotionally cold, detachment, lack of interest in others, excessive introspection, and fantasy
(Schizotypal disorder classified with schizophrenia and related disorders)	Schizotypal	Interpersonal discomfort with peculiar ideas, perceptions, appearance, and behaviour
Dissocial	Antisocial	Callous lack of concern for others, irresponsibility, irritability, aggression, inability to maintain enduring relationships, disregard and violation of others' rights, evidence of childhood conduct disorder
Emotionally unstable—impulsive type	–	Inability to control anger or plan with unpredictable affect and behaviour
Emotionally unstable—borderline type	Borderline	Unclear identity, intense and unstable relationships, unpredictable affect, threats or acts of self-harm, impulsivity
Histrionic	Histrionic	Self-dramatization, shallow affect, egocentricity, craving attention and excitement, manipulative behaviour
–	Narcissistic	Grandiosity, lack of empathy, need for admiration
Anxious (avoidant)	Avoidant	Tension, self-consciousness, fear of negative evaluation by others, timid, insecure
Anankastic	Obsessive–compulsive	Doubt, indecisiveness, caution, pedantry, rigidity, perfectionism, preoccupation with orderliness and control
Dependent	Dependent	Clinging, submissive, excess need for care, feels helpless when not in

relationship

* DSM-5 uses three broader clusters to organize the categories of PD: cluster A (odd/eccentric)—paranoid, schizoid, schizotypal; cluster B (emotional/dramatic)—antisocial, histrionic, narcissistic, borderline; and cluster C (fearful/anxious)—avoidant, dependent, obsessive–compulsive. Although this may seem sensible, there is no particular validity to this clustering.

Psychopathy and 'severe' personality disorder

Psychopathy

The terms 'psychopathy', 'psychopathic PD', 'psychopathic disorder', and 'psychopath' have dominated much of the PD literature until relatively recently. In England and Wales, the 2007 revision to the 1983 MHA has removed 'psychopathic disorder' as a subcategory of mental disorder and included it within a single definition of mental disorder. Other jurisdictions have no category or legal diagnosis of psychopathy in their mental health legislation. The term 'psychopathy' should probably now be reserved for individuals meeting criteria as defined by the gold-standard instrument for psychopathy assessment—the Psychopathy Checklist–Revised (PCL-R) (see Table 12.2). Epidemiological studies report that psychopathy occurs in about 0.6% of the general population and in 7.7% of ♂ prisoners in the UK. It may occur in childhood and remain relatively stable throughout adolescence and into adulthood.[2]

Psychopathy Checklist–Revised

In *The Mask of Sanity* (1941),[3] Cleckley described various features of psychopathy referring to cold, callous, self-centred, predatory, and parasitic individuals. This concept has led to the development of the PCL-R,[4] which measures the extent to which a person manifests the features of this prototypical psychopath. The items of the PCL-R are listed in Table 12.2. Psychopathy, as defined by the PCL-R, is strongly correlated with a risk of future violence. It defines a narrower group of individuals than antisocial or dissocial PD, and individuals scoring highly commonly fulfil the criteria for antisocial, narcissistic, histrionic, paranoid, and perhaps borderline categories in DSM-5.

Severe personality disorder

The term 'severe personality disorder'[5] is often used but has no clear meaning or definition. The severity of PD has been defined in various ways:

- In terms of severe impact on social functioning.
- By using the PCL-R cut-off and being synonymous with psychopathy.
- By defining severity as the presence of features fulfilling the criteria for multiple categories of DSM-5 or ICD-10 PDs (sometimes this is further defined by stating that the categories

should be from at least two DSM-5 clusters, and perhaps that one must be from cluster B).

None of these approaches is entirely satisfactory, and each defines different, but overlapping, groups of individuals. ICD-11 severity specifiers may prove to be useful in this respect (ICD-11 proposals vs. DSM-5, p. 1121).

Moral responsibility?

The *exempting view* that psychopaths lack the ability to function as moral agents is more often found in philosophical arguments than in court.[6] Most clinicians are more comfortable with the *mitigating view*, which concedes that any impairment in moral understanding in psychopathy is insufficient to be completely exempting of the consequences of their (criminal) behaviour.

Table 12.2 Notes on the PCL-R

Factor 1	Factor 2
Interpersonal • Glibness—superficial charm • Grandiose sense of self-worth • Pathological lying • Conning—manipulative	**Lifestyle** • Need for stimulation • Parasitic lifestyle • Lack of realistic, long-term goals • Impulsivity • Irresponsibility
Affective • Lack of remorse or guilt • Shallow affect • Callous—lack of empathy • Failure to accept responsibility	**Antisocial** • Poor behavioural control • Early behavioural problems • Juvenile delinquency • Revocation of conditional release • Criminal versatility
Additional items: • Promiscuous sexual behaviour • Many short-term marital relationships	

The 20 items of the PCL-R fall broadly into two dimensions. Factor 1 items are mostly emotional or interpersonal traits, while Factor 2 items cover the behavioural manifestations of psychopathy. Characteristics from both factors are required for psychopathy to be diagnosed. Each item is rated 0 (absent), 1 (some evidence, but not enough to be clearly present), or 2 (definitely present). Each item has detailed descriptions in the coding manual. The total score (out of 40) gives an indication of the extent to which a person is psychopathic and may be converted into a percentile using reference tables for different populations. In the USA, a score of 30 or above is used as cut-off to diagnose psychopathy; in the UK, a score of 25 is generally used as the cut-off score.

Aetiology of personality disorder

While there is no single, convincing theory explaining the genesis of PD, the following observations are suggestive of possible contributing factors.

Genetic

Evidence of heritability of 'normal' personality traits; some evidence of heritability of cluster B PDs; familial relationship between schizotypal PD and schizophrenia, between paranoid PD and delusional disorder, and between borderline PD and affective disorder. There is no good evidence for a relationship between the XYY genotype and psychopathy.

Neurophysiology

'Immature' EEG (posterior temporal slow waves) in psychopathy; functional imaging abnormalities in psychopathy (e.g. ↓ activity in the amygdala during affective processing tasks); low 5-HT levels in impulsive, violent individuals; autonomic abnormalities in psychopathy (slowed galvanic skin response).

Childhood development

Difficult infant temperament may proceed to conduct disorder in childhood and PD; ADHD may be a risk factor for later antisocial PD; insecure attachment may predict later PD (particularly disorganized attachment); harsh and inconsistent parenting and family pathology are related to conduct disorder and may therefore be related to later antisocial PD; severe trauma in childhood (such as sexual abuse) may be a risk factor for borderline PD and other cluster B disorders.

Psychodynamic theories

Freudian explanations of arrested development at oral, anal, and genital stages, leading to dependent, obsessional, and histrionic personalities; 'borderline personality organization' described by Kernberg (diffuse, unfiltered reaction to experience prevents individuals from putting adversity into perspective, leading to repeated crises); narcissistic and borderline personalities seen as displaying primitive defence mechanisms such as splitting and projective identification; some see antisocial personalities as lacking aspects of superego, but a more sophisticated explanation is in terms of a reaction to an overly harsh superego (representing internalization of parental abuse).

Cognitive–behavioural theories

There are maladaptive schemata (stable cognitive, affective, and behavioural structures representing specific rules that affect information processing). These schemata represent core beliefs which are derived from an interaction between childhood experience and pre-programmed patterns of behaviour and environmental responses. Schemata are unconditional, compared with those found in affective disorders (e.g. 'I am unlovable', rather than 'If someone important criticizes me, then I am unlovable') and are formed early, often pre-verbally.

Theories synthesizing cognitive–behavioural and psychodynamic aspects

The following are two quite similar models that underlie relatively recently introduced therapies for borderline PD.

Cognitive–analytical model (Cognitive analytic therapy, p. 918) Borderline patients experience a range of partially dissociated 'self-states', which arise initially as a response to unmanageable external threats and are maintained by repeated threats or internal cues (such as memories). Abusive experiences in childhood lead to internalization of the harsh parental object, leading to intrapsychic conflict which is repressed or produces symptomatic behaviours. Deficits in self-reflection, poor emotional vocabulary, and narrow focus of attention lead to incoherent sense of self and others.

Dialectical behavioural model (Dialectical behaviour therapy, p. 916) Innate temperamental vulnerability interacts with certain dysfunctional ('invalidating') environments, leading to problems with emotional regulation. Abnormal behaviours which are manifested represent products of this emotional dysregulation or attempts to regulate intense emotional states by maladaptive problem-solving.

Epidemiology of personality disorder

Measurement of the prevalence of PD of any type and of specific categories of PD in any population has a number of problems; in earlier studies, PD and other mental disorders were mutually exclusive, not allowing for the recording of comorbidity; studies differ in the method used to make a diagnosis (interviews/case notes/informants; clinical diagnosis vs research instruments; emphasis on current presentation or on life history); and in some studies, subjects were only allowed to belong to one category of PD.[7]

Findings regarding PD of any type will be considered separately from findings related to specific PD categories (see Table 12.3).

Personality disorder of any type

- *Community:* a weighted prevalence for a diagnosis of any PD was found to be 4.4% in a general population study of British households. Comorbidity within PD was also found to be common —patients with PD are likely to meet the criteria for >1 subtype of PD.[8] It is more prevalent in younger adults and generally more prevalent in ♂.
- *Primary care:* prevalence of PD is around 10–12%, consisting mainly of patients presenting with depressive and somatizing symptoms.
- *Psychiatric patients:* 33% in general psychiatric outpatients. The prevalence of PD rises to roughly 40% in eating disorder services, and to 60% in substance misuse services.[9]

- *Other populations:* 65% of ♂ and 42% of ♀ prisoners have a PD, predominantly antisocial.[10]

Table 12.3 Specific categories of personality disorder

DSM	Prevalence (%)
Paranoid	0.5–3
Schizoid	0.5–7
Schizotypal	0.5–5
Antisocial	2–3.5
Borderline	1.5–2
Histrionic	2–3
Narcissistic	0.5–1
Avoidant	0.5–1
Dependent	0.5–5
Obsessive–compulsive	1–2

The prevalence rates of the categories of PD (most studies have used DSM categories, so these are used here) in the general population are approximately as shown in the table.

Relationship between personality disorder and other mental disorders

The current state of classification and understanding of the aetiology and pathogenesis of mental disorders is such that most psychiatric diagnoses are based on descriptive criteria. It is common to find that an individual meets the criteria for one or more mental disorders, as well as a PD. At one extreme, these may be a manifestation of the same underlying condition; at the other, they may represent completely separate aetiopathogenic entities.

The relationship between PD and other mental disorders may be:

- *Mutually exclusive* PD cannot be diagnosed in an individual with another mental disorder. The personality pathology displayed is a manifestation of the other mental disorder, and giving a separate personality diagnosis has no purpose. This approach is not favoured by current classification systems, even where the two appear to be manifestations of the same condition.
- *Coincidental* In an individual, PD and another disorder may come together by chance. However, epidemiologically, there is support for an association between PD and other mental disorders.
- *Associative* Both in individual cases and epidemiologically, there are a number of reasons why the coexistence of PD and other mental disorders may be more than just coincidental:
  - Sharing common aetiology (but separate disorder).
  - Prodromal (part of the development of another mental disorder).

- Part of a spectrum (a 'partial' manifestation of a mental disorder).
- Vulnerability (a separate disorder, manifestations of which make an individual more likely to suffer from another mental disorder).

Problems in assessing personality in patients with other mental disorders

A number of problems may arise in the diagnosis of PD in people who appear to have other specific mental disorders:

- Underlying PD may be missed, as assessment may focus on the current mental state disorder.
- PD may be misdiagnosed as another mental disorder, and vice versa.
- In an individual with PD, another specific mental disorder may be missed or misconstrued as being part of the PD.

In such cases, it is important to remember that other comorbid mental disorders are common in people with PDs, and any change in the presentation of a patient with PD may be due to this. Equally, it is important to base the assessment of personality on information (preferably from a number of sources) on the premorbid functioning of an individual, rather than on their current functioning or just their own account of their previous functioning (their memory or interpretation of which may be coloured by their current mental state).

Comorbidity between personality disorder and other specific mental disorders

Strong associations

- Cluster B PDs and psychotic, affective, and anxiety disorders.
- Cluster C PDs and affective and anxiety disorders.
- Avoidant PD and social phobia (possibly because they both describe a group of people with the same condition).
- Substance misuse and cluster B PDs.
- Eating disorders and cluster B and C PDs (particularly bulimia nervosa and cluster B).
- Neurotic disorders and cluster C PDs (it has been suggested that these individuals have a 'general neurotic syndrome').
- Somatoform disorders and cluster B and C PDs.
- Habit and impulse disorders and cluster B PDs (unsurprisingly).
- PTSD and borderline PD (this is not borderline PD redefined as chronic PTSD, but it is probably due to the ↑ rate of life events and vulnerability of such individuals).[11,12]

Moderate associations

- Schizotypal PD and schizophrenia (also a weaker association between schizophrenia and antisocial PD).
- Depression and cluster B and C PDs.
- Delusional disorder and paranoid PD.

Impact of personality disorders on manifestation, treatment, and outcome of other mental disorders

Although the concept of 'comorbid PD' may seem spurious from an aetiopathological perspective, its presence has an impact on the presentation, treatment, and outcome of other mental disorders, and it is therefore useful to recognize such comorbidity from a clinical perspective.

- **Presentation** Another mental disorder's presentation may be distorted, exaggerated, or masked by the presence of an underlying PD.
- **Treatment and outcome** The presence of comorbid PD will usually make treatment more difficult and worsens the outcome of other mental disorders. This may be due to problems in the following areas: help-seeking behaviours, compliance with treatment, coping styles, risk-taking, lifestyle, social support networks, therapeutic alliance, and alcohol and substance misuse.

Some contend that it is the presence of this comorbidity that makes it more likely for a person to fail to respond to standard primary care treatment approaches, therefore necessitating referral to psychiatric services.

Assessment of personality disorder

Potential pitfalls

- Relying on diagnoses made by others (psychiatrists are notoriously poor at diagnosing PD).[13,14]
- Failing to recognize comorbidity.
- Misdiagnosing PD as a mental illness, and vice versa.
- Inadequate information.
- Negative countertransference (basing the diagnosis on a negative reaction to a patient, rather than on an objective assessment; transference and countertransference may be a part of this, but negative feelings towards an individual should not be the primary basis for a diagnosis of PD).
- Applying ICD-10 or DSM-5 categories without a broader assessment of personality.

Diagnosing personality disorder

- *History-taking* A good psychiatric history should be obtained and include how long the problem has been present, variations in the difficulties, and any previous treatment and its efficacy, if applicable. It is also very useful to obtain education, employment, and relationship histories, to gain further understanding of interpersonal difficulties, as well as details of previous or current mental health problems and substance misuse.
- *Presentation* It is often helpful to carry out the assessment over several interviews. This will allow the assessor to be more confident that the patient's presentation reflects personality traits, rather than their mental state during the interview. A person's presentation can vary significantly, depending on their current

mental state or the presence of symptoms of mental illness. However, it is important to note that this fluctuation in presentation may also be a characteristic of PD, e.g. affective lability in borderline PD.

- *Clinical interview* During a clinical interview, the patient's interaction with the interviewer can be observed. The content of the response, emotional expression, and non-verbal communication can be observed and reflected upon by the interviewer. The patient's response to the interviewer (transference) and the feelings evoked in the interviewer (countertransference) also provide clues of the patient's interpersonal functioning and difficulties.
- *Other sources of information* Patients often have difficulty recognizing which aspects of themselves are the most problematic; sometimes friends or family are better able to identify these issues. This can be quite useful, in addition to information from the clinical interview and structured assessment.

Assessment instruments

There is currently no accepted gold standard measure of the assessment of personality, which makes it difficult to assess the validity of any instruments. However, structured clinical interviews are generally regarded as more robust and detailed than self-reported questionnaires which tend to over-report symptoms.

Structured categorical (diagnostic) assessments

- *Observer-rated structured interviews* International Personality Disorder Examination (IPDE), Diagnostic Interview for DSM-IV Personality Disorders (DIPD-IV), Structured Interview for DSM-5 Personality Disorders (SCID-5-PD), Structured Clinical Interview for DSM-IV Axis I Disorders, Personality Disorder Interview-IV.
- *Self-rated questionnaires* Personality Diagnostic Questionnaire, Structured interview—other sources, Standardized Assessment of Personality, Personality Assessment Schedule.

Structured dimensional assessments

- *Observer-rated structured interview* Schedule for Normal and Abnormal Personality.
- *Self-rated questionnaires* Personality Assessment Inventory, Minnesota Multiphasic Personality Inventory-2, Millon Clinical Multi-axial Inventory-III, Eysenck Inventory Questionnaire, NEO Five-Factor inventory-3.

Unstructured assessments

- *Interview-based* Clinical interview, psychodynamic formulation.
- *Other* Rorschach test, Thematic Apperception Test.

Additional assessment

Comorbidity The presence of comorbidity should be explored, as patients with one diagnosed PD will often have additional PD(s) and psychiatric problems. Comorbidities can be identified during history-taking and using assessment instruments.

Severity The concept of the severity of PD is perhaps more relevant in specialized PD services and in forensic psychiatry. There is no standard way of recording this. From literature, people with a greater number of PD diagnoses tend to be regarded as having more severe PD. Also individuals with PDs in >1 cluster are generally considered to have more severe PD. It is also useful to consider the degree of distress experienced by the individual, as well as the interference with functioning—occupational, family and relationships, offending/violence, etc.

Treatability Making an assessment whether an individual would benefit from a particular treatment is worthwhile, especially since many patients with PD disengage from services. Treatability with CBTs depends on the level of the individual's intellectual ability, which, in turn, is affected by their current mental state, education, and cultural background.

Management of personality disorder 1: general aspects

It is generally felt that PD is resistant to specific psychiatric treatment. However, there is no good evidence to either refute or support this statement. Patients often present at a time of crisis and/or when they develop a comorbid axis I disorder. Although some may wish to, psychiatrists cannot avoid having to manage patients with PD.

Principles of successful management plans

A successful management plan in PD is tailored to the individual's needs and explicitly states jointly agreed and realistic goals.[15] The approach to these patients should be consistent and agreed across the services having contact with the patient. Plans should take a long-term view, recognizing that change, if it comes, will only be observable over a long period.

Possible management goals

Potential management goals include: psychological and practical support; monitoring and supervision; intervening in crises; increasing motivation and compliance; increasing understanding of difficulties; building a therapeutic relationship; limiting harm; reducing distress; treating comorbid axis I disorders; treating specific areas (e.g. anger, self-harm, social skills); and giving practical support (e.g. housing, finance, childcare).

Managing comorbid mental disorders

It is important to recognize and treat comorbidity in patients with PD. Standard treatment approaches should be used, taking into account aspects of the patient's personality (e.g. impulsivity and an anti-authoritarian attitude may lead to non-compliance with medication).

Understanding and managing the relationship between the patient and staff[16]

Rejection for treatment of patients with PD (even when they present with mental illness) is often due to the intense negative feelings these patients may engender and the disruptive and uneasy relationships they form with those who try to help them. Just as they do in many of their interpersonal relationships, patients with PDs display disordered attachment in their relationships with staff (whether with individuals or with a service). When dealing with such patients, this needs to be recognized, acknowledged, and managed. An acceptance of, and tolerance for, these difficulties need to be combined with continuing commitment to the patient. However, patients, staff, and other agencies need to realize there are no instant solutions and that psychiatric services cannot take responsibility for all adverse behaviours.

Maintaining boundaries

It is important for staff to maintain boundaried relationships with the patients, as this provides the context for recovery for them. Staff can be supported in achieving this through supervision, including group reflective practice and peer supervision.[17]

Admission to hospital

Patients with PD benefit little from prolonged admissions to conventional psychiatric units. Admission to such units may be necessary when there is a specific crisis (usually in the short term) or when the patient presents with another specific mental disorder. Longer-term admission for the treatment of PD could be undertaken in a therapeutic community. Involuntary long-term hospitalization of patients with PD primarily to prevent harm to others where there is little prospect of clinical benefit to the patient is ethically dubious.

Managing crises

Individuals with PD often present in crisis. This may follow life events or relationship problems, or occur in the context of the development of comorbid mental illness. In some cases, the crisis may follow what appears to the outside observer to be a relatively minor or non-existent stressor. Where patients repeatedly present in crisis, it can be helpful for the various professionals involved to plan what the response should be in such situations. A consistent response is important, but there should be sufficient flexibility to deal with changes in circumstances. For example, where a patient repeatedly presents with self-harm, it may be appropriate for outpatient treatment to continue, following any necessary medical treatment; however, if this patient presents threatening suicide following the death of a partner, then it may be appropriate to arrange admission to hospital. Other approaches to individuals presenting with threats of self-harm or of violence and to manipulative patients are covered in The manipulative patient 1, p. 1056.

Management of personality disorder 2: social and pharmacological

Therapeutic communities

A therapeutic community[18] is a consciously designed social environment and programme within a residential or day unit, in which the social and group process is harnessed with therapeutic intent. It is an intense form of psychosocial treatment in which every aspect of the environment is part of the treatment setting, in which interpersonal behaviour can be challenged and modified. The main principles are democratization, permissiveness, communalism, and reality confrontation. There are various interactions between patients and staff both individually and in groups, particularly in daily community groups, which contribute towards achieving these principles. There is some evidence that such treatment is effective with some patients with PDs.

Medication

The main indication for medication in patients with PD is the development of comorbid mental illness.[19] There is no good evidence that medication has any effect on PD itself. The positive findings from studies have been short term, and probably due to the effects of medication on comorbid disorders, rather than on the PD itself. Bearing this in mind, the following have been suggested:

- *Antipsychotics* may be of some benefit in cluster B, particularly borderline PD; however, the strength of evidence is low, as it is based mostly on single small studies. Aripiprazole has been demonstrated to have beneficial effects in treating impulsivity in those with borderline PD. Both aripiprazole and olanzapine have shown some benefit in treating patients with cognitive or perceptual symptoms, including suspiciousness and depersonalization. Aripiprazole, olanzapine, and haloperidol may also be useful for managing affect dysregulation.[20]
- *Antidepressants* may be of benefit in impulsive, depressed, or self-harming patients (particularly borderline) and in cluster C (particularly avoidant and obsessive–compulsive) disorders.
- Mood stabilizers, such as valproate (semisodium), lamotrigine, and topiramate, have demonstrated some benefit in patients with affect dysregulation.[21]

NICE guidelines on the treatment of antisocial/borderline personality disorders advise that medication should not be used in an attempt to treat borderline or antisocial personality disorders.[22,23] Should medication be considered, it would be wise to use conservatively, as there is evidence that in specialist services for people with PD, clinicians are more likely to be involved in helping people to stop, rather than start psychotropic medication, due to polypharmacy, poor adherence to medication, and the risk of self-poisoning.[24]

Management of personality disorder 3: psychotherapy

Dialectical behavioural therapy

(Dialectical behavioural therapy, p. 916.)[25]

Dialectical behavioural therapy (DBT) was designed for women in the community who self-harm. It is a structured and long-term intervention (1–2yrs or more) with a cognitive–behavioural approach intended to address the difficulties of borderline PD. The therapy is a combination of individual and group sessions:

- *Individual therapy* focuses initially on reducing behaviour, as well as 'therapy-interfering behaviours'. Acceptance strategies, through 'validation', are used to help patients understand and accept themselves. Problem-solving strategies are used to effect change.
- *Group work* aims to increase adaptive behavioural skills, including interpersonal effectiveness, emotion regulation, distress tolerance, and core mindfulness.

Individuals are also instructed to telephone their therapists for skills coaching if they have urges to hurt themselves outside scheduled time. This serves to help keep the patient safe and to strengthen their skills by talking through the problem and exploring alternatives to self-harm or suicidal behaviours. Results for studies have shown benefit of DBT in treating people with borderline PD.

Cognitive analytic therapy

(Cognitive analytic therapy, p. 918.)[26]

May be appropriate for some patients with borderline PD. Aims to identify different 'self-states' and associated 'reciprocal role procedures' (patterns of relationships learnt in early childhood). Patients are helped to observe and change thinking and behaviour related to these self-states. Countertransference helps provide useful information about 'reciprocal role relationships', either through identification with the patient or reacting to their projections. The aim is for patients to be able to recognize their various 'self-states' and to be aware of them without dissociating.

Psychodynamic therapy

(Psychodynamic psychotherapy, p. 902.)[21,26]

The psychodynamic and transference-focused approach is relevant in the treatment of people with borderline and narcissistic PDs. This kind of therapeutic work can help to minimize the externalization of 'unbearable self-states', i.e. the patient will manage their own internalized and distressing self-perceptions by generating those same feelings in others. Early developmental experiences will also be explored to link to presenting problems.

Mentalization-based therapy

A form of psychodynamic psychotherapy specifically designed and manualized for individuals with borderline PD. The therapy seeks to address disorganized attachment and the individual's failure to develop mentalizing capacities as a result of early attachment experiences. During times of stress, these 'non-mentalizing' states

may then appear—'*psychic equivalence*' ('I think, therefore it is'), '*pretend mode*' (where the individual is dissociated from real thoughts and emotions), and '*teleological thinking*' (the experience is only valid to the individual if there is tangible evidence of it). Mentalization-based therapy has been shown in studies to be effective in the management of borderline PD, one in the context of a partial hospitalization programme and the other in an outpatient setting.

Cognitive behavioural therapy

(Cognitive behavioural therapy 1, p. 910.)[27]

Cognitive techniques used emphasize changing core beliefs about the self and the work. Three key ways are used to confront core schema once they are accessed:

- *'Schema restructuring'* enables the individual to change a maladaptive schema to an adaptive one.
- *'Schema modification'* aims to modify dysfunctional schemas in order to reduce their impact and their effect on patients' responses.
- *'Schema reinterpretation'* seeks to make minor changes to existing schema, so patients reinterpret them and manage dysfunctionality better.

Behavioural techniques are employed to cause a reduction in self-harm and other maladaptive behaviours and also to help the individual develop better ways of coping with difficulties.

Outcome of personality disorder

Morbidity and mortality

High rates of accidents, suicide, and violent death, particularly where cluster B features are prominent. As mentioned already, there are high rates of other mental disorders.

Outcome of other disorders in patients with personality disorder

The outcome of mental illness and physical illness is worse in patients with PDs.[28]

Persistence of personality disorder

Some contend that PD is, by definition, lifelong and therefore has a poor prognosis, but the evidence for this is far from conclusive. PDs are best conceptualized as long-term and chronic disorders, manifesting with varying degrees of severity over time. Some may present with a relapsing and remitting course, depending on environmental factors and comorbidity.[29]

Comparison between different age groups

PD is less prevalent in older adults than younger adults, particularly for cluster B disorders. In terms of 'normal' personality, compared with young adults, the elderly are more likely to be cautious and rigid, and less likely to be impulsive and aggressive. However, crosssectional studies looking at different age groups at one point

in time tell us little about the development of personality in individuals over time.

Follow-up of individuals over time

Antisocial/dissocial Children presenting to child services with antisocial behaviour are 5–7 times as likely to develop antisocial PD as those presenting with other problems. May show some improvement in antisocial behaviour by fifth decade. However, may just change with time from 'overt' criminal behaviour to more 'covert' antisocial behaviour such as domestic violence and child abuse. There is contradictory evidence as to whether 'burnout' or 'maturation' in later life really does occur.

Borderline A third to a half of patients fulfilling the criteria for borderline PD do not have PD at all when followed up after 10–20yrs. About a third continue to have borderline PD, and others have other predominating PDs. Poor prognostic indicators are severe, repeated self-harm and a 'comorbid' antisocial personality; a good prognostic indicator may be an initial presentation with a comorbid affective disorder.

Schizotypal Generally have a poorer prognosis than borderline patients. About 50% may develop schizophrenia.

Obsessional May worsen with age. More likely to develop depression than OCD.

Clusters There is some evidence that cluster A traits worsen with age, cluster B traits improve, and cluster C traits remain unchanged.

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1 Tautology (the restatement of the same information using different words) is a particular danger in psychiatry generally, and the diagnosis of PD in particular. For example, saying that someone has 'borderline' traits gives a gloss of understanding to the simple fact that a person repeatedly self-harms, without actually communicating any new information (except perhaps the 'therapeutic despair' of the psychiatrist!).

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Chapter 13

Old age psychiatry

Psychiatric illness in older people and old age psychiatry as a specialty

Old age psychiatry, sometimes known as psychogeriatrics, is a comparatively new specialty, which has developed over the last 50yrs in response to demographic changes and the growth of geriatric medicine. It was inspired by the 'social psychiatry' movement and its growing emphasis on the care and welfare of vulnerable sectors of the population.

Psychiatric illnesses in older people include:

- Pre-existing psychiatric disorders in the ageing patient.
- New disorders due to specific stresses and circumstances of old age (e.g. bereavement, infirmity, dependence, sensory deficits, isolation).
- Disorders due to the changing physiology of the ageing brain.
- Psychiatric complications of neurological and systemic illnesses [e.g. delirium (Acute confusional state (delirium), p. 854) is particularly recognized as a common complication of a variety of physical health problems in the elderly and needs to be considered in any patient where there has been an unexplained change in their cognitive functioning or level of awareness].

Psychiatric problems often coexist with physical problems, and treatment strategies need to take account of this (as well as the different pharmacokinetics of the older patient; Psychopharmacology in the elderly, p. 558). Furthermore, the elderly are more likely to manifest physical symptoms of psychiatric

disorders than younger adults. Cognitive assessment and physical examination are always essential parts of psychiatric management of the older person. Dementia is generally the main focus of interest in old age psychiatry, but the discipline also involves the treatment of general psychiatric illnesses in older adults.

Since older people are often dependent on others, consideration of the role and needs of carers are important aspects of holistic care. Psychiatric care of the elderly is inherently multidisciplinary and interfaces with multiple services, both state and independent (e.g. social services, housing and welfare services, the legal system, charity organizations, and religious institutions).

The demographics of old age

In developed countries, such as the UK, the elderly population has been increasing steadily over the last century. For example, in the UK, the percentage of the population older than 65yrs was 5% in 1900 and 15% in 2003, and is projected to rise from 18% in 2016 to 23.8% in 2036.[1] This trend is largely attributed to the decline in infant mortality, control of infectious diseases, and improvement in sanitation, living standards, and nutrition, as well as a declining birth rate. The implications of increasing numbers of elderly people in society are many, including a drop in the proportion of the working population, an increase in overall disability and health needs, and a corresponding increase in the need for both health and social services.

In terms of psychiatric disorders, it is well known that certain disorders increase in frequency with advancing age. For example, 5% of people older than 65yrs suffer from moderate to severe dementia and the prevalence increases to over 30% in those over 85yrs. A recent survey in England showed the prevalence of symptoms of common mental disorders to be 10.2% in those aged 65–74yrs and 8.1% in those aged 75yrs and over.[2]

Other research has shown a particularly high prevalence of mental disorder among elderly people in sheltered accommodation. Of the 80,000 people in the UK who die in care homes annually, up to two-thirds have some form of dementia. Up to two-thirds of patients >65yrs in general hospital wards have a psychiatric disorder; of these, 20% may suffer from delirium, 31% from dementia, and 29% from depression at any one time.[3] Finally, it is regrettably also the case that psychiatric disorders are commonly either undiagnosed or misdiagnosed at primary care level. Having said this, research has demonstrated a marked improvement over the last decade in both diagnosis and management at this level.

The role of the old age psychiatrist

- *Advocate* The old age psychiatrist can be an active proponent of the interests of the elderly, e.g. sourcing funding, providing education to the public, dispelling the stigma of ageing.
- *Teacher* An old age psychiatrist is well placed to provide education in both medical and non-medical contexts. Medical and nursing students, across-discipline specialists and trainees,

school pupils, community forums, and service organizers may all benefit from their expertise.

- *Health educationalist/promoter* Holistic care of the elderly includes both health education and preventative intervention.
- *Student* Old age psychiatry is a major area of research, and the changing demography of ageing allows for academic collaboration with other disciplines, e.g. sociology, history, and human geography.
- *Innovator* Individuals working in this area have had the opportunity to be creative and innovative in developing appropriate services.
- *Team player* Old age psychiatry is a truly multidisciplinary discipline.
- *'Missionary'* The global challenges for the twenty-first century include expanding the discipline within developing countries, as well as finding new strategies for caring for the growing numbers of elderly people within the first world.[4]

Normal ageing

Neurobiology of ageing[5]

- The *weight* of the brain decreases by 5% between 30 and 70yrs, by 10% by the age of 80, and by 20% by the age of 90. There is a proportionate increase in *ventricular size* and the size of the *subarachnoid space*.
- *MRI* shows changes in grey and white matter and a reduction in volume prominent in the hippocampus, association cortices, and cerebellum.
- *Cortical blood flow* in the frontal and temporal lobes and thalamus decreases with age.
- There is some *nerve cell loss* in the cortex, hippocampus, substantia nigra, and Purkinje cells of the cerebellum, but less than was thought previously, and reductions in dendrites and synapses are thought to be more important. The cytoplasm of nerve cells accumulates a pigment (*lipofuscin*), while there are also changes in the components of the cytoskeleton.
- *Tau protein* (links neurofilaments and microtubules) can accumulate to form *NFTs* in some nerve cells. In normal ageing, NFTs are usually confined to cells of the hippocampus and entorhinal cortex.
- *Senile plaques* (extracellular amyloid and neuritic processes) are found in the normal ageing brain in the neocortex, amygdala, hippocampus, and entorhinal cortex.
- *Lewy bodies* (intracellular inclusions) occur normally and are confined to the substantia nigra and the locus caeruleus.
- *Hirano bodies* occur in new hippocampal pyramidal cells.
- *Amyloid deposits* (β-amyloid and A4 amyloid) may be widespread in superficial cortical and leptomeningeal vessels, as well as patchy within the cortex.

Psychology of ageing

- *Cognitive assessment* is often complicated by physical illness or sensory deficits.
- *IQ* peaks at 25yrs, plateaus until 60–70yrs, and then declines.
- *Performance IQ* drops faster than verbal IQ, which may be due to reduced processing speed or the fact that verbal IQ depends largely on familiar, 'crystallized' information, while performance IQ involves novel, fluid information.
- *Problem-solving* deteriorates due to declining abstract ability and increasing difficulty applying information to another situation.
- *Short-term/working memory (WM)* shows a gradual decrease in capacity, and this is worse with complexity of the task and memory load.
- *Long-term memory (LTM)* declines, except for remote events of personal significance which may be recalled with great clarity.
- There is a characteristic pattern of *psychomotor slowing* and impairment in the manipulation of new information.
- Tests of well-rehearsed skills, such as *verbal comprehension*, show little or no decline.

Social problems of old age

With the breakdown of traditional family structures in many societies, increasing numbers of elderly people live alone or in homes for the aged. Old age can be a period of life marked by loss. Losses may include: loss of status, loss of independence, loss of health, loss of friends, and loss of spouse/partner. Most elderly people have limited income and are unemployed. Increases in medical problems compound dependency and care needs. The elderly face variable degrees of isolation, marginalization, and stigmatization.

> 'No one ever told me that grief felt so like fear. I am not afraid, but the sensation is like being afraid. The same fluttering in the stomach, the same restlessness, the yawning. I keep on swallowing. At other times it feels like being mildly drunk, or concussed. There is a sort of invisible blanket between the world and me. I find it hard to take in what anyone says. Or perhaps, hard to want to take it in. It is so uninteresting. Yet I want the others to be about me. I dread the moments when the house is empty. If only they would talk to one another and not to me.'
>
> CS Lewis in *A Grief Observed*, writing as Clerk NW (1961). Lewis, the academic, theologian, and author of *The Chronicles of Narnia*, wrote this firsthand account of bereavement following the death of his wife Joy Davidman from metastatic bone cancer.

Multidisciplinary assessment

Elderly people suffering from mental health problems often have a range of physical, psychological, social, and spiritual needs. This implies that individual assessment, management, and follow-up require collaboration between health, social, and voluntary organizations and family carers. Assessment of the older patient with mental illness includes:

- Full history from the patient, family, and carers.
- Full physical and neurological examination.
- MSE, including thorough cognitive assessment.
- Functional assessment (evaluation of the ability to perform functions of everyday living).
- Social assessment [accommodation; need for care; financial and legal issues, especially driving status and power of attorney (PoA) (Power of attorney, p. 562); social activities].
- Assessment of carers' needs.

The best place for performing an assessment is in the patient's home. A home visit has the advantage of being more convenient and relaxing for the patient, and it provides the health carer with an opportunity to assess living conditions, social activities, and medications kept in the house. In addition, family members, neighbours, and carers may be available for interviewing. Historically, day hospital would have then been involved in more complex cases, but this now tends to be replaced by Intensive Home Assessment and Treatment teams that can also lead to admission being avoided in some cases. Sometimes a brief admission is indicated, especially if the elderly person has pressing physical or psychiatric needs or if support is unavailable (or respite is desperately needed). A full assessment will require multidisciplinary input and may involve doctors, nurses, occupational therapists, psychologists, social workers, voluntary workers, legal professionals, and others involved with the elderly.

In obtaining a thorough history, it is important to allow the patient to tell their own story. One needs to enquire about the presenting problem and how it has evolved, whether it is a new or long-standing problem, and whether the individual has a personal or family history of mental problems. In addition, enquire about losses, social history and social circumstances (housing, income, social activities, etc.), medical problems and medications, alcohol history, and the presence or absence of family support and carers. It is particularly important to assess ADLs such as the level of independence and the ability to cook, shop, manage money, remember dates/appointments, maintain the home, and cope with bathing, toileting, laundry, etc.

MSE needs to include an assessment of sight and hearing, as well as determine the presence or absence of anxiety or mood symptoms, thoughts of suicide, abnormal beliefs or perceptions, and cognitive impairment. Cognitive assessment must include: orientation; memory; concentration and attention; language, praxis, and simple calculation; intelligence; insight; and judgement. The Addenbrooke's Cognitive Examination, third edition—Revised (ACE-III-R) is freely available online (and training is easily accessed too)[6] and covers these domains, giving a sub-score breakdown in the fields of attention, memory, fluency, language, and visuospatial ability. There is a wide range of rating scales for assessing mental state, cognitive performance, ADLs, and carer burden—see Burns *et al.*[7] (2002) for an overview.

Key questions for carers include:

- Relationship to the patient.
- Amount of care provided.
- Degree of stress under which they are.
- What help they would accept.
- Understanding and knowledge of the patient's illness.
- What expectations they have from services.
- Their awareness of support or voluntary organizations.[8]

It is also important to clarify whether they hold any legal powers that pertain to the patient [e.g. lasting power of attorney (LPA), legal guardianship].

Specific aspects of psychiatric illnesses in the elderly 1: overview, neuroses, and psychoses

Overview

The range of psychiatric illnesses in the elderly is very similar to that in younger people. However, the individual factors that contribute to aetiology, clinical presentation, and management strategy differ due to the specific biopsychosocial conditions of old age. In order to grasp a full understanding of elderly psychopathology, it is necessary to appreciate the physiological, psychological, and sociocultural factors unique to this age group. Disorders in the elderly may present with some 'classic' symptoms (common to adult psychopathology), but very often their clinical manifestation varies significantly due to the unique conditions of old age. The following pages focus on the 'unique' features of psychiatric illnesses in the elderly.

Neuroses

Prevalence Depression and anxiety are common in old age. There is no decline in their prevalence with advancing age, but of concern is the fact that there is a reduction in referrals to psychiatry. This may be due to ↑ acceptance of symptoms by the elderly or due to deficiencies in detection by health professionals. The estimated prevalence of neurotic disorders is 1–10%, with a ♀ predominance and roughly equal frequency of 'old' and 'new' cases.

Clinical features Non-specific anxiety and depressive symptoms predominate, and hypochondriacal symptoms are often prominent. Obsessional, phobic, dissociative, and conversion disorders are less common. Factors such as physical ill health, immobility, and lack of social support may give rise to fear and a lack of confidence about going out of the home.

Aetiology Multiple factors may contribute to new neurotic symptoms in the elderly. Among these, the most common are: major life events, physical illness, feelings of loneliness, impaired self-care, and 'insecure' personality style.

Differential diagnosis Physical illness; acute or chronic organic brain disease; affective disorders.

Management

- The mainstay of treatment is to identify and manage aetiological factors. This obviously very often calls for social interventions, and thus a multidisciplinary approach is essential.
- Counselling may be difficult, especially where older people have had limited exposure to psychological methods, but there is increasing evidence for the efficacy of CBT in the elderly.
- Antidepressants may be indicated for severe and disabling symptoms and are certainly preferable to BDZs.

Psychotic illness

Psychotic illness in the elderly broadly falls into three categories:

- *'Old psychosis'*— psychotic illness that has developed earlier in adult life and for the ongoing treatment of which the patient may 'graduate' from general adult to old age services (Old psychosis, p. 550).
- *'New psychosis'*—psychotic illness which develops later in life and is thus referred directly to old age services as a new presentation (New psychosis, p. 550).
- *Other conditions*—which give rise to paranoid and/or hallucinatory symptoms but which are not primarily psychotic illnesses (see Box 13.1).

Box 13.1 Other conditions with paranoid or hallucinatory symptoms

These include the following conditions:

- *Secondary paranoid states*—due to organic disorders or substances (Psychiatric presentations of organic illness, p. 126).
- *Delirium* (Acute confusional state (delirium), p. 854).
- *Dementia* (Dementia: general overview, p. 152).
- *Affective disorders* (Specific aspects of psychiatric illnesses in the elderly 2: primary psychoses, p. 550).
- *Schizoaffective disorder* (Disorders related to schizophrenia, p. 228).
- *Hallucinations of sensory deprivation*—in the elderly, complex visual hallucinations can occur as a non-specific phenomenon, secondary to visual impairment—sometimes referred to as *Charles Bonnet syndrome*. Hallucinations may be well formed, containing animals, people, or scenes. May be partial or complete insight. Differential diagnosis includes: DLB (Dementia with Lewy bodies, p. 162) and acute confusional state (Acute confusional state (delirium), p. 854).

Reassurance may be adequate, but in some cases, a small dose of antipsychotic medication may reduce distressing symptoms.

Specific aspects of psychiatric illnesses in the elderly 2: primary psychoses

Old psychosis

With the advent of antipsychotic drugs in the 1950s, there followed a progressive decrease in the numbers of long-stay patients with schizophrenia in institutions. Thus, more and more ageing patients with chronic schizophrenia moved into the community, and in countries such as the UK and the USA, many of these patients are increasingly referred to old age psychiatry services. Caution needs to be observed when considering changing/reducing/stopping long-term antipsychotics in this group, as this not uncommonly may precipitate a relapse, even in persons who have been stable for years. It is advisable that the patient has a psychiatric review and opinion in this regard.

New psychosis

The terminology used to describe psychosis in older adults has varied throughout the twentieth and early twenty-first centuries. Historically, the term 'late paraphrenia' was often used to describe psychosis in the elderly, after the observation by Roth and Morrissey in 1952 that there were clinical similarities between paraphrenia (as originally described by Kraepelin in 1909) and the most common forms of psychosis in those aged >60yrs. The usefulness of the term has since come into question, and an international consensus has suggested that the terms late-onset schizophrenia (for onset between 40 and 60yrs) and very-late-onset schizophrenia-like psychosis (for onset >60yrs) are more useful for describing psychosis in older adults and for guiding research in this area.[9] These terms recognize that schizophrenia is heterogenous but emphasize that there are more clinical similarities between early- and late-onset schizophrenia than there are differences. At present, neither ICD-10 nor DSM-5 (nor ICD-11) have age-specific cut-offs in their diagnostic classifications of psychotic disorders.

Epidemiology

Good-quality data are sparse. Relatively rare condition; population studies estimate <1% prevalence. ~10% of admissions to psychiatric wards for the elderly will have the condition. One study showed that, using ICD-10 criteria, 60% of cases were paranoid schizophrenia, 30% delusional disorder, and 10% schizoaffective disorder.[10] ♀:♂ = 4–9:1.

Aetiology

- *Genetics* The risk of schizophrenia in first-degree relatives is 3.4% in late paraphrenics, compared with 5.8% in young schizophrenics, and <1% in the general population.[11]

- *Premorbid personality* Characterized by poor adjustment, and ~45% show lifelong paranoid and/or schizoid traits.
- *Sensory impairments* Such as deafness of onset in middle life, increases the risk of late paraphrenia.
- *Social isolation and major life events* May also contribute.
- *Organic factors* Structural imaging demonstrates mild ventricular enlargement; cerebrovascular pathology is a common comorbidity.

Clinical features

Although there are many features in common with early-onset schizophrenia, patients with late-onset illness are more likely to experience hallucinations, whether auditory (typically third person; occur in ~75%), visual (13%), somatic/tactile (12%), or olfactory (4%).[12] Persecutory delusions are the most common symptom of late paraphrenia (roughly 90% of patients) and tend to relate to commonplace themes (such as neighbours spying, entering the patient's home, moving items, etc.). Partition delusions are also a notable feature in this age group and may arise secondary to persecutory delusions (see Box 13.2). Other common delusions include: referential, misidentification, hypochondriacal, and religious. Schneiderian first-rank symptoms are common (46%), while negative symptoms, blunting of affect, formal thought disorder, and catatonia are extremely uncommon; 10–20% may present with delusions only.

Box 13.2 Partition delusions*

These have been defined as 'the belief that people, animals, materials or radiation can pass through a structure that would normally constitute a barrier to such passage … [They] arise as secondary phenomena to the primary delusional experience of being observed, spoken about or physically affected by some agent outside the home.' This type of delusion seems to be particularly common in older adults who develop psychosis, with prevalence in this study of 68% compared to 20% of young schizophrenic subjects.

Reprinted from Howard R, Castle D, O'Brien J, *et al.* (1992) Permeable Walls, Floors, Ceilings and Doors. Partition Delusions in Late Paraphrenia. *Int J Geriatr Psychiatry* **7**: 719–724 with permission from Wiley.

Treatment

- Relieve isolation and sensory deficits.
- Establish rapport and develop a therapeutic alliance (often difficult!).
- Exclude cognitive or medical disorders.
- Hospital admission is often required.
- Low-dose atypical antipsychotics preferred, as the elderly are very sensitive to side effects, but non-compliance secondary to lack of insight is often an issue.

Specific aspects of psychiatric illnesses in the elderly 3: mood disorders

Epidemiology

Less than 10% of new cases of mood disorder occur in old age. Episodes occur more frequently, last longer, have a worse prognosis, and are more likely to be chronic. Gender differences in prevalence also diminish with advancing age. Prevalence of clinically significant depression is 10% for those >65yrs, with 2–3% being severe. Rates of depression differ, depending on the setting: 0.5–1.5% in the community; 5–10% of clinical outpatients; 10–15% of clinical inpatients, with up to 30% of inpatients suffering from at least mild depression; and 15–30% in residential or nursing homes. Mania accounts for 5–10% of mood disorders in the elderly.

Aetiology

A positive family history becomes less relevant in older-onset mood disorder. Physical illnesses are associated in 60–75% of cases. Major life events are common, as is the lack of a confiding and supportive relationship. Older patients are less likely to complain, as losses are 'expected'. Neuroimaging yields conflicting results, and brain changes noted may relate to the normal ageing process. The strongest imaging evidence for brain changes is for mania in men.

Clinical features

There are no clear distinctions between the clinical presentation of depression in the elderly and that in younger people. However, some symptoms are often more striking:

- Severe psychomotor retardation or agitation occurs in up to 30% of depressed elderly patients.
- A degree of cognitive impairment has been detected in 70% (especially with effortful tasks).
- Depressive delusions regarding poverty, physical illness, or nihilistic in nature are common (e.g. Cotard's syndrome; Dictionary of psychiatric symptoms, p. 105).
- Paranoia is also common, while derogatory and obscene auditory hallucinations may occur.
- Classic symptoms may not even be evident, and the patient may instead present with somatic, anxiety, or hypochondriacal complaints. A high index of suspicion is required when older patients present with these symptoms, especially abnormal illness behaviour.

Pseudodementia

A minority of retarded, depressed elderly present with 'pseudodementia' (i.e. marked difficulties with concentration and memory). Features suggestive of pseudodementia include: previous history of depression; depressed mood; biological symptoms; 'islands of normality'; exaggerated symptoms; poor effort on testing, frequent comments such as 'I can't be bothered',

'it's too difficult' to relatively easy tasks; and response to antidepressant medication. For some, this may herald/uncover the onset of a dementia syndrome, and there is a proven association between depressive pseudodementia and a later diagnosis of dementia.

Mania or hypomania

Present similarly as in younger patients; however, they are more often followed by a depressive episode in older patients. There is usually a history of bipolar affective disorder. A first episode of mania in an elderly person requires careful screening for cerebral or systemic pathology (e.g. stroke or hyperthyroidism).

Differential diagnosis

Dementia—difficult to distinguish and can occur together; if in doubt, best to treat; *paranoid disorder*—depressive paranoia and delusions may be difficult to distinguish from psychoses; *stroke*—especially after left frontal cerebrovascular accident (CVA) or secondary to lability, reactive stress, organic apathy, ↓ motivation, or drug side effects associated with stroke; *Parkinson's disease*—drug side effects in treating may suggest depressive illness; *other physical disorders*, e.g. infection, hypothyroidism, tumours, alcohol, drug side effects. *Note:* full physical investigation is vital.

Management

- *Antidepressants* First-line is SSRIs due to ↓ side effects and relative safety in OD. TCAs are not absolutely contraindicated in the elderly, but care must be exercised in prescribing. ECG and BP monitoring is important due to postural drops, as well as other cardiac problems. Others include: SNRIs such as venlafaxine; and occasionally moclobemide (delayed hypotension a problem). General rules include: low starting dose, gradual increases, and longer maintenance periods (up to 2yrs); beware of suicide risk; consider lithium augmentation. Caution needs to be observed when considering changing/reducing/stopping long-term antidepressants in this group, as this may precipitate a relapse, even in persons who have been stable for years.
- *ECT* (→ ECT 2: indications, contraindications, and considerations, p. 296) First-line treatment for severe illness and specifically where there is marked agitation, life-threatening stupor, suicidality, or contraindications, failure, or excessive side effects of drugs. ECT is generally safe and effective. Dementia is not a contraindication. Post-ECT confusion may be a problem, in which case treatments should be given at longer intervals.
- *Psychological treatments* Therapies include: CBT for depression; supportive psychotherapy; and bereavement counselling.
- *Treatment of mania* Age-appropriate doses of antipsychotics may be used, in particular haloperidol and risperidone. Lithium is first line in prophylaxis, but lower dosages are indicated (levels: 0.4–0.8mmol/L) and regular thyroid and renal checks (at least 3-

monthly) are essential. Also note that levels may easily change in the presence of infection, dehydration, and use of other medications (e.g. diuretics). Levels should be taken at 10–14hrs after the last lithium dose. Following an increase in lithium dose, 5–7 days should be allowed for serum levels to stabilize.

Prognosis

Generally, prognosis is good, especially if: onset <70yrs; short illness; good previous adjustment; absent physical illness; and good previous recovery. Poor outcome is associated with: severity of initial illness; psychotic symptoms; physical illness; poor medication compliance; and severe life events during follow-up period.

Other mental health problems in the elderly

Alcohol problems

With decreasing tolerance for alcohol in advancing age, there is a corresponding increase in the risk of intoxication and adverse effects. Risk factors for late onset of alcohol problems include: ♀ gender; higher socio-economic class; physical ill-health; precipitating life events; neurotic personality; and psychiatric illness.

Principles of management

- Prognosis is good if alcohol problems commence secondary to practical problems.
- Encourage and facilitate involvement in non-drinking social activities.
- In extreme cases, consider the need for supervision of finances.
- Orientate towards reducing physical problems.
- Moving to residential care may reduce social isolation.

Caution must be displayed when detoxing the elderly from alcohol with BDZs. There may be comorbid cognitive impairment, which makes the patient more susceptible to BDZs, precipitated deliriums (secondary to use of too high doses), rather than alcohol withdrawal delirium, and this should always be considered in the differential diagnosis of elderly persons with a non-resolving delirium in this context.

Drug abuse

Generally, illicit substance abuse is not a significant problem in the elderly, although with changing demographics, this may increasingly become a problem. However, misuse of prescription drugs (especially BDZs, opiates, and analgesics) frequently becomes a problem in this age group. Dependence on such medications may result from careless prescription of long-term treatments for common problems of ageing such as insomnia and arthritis. With the best of intentions, doctors may believe that it is 'cruel' to withdraw patients from these medications, especially if the patient has been using the drug for years and is advanced in age. Underlying this belief is the common clinically evidenced precipitation of difficult-to-treat anxiety. However, it is important to

consider whether withdrawal may actually enhance quality of life by diminishing chronic side effects such as depression.

Sexual problems

Factors influencing the sexual life of younger adults are relevant to older people too (e.g. social stresses, illness, and side effects of medications). In addition, the elderly may experience added problems related to the specific physiological changes that accompany ageing. Dementia sufferers may become sexually demanding as part of the disinhibition that frequently characterizes this disorder. Health carers may fail to detect sexual problems experienced by older people, as a sexual history is commonly overlooked. This may result from incorrect assumptions that carers often make regarding sexuality in this age group. The patient themselves may assume that his or her sexual dysfunction is a 'normal' aspect of ageing. Some practical remedies are: HRT; vaginal lubricants and topical oestrogen; and, of course, sildenafil (Viagra®).

Personality problems

Personality traits often become more prominent and rigid in old age—in particular, traits such as cautiousness, introversion, and obsessionality. Paranoid traits may intensify, especially when there is increasing social isolation. In some cases, this may be mistaken for a paranoid psychotic state such as delusional disorder. Psychopathy is said to burn out with advancing age, and criminal behaviour is uncommon in the elderly, although it may be on the rise.[13] Roughly 5–10% of older people exhibit features of PD and generally come to the attention of health services when they are residents in homes for the elderly. Since PD is, by definition, lifelong, any significant change in personality needs explanation. Both organic and functional brain disorders may manifest as 'a change in personality'. Personality problems are often the cause of *Diogenes syndrome*—also called senile squalor syndrome—in which individuals become increasingly isolated and neglect themselves, living in filthy, poor conditions. They are often oblivious to their condition and resistant to help, necessitating intervention (

Hoarding disorder (DSM-5), p. 389).

Suicide

Old age is a risk factor for suicide, and it is estimated that ~20% of all suicides are of the elderly. There is a ♂ predominance of 2:1 in this age group, as suicide rates tend to increase with age in men and decrease with age in women. The rate of elderly suicides declined markedly during the 1960s, due to detoxification of the mains gas supply. *Predictive factors for suicide in the elderly include*:

- Increasing age.
- ♂.
- Physical illness (35–85% cases).
- Social isolation.

- Widowed or separated.
- Alcohol abuse.
- Depressive illness, current or past (80% cases).
- Recent contact with psychiatric services.
- Availability of means.

Self-harm

Self-harm is relatively uncommon with older people, accounting for only 5% of cases. Gender distribution is roughly equal. Apparent self-harm in this age group is much more likely to be a failed suicide and thus should be taken very seriously. It is important to exclude depression and also PD, as 90% have a depressive illness. Also 60% are physically ill; 50% have been previously admitted to a psychiatric hospital, and 8% go on to complete a suicide within 3yrs.

Issues of elder abuse

In recent decades, the unfortunate problem of elder abuse has become increasingly recognized.[14,15] It is often overlooked and requires an integrated response from multiple disciplines and agencies, including health and social services, the criminal justice system, and the government. The need for a unified multidisciplinary approach cannot be emphasized enough, as a fragmented response is fraught with problems.

Types of elder abuse

Elder abuse is an all-inclusive term representing all types of mistreatment or abusive behaviour towards older adults. This mistreatment can be an act of commission (abuse) or omission (neglect), intentional or unintentional, and of one or more types:

- Physical, sexual, verbal, or psychological abuse.
- Physical or psychological neglect.
- Financial exploitation.

The abuse or neglect results in unnecessary suffering, injury, pain, or loss and leads to a violation of human rights and a decrease in the quality of life.

Epidemiology of elder abuse

Occurs in both domestic and institutional settings:

- *Domestic settings* ~4–6% of elderly people report incidents of abuse or neglect in domestic settings. The most common forms of abuse are verbal abuse and financial exploitation by family members and physical abuse by spouses. Gender distribution (of victims) is equal, and economic status and age are unrelated to the risk of abuse. Importantly, elder abuse is under-reported—450,000 older adults in domestic settings were abused, neglected, or exploited in the USA during 1996, of whom only 70,000 self-reported.
- *Institutional settings* No data exist for the extent of abuse within institutional settings. However, one survey of nursing home staff in a US state disclosed that 36% of staff had witnessed at least one incident of physical abuse in the preceding year, while 10%

admitted to having committed at least one act of physical abuse themselves.

Explaining elder abuse

The main risk factors for elder abuse are: dependency and social isolation of the victim; the carer has mental or substance misuse problems; and absence of a suitable guardian. Factors vary according to the type of abuse; for example, dependency is a risk factor for financial or emotional abuse, but not necessarily for physical abuse. Also the causes of spouse abuse may differ from the causes of abuse by adult offspring.

An integrative response to elder abuse

Prevention is the best approach, and a number of measures have proved effective: training and support of carers, reducing isolation of elders, respite care, CPN visits, etc. Responding to abuse effectively requires a multidisciplinary approach and a proactive system of assessment of suspicious cases (a number of assessment instruments have been developed).[16,17] There may now also be legislation available to allow assessment and intervention, e.g. the Adult Support and Protection (Scotland) Act 2007. Assessment will necessitate capacity evaluation ( Capacity and consent, p. 856), which may reframe the legal context of the alleged abuse and serve to preserve and promote the dignity and independence of older adults.[18]

Psychopharmacology in the elderly

General considerations

Older people often have a number of physical health problems, for which they may need multiple medications (a phenomenon referred to as 'polypharmacy').[19,20] As the number of medications rises, so too do the risks of side effects and drug interactions. Many of the drugs used to treat psychiatric illness have significant side effects, particularly cardiac, metabolic, and extra-pyramidal. Older patients are more prone to experience side effects due to changes in how the body handles drugs ( Pharmacokinetics, see below), and therefore, the side effects of any medication need to be weighed carefully against any potential benefits. Because of this, a careful and considered approach should be taken when prescribing for older patients, and a patient's medications should be reviewed frequently. Certain medications will require structured ongoing monitoring of blood tests and physical health parameters (particularly lithium, clozapine, and antipsychotics), but all those who prescribe for the elderly need to be cognizant of their patients' wider physical health.

Pharmacokinetics

The physiological changes associated with ageing mean that the older patient's system handles drugs quite differently from that of a

younger individual.

- *Absorption* There are reductions in gastric pH, mesenteric blood flow, and gut motility, resulting in a reduced rate of absorption.
- *Distribution of drugs* This is also altered. Reduced body mass (but with proportionally ↑ body fat), reduced body water, and lower albumin can cause ↑ levels of free drug and longer half-lives, especially of psychoactive drugs.
- *Drug metabolism* This is reduced due to ↓ blood flow to the liver and loss of efficiency of liver microsomes.
- *Excretion* This is reduced with the natural drop in renal clearance that accompanies old age. Thus drug effects are generally prolonged and cumulative, and the risk of toxicity is high. This is particularly important in patients on lithium, which is solely excreted by the kidneys without any preceding biotransformation.

Pharmacodynamics

Technology, such as PET, is enlightening our understanding of the direct effects of drugs in the CNS. Specific differences in these effects in the elderly include:

- *Dopaminergic system*—there are fewer DA cells in the basal ganglia; thus, there is ↑ sensitivity to EPSEs of neuroleptics (not dystonias).
- *Cholinergic system*—there is a normal reduction in cholinergic receptors with advancing age.
- *Noradrenergic system*—NA levels decrease with age, which may cause this age group to become increasingly vulnerable to mood disorders.
- *Narcotics and sedative hypnotics*—there is ↑ sensitivity to sedatives in the elderly, due to a reduction in the number of available receptors.

The implications of these changes are that elderly patients are more sensitive to almost all drugs used in psychiatry (see Box 13.3).

Box 13.3 General principles of prescribing

- Start with a very low dose, and increase slowly (‘start low, go slow’).
- Maximum efficacy is often achieved at significantly lower doses than in younger adults.
- Beware of dangerous side effects such as postural hypotension, arrhythmias, and sedation.
- The elderly are particularly sensitive to EPSEs and anticholinergic side effects.
- Beware of drug interactions due to the common problem of polypharmacy in the elderly.
- Atypical antipsychotics are generally better tolerated than conventional ones.

- SSRIs, SNRIs, and NARIs are generally safer than TCAs, while MAOIs and lithium may be useful in resistant depression.
- Monitor lithium therapy closely, as levels can fluctuate easily and long-term effects on thyroid and renal function are not infrequent.
- Always consider suicide risk, as old age is a risk factor for suicide.

Services for the elderly

Services for the elderly are organized differently, according to government policies and the availability of resources. In principle though, the ideal service should plan to:

- Maintain the elderly person at home for as long as possible.
- Respond quickly to medical and social problems as they arise.
- Ensure coordination of the work of those providing continuing care.
- Support relatives and others who care for the elderly at home.
- Promote liaison between medical, social, and voluntary services.

Primary care services At the primary care level, GPs, health visitors, community nurses, and health workers will deal with most of the problems of elderly people.

Acute and long-term hospital services Elderly patients often require admission for acute assessment and treatment, respite care, or long-term care. Services may be situated within general medical wards for the elderly or within specialized old age psychiatry units. The advantage of acute services being located in general hospitals, rather than psychiatric hospitals, is that a range of associated specialist services (such as old age medicine, neurology, and radiology) are often more readily available.

Day and outpatient care Ideally, a service should have outpatient facilities for the assessment, treatment, and follow-up of mobile elderly patients with mental health problems. Sometimes these clinics offer a specialist service such as the 'Memory Clinic'. Day-care services may take the form of a general or psychiatric day hospital, and local authorities often provide day centres and social clubs for functional and social support.

Community psychiatric nurses CPNs provide a vital link between primary care and specialist services. They often perform assessments on patients after receiving a referral from a GP. They also monitor treatment in collaboration with GPs and the psychiatric services. In addition, they take part in the organization of home support for elderly patients with dementia.

Informal carers These are the unpaid relatives, neighbours, or friends who care for the elderly person at home. Demographic changes and the move to community care have ↑ the burden on carers. Informal carers are twice as likely to be women. Carers often suffer considerable stress, especially when the patient is suffering from advanced dementia. Relieving carer burden is a challenge for any service. Active involvement of medical and social

personnel, as well as provision of education and respite, are important aspects of carer support.

Domiciliary services These include: home helps; meals at home; laundry and shopping services; and emergency call systems. In some countries such as the UK, local authorities provide these services; however, in many others, these services are either privately engaged, obtained from voluntary organizations, or unavailable.

Voluntary organizations Increasingly, there are a range of voluntary and charitable organizations with the aim of helping the elderly, particularly those with dementia. In the UK, organizations like the Alzheimer's Society may be involved in providing support in the post-diagnosis period. Local mental health charities may run a variety of reminiscence groups for those with dementia, often around a particular area of interest such as football or music.[21] Increasingly, public institutions, such as art galleries, concert halls, and cinemas, may have specific 'dementia-friendly' events. For many patients, churches and other faith communities are an important source of support and identity throughout their life. Particularly for elderly patients, these can provide a much needed point of connection and a sense of community during a period of life often marked by fragmentation and loss.

Residential and nursing care In most countries, the local authorities take responsibility for providing old people's homes and other sheltered accommodation. These range in standard, from large, crowded institutions to small, independent units, and, ideally they need to balance individual privacy with involvement in outside activities. In many communities, private homes are available, but financial constraints put these out of the reach of the majority of older people. In planning residential care for the elderly, authorities need to provide for a wider range of accommodation—a small supported unit with two or three people may be ideal for the still independent and mobile individual, while larger homes with nursing support are required for those who are more dependent, with a number of physical and/or psychiatric needs.

The end of life, power of attorney, and other legal matters

The end of life

Managing a patient's final weeks or days and ensuring that their death is a 'good death' are a challenge that has only recently been addressed in our health services and training programmes.[22] Many health professionals have never received any guidance regarding their involvement in this common and extremely important phase of people's lives. Contemporary palliative services stress the following components in providing a 'good death':

- A multidisciplinary approach.
- Ability to 'diagnose dying'.
- Communication with the patient and family.

- Provision of adequate physical support (e.g. analgesia, hydration).
- Minimize unnecessary interventions.
- Establish a non-resuscitation plan.
- Psychological, social, cultural, and spiritual support.

Power of attorney

An LPA (in England and Wales;  Lasting powers of attorney (LPA), p. 942) or enduring power of attorney (EPA) (in Scotland;  Powers of attorney, p. 945) is a legal procedure in which a person nominates someone to make decisions on their behalf in the event that they become unable to do so themselves. Broadly, each allows a person to nominate one or more trusted individuals (often family, friends, or a solicitor) to make decisions on their behalf and to specify what powers these individuals have. A PoA may give the appointed person power to make decisions about finances and property or about health and personal welfare, or both. Different powers may be appointed to different attorneys (e.g. a person might give their family PoA over their welfare and their solicitor PoA over their finances). An LPA or EPA is signed in advance of an individual losing capacity and only comes into action when capacity is lost. It is important as an old age psychiatrist to know whether an incapacitated patient has a PoA in place, so that you can involve the appropriate individuals in any decision-making relating to their care. Further information about PoA in the UK can be found on the website of the Office of the Public Guardian for the appropriate devolved nation (or the Office of Care and Protection in Northern Ireland).

Advance directives

An advance directive, also referred to as a living will or an anticipatory care plan, is an instruction made by an individual (usually written and witnessed) stating their preferences for future treatment during a terminal illness. Usually the person specifies the degree of irreversible deterioration after which they want no further life-sustaining treatment. Often the statement will outline the patient's *refusal* of certain medical interventions in particular circumstances. If a health professional is asked to assist someone in drawing up an advance directive, the following issues should be considered:

- The patient should be fully informed about the illness and treatment options.
- The patient should be mentally competent.
- The patient should be reflecting his/her own views, free from influence.

The Mental Capacity Act 2005 (covering England and Wales) allows for 'advance decisions' ( Mental Capacity Act: England and Wales, p. 942) in case of future incapacity.

If a patient lacks capacity, and information about a written or verbal advance refusal of treatment is recorded in their notes or is otherwise brought to your attention, you must bear in mind that valid and applicable advance refusals must be respected, although basic care (i.e. analgesia, catheter, fluids) should be provided in all cases. A valid advance refusal that is clearly applicable to the patient's present circumstances will be legally binding in England and Wales (unless it relates to life-prolonging treatment, in which case further legal criteria must be met).[23] Valid and applicable advance refusals are potentially binding in Scotland and Northern Ireland, although this has not yet been tested in court. The code of practice of the Scottish legislation states that all practitioners have an 'unqualified obligation' to 'take account of the present and past wishes and feelings of the adult in so far they can be ascertained', but caution that an advance statement, while potentially legally binding, 'should not be viewed in isolation from the surrounding circumstances'.[24] The BMA Ethics Department has its own code of practice on these issues.[25]

Withdrawal of treatment[26,27]

The active or passive involvement of a carer in hastening an individual's death is highly controversial and morally complex. Differing degrees of involvement should be distinguished:

- Withdrawal of active interventions, such as medications and blood transfusion, is an accepted aspect of palliative care and draws little debate.
- Withdrawal of life-sustaining treatment such as fluids and food. This is equivalent to 'allowing a patient to die'. Since the current emphasis is on preserving human dignity, rather than preserving life, this is morally acceptable for many and should not be considered euthanasia.
- Active intervention which hastens or precipitates the patient's death—euthanasia. This is distinguishable from homicide in that the patient has either consented to the assisted death or is unable to (e.g. comatose), and the intervention is regarded as a 'mercy killing'; it does, however, remain illegal in the majority of countries.

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Chapter 14

Substance misuse

The psychiatry of substance misuse

The subspecialty of substance misuse is concerned with the assessment and treatment of patients with problems arising from the misuse of harmful or addictive substances. These include: (1) alcohol; (2) illegal or 'street' drugs; (3) prescription and over-the-counter medicines; and (4) volatile chemicals. The resultant problems include both mental and physical illnesses and family, housing, employment, and legal difficulties. Both psychological and pharmacological interventions are used in treatment, which may include detoxification and substitute prescribing.

The majority of medical interventions in patients with substance use problems are undertaken by GPs. In areas where there are no substance misuse specialists, more complex cases are seen by general psychiatrists, with management of acute medical problems, including OD and withdrawals, treated in the general hospital. All psychiatrists will have ample opportunity to see and develop skills in treating patients with substance misuse.

Around the UK, there is variable service provision for drug and alcohol misuse. Some services will restrict themselves to the primary substance misuse, while others will address all mental health needs. Specialists tend to work alongside voluntary and non-medical treatment agencies, many of which provide a good and vital service. Strong links between psychiatry/substance use services and non-medical agencies should be fostered.

Drug treatment services within the healthcare system make up only one part of the wider range of centrally and locally funded and volunteer services for problem drug users. Within the health service, the majority of service provision is within primary care, which will have a variable degree of experience of (and enthusiasm for) such work. The availability of specialist services will vary by area and setting (e.g. rural/urban) and may range from the special interest of an individual psychiatrist or GP to a specialist service with support staff and dedicated facilities. Local pharmacists can also be a useful resource in supervising consumption of substitute drugs.

Non-healthcare provision will also vary by setting, although it may include: advice shops offering leaflets and education about drugs and harm reduction strategies; self-help groups, with some adhering to an Alcoholics Anonymous (AA)-style '12-step approach', usually involving peer support from ex-users; and residential rehabilitation facilities, offering detoxification and abstinence programmes. The practitioner working in the field of drug misuse should develop an awareness of these services and their referral criteria and encourage a collaborative and coordinated approach to patient management.

The skills required for those working in the field of substance misuse are:

- *Knowledge of the psychiatric symptoms and syndromes associated with substance misuse* This includes the effects of substance misuse on the brain in causing psychiatric symptoms

and the effects of substance misuse on pre-existing mental and physical illness.

- *Knowledge and understanding of the influence of psychological and social factors on substance misuse and relapse*.
- *Experience of interviewing and counselling methods* Skills in interviewing and motivating patients who may have very ambivalent feelings about changing their behaviour.
- *Experience of available pharmacological and psychological treatment methods* An area undergoing constant development where there is a need to keep abreast of changes in evidence.
- *Awareness of the culture and pattern of drug use within a community* Patterns of drug use change over time, and the types and strengths of drugs available in a community will also change dynamically. Information from the police and voluntary sector can be helpful here.
- *Willingness to be involved with other agencies* Valuable work in the field of substance misuse is done by agencies outside the healthcare system. Practitioners should attempt to understand the work of these agencies and refer to them where appropriate.
- *Understanding of the natural history of substance misuse/addiction* Substance misuse disorders can be chronic, and at times lifelong, with a relapsing/remitting course (like many psychiatric conditions). Taking a long-term approach is therefore essential.
- *Ability to consider health in its wider context* Substance misuse gives rise to health risks beyond the effect of the drug (e.g. drink-driving deaths, HIV infection). In addition, it is a community problem, leading to lost productivity, crime, road accidents, violence, and family break-up.
- *Consideration of change beyond change in an individual patient* Patterns of substance misuse in a society are susceptible to political manipulation (e.g. licensing hours, decriminalization, legalization, availability of treatment services). One role of substance misuse specialists is to understand these factors and to present the case for political change.

A non-judgemental approach

Sometimes there is a perception that drug or alcohol users are 'difficult' patients to treat. Bear in mind the General Medical Council (GMC) guidelines direct that it is 'unethical for a doctor to withhold treatment from any patient on the basis of a moral judgement that the patient's activities or lifestyle may have contributed to the conditions for which treatment was being sought'.

Note: for the purposes of this chapter, we refer to alcohol misuse and drug misuse separately and refer to them collectively as substance misuse. Alcohol is, of course, a drug and should be thought of as such, but we believe this terminology to be clearer and more understandable to patients.

Substance use and misuse

‘Humankind cannot bear very much reality.’

TS Eliot

‘The urge to escape, the longing to transcend themselves, if only for a few minutes, is and always has been one of the principal appetites of the soul.’

Aldous Huxley

People in all cultures, at all times throughout history, have sought out mood or perception-altering substances. Twenty-five per cent of adults smoke; 90% drink alcohol; 33% have lifetime experience of one illegal drug (mostly cannabis). Society’s attitude to substance use and to those with substance use problems has varied, from prohibition and condemnation to tolerance and treatment. Within the British society, at the moment, caffeine use is legal and accepted; alcohol and tobacco use are accepted with legal limitations; and other substances have severe legal limitations—some available only on prescription, others not at all. Despite this, the harmful effects of alcohol dwarf those of other drugs.

Many of the abused substances subsequently described have been used in their naturally occurring form throughout history (e.g. the chewing of coca leaves by Peruvian Indians). There has been a tendency for the development of more potent drug preparations, which contain a higher concentration of the active ingredient (e.g. freebase cocaine), and the development of routes of administration which produce more rapid and intense effects (e.g. IV use). This has generally been associated with an increase in the attendant problems.

Patients presenting with drug misuse problems represent only a small percentage of those who take drugs. Little is known about the non-presenting drug users. Their numbers may be hinted at by community surveys, but they are otherwise poorly studied. It is clear, however, that the normal route from use of a substance to its abstinence is the individual deciding to discontinue use and then doing so, without medical consultation or help.

Reasons given for substance use are varied and may change over the course of a patient’s life. They include: a search for a ‘high’; a search for a repeat of initial pleasurable effects; cultural norm in some subcultures; self-medication for anxiety, social phobia, insomnia, and symptoms of psychotic illness; and to prevent the development of withdrawal symptoms. There is evidence for  vulnerability to substance use in those with a family history of substance misuse, and the role of environmental stressors in perpetuating use cannot be underplayed.

The pattern of risks associated with substance use varies with the substance taken, the dose and route of administration, and the setting. They include: acute toxicity; behavioural toxicity (e.g. jumping from a height due to believing one can fly); toxic effects of drug contaminants; secondary medical problems; secondary

psychiatric problems; risk of development of dependency; and negative social, occupational, marital, and forensic consequences.

Substance misuse disorders

(See Boxes 14.1 and 14.2.)

Acute intoxication The pattern of reversible physical and mental abnormalities caused by the direct effects of a substance. These are specific and characteristic for each substance (e.g. disinhibition and ataxia for alcohol, euphoria and visual sensory distortions for LSD). Most substances have both pleasurable and unpleasant acute effects; for some, the balance of positive and negative effects is situation-, dose-, and route-dependent.

At-risk use A pattern of substance use where the person is at risk of harming their physical or mental health. This is not a discrete point, but shades into both normal consumption and harmful use. At-risk use depends not only on absolute amounts taken, but also on the situations and associated behaviours (e.g. any alcohol use is risky if associated with driving).

Box 14.1 ICD-11 'Disorders due to substance use'

ICD-11 groups these together with 'Disorders due to addictive behaviours' (for further discussion, see Impulse-control disorders 2, p. 424) as 'mental and behavioural disorders that develop as a result of the use of predominantly psychoactive substances, including medications, or specific repetitive rewarding and reinforcing behaviours'. Subcategories include: single episodes of harmful substance use, substance use disorders (harmful substance use and substance dependence), and substance-induced disorders such as substance intoxication, substance withdrawal and substance-induced mental disorders, sexual dysfunctions, and sleep–wake disorders. The somewhat arbitrary substance list in ICD-10 has been brought up-to-date and now includes: alcohol; cannabis; synthetic cannabinoids; opioids; sedatives, hypnotics or anxiolytics; cocaine; stimulants, including amphetamines, methamphetamine, or methcathinone; synthetic cathinones; caffeine; hallucinogens; volatile inhalants; MDMA or related drugs, including MDA; dissociative drugs, including ketamine and PCP; other specified psychoactive substances, including medications; multiple specified psychoactive substances, including medications; unknown or unspecified psychoactive substances; and non-psychoactive substances.

Box 14.2 DSM-5 'Substance use disorders'

With the release of DSM-5 in May 2013, there were changes in the way substance misuse disorders were classified. Although core features of dependence, as per ICD-10 (based on Edward

and Gross criteria), were largely retained as descriptive features, disorders were re-classified. The specific substance or substances are labelled as the clinically relevant 'Substance use disorder' (e.g. alcohol use disorder, stimulant use disorder) with subclassification of 'mild', 'moderate', and 'severe'. Mild disorders require the presence of 2–3 symptoms from the core 11. Moderate disorders require the presence of 4–5 symptoms, and severe disorders require six or more symptoms.

Harmful use The continuation of substance use despite evidence of damage to the user's physical or mental health or to their social, occupational, and familial well-being. This damage may be denied or minimized by the individual concerned.

Dependence The layman's 'addiction'. Encompasses a range of features initially described in connection with alcohol abuse (The dependence syndrome, p. 574), now recognized as a syndrome associated with a range of substances. Dependence includes both physical dependence (the physical adaptations to chronic, regular use) and psychological dependence (the behavioural adaptations). In some drugs (e.g. hallucinogens), no physical dependence features are seen.

Withdrawal Where there is physical dependence on a drug, abstinence will generally lead to features of withdrawal. These are characteristic for each drug. Some drugs are not associated with any withdrawals, some with mild symptoms only, and some with significant withdrawal syndromes. Clinically significant withdrawals are recognized in dependence on alcohol, opiates, nicotine, BDZs, amphetamines, and cocaine. Symptoms of withdrawal are often the 'opposite' of the acute effects of the drug (e.g. agitation and insomnia on BDZ withdrawal).

Complicated withdrawal Withdrawals can be simple, or complicated by the development of seizures, delirium, or psychotic features.

Substance-induced psychotic disorder Illness characterized by hallucinations and/or delusions occurring as a direct result of substance-induced neurotoxicity. Psychotic features may occur during intoxication and withdrawal states, or develop on a background of harmful or dependent use. There may be diagnostic confusion between these patients and those with primary psychotic illness and comorbid substance misuse. Substance-induced illnesses will be associated in time with episodes of substance misuse, will occur more readily with specific substances (e.g. cocaine), and may have atypical clinical features (e.g. late first presentation with psychosis, prominence of non-auditory hallucinations).

Cognitive impairment syndromes Reversible cognitive deficits occur during intoxication. Persisting impairment (in some cases, amounting to dementia) caused by chronic substance use is recognized for alcohol, volatile chemicals, BDZs, and, debatably, cannabis. Cognitive impairment is associated with heavy chronic

harmful use/dependence and shows gradual deterioration with continued use and either a halt in the rate of decline or a gradual improvement with abstinence.

Residual disorders Several conditions exist (e.g. alcoholic hallucinosis, Alcohol misuse disorders 2, p. 602; persisting drug-induced psychosis, Psychotic illnesses and substance misuse, p. 640; LSD flashbacks, Hallucinogens, p. 624) where there are continuing symptoms despite continuing abstinence from the drug.

Exacerbation of pre-existing disorder All other psychiatric illnesses, especially anxiety and panic disorders, mood disorders, and psychotic illnesses, may be associated with comorbid substance use. Although this may result in exacerbation of the patient's symptoms and a decline in treatment effectiveness, it can be understood as a desire to self-medicate (e.g. alcohol taken as a hypnotic in depressive illness) or to escape unpleasant symptoms (e.g. opiates taken to 'blot out' derogatory auditory hallucinations). Sometimes there is debate about whether there is, for example, a primary mood disorder with secondary alcohol use, or vice versa. Careful examination of the time course of the illness may reveal the answer. In any case, it is advisable to address substance misuse problems first, as this may produce secondary mood improvements and continuing substance misuse will limit antidepressant treatment effectiveness.

The dependence syndrome

This is a clinical syndrome describing the features of substance dependence. It was described initially by Edwards and Gross[1] as a provisional description of alcohol dependence but may be applied to the description of drug dependence.

- *Primacy of drug-seeking behaviour* Also called 'salience' of drug use. The drug and the need to obtain it become the most important things in the person's life, taking priority over all other activities and interests. Thus, drug use becomes more important than retaining job or relationships or remaining financially solvent and in good physical health, and may diminish the moral sense, leading to criminal activity and fraud. This diminishes the 'holds' on a person's continued use. If he rates drug use above health, then stern warnings about impending illness are likely to mean little.
- *Narrowing of the drug-taking repertoire* The user moves from a range of drugs to a single drug taken in preference to all others. The setting of drug use, the route of use, and the individuals with whom the drug is taken may also become stereotyped.
- ↑ *tolerance to the effects of the drug* The user finds that more of the drug must be taken to achieve the same effects. They may also attempt to combat increasing tolerance by choosing a more

rapidly acting route of administration (e.g. IV, rather than smoked) or by choosing a more rapidly acting form (e.g. freebase cocaine, rather than cocaine hydrochloride). In advanced dependence, there may be a sudden loss of previous tolerance; the mechanism for this is unknown. Clinically, tolerance is exhibited by individuals who are able to display no or few signs of intoxication, while at a blood level in which intoxication would be evident in a non-dependent individual.

- *Loss of control of consumption* A subjective sense of inability to restrict further consumption once the drug is taken.
- *Signs of withdrawal on attempted abstinence* A withdrawal syndrome, characteristic for each drug, may develop. This may be only regularly experienced in the mornings because at all other times, the blood level is kept above the required level.
- *Drug taking to avoid development of withdrawal symptoms* The user learns to anticipate and avoid withdrawals (e.g. having the drug available on waking).
- *Continued drug use despite negative consequences* The user persists in drug use, even when threatened with significant losses as a direct consequence of continued use (e.g. marital break-up, prison term, loss of job).
- *Rapid reinstatement of previous pattern of drug use after abstinence* Characteristically, when the user relapses to drug use after a period of abstinence, they are at risk of a return to the dependent pattern in a much shorter period than the time initially taken to reach dependent use.

Stages of change and harm reduction

Stages of change

A model for understanding motivation and action towards change in harmful patterns of drug use was proposed by Prochaska and DiClemente.[2] Motivation is regarded as a prerequisite for, and a precursor to, action towards abstinence or more controlled drug use. This model can be used when trying to tailor treatments to the individual.

- *Pre-contemplation* The user does not recognize that problem use exists, although this may be increasingly obvious to those around them.
- *Contemplation* The user may accept that there is a problem and begins to look at both the positive and negative aspects of continued drug use.
- *Decision* The point at which the user decides on whether to continue drug use or attempt change.
- *Action* The point of motivation where the user attempts change. A variety of routes exist by which change may be attempted, which may or may not include medical services.
- *Maintenance* A stage of maintaining gains made and attempting to improve those areas of life harmed by drug use.
- *Relapse* A return to previous behaviour, but with the possibility of gaining useful strategies to extend the maintenance period on the

user's next attempt.

Harm reduction

Harm reduction is a method of managing drug users, in which it is accepted that steps can be taken to reduce the mortality and morbidity for the user without necessarily insisting on abstinence from drugs. This approach gained currency during the 1980s in an attempt to halt the projected AIDS epidemic. The majority of patients will present before abstinence is a realistic or achievable goal for them. Optimum care for this group of patients will involve engaging them with the service, exploring and encouraging motivation to change, and suggesting harm reduction strategies. Examples of such strategies include:

- Advice directed at use of safer drugs or routes of administration.
- Advice regarding safer injecting practice (Box 14.6, p. 619).
- Advice regarding safe sex.
- Prescription of maintenance opiates (substitution prescribing) or BDZs.
- Assessment and treatment of comorbid physical or mental illness.
- Engagement with other sources of help (e.g. social work, housing).

Drug misuse is a community problem. Some aspects of harm reduction include consideration of reduction of morbidity to the community more generally. Prescription of methadone may reduce criminality in a dependent individual, with consequent community benefit. Equally, there is a responsibility with the prescriber to consider the potential for community harm via leakage and accidental OD when monitoring the prescription of any drug.

Alcohol misuse

In the UK, roughly 93% of men and 87% of women drink alcohol. Minimal alcohol consumption can, of course, be pleasurable, socially enjoyable, and associated with health benefits (reduction in deaths from coronary artery disease). There is a tendency to view most people as normal drinkers and a subset as vulnerable to the development of alcohol problems. In fact, on a population level, increasing the overall alcohol consumption (e.g. by reducing the real price of alcohol) tends to increase the total number of problem drinkers.

Alcohol consumption in the community is roughly normally distributed, with a long 'tail' to the right. The distinction between normal and heavy drinking is arbitrary. On both a population and an individual level, ↑ consumption is associated with ↑ risk of harm of all kinds. However, the fact that normal drinkers heavily outnumber heavy drinkers means that, despite their lower rates of problems, greater numbers of alcohol-related problems occur in normal, rather than heavy, drinkers. This gives rise to the so-called 'prevention paradox'—that to significantly reduce overall alcohol-related morbidity, we must look to reduce problems in normal,

rather than heavy, drinkers. This applies more to problems such as drink-driving and drink-related trauma, rather than to medical complications of heavy use such as liver cirrhosis.

The term 'alcoholic' is often used by patients themselves and is the preferred term of AA. It has unfortunately acquired a pejorative meaning to the general public, and images of the 'down and out' or 'skid row' alcoholic, drinking strong drinks from brown paper bags have damaged this word's use in clinical contexts. It is not used in DSM-5 or ICD-10 where the preference is to make the diagnosis of alcohol dependence or harmful use (alcohol use disorder in DSM-5; dependence and harmful pattern of use in ICD-11).

A history of alcohol use

Alcohol has been used in all societies throughout recorded history, with documentary evidence of brewing and wine-making as early as 3000 bc. The intoxicating effects of alcohol were most probably discovered independently in many cultures around the time of the evolution of agriculture, possibly on noting fermentation in fruit. Ancient peoples produced alcoholic beverages from a wide variety of materials, including fruits, berries, honey, corn, barley, wheat, sugar cane, and potatoes. The use of alcohol by individuals has been variously regarded, from complete tolerance through to outright prohibition.

Alcohol has always had a place in the lifestyles and formal rituals of many peoples around the world. It was used as an intoxicant in religious rituals, as a celebration, as a gift, as a greeting, and to mark births and deaths. For almost as long as alcohol use is recorded, there are recorded attempts at control on its use by the authorities. In 92 ad, the Roman emperor Domitian attempted to restrict wine production and its distribution and sale. Similar restrictions were attempted at various times by other leaders, sometimes accompanied by moral disapproval of drinking or drunkenness in particular. In medieval Britain, ale was a staple part of the diet and was consumed in huge quantities, while drunkenness, particularly among the clergy, was frowned upon by the Christian churches. Consumption of wine, however, continued to play a role in Christian worship. After initially preaching moderation, Mohammed later forbade the use of alcohol to followers of his religion, possibly as a way of differentiating his converts from the Christians around them.

The process of natural fermentation of alcohol by yeasts can produce beverages of up to 13% proof; above this concentration, the yeast dies. Stronger concentrations of alcohol are produced by the process of distillation, which was discovered in the Middle East in 1000 ad. Public consumption of distilled liquor became prevalent in the eighteenth century, and the accompanying social problems, together with the conservative attitudes of the emerging Protestant clergy, led to a developing moral disapproval of alcohol consumption.

In the mid-eighteenth century, as part of a continuing military and trade dispute with France, the British government imposed heavy

taxes on French wine imports and encouraged the distillation of cheap domestic spirits—in particular, gin. This change in the drinking practice in the general population from low- to high-strength alcohol produced significant alcohol-related problems in the general public, immortalized in the lithographs of the 'gin palaces' by George Cruikshank. In an effort to control the problem, the government passed laws to restrict the time and place at which alcohol could be sold and began to levy increasing taxes on distilled spirits. This had the positive effect of reducing consumption, but the negative effect of introducing a government interest in continuing consumption. The late eighteenth-century writings of Benjamin Rush describe habitual drunkenness as a 'disease of the mind'.

Eighteenth-century America saw the development of an increasingly widespread temperance movement (those signing a pledge 'TA' for total abstinence becoming known as teetotallers). The temperance movement lobbied for a complete ban on alcohol consumption and succeeded in 1921, following the passing of the eighteenth amendment to the US Constitution which provided for prohibition. The period of 11 years, until the repeal of prohibition in the twenty-first amendment, did indeed see a reduction in social problems and mortality; however, its unpopularity, widespread flouting of the law, and the flourishing of illegal activity in gangsterism led to its repeal.

Today, in most Western countries, alcohol use is widely tolerated and socially accepted. Interestingly, moral disapproval of drinking during pregnancy and drinking while driving a motor vehicle has resulted in substantial decreases in these activities. Despite improvement in these limited areas, most Western countries have seen an increase in absolute consumption and alcohol-related medical harm, compounded by an increasing passion for drug misuse.

Alcohol as a drug 1

Preparations The active ingredient in alcoholic drinks is ethyl alcohol, which makes up a variable percentage of the volume (see Box 14.3 for pricing). The flavour of drinks comes from 'congeners'—the additional organic substances derived from the brewing materials.

Pattern of use Of all drugs, alcohol has the widest range of patterns of use, ranging from yearly light consumption to continuous consumption throughout the waking hours.

Drug actions The effects of alcohol on the CNS were traditionally described as being due to non-specific effects on neuronal cell wall fluidity and permeability. It is now believed that, in addition to these general effects, there are neurotransmitter-specific effects, including: enhancement of GABA-A transmission (anxiolytic effects), release of DA in the mesolimbic system (euphoriant and 'reward' effects), and inhibition of NMDA-mediated glutaminergic transmission (amnesic effects). Ethyl alcohol is oxidized by alcohol

dehydrogenase (ADH) to acetaldehyde, which, in turn, is oxidized by acetaldehyde dehydrogenase (ALDH) to CO_2 and water. Ninety-eight per cent of alcohol metabolism takes place in the liver. Approximately 1 unit (or 8g) of alcohol can be metabolized per hour. Illicitly brewed alcohol may contain methanol, which is broken down to formaldehyde that has marked toxic effects on the retina.

Acute effects Alcohol is absorbed rapidly from the mouth, stomach, and small intestine, and from a single consumption, maximum blood levels are obtained in ~60min. Absorption is slowed by the presence of food in the stomach and is sped up by taking effervescent drinks. Alcohol is hydrophilic and widely distributed throughout the body organs, including the brain, placenta, lungs, and kidneys. Blood alcohol concentration (BAC) is consistent throughout the body, with the exception of fat, and can be estimated from breath samples. In normal drinkers, BAC correlates with the subjective and the observable CNS effects of alcohol. Heavy drinkers may have a high BAC with limited outward signs of intoxication, due to the development of tolerance. Because of their different body fat distribution, women will have a higher BAC than men following the same oral intake. Initial symptoms of alcohol intoxication are subjective elevation of mood, socialization, and disinhibition. Continuing consumption, intended to prolong these effects, can lead to lability of mood, impaired judgement, aggressiveness, slurred speech, unsteady gait, and ataxia.

Box 14.3 Minimum unit pricing (MUP) for alcohol

Alcohol-related harm in psychological, medical, and social terms contributes to high levels of morbidity and mortality globally. International bodies, such as WHO and the Organization for Economic Cooperation and Development, have long advocated for MUP for alcohol as an effective tool to reduce morbidity and mortality and the associated cost to public services.

NICE guidelines also recommend introducing a minimum price per unit of alcohol as a very effective way of harm reduction among populations with higher rates of hazardous drinking. Evidence within published literature and economic analysis backs support for this guidance. The guidance is aimed at people who drink harmful amounts in the form of cheaper alcohol drinks and is based on the premise that minimal alcohol pricing curbs wider accessibility, and therefore consumption of larger quantities of cheap products. While NICE[1] recognizes the potential unfair impact on people who are from disadvantaged groups in terms of accessing alcohol, it also notes the vulnerability of these groups to the impact of alcohol-related problems. When the guidance was developed, NICE concluded that the longer-term benefit of MUP would outweigh the potential disadvantages and contribute towards reducing overall health inequalities within the population.

Alcohol prices in Scotland have been deemed to be at historically low levels in recent years. This was backed up by a recent report from Alcohol Health Alliance UK's *Cheap alcohol: the price we pay*.[2] It reported that alcohol can be purchased for as cheap as 18p per unit (a 3L bottle of White Ace™ cider). In June 2012, the Scottish Government passed the Alcohol (Minimum Pricing) (Scotland) Act 2012 for the introduction of a preferred minimum price of 50p per unit.[3] Due to various legal challenges by a consortium of global alcohol producers, fronted by the Scotch Whisky Association (SWA) via the Court of Session and the Court of Justice of the European Union, the Act could not be implemented initially. In October 2016, the Court of Session ruled that the Scottish Government's MUP policy was legal, and with a ruling by the UK Supreme Court in November 2017 of the plans as 'a proportionate means of achieving a legitimate aim', the way is clear for the Scottish Government to bring the legislation into action in 2018. The stage is set for England, Wales, and Northern Ireland to follow suit.

1 National Institute for Health and Care Excellence (2010) *Alcohol-use disorders: prevention*. Public health guideline [PH24]. https://www.nice.org.uk/guidance/ph24/resources/alcoholuse-disorders-prevention-pdf-1996237007557 [accessed 12 July 2018].

2 Alcohol Health Alliance UK. *Cheap alcohol: the price we pay—AHA report October 2016*. http://ahauk.org/cheap-alcohol-price-pay-aha-report-october-2016/ [accessed 12 July 2018].

3 The Scottish Government (2012) *Minimum unit pricing*. http://www.scotland.gov.uk/Topics/Health/Services/Alcohol/minimum-pricing [accessed 12 July 2018].

Alcohol as a drug 2

Societal factors The prevalence of alcohol-related harm increases with mean population consumption. This mean consumption is ↑ by ↑ availability of alcohol, ↑ societal tolerance of drinking, ↓ restrictions on the sale of alcohol, and a ↓ 'real price' of alcohol. Price is the most influential factor in demand, with the real price of a pint of beer or bottle of whisky having dropped considerably since the war (see Box 14.3). Where societies forbid all alcohol consumption (e.g. prohibition America, Islamic countries), there is a decrease in alcohol-related problems, but an increase in the level of personality abnormality in those who continue to drink.

Risk factors Heavy drinking is more common in men, in lower socio-economic groups, in those with lower educational levels, and in the young. Some professions are also associated with heavy drinking and drink-related harm. These include: drinks industry workers (easy availability and effect of heavy drinkers seeking out jobs here); travelling salesmen (boredom, periods away from home, acceptance of drinking on the job); and doctors (stress, freedom

from direct supervision, reluctance to seek help with incipient problems).

Genetics First-degree relatives of alcoholics have double the risk of alcohol problems themselves. Significantly higher rates in identical, compared with fraternal, twins (although not 100% concordance). Children of alcoholics have ↑ risk of development of alcohol problems themselves, even when adopted into families without alcohol problems. A metabolically relatively inactive form of ALDH is common in South East Asian people, leading to accumulation of acetaldehyde and an unpleasant 'flushing' reaction in affected individuals who take alcohol. This may account for the significantly lower rate of alcohol problems found in affected individuals. No causative genes for alcoholism have been identified, and it is expected that it will show polygenic inheritance. Problem drinkers contain a significant subgroup of individuals with dissocial personality traits, which predisposes to alcoholism, and is itself heritable.

Medical complications Acute toxicity occurs at levels over 300mg% (Alcohol misuse disorders 1, p. 600), with clouding of consciousness and coma, risk of aspiration, hypoglycaemia, and acute renal failure. Associated with a wide range of chronic medical problems (Medical complications of alcohol misuse, p. 608).

Psychiatric complications Harmful use and dependent use (Alcohol misuse disorders 1, p. 600), distinguished by the presence of withdrawals on abstinence; withdrawals may be complicated by seizures and development of an acute confusional state—DT (Alcohol withdrawal syndromes, p. 590); acute alcohol-induced amnesia; alcoholic hallucinosis (Alcohol misuse disorders 2, p. 602); alcohol-induced delusional disorder (Alcohol misuse disorders 2, p. 602); Wernicke–Korsakoff syndrome (Wernicke–Korsakoff syndrome, p. 606); pathological jealousy (p. 603); alcohol-related cognitive impairment and alcoholic dementia (Alcohol-related cognitive impairment/alcohol-related brain damage, p. 602). Alcohol misuse is also associated with the development of, or exacerbation of, anxiety/depressive symptoms and with deliberate self-harm and suicidal behaviour.

Interventions Advice and 'brief interventions' regarding safer drinking patterns in those with 'at-risk' or harmful use (Alcohol misuse disorders 1, p. 600); strategies towards encouraging and maintaining abstinence in those with dependency and those with

established medical or psychiatric damage; medically managed detoxification (Management of alcohol withdrawal 1, p. 592); psychological and pharmacological support of abstinence or changed drinking pattern (Maintenance interventions in alcohol misuse 1: psychological methods, p. 596; Maintenance interventions in alcohol misuse 2: pharmacological methods, p. 598).

Screening for alcohol problems

Diseases related to alcohol abuse are common, significant, and amenable to improvement by early detection and intervention. Screening is therefore indicated. There are low rates of detection in primary care and hospital settings, which may be improved by ↑ vigilance, ↑ awareness of alcohol problems, awareness of routes of referral, asking routine alcohol-screening questions (e.g. *CAGE*; see Box 14.4), and paying special attention to at-risk groups. Many patients give reasonably accurate drinking histories if asked, although some may underestimate consumption. A combination of clinical history, screening measure, and a biomarker is the optimal approach to detection.

Disorders suggesting underlying alcohol abuse Hepatitis; cryptogenic (medically unexplained) cirrhosis; seizures—especially late onset; gastritis; anaemia; unexplained raised MCV or deranged LFTs; cardiomyopathy; accidents, particularly repeated and poorly explained; TB; head injury; hypertension persisting despite apparently adequate treatment; treatment resistance in other psychiatric conditions; impotence in men.

Breath testing BAC measures recent alcohol consumption, in mg of alcohol per 100mL of blood (mg%). Correlates with breath alcohol measured by a breathalyser (see Table 14.1). Useful in assessing recent drinking (e.g. in supervised detoxication regimes) and as an objective measure of intoxication [e.g. in Accident and Emergency (A&E)]. Discrepancy between high BAC and a lack of apparent intoxication suggests tolerance. Measurement is dependent on adequate technique and reasonable cooperation.

Blood tests Elevated red cell MCV, GGT, and carbohydrate-deficient transferrin (CDT) are markers for excess alcohol consumption. They are best used to monitor consumption in patients at follow-up. Not sensitive/specific enough for routine screening purposes.

- *MCV* Sensitivity 20–50%, specificity 55–100%. Remains raised for 3–6mths due to 120-day lifespan of red blood cells (RBCs). False positive in B12 and folate deficiencies.
- *GGT* Sensitivity 20–90%, specificity 55–100%. Raised for 2–3wks. Other LFTs are less specific for alcoholic-related liver damage. False positive in liver diseases of other cause, obesity,

diabetes, smoking, and medication (e.g. anticonvulsants), and may remain raised in chronic alcoholic liver disease despite abstinence.

- *CDT* Sensitivity 70%, specificity 95%. ↑ in response to heavy drinking (7–10 days), 2–3wks to return to normal, can be used to monitor relapse. More expensive than GGT and not available in all areas.

Box 14.4 CAGE questionnaire

A brief screening questionnaire for identification of at-risk drinking:

C: Have you ever felt you should **C**ut back on your drinking?
A: Has anyone ever **A**nnoyed you by criticizing your drinking?
G: Have you ever felt **G**uilty about your drinking?
E: Have you ever had a drink early in the morning as an **E**ye-opener?

More than two positive responses suggests possible at-risk drinking and should prompt further assessment.

Note: the '**Cage +2**' adds two additional questions:

- What is the most alcohol you have drunk in a single day?
- What is the most alcohol you have drunk in a single week?

Table 14.1 Breath and blood alcohol levels

Breath alcohol reading (mcg%)	BAC (mg%)
0.35	80
0.52	120
0.70	160
0.87	200
1.05	240
1.40	320
1.75	400

Note: measurement should form part of the routine assessment of a patient presenting with alcohol problems and of patients in follow-up (e.g. supervised detox), rather than being prompted by a suspicion of inaccuracy of oral report.

Urinary tests Urinary ethyl glucuronide (an alcohol metabolite) has been proposed as a measure of alcohol intake, being sensitive to ingestion of one or two drinks, remaining elevated for several days. It has still to be used routinely, although it has been used in forensic settings.

Hair testing Testing of hair for ethyl glucuronide or fatty acid ethyl esters has been proposed as a method for detecting alcohol use over prior months, although this requires further research and validation.

AUDIT/FAST Alcohol Assessment Scales

NICE guideline (CG115)[3] recommends various tools, including the Alcohol Use Disorders Identification Test (AUDIT) or the abbreviated AUDIT-C and the Fast Alcohol Screening Test (FAST). Others recommended as more appropriate for Emergency Departments include the Paddington Alcohol Test (PAT) or the Single Alcohol Screening Questionnaire (SASQ). For those patients referred to specialist alcohol services, validated tools recommended for administration, additional to clinical assessment, are the AUDIT and the Severity of Alcohol Dependence Questionnaire (SADQ) (to assess the severity of dependence).

Assessment of the patient with alcohol problems

Patients with a primary alcohol problem, or where it is thought that alcohol consumption is a contributory factor in their presentation, should have a more detailed assessment of their alcohol use, in addition to standard psychiatric history and MSE.

Lifetime pattern of alcohol consumption Age at first alcoholic drink. Age when began to drink regularly. Age when first drinking most weekends. Age when first drinking most days. When did they first begin to drink more than their peers? When (if ever) did they first feel they had an alcohol problem? Pattern of drinking throughout life until present—describe periods of abstinence and more heavy drinking and the reasons for these (including environmental/psychosocial stressors).

Current alcohol consumption Describe a current day's drinking. When is the first drink taken? What types of drink are taken and in what setting? What is the total number and volume of drinks taken in a day? Some patients find it hard to describe a typical day or easy to over-rationalize recent heavy consumption. Ask them to describe the previous day's drinking, then the day before that, etc., until a pattern emerges. Describe a typical and a 'heavy' day's drinking (see Table 14.2).

Signs of dependence Do they experience withdrawals in the morning or when unable to obtain alcohol? Have they ever drunk more alcohol as a way of relieving withdrawals? Are they having to drink more to get the same intoxicating effect? Do they no longer get 'drunk' at all? Do they find it difficult to stop drinking once started? Have they tried and failed to give up, and if so, why? Do they have episodes of 'lost' memory/'blackouts'?

Physical/mental health Have they been told of any physical health problems due to drinking? Have they previously been told to stop drinking by a doctor? Any previous or current psychiatric diagnoses?

Problems related to alcohol Have they missed days at work, or had warnings about poor performance, or lost a job as a result of alcohol? Are there relationship difficulties or a relationship breakdown due to drinking? Are there financial problems? Have they been in trouble with the police, or do they have outstanding charges against them?

Previous treatment attempts Describe the nature and type of previous treatments. Describe the subsequent return to drinking. Describe any periods of abstinence since the development of the drinking problem. How were they maintained and what ended them?

Family history Drinking problems in parents and extended family. Quality of relationships in past and present. Childhood environment.

Attitude to referral Why have they attended the appointment today? Do they feel they have an alcohol problem, and if so, will they accept help for it? What sort of help do they want, and are there types of treatment they will not accept? At what stage of change are they (pre-contemplative, contemplative, decision, action)?

Patient goals What (if anything) do they want to change about their drinking? What pattern of drinking do they aspire to?

Physical examination Note general condition; evidence of withdrawals, including tremor in hands or protruded tongue; degree of facial capilliarization; stigmata of liver disease (palpable liver edge, jaundice, spider naevi, ascites, palmar erythema); evidence of peripheral neuropathy; ataxia of gait; breath alcohol reading.

Blood testing FBC, LFTs, other blood tests, as indicated on history/examination.

Cognitive testing Although not generally indicated until 4wks of abstinence, it is helpful to get a feel for the patient's level of cognition, especially if there is a suggestion they may be experiencing delirium or have significant alcohol-related brain damage.

Table 14.2 Amounts of alcohol in common drinks

The amount of alcohol in drinks is measured in units. One unit contains ~8g of alcohol. In alcoholic drinks where the percentage of alcohol by volume is given: number of units = volume in litres × % of alcohol. The numbers of units in common drinks are given below. In calculating the numbers of units in an alcohol history, remember that home measures of drinks are usually more generous than those in pubs.

Drink	Alcohol % by volume	Measure	Alcohol units
Beer and stout	4.0	Pint	2.0
Continental lager	5.0	440mL can	2.2
Strong lager	9.0	440mL can	4.0
Normal cider	4.5	Pint	2.5
		1L	4.5
Strong cider	8.4	1L	8.4
Wine	9–14	125mL glass	1.5
		750mL bottle	6.8–10.5
Gin/vodka/rum	37.5	25mL measure	1
		700mL bottle	26.3

Giving drinking advice

There are a variety of situations where the doctor will be called on to give ‘safe drinking’ advice: individuals whose histories reveal evolving risky drinking patterns; patients with comorbid psychiatric illness; and individuals with alcohol problems who are attempting controlled drinking, rather than abstinence.

There is a wide variety of types of alcoholic drink, each of a different ‘strength’ (i.e. percentage alcohol by volume; see Table 14.2). It is the amount of alcohol taken, rather than the type of drink, which contributes to physical/mental health effects—avoiding spirits or other drinks perceived as ‘strong’ will not protect from health risks if the absolute amount of alcohol is above safe limits.

Low-risk drinking guidelines

In August 2016,[4] new revised low-risk drinking guidelines were published UK-wide. This included new guidance for regular and single-episode consumption and drinking during pregnancy. They proposed that to minimize health risks from alcohol, a new limit of 14 units per week for both men and women who drink regularly was recommended. This constitutes a reduction for men, the previous limit being 21 units per week. For those drinking up to 14 units, spreading the drinking over 3 or more days is advised. Drink-free

days per week are also recommended. For pregnant women, no alcohol during pregnancy is advised as the safest approach. For single-occasion drinking, advice is to limit the total amount in one sitting. Drinking at a slower pace with food and alternating with water is recommended.

Certain groups that may be more vulnerable to the effects of alcohol, e.g. those at risk of falls, those with medical or mental health conditions, or those on prescribed medication with the potential to interact with alcohol, are advised to be more cautious with their levels of drinking on any single occasion. Risks encountered from heavier drinking are highlighted, including a range of medical problems (cancers of the mouth and throat) and risks of death from long-term illnesses. It also advocates drinking in a safe environment (getting home safely, risk of accidents and injuries) and avoiding risk-taking behaviours such as engaging in unprotected sex.

Brief interventions for hazardous and harmful drinking

Low-intensity, short interventions, based predominantly at primary care level, to reduce hazardous drinking. Techniques include presenting patients with screening results, identifying risks, giving medical advice, assessing the patient's goals/commitment, and working collaboratively to support the patient.

Techniques of controlled drinking

Patients who are seeking advice about avoiding potential alcohol problems and those individuals who are seeking to change from 'at-risk' or harmful drinking patterns to controlled drinking patterns may find a selection of the following strategies helpful:

- Set a weekly and daily alcohol limit and keep to it.
- Do not drink alone.
- Do not drink with individuals who drink heavily themselves.
- Pace drinking, matching the consumption of a light or slow drinker.
- Do not buy rounds.
- Alternate soft and alcoholic drinks. Drink with a meal.
- Rehearse what to say if offered a drink that you do not want.
- Plan alternative, enjoyable non-drinking activities to replace drinking periods (e.g. cinema, sports).

Planning treatment in alcohol misuse

Patients presenting with alcohol problems often display marked ambivalence about whether there is even a problem, let alone about the need for change. This reflects both the perceived positive, as well as negative, roles alcohol plays in their lives and the memory of previous failure or difficulties in attempting change. The aim in counselling such patients is to guide them in making their own decision towards change or, if change is not likely or possible now, to guide them towards harm reduction and considering the possibility of future change.

Motivational interviewing This is a technique aimed at enabling a patient to move through the stages of change (Stages of change and harm reduction, p. 575) to the point where action can be contemplated. It is based on the principle that: 'people believe what they hear themselves say'. The interviewer aims to aid the patient in explaining why they should change their behaviour and how this will be achieved.

- The therapist does not take a directive or prescriptive role but expresses interest and concern for the patient's problems and explores the consequences of their behaviour.
- Uses open-ended questions, reflective listening, and summarizing with identification of discrepancy between individual statements.
- Aids the assessment of the pros and cons of current behaviour, avoiding confrontation or direct challenge.
- Emphasizes the patient's own perceptions of the degree of risk, rather than telling them about the risks which they may not believe.
- Encourages personal responsibility and patient's choice of treatment options.

Planning interventions The initial assessment interview forms the beginning of intervention. Its aims are to gather and impart information, promote the possibility of positive action, and plan treatment. The ongoing therapeutic relationship aims to maintain purpose, monitor progress, and aid self-monitoring and self-awareness. The process of planning treatment should proceed along the following lines:

- Make the diagnosis (alcohol dependence, harmful or at-risk use).
- Assess the stage of change (Stages of change and harm reduction, p. 575).
- Decide with the patient the goal of intervention:
- *Continue current drinking pattern* In some patients, there will be no need for change at all. In others, there will be a clear history of alcohol problems, but the patient presents as 'pre-contemplative' regarding change. In these cases, give harm reduction advice and 'leave the door open' to further assessment and help, rather than alienating the patient.
- *Change to a safer drinking pattern* Many individuals will be able to modify risky or harmful drinking patterns, given appropriate advice and help (perhaps monitored by a 'drinking diary', which is later reviewed).
- *Attempt abstinence from alcohol* In some individuals, the only safe course is to aim to abstain from alcohol completely.
- For abstinence in a dependent drinker, consider the need for, and the setting of, detoxification (Management of alcohol withdrawal 1, p. 592).

Plan support methods and follow-up (Maintenance interventions in alcohol misuse 1: psychological methods, p. 596).

- At follow-up contact, review progress, emphasize changes made, and review mental health.
- Anticipate and deal with relapse if it occurs.

Abstinence vs controlled drinking The decision to try for controlled drinking, rather than abstinence, is one for individual patient choice. The doctor should offer suitable advice.

- *Factors suggesting the possibility of success of controlled drinking:* previous prolonged periods of controlled drinking, alcohol misuse primarily in the context of other mental disorder which has responded to treatment, otherwise stable lifestyle, absence of drinking problem in family and friends.
- *Factors against controlled drinking:* previously alcohol-dependent, previous failure at controlled drinking, comorbid mental illness, comorbid drug use, established organ damage, risk of job loss/marriage loss.

Relapse Alcohol misuse is a chronic illness, and many patients will 'fall off the wagon' several times before achieving long-standing change. The possibility of relapse should be anticipated with the patient, and appropriate strategies should be in place to deal with it (e.g. early review).

Causes of relapse: ambivalent motivation, insufficient support, novel events, over-confidence, mental illness, environmental stressors.

Counselling families The family of a patient with alcohol problems may contact you directly to ask for advice regarding their relative.

- The patient's relatives sometimes request that their relative be detained in hospital 'to stop them drinking'. The Mental Health Acts in the UK specifically do not allow detention of patients solely for the reason of drug or alcohol dependency.
- Aim to encourage and reward moves by the drinker to achieve change in their drinking pattern, while avoiding rewarding, and hence reinforcing, drinking, but avoiding confrontation or ultimatums.
- Sometimes continued family involvement, despite their best intentions, serves only to support the drinker in their chosen lifestyle. In this case, the family may have to be aided to step back (AA calls this 'disengaging with love').

Prognostic factors There is ~3.6-fold excess mortality, compared with age-matched controls. Of 100 45-yr-old patients at 20-yr follow-up: 40% dead, 30% abstinent, 30% problem drinking. *Positive factors:* motivated to change; supportive family or relationship; in employment; treatable comorbid illness (e.g. anxiety disorder, social phobia); accepting of appropriate treatment goal; AA involvement. *Negative factors:* ambivalent about change; unstable accommodation or homeless; drinking embedded into lifestyle (e.g. limited pursuits outside alcohol, all friends are drinkers); repeated treatment failures; cognitive impairment.

Alcohol withdrawal syndromes

In a patient with alcohol dependence, stopping alcohol completely or substantially reducing the usual amount causes the development of characteristic withdrawal syndromes. These syndromes should be anticipated, and prophylaxis considered in any patient:

- With a history of dependence.
- Who has previously experienced withdrawal syndromes.
- Who has consumed >10 units of alcohol on a daily basis for the previous 10 days.
- Currently experiencing withdrawals.

Uncomplicated alcohol withdrawal syndrome

- Occurs 4–12hrs after the last alcoholic drink.
- Features: coarse tremor, sweating, insomnia, tachycardia (pulse >100), nausea and vomiting, psychomotor agitation, and generalized anxiety.
- Occasionally, transitory visual, tactile, or auditory hallucinations or illusions.
- There may be increasing craving for alcohol both in itself and as a relief from withdrawal symptoms.
- Symptoms increase in severity in rough proportion to the habitual alcohol consumption, peaking at 48hrs and lasting 2–5 days, with symptoms being more prolonged in heavier drinkers.

Alcohol withdrawal syndrome with seizures

- In 5–15% of cases, withdrawals are complicated by grand mal seizures occurring 6–48hrs after the last drink.
- If seizures occur only during withdrawal, they do not signify the development of idiopathic epilepsy.
- Predisposing factors: previous history of withdrawal seizures, idiopathic epilepsy, history of head injury, hypokalaemia.

Delirium tremens

Acute confusional state (Acute confusional state (delirium), p. 854) secondary to alcohol withdrawal. A medical emergency requiring inpatient medical care.

- Occurs in ~5% of episodes of withdrawal. Onset 1–7 days after the last drink, with a peak incidence at 48hrs.
- Risk is ↑ by severe dependence, comorbid infection, and pre-existing liver damage.
- In addition to the features of uncomplicated withdrawal, there is:
  - Clouding of consciousness.
  - Disorientation.
  - Amnesia for recent events.
  - Marked psychomotor agitation.
  - Visual, auditory, and tactile hallucinations (characteristically of diminutive people or animals—'Lilliputian' hallucinations).
  - Marked fluctuations in severity hour by hour, usually worse at night.

- In severe cases: heavy sweating, fear, paranoid delusions, agitation, suggestibility, raised temperature, sudden cardiovascular collapse.
- Reported mortality of 5–10%. It is most risky when it develops unexpectedly and its initial manifestations are misinterpreted (e.g. in a patient not known to be alcohol-dependent developing symptoms post-operatively).
- *Differential diagnosis:* hepatic encephalopathy, head injury, pneumonia, acute psychotic illness, acute confusional state with other primary cause.

Management of alcohol withdrawal 1

Detoxification (detox) is the medical management of withdrawal symptoms in a patient with substance dependence. Alcohol detox involves: psychological support; medication to relieve withdrawal symptoms (usually via a reducing BDZ regime); observation for the development of features of complicated withdrawal; nutritional supplementation; and integration with follow-up. Detox may be carried out as inpatient or, with support, in the community. The need to medically manage the complications of alcohol withdrawal can also arise in an unplanned fashion (e.g. in an alcohol-dependent patient in police custody or following emergency surgery). Most of the problems of alcohol use are related to the inability to maintain abstinence, rather than to the initial problems of withdrawal.

Detoxification procedure

- Decide on the setting.
- Assess the need for a BDZ-reducing regime.
- Consider the need for other medications.
- Provide verbal and written advice.
- Inform the GP of the plans.
- Give the patient a contact in case of emergency.
- Decide on explicit follow-up after detox.

Setting

Outpatient detoxification

- Treatment of choice for most uncomplicated alcohol-dependent patients, with comparable completion rates to inpatient detox and comparable percentage of those remaining abstinent at 6mths.
- Where there are doubts about compliance or concerns about drinking ‘on top of’ the prescribed drug, the patient should be seen daily in the morning and breathalysed before dispensing that day’s and the following morning’s supply of the drug.

Indications for inpatient detoxification

- Past history of complicated withdrawals (seizures or delirium).
- Current symptoms of confusion or delirium.
- Comorbid mental/physical illness, polydrug misuse, or suicide risk.

- Symptoms of Wernicke–Korsakoff syndrome (Wernicke–Korsakoff syndrome, p. 606).
- Severe nausea/vomiting; severe malnutrition.
- Lack of stable home environment.

Reducing regime

BDZs are prescribed in alcohol withdrawal to ameliorate unpleasant withdrawal symptoms (e.g. tremor, anxiety) and to reduce the risk of withdrawal seizures. They are prescribed in a rapidly reducing regime, in order to avoid the development of secondary, iatrogenic dependence, while covering the period of maximum risk (see Table 14.3).

- Many units prefer chlordiazepoxide to diazepam for outpatient use, as it has lower abuse potential.
- Diazepam is often preferred for inpatient use, as it is faster-acting, allowing dose titration against effect, and can be given parenterally. Preferred in those with a history of alcohol withdrawal seizures.
- BDZs remain the first-line pharmacological treatment for acute alcohol withdrawals in hospital settings, but NICE also includes carbamazepine or, in select cases, chlormethiazole as treatment options.

Table 14.3 Benzodiazepine withdrawal regime

Suggested outpatient reducing regime using chlordiazepoxide

	On waking	Midday	Early evening	At bedtime
Day 1	–	30mg	30mg	30mg
Day 2	20mg	20mg	20mg	20mg
Day 3	20mg	10mg	10mg	10mg
Day 4	10mg	10mg	–	20mg
Day 5	10mg	–	–	10mg

Indications for prescribing a reducing regime

- Clinical symptoms of withdrawal.
- History of alcohol dependence syndrome.
- Consumption is >10 units/day over the previous 10 days.

Not required if

- <10 units daily.
- No history of withdrawals/drinking to avoid anticipated withdrawals.
- BAC = 0 and no withdrawal symptoms.

Symptom monitoring

Review patients regularly to assess withdrawals. Continuing symptoms should be managed by increasing the next day's

planned dosages, rather than increasing the length of the course or relying on 'as required (PRN)' dosage.

Management of alcohol withdrawal 2

Fixed-dose regimens and symptom-triggered regimens

NICE guidelines (CG100)[5] recommend the use of symptom-triggered regimens as an adjunct to clinical assessment and monitoring of acute alcohol withdrawal for patients in hospital or other 24-hr assessment settings. These are regimens tailored to patient-specific symptoms that trigger medication administration for symptom alleviation, based on severity. Medication is withheld if no symptoms are observed. NICE cites the *Clinical Institute Withdrawal Assessment—Alcohol, revised (CIWA–Ar)* scale as an example—a 10-item assessment tool used to assess, monitor, and treat alcohol withdrawal. Clinically, this scale is widely used in hospitals. Fixed-dose, rather than symptom-triggered, regimens are preferred in community detox settings.

Other medications

- *Anticonvulsants* BDZs in sufficient dosage are the most effective anticonvulsants in alcohol withdrawal. Other oral drugs (e.g. phenytoin, carbamazepine) do not reach therapeutic level until after the time of maximal risk.
- *Antipsychotics* Where hallucinations or delusions develop, they can usually be managed by temporarily increasing the BDZ dose. Addition of an antipsychotic [e.g. haloperidol 5–10mg orally (PO) up to tds] should be considered if this fails. Antipsychotics reduce seizure threshold; with sufficient BDZ cover, this should not be a concern.
- *Supplementary vitamins* Where there are symptoms suggestive of Wernicke–Korsakoff syndrome or evidence of malnourishment, give parenteral B vitamins (Wernicke–Korsakoff syndrome, p. 606). In other patients, give a 4-wk course of 100mg thiamine tds, in addition to multivitamins (mineral deficiencies, e.g. magnesium, are commonly seen in this group, and can predispose to withdrawal seizures).
- *Other psychotropics* While many patients withdrawing from alcohol complain of anxiety and/or depressive symptoms, many will be directly secondary to alcohol use/withdrawal. Do not treat with psychotropics until the patient has been assessed when abstinent from alcohol. Generally speaking, do not start new psychotropics at this time.

Post-alcohol detoxification

Before prescription of pharmacotherapy for post-detox patients within specialist alcohol services, appropriate medical pre-assessment should be undertaken. NICE guidelines (CG115)[6] particularly recommend blood tests—U&Es, LFTs, and GGT. For those patients with moderate to severe alcohol dependence, NICE recommends acamprosate and naltrexone, in combination with

additional alcohol-focused psychological therapy, as first-line post-detox treatment. They only recommend disulfiram for those in whom naltrexone and/or acamprosate are unsuitable or if patients specifically request disulfiram and have a sound understanding of the risks (Aversive drugs, p. 598).

Inpatient or residential alcohol detoxification programmes

For patients requiring inpatient or residential alcohol detox, NICE recommends that those consuming between 15 and 30 units of alcohol daily should be considered for inpatient/residential detox if they also meet various other criteria. These criteria include: significant medical comorbidities (including alcohol-related, e.g. withdrawal seizures, DT); psychiatric comorbidities (including learning disabilities and cognitive impairment), severe malnutrition; a score of >30 on the SADQ; and vulnerable adults.

Maintenance interventions in alcohol misuse 1: psychological methods

In planning treatment in alcohol problems, attention should be focused not only on achieving, but also on maintaining, change. Many patients find the initial change (e.g. moving to abstinence or controlled drinking) surprisingly easy but find it difficult to maintain change in the longer term. Alcohol misuse is a chronic illness characterized by relapse, and in dependent drinkers, there is the tendency for dependent drinking patterns to recur rapidly on abstinence. For this reason, maintenance interventions should support change, and in every patient, relapse should be anticipated and strategies to deal with it should be in place.

Individual counselling In addition to monitoring agreed change, individual counselling can address the following:

- Social skills training (e.g. 'saying no').
- Problem-solving skills.
- Relaxation training.
- Anger management.
- Cognitive restructuring.
- Relapse prevention.

In selected patients, there may be a role for more formal psychotherapies.

Group support A variety of group methods, both within the health service and in the voluntary sector. Variable local provision. Most widespread and best known is AA (see Box 14.5).

Pharmacological support (Maintenance interventions in alcohol misuse 2: pharmacological methods, p. 598).

Residential abstinence In selected patients, time in a residential facility may offer a period of abstinence which is unachievable 'outside', allowing interventions in physical and mental health and a chance to plan social change to permit continued abstinence on discharge. A variety of facilities exist, usually outside healthcare provision; some offer detox, while others will only accept patients

following detox. Most residential rehabilitation centres will utilize group therapies and follow the '12-step' approach, advocated by AA (see Box 14.5). Residential rehabilitation is used in patients where home environment is unsupportive of abstinence and there has been failure of previous treatment options.

Advice to all patients regarding relapse Returning to drinking is the most common outcome in patients (and some consider relapse as pathognomonic of addiction). The stages of change model (Stages of change and harm reduction, p. 575) considers relapse to be at the beginning of a further process of change, but with knowledge as to future strategies to combat relapse. A relapse can be motivated by over-confidence or forgetting gains. A 'slip' does not mean a full-blown relapse is inevitable, and all patients should have strategies to deal with relapse discussed and agreed 'ahead of time'.

Box 14.5 Alcoholics Anonymous (AA)

Alcoholics Anonymous (AA) is the best known and most widespread of the voluntary self-help organizations for problem drinkers. It was founded in 1935 in the USA by Bill Wilson and Dr Bob Smith, themselves both problem drinkers. Currently, there are 73,000 groups in the UK and 788,000 groups worldwide. Associated organizations are Al-Anon (for relatives of problem drinkers); Al-Ateen (for teenage children of problem drinkers); and Narcotics Anonymous (NA) (for addicts of illicit drugs). AA views alcoholism as a lifelong, incurable disease, the symptoms of which can be arrested by lifelong abstinence. Many other groups will use a variant of the AA model—the '12-step' programme. AA is a useful, effective intervention for many problem drinkers, and all patients should be encouraged to consider attendance.

An AA meeting will generally follow a standard routine—there will be 10–20 people in each group, and only first names are used; a rotating chairman will introduce himself with 'My name is X, and I am an alcoholic', then will read the AA preamble; a number of speakers are called from the floor who give an account of their stories and recovery, if possible, leading to general discussion; the meeting ends with a prayer and is followed by informal discussions and contact between new members and sponsors who may offer emotional and practical support and perhaps a phone number. Open meetings are held where friends, family, and interested professionals can attend. Closed meetings are for members only. (See Useful resources, p. 1075 for contacts in the UK and Ireland.)

The '12 steps'

1. We admitted we were powerless over alcohol—that our lives had become unmanageable.

2. Came to believe that a power higher than ourselves could restore us to sanity.
3. Made a decision to turn our will and our lives over to the care of God as we understood him.
4. Made a searching and fearless moral inventory of ourselves.
5. Admitted to God, to ourselves, and to another human being the exact nature of our wrongs.
6. Were entirely ready to have God remove these defects of character.
7. Humbly asked Him to remove our shortcomings.
8. Made a list of the persons we had harmed, and became willing to make amends to them all.
9. Made direct amends to such people wherever possible, except when to do so would injure them or others.
10. Continued to take personal inventory, and when we were wrong promptly to admit it.
11. Sought through prayer and meditation to improve our conscious contact with God as we understood Him, praying only for knowledge of His will for us and the power to carry that out.
12. Having had a spiritual awakening as a result of these steps, we tried to carry this message to alcoholics and to practise these principles in our affairs.

Maintenance interventions in alcohol misuse 2: pharmacological methods

(See Linford-Hughes *et al*., 2012.)[7]

Aversive drugs

Disulfiram (Antabuse®, Esperdal®)

Action Irreversible inhibition of ALDH which converts alcohol to CO_2 and water. If alcohol is taken, there is a build-up of acetaldehyde in the bloodstream, causing unpleasant symptoms of flushing, headache, nausea and vomiting, and tachycardia. There is also recent evidence to suggest it may block dopamine B hydroxylase, increasing DA and decreasing NA.

Indication Can act as a helpful adjunct to therapy and allow the patient's relatives/employers to regain confidence in their ability to remain abstinent (evidence for ↑ efficacy with supervised administration).

Dose Prescribe once abstinence achieved. Loading dose 800mg; then reduce over 5 days to 100–200mg daily or 200–400mg on alternate days.

Side effects Halitosis and headache. Rare reports of psychotic reactions and hepatotoxicity.

Notes

- Patients should be counselled as to the nature and purpose of the drug and the likely side effects if they drink.
- It is no longer recommended to give an alcohol 'challenge' to a patient newly started on disulfiram.
- Compliance is ↑ if the taking of the drug is monitored by another person (e.g. spouse).

Anti-craving drugs

Acamprosate (Campral EC®)

Action Believed to act through enhancing GABA transmission in the brain. Has been found to reduce alcohol consumption in animal models of alcohol addiction, with possible neuroprotective effects. Patients taking it report diminished alcohol craving. In an RCT, a cohort treated with acamprosate showed an ↑ percentage of those remaining abstinent and a doubling of time to first relapse. The majority of trials have been conducted with adjunctive psychosocial treatments, and there, these should accompany treatment.

Indications Patients who wish to remain abstinent from alcohol.

Dose Once abstinence achieved/at end of detox: 666mg tds.

Side effects GI upset, itch, rash, altered libido. (Generally well tolerated.)

Notes

- Discontinue if the patient returns to regular drinking or relapses more than once, while on the drug.
- Has no role in assisting with controlled drinking.
- Has no aversive action if alcohol is taken (though can be used in conjunction with disulfiram).
- Has no addictive potential itself.

Nalmefene (Selincro®)

Action Acts at the opioid receptor as a μ and δ receptor antagonist, and a partial agonist at the κ receptor, reducing reward when patients consume alcohol, therefore reducing its reinforcing effect.

Indications Recommended by NICE[8] for use in conjunction with psychosocial interventions for people with alcohol dependence who are heavy drinkers (drinking >5 units daily for women and 7.5 units daily for men persistent 2wks following initial assessment), with no requirement for detox for physical withdrawals. Complete abstinence from alcohol is not required, as the aim is to reduce overall alcohol intake.

Dose 18mg/day.

Side effects Nausea, dizziness, insomnia, and headaches.

Naltrexone (Adepend®)

Action Antagonizes the effects of endogenous endorphins released by alcohol consumption. It is believed that this diminishes both the desirable 'high' experienced on taking alcohol and the loss of control reported by most dependent drinkers.

Indications In motivated subgroups of alcohol-dependent patients, it appears to be effective in reducing total alcohol consumed and the number of drinking days.

Dose Once abstinence achieved, give 25mg od initially, maintenance 50mg od.

Side effects GI upset, feeling anxious/'on edge', headache, fatigue, sleep disturbance, flu-like symptoms.

Notes

- Does not have an aversive or dependence-producing effect.
- Not currently licensed in the UK for treatment of alcohol dependence.

Baclofen

Action Baclofen is a GABA-B agonist, mainly used to treat neurological conditions that cause muscle spasticity.

Indications There is some evidence in the literature that it may be effective for relapse prevention in alcohol dependence, particularly in those with cirrhotic liver disease, due to its limited liver metabolism and short half-life of 1–2hrs. Although not licensed, it is recognized as a potential intervention in the BAP guidelines.[7]

Alcohol misuse disorders 1

Acute intoxication The symptoms of alcohol intoxication will vary, depending on the BAC, individual alcohol tolerance, and, to some extent, the setting in which the alcohol is taken. In general, as BAC rises from mild intoxication (BAC <100mg%) to moderate intoxication (BAC 100–200mg%) to severe intoxication (BAC >200mg%), a characteristic syndrome of acute intoxication is observed. Initial symptoms are elevated mood, disinhibition, and impaired judgement, followed by slurred speech, unsteady gait, nystagmus, ataxia, aggressiveness, lability of mood and impaired concentration, and eventually sopor and coma.

At-risk drinking There are reported benefits to health (lowered risk of coronary artery disease and strokes) associated with low levels of alcohol consumption, as compared with those who are abstinent (the 'J-shaped curve'), although this remains a contentious area. Above this low level, health risks increase with increasing alcohol consumption. It is therefore arbitrary at which point drinking is considered 'at risk'. Patient and situational factors are important (e.g. any alcohol consumption while driving or in pregnancy carries ↑ risks; for patients with established alcohol-related organ damage, any consumption is risky).

Harmful drinking (DSM-5—alcohol use disorder) Non-dependent drinking which continues, despite established harm to the patient's physical or mental health secondary to the alcohol consumption. ICD-10 diagnosis considers only physical and mental health harm, not harm related to social sanction.

Alcohol dependence Harmful use of alcohol + established dependence syndrome (→ The dependence syndrome, p. 574). Usually, daily stereotyped drinking pattern, with ↑ tolerance, withdrawal features on abstinence, and 'relief drinking' (i.e. further drinking to alleviate the effects of withdrawals).

Pathological intoxication ('*mania à potu*') This is a medically and legally disputed syndrome which was not included in DSM-5 (or ICD-11), due to lack of empirical evidence, but is found in ICD-10. It is described as an idiosyncratic reaction to a small amount of alcohol, characterized by severe agitation, belligerence, and violent behaviour, followed by collapse, profoundly deep sleep, and amnesia for the events which followed the alcohol consumption. It is a dubious diagnosis which is mainly sought after by defence lawyers, as most legal systems do not regard normal self-induced intoxication as a valid defence. There is, of course, a strong association between alcohol and violent crime. Careful re-examination of the history will usually demonstrate that significant quantities of alcohol have been consumed.

Alcohol-induced amnesia ('blackouts' or 'palimpsest') This term refers to transient amnesic episodes related to periods of intoxication. Characteristically, the patient will report a 'gap' in their memory lasting several hours, with global or partial amnesia for their actions during that time. The patient's behaviour, as reported by witnesses, is usually characteristic of their normal behaviour when intoxicated. This amnesia seems to be a failure of recall, rather than initial registration, and represents a reversible form of brain damage. Its occurrence is not predictive of longer-term cognitive impairment. It occurs in the later stages of a drinking career, if at all, and tends to recur once established. Two forms are described:

- *'En bloc'*—dense amnesia with well-demarcated start and finish points.
- *Partial*—episodes with indistinct start and end points, with islands of preserved memory and variable degrees of recall.

There is some degree of state-dependent recall in blackouts, and a return to intoxication may aid recall. Because of the potential confusion of the term 'blackout' with periods of loss of consciousness, the term '*alcoholic palimpsest*' is to be preferred.

Alcohol misuse disorders 2

Alcoholic hallucinosis This is a substance-induced psychotic illness (defined in ICD-10), which is a rare complication of prolonged heavy alcohol abuse. The sufferer experiences hallucinations—usually auditory—in clear consciousness and while sober. The auditory hallucinations may begin as elemental hallucinations (e.g. bangs or murmurings) before, with continued alcohol use, being experienced as formed voices, most usually derogatory in nature. There may be secondary delusional elaboration. The nature of hallucinations tends to worsen during

periods of alcohol detox, and, at times, when intoxicated with alcohol.

- *Differential diagnosis* Transitory hallucinatory or illusionary experiences while intoxicated, DT, psychotic illnesses.
- *Course* In ~95% of patients, there is rapid resolution of these symptoms on ceasing alcohol consumption, but the symptoms rapidly recur on restarting drinking. In ~5%, there are prolonged symptoms (<6mths after abstinence) and an emergence of more typical schizophrenic symptomatology.
- *Management* Persisting symptoms may be treated with antipsychotic medication (bearing in mind the medical comorbidities seen in this population).

Alcohol-induced psychotic disorder with delusions Long recognized, but only recently included in diagnostic guidelines—DSM-5 now includes substance-/medication-induced psychotic disorders in its chapter for schizophrenia spectrum and other psychotic disorders. Development of persecutory or grandiose delusions after a long history of heavy drinking. No other features of DT. Resolves on abstinence.

Delirium tremens

( Alcohol withdrawal syndromes, p. 590.)

Alcohol-related cognitive impairment/alcohol-related brain damage

The classification of alcohol-related cognitive impairment is unclear. ICD-10 views it as a number of discrete entities, as opposed to a continuum: amnesic disorder (F10.6), dementia (F10.73), and other persisting cognitive disorder (F10.74). DSM-5 has moved all cognitive impairment diagnoses to a separate section 'Neurocognitive disorders'. In this section, ARBD is now 'Substance-/medication-induced major or mild neurocognitive disorder'. Neurocognitive impairments are defined as being persistent out with periods of acute withdrawal or delirium and consistent with deficits that would be caused by alcohol, based on the chronological history of abuse and onset of symptoms. ICD-11 also groups the 'Neurocognitive disorders' together and allows amnestic disorder and dementia to be 'due to psychoactive substances including medications'.

The majority (50–60%) of heavy drinkers display some degree of cognitive impairment on cognitive testing while sober. There is impairment in short-term memory, long-term memory recall, new skill acquisition, executive function, relative preservation of language ability, and mildly impaired visuospatial function. IQ [measured by the Wechsler Adult Intelligence Scale (WAIS)] is generally preserved [in comparison with premorbid IQ, measured using the National Adult Reading Test (NART)]. CT/MRI examination of the brain of heavy drinkers reveals cortical and subcortical atrophy. White matter loss is prominent, which correlates with neuropathology findings. The degree of structural abnormality poorly correlated with the degree of functional

impairment. In all patients with ARBD (including those with 'alcohol dementia' and Korsakoff syndrome), a significant amount of medical comorbidity is seen, including small vessel disease, repetitive head injuries, and comorbid alcohol liver disease (ALD). The neurotoxic effects of alcohol on the brain are exacerbated significantly by thiamine deficiency, and there is evidence to suggest earlier onset in women. Abstinence from alcohol use has been shown to correlate with functional and MRI improvement at 1yr.

The term alcohol dementia is used at times, describing a generalized dementia syndrome, in which there is intellectual decline and more pronounced neuropsychological deficits. The changes correlate with total lifetime drinking and the length of drinking history.

Wernicke–Korsakoff syndrome

( Wernicke–Korsakoff syndrome, p. 606.)

Pathological jealousy

(Othello syndrome)

This is a monosymptomatic delusional disorder ( Delusional disorder 1: clinical features, p. 230) seen most commonly secondary to current or previous alcohol abuse. The form is a primary delusion in which the content is that the patient's spouse or partner has been, or is being, unfaithful. Delusional evidence may be provided to back up this belief, and the patient may go to great lengths to obtain 'evidence' (e.g. following her, planting tape recorders, examining discarded clothing). There is a significant association with violence and even homicide towards the supposedly unfaithful partner.

Management

- Abstinence from alcohol with the addition of antipsychotic medication.
- It may be necessary for the couple to separate, and advice to this effect may have to be given to the at-risk partner.

Psychiatric comorbidity

Anxiety and depressive disorders Symptoms such as generalized anxiety, panic attacks, and low mood are very frequently reported in alcohol abusers. Many patients with alcohol problems also merit diagnoses of depressive illness (~50%) or anxiety disorder (~75%). The phenomenology of these disorders is similar to that found when the disorders occur in isolation. The difficulty is deciding the sequence of events, as, in some cases, the alcohol problem is secondary to the patient 'self-medicating' with alcohol in order to relieve primary anxiety or depressive symptoms. Nonetheless, chronic alcohol use will act as a direct depressant; its secondary effects will produce depressogenic life events (e.g. loss of job) and alcohol-related effects such as waking at 4 a.m. due to

withdrawal, or weight loss related to nausea may masquerade as, or mask, biological depressive features.

Patients may emphasize the primacy of the mood or anxiety features and seek their resolution before tackling the alcohol problem. Generally, a primary mood or anxiety disorder diagnosis should not be made in the presence of continuing alcohol misuse, and psychological or pharmacological treatment for mood disorder is unlikely to be effective. The correct course is to initiate detox if indicated and to reassess mood/anxiety symptoms after 4wks of abstinence, treating residual symptoms at this point. Only a minority will require formal treatment. An undiagnosed depressive illness preceding the alcohol problem is more common in women. Alcohol problems can also arise as a result of self-medication of agoraphobia and social phobia.

Suicide Classically quoted as a lifetime risk of 10–15% in dependent drinkers. Now estimated at ~4% lifetime risk of suicide in those with alcohol problems. Psychiatric comorbidity is important, as are social isolation, physical ill health, and repeated failed attempts at abstinence.

Schizophrenia High rates of alcohol and substance use found in schizophrenic patients (~50%). ↑ risk of violence, EPSEs, TD, non-compliance, relapses, and rehospitalizations. Alcohol is an easily available temporary treatment for some of the distressing symptoms of psychotic illness.

Drug misuse Comorbid alcohol and drug misuse can be used to enhance effects (e.g. euphoriant effect of alcohol and cocaine combined) or to minimize unpleasant side effects (e.g. alcohol to relax after taking stimulants), or as a substitute when the primary drug is unavailable. Comorbid drug misuse is associated with poorer outcome. Some comorbidities can have an iatrogenic component where there is mixed abuse or substitution of BDZs for alcohol. This can result from inappropriate prescribing of anxiolytics, misdiagnosis of alcohol problems as anxiety disorders, and repeated unsupervised withdrawals with hoarding of tablets. Aim to limit new prescriptions, review the diagnosis in patients with treatment-resistant anxiety disorders, and avoid short-acting BDZs (e.g. lorazepam).

Wernicke–Korsakoff syndrome

Wernicke encephalopathy and Korsakoff psychosis represent the acute and chronic phases of a single disease process—Wernicke–Korsakoff syndrome—which is caused by neuronal degeneration secondary to thiamine deficiency, most commonly seen in heavy drinkers.

Wernicke encephalopathy

Clinical features Acute onset of tetrad of: (1) acute confusional state; (2) ocular signs (ophthalmoplegia, nystagmus); and (3) ataxic gait. Associated features of: peripheral neuropathy, resting tachycardia, and evidence of nutritional deficiency.

Ophthalmoplegia is most commonly due to sixth nerve palsy (paralysis of lateral gaze). Triad only seen in 10% of cases; confusion in ~80% of cases.

Aetiology Occurs secondary to thiamine (vitamin B1) deficiency. Heavy drinkers are especially vulnerable due to poor intake (alcohol is calorie-rich, but vitamin-poor), reduced absorption, and impaired hepatic storage. Other rare causes of thiamine deficiency are starvation, post-gastric resection, anorexia nervosa, and hyperemesis gravidarum.

Pathology Haemorrhages and secondary gliosis in periventricular and periaqueductal grey matter involving the mamillary bodies, hypothalamus, mediodorsal thalamic nucleus, colliculi, and tegmentum of the midbrain.

Treatment

- Give high-potency parenteral B1 replacement—IV *Pabrinex®*, two ampoules by infusion over 30min bd for 3–7 days. Specialist use. (*Note:* associated with allergic reactions; facilities for treatment of anaphylaxis must be available, although recent evidence suggests negligible risk with recent preparations.) Avoid carbohydrate load until thiamine replacement is complete (i.e. do not rehydrate with glucose solutions prior to thiamine).
- Treat immediately when the diagnosis is made or strongly suspected. In addition, consider treating all those at high risk (alcohol-dependent patients with poor nutrition) prophylactically with parenteral vitamins.
- All patients with symptoms of Wernicke encephalopathy and those at high risk should have parenteral vitamins as just described above. All other patients undergoing detox or being assessed for alcohol problems should receive oral replacement—thiamine 100mg tds for 1mth.
- Assess and treat for alcohol withdrawal syndrome (Alcohol withdrawal syndromes, p. 590).

Prognosis

- Untreated, the acute phase lasts ~2 weeks, with 84% of cases developing features of Korsakoff psychosis. Mortality of ~15% in untreated cases.
- With treatment, ophthalmoplegia and confusion resolve within days, but ataxia, neuropathy, and nystagmus may be prolonged or permanent.

Korsakoff syndrome

Clinical features Absence or significant impairment in the ability to lay down new memories, together with a variable length of retrograde amnesia. Working memory (e.g. ability to remember a sequence of numbers) is unimpaired, as is procedural and 'emotional' memory. Thus, the affected individual may be able to go with a psychologist to an interview room, perform adequately on working memory testing, show evidence of a new skill (e.g. mirror writing) they practised the day before, and yet later have no

memory of ever having been in that room or having seen that psychologist before (although, on returning to the room, they may be more relaxed on subsequent occasions, due to state-related emotional memories). Confabulation for the episodes of amnesia may be prominent. Other neuropsychological deficits associated with ARBD may be seen.

Aetiology Most commonly due to thiamine deficiency, secondary to heavy alcohol use. Rarer causes are head injury, post-anaesthesia, basal/temporal lobe encephalitis, CO poisoning, and thiamine deficiency secondary to other causes. It should be remembered that Korsakoff syndrome is not invariably preceded by Wernicke encephalopathy and can present in a 'chronic' form.

Pathology Pathological features are those of Wernicke encephalopathy. The presumed mechanism is disconnection of a mamillothalamic pathway crucial for memory formation.

Treatment

- Continue oral thiamine replacement and multivitamin supplementation for up to 2yrs.
- Treat psychiatric comorbidity (e.g. depression).
- OT assessment, cognitive rehabilitation within an appropriate setting, acknowledging that some patients improve and may progress to independent living. Therefore, these patients will require continuous assessment of their functioning, bearing in mind that improvement occurs in ~50% of those presenting with Korsakoff syndrome.

Prognosis

- Twenty per cent of cases show complete recovery, and 25% significant recovery over time, with the remainder largely unchanged.
- The degree of functional impairment is directly related to the degree of memory impairment which may be incompatible with independent living.

Medical complications of alcohol misuse

Hepatic

- *ALD* is the most common cause of liver damage in the developed world. Presents as fatty change, alcoholic hepatis, and finally as cirrhosis.
  - Fatty change seen in >90% of heavy drinkers, can emerge after a single heavy bout, may be asymptomatic, or may present as lethargy, malaise, painful and swollen liver, and obstructive jaundice. Reverses with abstinence.
  - Alcoholic hepatitis—40% of heavy drinkers.
  - Cirrhosis—up to 30% of heavy drinkers after 10–30yrs. Predisposed to by genetic variation (reduced alcohol oxidation and ↑ acetaldehyde accumulation), ♀ sex (less first-pass metabolism and lower body water content for alcohol dispersal), and comorbid hepatitis B or C infection.

Gastrointestinal

- Gastritis/gastric erosions, with consequent haematemesis.
- Metaplasia of the lower third of the oesophagus (Barrett's oesophagus).
- Mallory–Weiss oesophageal tears secondary to vomiting.
- Peptic ulceration.
- Chronic diarrhoea.
- Chronic pancreatitis (alcohol is the most common cause), with chronic fluctuating abdominal pain and steatorrhoea.

Cancers

- Hepatocellular, oesophagus, stomach, mouth, tongue, and pharynx.

Cardiovascular

- Hypertension.
- Dilated cardiomyopathy.
- Cardiac arrhythmias (especially AF).
- CVA.
- Non- or very light drinkers have a higher risk than light drinkers, even after controlling for smoking, hypertension, etc. (i.e. 'the J-shaped curve' for mortality); no specific drink type (i.e. not red wine); mechanism may be an increase in protective high-density lipoprotein cholesterol (HDL-C) and reduced platelet adhesion.

Respiratory

- TB.
- *Klebsiella* and streptococcal pneumonia.
- ↑ vulnerability is related to ↓ immunity, poor nutrition, and self-neglect.

Neurological

- Wernicke–Korsakoff syndrome (→ Wernicke–Korsakoff syndrome, p. 606).
- Peripheral neuropathy.
- Central pontine myelinolysis (pseudobulbar palsy + quadriplegia).
- Marchiafava–Bignami disease (corpus callosum degeneration).
- Cerebellar degeneration.
- Optic atrophy.
- Alcoholic myopathy.

Genitourinary

- Erectile problems.
- Hypogonadism in men.

Other

- Fetal alcohol syndrome (FAS) (→ Non-genetic causes of learning disability, p. 818).
- Gout.
- Osteoporosis.

- Impaired absorption and diminished intake of specific vitamins and food overall.
- Contribution to accidents, particularly RTA.
- Exacerbating factor in violent crime and assaults.
- Diminished compliance with treatment for other medical and psychiatric disorders.

Tobacco 1—background

Tobacco has been used recreationally worldwide for centuries in various forms. It can be smoked in the form of cigarettes, via a pipe or hookah, or as shisha; it can also be chewed or 'snuffed'. Tobacco use became more widespread in the 1800s, when the implementation of automatic cigarette rolling via machine allowed mass production and a shift in market availability. Smoking cigarettes is the most common method of use worldwide.

The WHO formed the WHO Framework Convention on Tobacco Control (WHO FCTC) in 2005. They have issued a series of reports on the 'global tobacco epidemic'—the most recent being in 2015[9]—giving an update on world tobacco use and measures to tackle it. Current levels and previous levels of use have been hard to quantify due to variable levels of monitoring globally. WHO prevalence estimates in 2013 quoted 21%—950 million men and 177 million women—of adults globally are tobacco smokers. Compared to the 2007 estimate of 23%, this constitutes a reduction.

Over the decades, tobacco use has started to reduce due to a number of factors, which form the basis for global policy for tackling tobacco use. Many of these are outlined as below:

- Raising taxes on tobacco products.
- Implementing smoke-free environments.
- Cessation programmes.
- Warning labels on cigarette packets.
- Education and awareness of the risks of tobacco use.
- Reducing tobacco product advertising.

Smoking-related disease

The morbidity and mortality associated with smoking-related diseases are summarized in Table 14.4. Additional concerns centre around:

- *Perinatal and postnatal disease* Maternal smoking in pregnancy increases the risk of miscarriage, premature delivery, and a small-for-dates baby. Postnatally, there is an ↑ risk of sudden infant death syndrome (SIDS), asthma, and other respiratory-related disease in the infant.
- *Second-hand smoke* Inhalation by non-smokers in the vicinity of smokers also causes an ↑ risk of the aforementioned conditions.
- *Environmental risks* Accidents related to smoking increases morbidity and mortality and burns caused directly or indirectly.

Pharmacology

The main neurochemical in tobacco that drives its ongoing use and the addiction to it is nicotine. When smoked, this is rapidly absorbed by the alveoli due to their large surface area. If chewed or snuffed, nicotine is absorbed across the mucous membranes. Most nicotine metabolism occurs in the liver, but it also occurs in the brain and lungs. Nicotine is extensively metabolized to a number of metabolites in liver. Quantitatively, the most important metabolite of nicotine in most mammalian species is cotinine. In humans, 70–80% of nicotine is converted to cotinine. This involves two steps—the first mediated by the cytochrome P450 system (mainly CYP2A6 and CYP2B6) to produce nicotine iminium ion; the second step is catalysed by aldehyde oxidase (AOX). Other metabolic pathways include oxidation to nicotine N′-oxide (NNO) and glucuronidation to an *N*-quaternary glucuronide. High levels of nicotine hit the brain within 10–20s, following inhalation. Nicotine is subject to renal clearance, and there is also much heterogeneity in terms of slow and fast metabolizers of nicotine, and other factors, such as age, medical comorbidities, genetics, and medications, can affect metabolism.

Nicotine acts on nicotinic ACh receptors in the CNS and peripheral nervous system, causing flux of cations and depolarization of the plasma membrane and cell excitability, in turn regulating neurotransmitter release. This then mediates the effects of nicotine such as arousal, anxiety, alertness, and relaxation.

Table 14.4 Smoking-related diseases

	Pathophysiology	Disease/conditions
Respiratory disease	Impaired ciliary function and mucus clearance, structural damage to alveoli, direct carcinogen exposure via smoke inhalation, free radical exposure, other immune responses	Asthma, bronchitis, COPD, lung cancer, recurrent respiratory infection
Cardiovascular disease	Endothelial inflammation and formation of atheroma, lipid profile alteration (HDL-C, LDL cholesterol, triglycerides, serum cholesterol)	Coronary artery disease, stroke, peripheral vascular disease
Gastro-oesophageal disease	histaminic receptor activation, gastro-oesophageal reflux, other immune responses Carcinogen exposure, free radical exposure	Gastric and duodenal ulceration, alimentary canal cancers

Tobacco 2—dependence and interventions

Nicotine dependence

Nicotine is highly addictive and caused ↑ tolerance with repeated use. Users show compulsion to use and suffer withdrawals on cessation of use. Nicotine itself has a relatively short half-life of 1–2hrs. Withdrawal symptoms occur on cessation of consumption, usually within 24hrs, and include dysphoria, disturbed sleep, irritability, agitation, and ↑ appetite. Users may also suffer from cravings. Relief of withdrawals occurs relatively quickly on recommending smoking.

ICD-10 criteria for nicotine dependence falls under F17 coding:

- Tolerance to nicotine.
- Withdrawal symptoms.
- Impaired control.
- Ongoing use in spite of risks.
- Social adverse effects.

While smoking causes less social impairment, compared to other drugs of abuse, e.g. heroin, BDZs, alcohol, it still increases the risk of accidents, such as fires, and causes financial strain due to cost and strain on relationships. Ongoing use in spite of physical

disease is common in those with a more long-standing and/or severe dependence to nicotine.

Management of smoking

Smoking cessation has become a big public health drive in recent years.[10,11] There are opportunities for brief interventions in primary care and via pharmacies, practice nurses, allied health professionals, and dentists, as well as in secondary care in hospitals. Hospitals often have dedicated smoking cessation services. Pharmacological interventions, including nicotine replacement and behavioural interventions, also play an important role. Some smokers abruptly stop and incur withdrawals without any nicotine replacement. There are higher rates of relapse in any individuals who stop smoking as such. Others use nicotine replacement aids or other medication interventions in order to help wean off nicotine and help to maintain longer-term abstinence.

Nicotine replacement therapies

Nicotine replacement therapies (NRTs) are available in the form of nicotine gum, nicotine transdermal patches, nasal spray, lozenges, sublingual tablets, and inhalers. Nicotine vaporizers are relatively new on the market in recent years; the act of using them is commonly known as 'vaping'. Electronic 'e-cigarettes' and electronic nicotine delivery systems (ENDS) are alternatives to personal vaporizers (PVs).These battery-powered vaporizers simulate tobacco smoking using a heating element (atomizer) to produce an aerosol of a liquid solution (e-liquid) that usually contains propylene glycol, vegetable glycerin, nicotine, and flavourings. Little is yet known about the longer-term effects of 'vaping' and 'e-cigarettes' (see also Cannabis, p. 626).

Nicotine patches

- Release nicotine slowly via transdermal patch at a steady rate.
- Dose: 21mg patch → 10ng/mL, plasma level of nicotine.
- Can be done via pharmacy supervision in the UK or bought over the counter. Other strengths are available (7/14mg per 24hr; 10/15/25mg per 16hr).

Nicotine gum

- NRT that can be bought over the counter.
- Doses: 2mg gum → 7ng/mL, plasma level of nicotine absorbed via oral mucosa; 4mg gum → 15ng/mL, plasma level of nicotine absorbed via oral mucosa.

Other pharmacological interventions

Bupropion hydrochloride (Zyban®)

Bupropion is a DARI and NARI (also an antidepressant) that is administered orally in tablet form. There is evidence that it aids smoking cessation, in combination with motivational support. Doses: initially 150mg for 6 days, then ↑ to 150mg bd for 7–9wks. It is recommended treatment is commenced 1–2wks before a set stop date.

Varenicline tartrate (Champix®)

Varenicline tartrate is a selective nicotinic receptor partial agonist recommended by NICE to aid with smoking cessation. Doses: initially 500mcg od for 3 days, then ↑ to 500mcg bd for 4 days, then 1mg bd. Treatment is recommended for 11wks. It is recommended that treatment is commenced 1–2wks before a set stop date.

Behavioural interventions and support

Behavioural interventions via individual or group behavioural counselling is recommended by NICE to aid with stopping smoking. Counselling would include psychoeducation, support, and advice on small habitual changes that may be associated with smoking behaviours, e.g. smoking outside only, rather than in the house; avoiding cues for smoking; and reducing associated behaviours such as drinking alcohol or caffeine.

Illegal drugs

In the UK, community surveys indicate that one-third of adults have tried illegal drugs in their lifetime, with 10% having used them in the previous year. The rates for those aged under 25 are higher, with 50% lifetime use and 33% in the previous year. At all ages, ♂ have higher rates of drug use than ♀ (♂:♀ = 3–4:1). Cannabis is the most commonly used illegal drug, while community rates for the other drugs of abuse are low. Users show a variable pattern of consumption with episodic and situational use for drugs with low dependence potential and a tendency to continuous dependent use for more 'addictive' drugs. Among some users, particularly those in the dance scene, polydrug use is the norm with individuals consuming >10 different drugs. Use of illegal drugs is more common in the young, in the lower socio-economic classes, and in those with psychiatric illness. At any one time, <33% of dependent users will be in contact with treatment services; the mean length of dependent use before seeking help is 9yrs.

There are as many patterns of drug use as drug users, and individual patient assessment is mandatory; nonetheless, a number of patterns of use of illegal drugs can be recognized:

- *Experimental use* Use of drug in order to explore effects. Common among the young and heavily driven by drug availability and drug use among peers. Very common for 'softer' drugs (e.g. cannabis, volatile chemicals); rarer for more 'hard' drugs (e.g. heroin).

- *Situational use* Drug use limited to certain situations (e.g. parties, raves). Mainly drugs with stimulant/hallucinogenic properties.
- *Recreational use* Regular, but non-dependent use. May be limited in time by the period of life (e.g. ending at the end of university life) or may progress to dependent use.
- *Polydrug use* Non-dependent use of a variety of drugs. One drug may be taken to potentiate the effects of another or to manage unpleasant after-effects of drug use. Risks can be additive or multiplicative.
- *Dependent use* Use of a drug for which a dependence syndrome ( The dependence syndrome, p. 574) has developed. Continued use may be motivated more by the desire to avoid withdrawals than by positive drug effects, which may have diminished due to the development of tolerance. Tendency is for use of the dependent drug to predominate, with other drugs being taken only if the primary drug is unavailable.
- *Dual diagnosis* Drug users who also suffer from a major mental illness. An important group for therapeutic intervention.

Categories of drugs of abuse

- *Opiates:* e.g. heroin, dihydrocodeine, methadone, codeine, buprenorphine, pethidine.
- *Depressants:* e.g. BDZs, barbiturates, alcohol, gamma-hydroxybutyrate (GHB).
- *Stimulants*: e.g. amphetamines, cocaine, MDMA.
- *Hallucinogens:* e.g. LSD, PCP, mushrooms, ketamine.
- *Others:* e.g. cannabis, volatile substances, anabolic steroids.

Slang terms related to drugs

(See Tables 14.5 and 14.6.)

Table 14.5 Drug slang terms relating to use

Slang term	Meaning
Backtrack	Allow blood to flow back into IV syringe and then re-inject
Chasing	Consume heroin by heating on foil and inhaling the fumes
Cold turkey	Withdrawal symptoms (referring to piloerection)
Cooking up	Melting down heroin prior to injection
Fix	The required regular dose of drug in a dependent user
Gouching	Apparent somnolence following heroin use
Jag up	To inject drugs IV
Juggling	Selling drugs to finance one's own dependency
Junkie	An individual dependent on a drug
Mainline	To inject drugs IV
Nodding, on the nod	Apparent somnolence following heroin use
Rattling	Suffering from withdrawals
Score	Obtain drugs
Script	Legitimate prescription for drugs
Shooting gallery	Place where individuals meet to use drugs IV
Skin popping	To inject drugs subdermally
Sorted	Having obtained sufficient drug for one's own needs
Spliff	Cannabis cigarette
Tab	Dose of LSD impregnated onto paper
Works	Syringe and needles

Table 14.6 Drug 'street names'

Conventional name	Street slang
Amphetamine	Billy/Whizz, Speed, Sulph
Amphetamine-like 'bath salts'	Bliss, Bloom, Blue Silk, Cloud 9, Drone, Energy-1, Lunar Wave, M-CAT, Meow Meow, Mephadrone, Pure Ivory, Scarface, Stardust, Vanilla Sky, White Lightning, Wicked X
Anabolic steroids	Roids
Cannabis	Bud, Chronic, Dope, Ganja, Grass, Green, Hash, Hashish, Hemp, Herb, Kush, Marijuana, Mary Jane, Pot, Purple Haze, Reefer, Sinsemilla, Skunk (potent), Trees, Weed
Cocaine	Bernice, Blow, C, Charlie, Coke, Crack (freebase), Dust, Flake, Line, Nose Candy, Rock, Sneeze, Sniff, Snow, Toot, White, Yayo
Depressant drugs	Downers
Diazepam	Vallies
GHB	GBH, grievous bodily harm
Heroin	Big H, Black Tar, Boy, Brown Sugar, China White, Dope, Dragon, Gear, H, Horse, Junk, Mexican Brown, Mud, Scag, Skag, Skunk, Smack, Thunder
Ketamine	Cat Valium, Green K, Honey Oil, Jet, Ket, Kit Kat, Purple, Special K, Special LA Coke, Super Acid, Super C, Vitamin K
LSD	Acid, Battery Acid, Blotter, California Sunshine, Cid, Doses, Dots, L, Looney Toons, Lucy, Lucy in the Sky with Diamonds, Superman, Tabs, Window Pane, Yellow Sunshine
Methamphetamine	Chalk, Crank, Crissy, Cristy, Crystal, Crystal Meth, Glass, Go, Ice, Meth, Shards, Tina, Tweak, Whizz
MDMA	Adam, Beans, Candy, Clarity, Dancing Shoes, E, Ecstasy, Eccies, Happy Pill, Hug, Hug Drug, Love Drug, Lover's Speed, Molly, Moon Rocks, Rolls, Scooby Snacks, X, XTC
PCP	Angel dust, Embalming fluid, Hog, Love boat, Ozone, Rocket fuel, Superweed,

	Wack, Wet (a marijuana joint dipped in PCP)
Psilocybin mushrooms	Blue Meanies, Boomers, Buttons, Caps, Cubes, Liberties, Liberty Caps, Magic Mushrooms, Magics, Mushies, Shrooms
Rohypnol®	Roofies (flunitrazepam)
Stimulant drugs	Uppers
Synthetic cannabinoids	Black Mamba, Bliss, Bombay Blue, Genie, Joker, K2, K2 Drug, K3 Drug, Kroni, Kush, Skunk, Genie, Solar Flare, Spice, Yucatan Fire, Zohai
Temazepam	Jellies
Volatile nitrates	Poppers
Volatile solvents	Air Blast, Bold, Discorama, Glad, Hippie Crack, Huff, Laughing Gas, Moon Gas, Nitrous, Oz, Poor Man's Pot, Poppers, Rush, Snappers, Whippets, Whiteout

Opiates/opioids

Opiates are a group of chemicals derived from the opium poppy (*Papaver somniferum*); synthetic compounds with similar properties are called opioids. They have potent analgesic properties and, as such, have wide legitimate uses in medicine. They are widely abused for their euphoriant and anxiolytic properties. Heroin is the most frequently abused opiate.

Heroin Illicit heroin is sold as a brown or white powder in 'bags' or 'wraps', costing £50–100/g, with a typical dependent user taking 0.25–2.0g/day. It is most commonly consumed by smoking ('chasing') but is also taken orally, occasionally snorted, and parenterally by IV, IM, or subcutaneous (SC) routes. Street supplies are of variable purity (25–50% by volume); occasionally, a particularly pure batch is associated with a series of deaths and ODs from users used to a less concentrated form.

In common with other opiates, heroin binds to specific receptors, for which there are endogenous ligands (endorphins). There are overall cortical inhibitory effects, with diminished pain sensation. After consumption, effects are virtually immediate, with euphoria amounting to ecstasy, intense relaxation, and untethering from worries and cares.

Although recreational use is not unknown, the tendency is for progression to dependent use and this is the most usual pattern by the time of presentation to treatment services. An established dependent user may move from smoking to occasional or regular IV use to potentiate effects. Users develop tolerance with regular use, and there is cross-tolerance to other opiates. Dependent patients may describe limited euphoriant effects, with the drug being mainly taken to avoid unpleasant withdrawals.

Acute medical problems associated with heroin use by any route include nausea and vomiting, constipation, respiratory depression, and loss of consciousness with aspiration (the cause of many fatalities). Injected use adds risks of local abscesses, cellulitis, osteomyelitis, bacterial endocarditis, septicaemia, and transmission of viral infections (hepatitis B and C, HIV). Opiate dependency develops after weeks of regular use and is associated with an unpleasant (but not generally medically dangerous) withdrawal syndrome (Substitute prescribing 1: principles, p. 634).

Interventions Give harm reduction advice to users who continue to use opiates—do not use opiates while alone; do not use in combination with other drugs; avoid the IV route—and if injecting, give safe injecting advice (see Box 14.6). Consider managed detox (Substitute prescribing 2: opiates, p. 636) or transfer to maintenance prescribing (Substitute prescribing 2: opiates, p. 636) in established dependence.

Other opiates/opioids These include dihydrocodeine, morphine, methadone, pethidine, buprenorphine, and codeine. They may be taken in their pre-prepared tablet or liquid form or prepared for injection. Their acute and chronic risks are similar to heroin.

Box 14.6 Safer injecting advice

If using heroin, it is safest to avoid IV use which has the greatest risk of OD and other complications. If using heroin IV:

- Use new sterile needles and syringes on each occasion (give details of local needle exchange services, if available).
- Use sterile water (water from a running cold kitchen tap is the closest).
- Never share needles, syringes, spoons, or filters with another user.
- Rotate injection sites.
- Avoid injecting into the neck, groin, or breast.
- Avoid injection into infected areas.
- Ensure that the drug is completely dissolved before injecting.
- Always inject with, not against, the blood flow.
- Do not take heroin while alone.

It is safest to use new sterile needles and syringe on each occasion. Failing this, rather than use dirty equipment, flush both needles and syringes several times with thin bleach, then several times with clean water.

Depressants

Drugs of this group produce their effects by generalized or specific cortical depression. They include BDZs, alcohol, barbiturates, and other drugs that act through GABA receptors. They can be taken for their pleasurable anxiolytic and relaxant properties alone, or as

a way of counteracting unpleasant side effects of other drugs of abuse (e.g. to 'come down' after stimulant use).

BDZs A class of chemicals initially synthesized in the 1950s. Largely replaced barbiturates in clinical practice, as they did not cause fatal respiratory depression. They have therapeutic uses as anxiolytics, hypnotics, anticonvulsants, and muscle relaxants. Problems of dependency arising from long-term use became recognized in the 1980s, leading to a fall in their legitimate prescription, but did nothing to diminish their popularity as drugs of abuse. All BDZs have similar effects and are distinguished by their length of action: short-acting (e.g. temazepam, oxazepam), medium-acting (e.g. lorazepam, alprazolam), and long-acting (e.g. diazepam, nitrazepam, chlordiazepoxide).

BDZs are taken orally or, less commonly, by injection. There is hepatic metabolism to active compounds, some with long half-lives. They enhance GABA transmission and produce marked anxiolytic and euphoriant effects. Tolerance develops rapidly (with cross-tolerance to all drugs in the BDZ group), so requiring increasing doses to achieve similar effects.

Acutely, they cause forgetfulness, drowsiness, and impaired concentration and coordination, with consequent risk of accidents. Use by injection is associated with the same infective risks as IV heroin (see Box 14.6). An additional problem seen in IV BDZ users is limb ischaemia secondary to IV use of melted tablet contents. Chronic use is associated with impaired concentration and memory and depressed mood, all of which are more severe in the elderly. BDZ dependency develops after 3–6wks of regular use. There is a withdrawal syndrome (Substitute prescribing 3: benzodiazepines, p. 638), which can be complicated by seizures and delirium.

Interventions Harm reduction advice to user as for opiates (Opiates/opioids, p. 618), specifying safe injecting advice (see Box 14.6) if using via the IV route. Consider managed detox or transfer to maintenance prescribing (Substitute prescribing 3: benzodiazepines, p. 638) in established dependence.

Flunitrazepam (Rohypnol®) A short-acting, potent BDZ seen particularly in dance settings with intoxicant and (probably apocryphal) aphrodisiac effects. As it can produce impaired judgement and anterograde amnesia and is tasteless in solution, it has been implicated in cases of 'date rape'.

GHB A synthetic compound originally developed as an anaesthetic which is a probable intrinsic neurotransmitter. Particularly seen in dance settings, usually in combination with other drugs or alcohol. Produces a sense of dissociation, euphoria, and intoxication. Taken as liquid, in 5–10mg dosage, with effects coming on in 15–30min and lasting several hours. Side effects of nausea and vomiting, seizures, and respiratory depression. Usually taken episodically, but a cohort of patients is increasingly seen with

consumption of the drug multiple times daily, with consequent physical dependence. Withdrawal from established dependence can present as a medical emergency and is associated with delirium, severe behavioural disturbance, psychotic features, autonomic instability, and occasionally acute renal failure. Such patients will usually require joint psychiatric and medical management. Drug treatment of these withdrawals is via reducing BDZ regime, as per alcohol withdrawal (higher doses usually required), with the addition of regular baclofen given as a reducing regime, starting at 20mg five times daily, reducing over the subsequent week.

Barbiturates Group of compounds used as hypnotics/anxiolytics in clinical practice prior to the introduction of BDZs. Now rarely prescribed and rarely seen as drugs of abuse. They act by facilitating GABA neurotransmission. There is rapidly increasing tolerance to their anxiolytic effects in regular use, but not to the associated respiratory depression.

Gabapentin and pregabalin

Gabapentin and pregabalin, collectively known as 'gabapentinoids', are drugs that are prescribed to treat a variety of conditions such as neuropathic pain, epilepsy, and anxiety disorders. They work by binding to calcium channels and reducing excitatory neurotransmitter release, indirectly allowing a more 'GABA-ergic' effect because of ↑ availability of endogenous GABA. There is growing abuse of these medications reported in the literature and anecdotally across a range of countries, and they are subject to pharmacovigilance by the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA).

Stimulants

These drugs potentiate neurotransmission and increase cortical excitability, producing effects of ↑ alertness and endurance, diminished need for sleep, and a subjective sense of well-being. They include cocaine (and crack cocaine), amphetamines, 3,4,-methylenedioxymethamphetamine (MDMA or ecstasy), and caffeine.

Cocaine The mild stimulant/euphoriant effects of the chewed leaves of the coca shrub have been known to the people of South America for thousands of years, but in its refined form, cocaine is a potent and highly addictive drug. Cocaine hydrochloride is refined to a white powder, which may be inhaled ('snorted') or dissolved and injected. The main route of intake is by inhalation, as it undergoes rapid 'first-pass' liver metabolism. The user forms the powder into 'lines' and inhales via a rolled paper tube (classically, a high denomination banknote). Each line contains ~25mg of cocaine. Freebase ('crack') cocaine (produced by alkalinization, which produces the hydrochloride-free ion form) has a lower vaporization temperature than cocaine hydrochloride and can be

smoked. In terms of rapidity of action and peak blood levels, this compares with IV use.

Cocaine acts as a local anaesthetic at mucous membranes. It has widespread effects in potentiating dopaminergic, serotonergic, and noradrenalinergic neurotransmission by blocking neurotransmitter reuptake. Its actions begin a few minutes after consumption. There is ↑ energy, ↑ confidence, euphoria, and diminished need for sleep, but with rapid fall-off in effects due to rapid metabolism, leading to repeated use. There are very intense effects from freebase cocaine use with rapid and intense 'high' with subsequent dysphoria. Cocaine is usually taken in an opportunistic way, sometimes in association with other stimulant drugs.

Acute harmful effects include arrhythmias, intense anxiety, hypertension → CVA, acute impulsivity, and impaired judgement. Chronic harmful effects include necrosis of the nasal septum, fetal damage ('crack babies'), panic and anxiety disorders, persecutory delusions, and psychosis. It is not associated with classical dependence, but a minority of users will consume in a regular 'compulsive' pattern.

Interventions Harm reduction advice, including safe injecting advice, if appropriate (see Box 14.6). No role for substitute prescribing in managing withdrawal or for maintenance prescribing.

Amphetamines A group of compounds synthesized in the late nineteenth century, with current legitimate uses in child psychiatry (Attention-deficit/hyperactivity disorder 2: medication, p. 670) and in narcolepsy (Hypersomnia 2: narcolepsy, p. 450). Sold as 5mg tablets or as a white powder (£10 per gram). The powder may be swallowed, inhaled, or dissolved and injected. Use is usually situational or recreational, although very regular use with dependence is recognized. There is chemical similarity to NA and DA, producing similar pharmacological effects to cocaine, but its slower metabolism gives a longer duration of action.

Acute harmful effects include tachycardia, arrhythmias, hyperpyrexia. irritability, post-use depression, and a quasi-psychotic state with visual, auditory, and tactile hallucinations. Dependency is not seen, but marked psychological addiction occurs, particularly in situations associated with drug use. Anxiety and depressive symptoms are frequently seen in users; their proper assessment requires a period of abstinence.

Interventions Harm reduction advice (including safe injecting advice, if appropriate). No role for substitute prescribing in managing withdrawals. Very limited role for maintenance prescribing of dexamfetamine sulfate in the management of chronic, primary, heavy IV users (specialist instigation only).

MDMA (ecstasy) This compound was synthesized in 1914. Initially, it was occasionally used as an adjunct to psychotherapy. Initially legal, it became widely used in the mid-1980s in association with house, rave, and techno music. It is taken orally as 50–200mg

tablets. A typical pattern of use is two or more tablets taken at weekends.

MDMA causes serotonin release and blocks reuptake. It has structural similarities to mescaline and amphetamine; therefore, it has both hallucinogenic and stimulant properties, with these effects appearing ~30mins after ingestion. The initial 'rush' period of intoxication lasts ~3hrs and is characterized by a feeling of ↑ camaraderie and 'closeness' to others, a pleasurable agitation relieved by dancing, and ↓ fatigue.

Acute harmful effects include ↑ sweating, nausea and vomiting, and diminished potency despite ↑ libido. Deaths have occurred, associated with dehydration and hyperthermia [a toxic reaction similar to serotonin syndrome (SS) appears to exist;  Serotonin syndrome, p. 1022]. Chronic harmful effects include possible neurotoxicity, hepatotoxicity, and possible chronic cognitive impairment. There is tolerance to its effects, but dependence does not occur. 'Hangover' effects develop 24–48hrs after ingestion, including fatigue, anorexia, and depressed mood (which may be severe).

Interventions Harm reduction advice regarding maintaining hydration and avoiding overheating during use. No role for substitute prescribing in managing withdrawal or for maintenance prescribing. For all stimulant drugs, there may be a problem of assessing other aspects of mental state, particularly affective and psychotic features, while chaotic use continues. In selected patients, inpatient assessment will be indicated to allow this.

Hallucinogens

Hallucinogens (or psychedelics) are a heterogenous group of natural and synthetic substances which produce altered sensory and perceptual experiences. They include: lysergic acid diethylamide (LSD), phenylcyclidine (PCP), magic mushrooms, ketamine, mescaline, 2,5-dimethoxy-4-methylamphetamine (DOM), and dimethyltriptamine (DMT).

LSD A compound synthesized by Hofman while working at Sandoz Pharmaceuticals in 1944. He reported the hallucinatory experiences that followed his initial accidental ingestion. The drug also occurs naturally in seeds of the Morning Glory plant. It became strongly associated with 1960s culture when its use was at its peak. There was early experimentation with its role in psychotherapy, but there is no current legitimate use. It is very soluble and intensely potent (effective dose ~250mcg). It is sold impregnated onto paper, in tablets, or as a powder.

LSD is an indole alkylamine with structural similarity to serotonin. There are direct and indirect effects on serotonergic and dopaminergic transmitter systems. It is now not thought to provide a good model for endogenous psychosis. Its actions are very

markedly situation- and expectation-dependent. Effects develop 15–30mins after ingestion and last up to 6hrs. There is initial euphoria, a sense of detachment, a sense of novelty in the familiar and a sense of wonder at the normal, visual distortions and misperceptions, synaesthesia, and distorted body image. Somatic effects include dizziness and tremors.

Acute harmful effects are behavioural toxicity (i.e. harm related to acting on beliefs such as having the ability to fly) and 'bad trips' (i.e. dissociation, fear of incipient madness, frightening perceptions). There is no risk of OD, and physiological dependence and withdrawals do not occur. Chronic harmful effects include flashbacks (Dictionary of psychiatric symptoms, p. 110), even many years after consumption, post-hallucinogenic perceptual disorder, persistent psychosis, and persistent anxiety/depressive symptoms.

Interventions Harm reduction advice directed towards maintaining a safe environment during use and avoiding behavioural toxicity—do not use alone, and use accompanied by a non-user if possible. For all hallucinogens, acute psychotic features should, in general, be managed by admission, maintenance of a safe environment, and symptomatic treatment of agitation (e.g. with BDZ), with expectation of resolution. Continuing psychotic features should be managed as for acute psychosis (Initial treatment of acute psychosis, p. 200).

PCP A hallucinogen rarely seen in the UK, except as a contaminant of other drugs. May be smoked, snorted, taken orally, or, more rarely, parenterally. There is direct binding to opioid and aspartate excitatory receptors, as well as has serotonergic and cholinergic effects, producing acute effects of confusion, visual sensory distortions, aggression, and sudden violence (which may be severe). Intoxication may give way to longer psychotic states.

Magic mushrooms About a dozen varieties of hallucinogenic mushrooms grow in the UK, the best known being the Liberty cap (*Psilocybe semilanceata*). They may be eaten raw or cooked, dried, or prepared as a drink. Possession and consumption of mushrooms are not an offence, unless they have been processed or prepared for illicit use. Small doses cause euphoria, while larger doses (>25 mushrooms) cause perceptual abnormalities similar to LSD. They are not associated with dependence or withdrawal features, and tolerance develops quickly, making continuous use unlikely. Harmful effects include nausea and vomiting, dizziness, diarrhoea and abdominal cramps, behavioural toxicity, and risk of accidental consumption of toxic fungi.

Ketamine A compound structurally similar to PCP, used as a veterinary anaesthetic and in battlefield surgery. It is a unique anaesthetic, as it does not produce RAS depression; instead it prevents cortical awareness of painful stimuli. It is taken illicitly as a sniffed powder, with a mean dose of ~100mg. Small amounts lead to a sense of dissociation, larger amounts to LSD-like synaesthesia

and hallucinations, associated with nausea, ataxia, and slurred speech. Rare late effects are flashbacks, psychosis, and amnesic syndromes.

Cannabis

Cannabis is the most commonly used illegal drug, with only a small minority of its users ever using another illegal drug. Used for centuries as a pleasurable mind-altering substance and as a medication for a wide variety of ailments. Clinical trials are under way to clarify its role in the treatment of chronic pain. Its illegal use is of interest to psychiatrists because of its association with other drugs of abuse (as a 'gateway drug') and because of its exacerbating effect on chronic psychotic illnesses.

Cannabis is produced from the dried leaves, flowers, stems, and seeds of the weed *Cannabis sativa*. It may be distributed as herbal material ('grass' or marijuana), as a resin ('hash'), or as cannabis oil. Cannabis may be smoked in cigarettes, alone, or mixed with tobacco; the resin form may be eaten directly or incorporated into foodstuffs (e.g. cakes), with a possibility of vaping in the future (see Box 14.7). These various forms contain at least 60 psychoactive cannaboids, the most important of which is 9-δ-tetrahydrocannabinol (THC). The dried herb contains ~5% THC by weight, resin ~10%, and cannabis oil ~15%.

Usage pattern is very variable, from infrequent situational use to daily heavy use—the latter at highest risk of harmful effects and most likely to take other drugs. There is a specific cannabinoid receptor and a naturally occurring agonist at this receptor —'anandamide'. The role of this endogenous system has yet to be defined. In addition, cannabis shows both weak opiate-like and weak barbiturate-like effects. The drug is metabolized to active and inactive metabolites, and their absorption into fat means that urine tests remain positive for up to 4wks after regular use has ceased.

The effects of intoxication are apparent within minutes if the drug is smoked, peaking in ~30min and lasting 2–5hrs. The effects of orally consumed cannabis are slower to begin and more prolonged. The immediate effects include mild euphoria ('the giggles'), a sense of enhanced well-being, a subjective sense of enhanced sensation, relaxation, altered time sense, and ↑ appetite ('the munchies'). Physically, there is mild tachycardia and variable dysarthria and ataxia.

Acute harmful effects include mild paranoia, panic attacks, and accidents associated with delayed reaction time. Cannabis is normally smoked with tobacco; therefore, all of the health risks associated with tobacco will also apply. The tendency of cannabis smokers to inhale deeply and to retain the smoke in the lungs for as long as possible will exacerbate this risk. There are no reports of fatal OD. Chronic harmful effects include dysthymia, anxiety/depressive illnesses, the disputed *amotivational syndrome* (possibly representing a combination of chronic intoxication in a heavy user and a long half-life). The drug is not usually associated

with physical dependency, but there is a mild, but characteristic, withdrawal syndrome in the previously heavy regular user who stops suddenly, consisting of insomnia, anxiety, and irritability. Cannabis use can precipitate an episode or a relapse of schizophrenia. In addition, in regular users, it is associated with dose-related paranoid ideation and other psychotic features.

Interventions

As an illegal drug, there are no set guidelines on safe use. Clinical experience suggests that irregular use can be free from major problems. Abstinence is indicated in those with major mental illness, and continuing cannabis use may expose those recovering from more serious drug problems to dealers and the drugs subculture.

Box 14.7 Vaping cannabis?

With the increasing popularity of 'vaping', the development of more sophisticated delivery systems, capable of regulating the evaporation temperature, allows the possibility of these devices being used to 'vape' cannabis, NPS, and other recreational drugs.

Vaping cannabis could lead to a reduction in tobacco use and dependence among cannabis users, with the potential to reduce the harm associated with cannabis that relates to smoking. Should this become a future trend, there may be a generation of cannabis users who are not nicotine-dependent.[1]

1 Blundell MS, Dargan PI, Wood DM (2018) The dark cloud of recreational drugs and vaping. *QJM* **111**:145–8.

Volatile substances and anabolic steroids

Volatile substances

Simple hydrocarbons, such as acetone, toluene, xylene, and butane, have intoxicant properties. These chemicals are found in a variety of common products, including glue, lighter fuel, paint stripper, fire extinguishers, aerosols, paints, petrol, correcting fluid, and nail varnish remover. They are rapidly absorbed when inhaled or by sniffing propellant gases or aerosols. They cause non-specific ↑ permeability of nerve cell membranes and produce euphoriant effects, disinhibition, slurred speech and blurred vision, and visual misperceptions.

Acute harmful effects include local irritation, headache, cardiac arrhythmias, acute suffocation by bag or laryngeal oedema, unconsciousness, aspiration, and sudden death. Chronic harmful effects include liver and kidney damage, memory/concentration impairment, and probable long-term cognitive impairment. There is a withdrawal syndrome similar to alcohol in very heavy regular users.

Interventions Education of users and 'at-risk' groups. Most use will be experimental, with few going on to regular use. Legal

controls on substance availability.

Anabolic steroids

These prescription-only medicines (e.g. nandrolone and stanozolol) have limited legitimate uses in the treatment of aplastic anaemia and osteoporosis. They can be abused by athletes and bodybuilders seeking competitive advantage or, more rarely, for their euphoriant effects alone. They produce ↑ muscle mass and strength, with ↑ training time and reduced recovery time, as well as euphoriant effects and a sense of ↑ energy levels. (Other drugs misused by athletes include levothyroxine, growth hormone, diuretics, erythropoietin, and amphetamine.)

Use of anabolic steroids is associated with physical health problems, including hypertension, hypogonadism, gynaecomastia, amenorrhoea, liver damage, impotence, and ♂ pattern baldness; and with mental health problems, including acute emotional instability (sometimes known as 'roid rage'), ↑ aggressiveness, persecutory/grandiose delusions, depressive illness, and chronic fatigue. If injected, they can also be associated with infection risks (Depressants, p. 620). There is no withdrawal syndrome.

Interventions Education of risks through coaches, teachers, etc. Effective monitoring of individual sports with out-of-season testing.

Novel psychoactive substances ('legal highs')

NPS, also known for a time as 'legal highs',[12] became more popular for recreational use in the 2000s. They are a heterogenous group of psychoactive substances that, for a few years, were not controlled under the Misuse of Drugs Act and were therefore legal to possess. They were mostly sold over the Internet or in specialist shops, usually labelled as 'not for human consumption' in order to evade the law. A difficulty encountered with these drugs when they first came on the market was that synthesis in factories (usually in China and India) occured at a rate quicker than regulation.

In 2010, mephedrone was banned in the UK following a report by the Advisory Council for the Misuse of Drugs (ACMD) submitted to the Home Secretary. In 2016, the Psychoactive Substances Bill was passed in the UK, banning trading of NPS (but not possession) of all existing and newer analogues that came under the umbrella of NPS. The EMCDDA currently monitors over 560 substances falling into this category.

Different types of NPS have been identified, the most commonly encountered being synthetic cathinones (stimulant types) and synthetic cannabinoids. Others include hallucinogens NPS, psychedelic NPS and BDZ NPS.

Synthetic cannabinoids, such as 'Spice', tend to be full cannabinoid receptor agonists, causing potent effects such as paranoia, agitation, and psychosis. Synthetic cathinones, such as mephadrone (4′-methyl-cathinone, 'meow-meow', 'M-CAT'), are stimulant-type analogues with equivalent psychiatric sequelae. Other cathinones, often sold as 'Bath salts' (e.g. 'Ivory wave'), also have stimulant effects, causing ↑ release of 5-HT, DA, and/or NA into the synaptic cleft.

NPSs are mainly used recreationally and can cause significant morbidity, including possible fatal consequences. Users present with a range of conditions—medical, psychiatric, and/or both—from mild psychosis to protracted and severe psychotic symptoms, along with acute behavioural disturbance.

The more serotenergic agents can cause SS (Serotonin syndrome, p. 1022), presenting with tachycardia, myoclonus, hyperthermia, agitation, sweating, dilated pupils, and more gravely metabolic acidosis, seizures, and rhabdomyolysis requiring intensive supportive care. Stimulation of the adrenergic system by amphetamine-like agents can lead to tachycardia, vasospasm, arrhythmia, hypertension, coma, and seizures, which again may require intensive medical supportive treatment.

Unfortunately, routine drug testing does not detect NPS use, although some metabolites can be detected, depending on specific laboratory analyses.

Assessment of the drug user

Taking a patient's drug use history is part of a standard psychiatric history and is especially important when there is comorbidity. The more detailed assessment described here is appropriate for patients in whom drug use is the primary focus of clinical concern and who are being assessed in specialist services. History should cover the following topics.

Background information Name, address, next of kin, GP, name of other professionals involved (e.g. social worker, probation officer).

Reasons for consultation now Why has the drug user presented now (e.g. pressure from family, pending conviction, 'had enough', increasing difficulty injecting)? What does the user seek from the programme? In ♀, is there a possibility of pregnancy?

Current drug use Enquire about each drug taken over the previous 4wks. Describe the frequency of use (e.g. daily, most days, at weekends) and the number of times taken daily. Record the amount taken and route. Ask the user about episodes of withdrawal. Include alcohol, tobacco, and cannabis. If there is IV use, inquire about needle or other equipment sharing.

Lifetime drug use Record the age at first use of drugs and the changing pattern of drug use until the most recent consultation. Enquire about periods of abstinence or stability and the reasons for this (e.g. prison, relationship, treatment programme).

Complications of drug use ODs—deliberate or accidental. History of cellulitis, abscesses, or phlebitis. Hepatitis B and C and HIV status, if known.

Previous treatment episodes Timing, locus, and type of previous drug treatment. How did the treatment end? Was the treatment helpful?

Medical and psychiatric history All episodes of medical or psychiatric inpatient care. Contact with hospital specialists. Current health problems. Relationship with the GP.

Family history Are there other family members with drug or alcohol problems? Family history of medical or psychiatric problems.

Social history Current accommodation. How stable is this accommodation? Sexual orientation and number of sexual partners. Enquire about safe sex precautions. Describe the user's relationships—sexual, personal, and family. Note how many of these individuals currently use drugs.

Forensic history Previous or pending convictions. Periods of imprisonment. Enquire about continuing criminal activity to support drug use (remind the patient about confidentiality).

Patient's aims in seeking treatment What is the patient's attitude to drug use? What treatment options do they favour?

MSE Assess for depressed mood and suicidal thoughts or plans. Inquire directly about generalized anxiety and panic attacks (a BDZ user may be self-medicating a neurotic condition). Inquire directly about paranoid ideas and hallucinatory experiences and the directness or otherwise of their relationship with drug use.

Physical examination General condition. Weight. Condition of teeth. Signs of IV use (especially arms for signs of phlebitis, abscess, or old scarring). Examine for an enlarged liver. Signs of withdrawals on assessment.

Urine screening This is essential. Several specimens should be taken over several weeks. Repeated absence of evidence of a drug on screening makes its dependent use unlikely (see Table 14.7). Occasionally, testing errors do occur, so do not take action (e.g. stopping maintenance prescription) on the basis of the results of a single sample.

Blood testing FBC, LFTs; discuss the need for HIV/hepatitis screening.

Table 14.7 Urine drug testing

Substance	Duration of detectability
Amphetamines	48hrs
Benzodiazepines	
Ultra-short-acting (e.g. midazolam)	12hrs
Short-acting (e.g. triazolam)	24hrs
Intermediate-acting (e.g. temazepam)	40–80hrs
Long-acting (e.g. diazepam)	7 days
Cocaine metabolites	2–3 days
Methadone (maintenance-dosing)	7–9 days (approximate)
Codeine/morphine	48hrs
(Heroin is detected in the urine as the metabolite morphine)	
Cannabis	
Single use	3 days
Moderate use (four times per week)	4 days
Heavy use (daily)	10 days
Chronic heavy user	21–27 days
PCP	8 days (approximate)

Planning treatment in drug misuse

The longer-term goal of treatment will be eventual abstinence from drugs, but this may not be an achievable short- or medium-term goal in an individual case. Immediate treatment aims are therefore: to reduce drug-related mortality and morbidity; to reduce community infection rates; to reduce criminal activity, including the need for drug users to sell to others to finance their own habit; to optimize the patient's physical and mental health; and to stabilize, where appropriate, on an alternative substitute drug.

Make diagnosis Confirm drug use (history, signs of withdrawals, urine testing). Assess the presence and extent of dependence. Assess the severity of current problems and risk of future complications. Explore social, relationship, and medical problems. Assess the stage of change (Stages of change and harm reduction, p. 575) and motivation. What are the short- and medium-term aims of treatment?

Consider the need for emergency treatment Where there is evidence of psychotic illness or severe depressive illness, the patient may require inpatient assessment.

Engage in service Treatment of drug misuse cannot be carried out through 'one-off' interventions. Patients should be engaged in

the service by empathic and non-judgemental interviewing, the availability of the service close to the point of need, and the ability of the service to respond to change in a previously ambivalent patient. Substitute prescribing will be a strong motivator for engagement in some patients but should always also have a role in helping the patient achieve some worthwhile change.

Decide treatment goals and methods After assessment and diagnosis, the doctor should discuss with the patient their thoughts about treatment options, given the patient's drug history and local treatment availability. The doctor may have strong feelings about the appropriateness of a certain treatment, but this will not be successful unless the patient agrees. Plans may include:

- *Return to dependent use as previously* Where individuals present in withdrawals, without other medical, surgical, or psychiatric reasons for admission, where there is no history of complicated withdrawal, and where there has been no previous involvement in treatment services, it is inappropriate to prescribe. The individual should not receive replacement medication. They should be offered the opportunity to attend for further assessment.
- ***Counselling and support*** For non-dependent drug use, particularly episodic use, this may be the appropriate course. Give drug information and harm reduction advice, possibly coupled with referral to a community resource.
- *Detox* (Substitute prescribing 2: opiates, p. 636; Substitute prescribing 3: benzodiazepines, p. 638) Where there is drug dependence and the patient wishes abstinence, then a plan for detox is considered. This may be community-based, with psychological support, symptomatic medication or reducing substitute medication, or as an inpatient. Consideration should be given to support after detox. How is abstinence to be maintained?
  - *Supported detox without prescription* Some individuals can withdraw from drugs of dependence without use of a prescription. This may occur particularly where other changes in a person's life (e.g. change of area, break from dependent partner) facilitate abstinence. Unsupported detox without any medical help is frequently reported by users.
  - *Supported detox with symptomatic medication* Here, in addition to the support mentioned here, the individual is prescribed other non-replacement drugs to ameliorate withdrawal symptoms (e.g. lofexidine in opiate withdrawal).
  - *Conversion to substitute drug with the aim of detox* Here the aim is to convert the individual's drug use from street-bought to prescribed; then, from a period of stability, attempt supervised reduction in dose, aiming towards abstinence.
- *Conversion to substitute drug with the aim of maintenance* Here the aim again is to convert from street to prescribed drugs, with stabilization via maintenance prescribing in the medium term. In a dependent user who does not feel that they can move to abstinence in the short term, maintenance prescribing to suitably

selected patients is useful and associated with overall health benefits.

Address other needs The drug treatment service should consider part of its role as being a gateway to other services which the drug user may require but be reluctant or unable to approach independently. Patients with social, financial, or physical health needs should have these explored and the need for referral considered. Do not make such referrals without the knowledge and agreement of the patient. Review psychiatric symptoms which have been attributed to drug use to assess their resolution. Consider 'in-house' or specialist psychiatric treatment of residual anxiety/depressive symptoms.

Substitute prescribing 1: principles

Withdrawal syndromes

Any drug consumed regularly and heavily can be associated with withdrawal phenomena on stopping, even if not a classical withdrawal syndrome. The severity of withdrawal symptoms experienced by individual patients does not correlate well with their reported previous consumption, and so it is best to rely on objective evidence of withdrawal severity. Clinically significant withdrawal phenomena occur in dependence on alcohol, opiates, and BDZs and are occasionally seen in cannabis, cocaine, and amphetamine use. In general, drugs with short half-lives will give rise to more rapid, but more transient, withdrawals. Detoxification refers to the process of managed withdrawal from drugs of dependence which can be aided by psychological support, symptomatic prescribing, or prescribing reducing doses of the same or similar drug.

Substitute prescribing

In many circumstances, the management of a drug user will include prescription of substitute medication. This may be to enable *detox* from a dependent drug or *maintenance prescribing*—a move from unstable street use to prescribed dependent use, to facilitate change now with abstinence later. The prescription of a drug should not occur in isolation but should be part of a comprehensive management plan, previously agreed with the patient and relevant members of the MDT. Prescribing for drug users should be guided by local procedures and practice, by the Home Office document *Drug Misuse and Dependence: Guidelines on Clinical Management*, and by the *BNF* (see Box 14.8).

Substitute prescribing may have the following indications

- *To acutely reduce or prevent withdrawal symptoms:* where detox is planned, a first step can be the conversion of all opiate or BDZ use to a single prescribed drug, which can then be reduced in a planned manner. Short-term prescription of a substitute drug may also be indicated to alleviate symptoms of withdrawal complicating the assessment of a dependent patient presenting with a medical or surgical emergency.

- *To stabilize drug intake and reduce secondary harm associated with street drug use:* in patients who are not considering detox in the short term, substitute prescribing can be a means of harm reduction (e.g. by reducing the risk of accidental OD or by changing from IV to prescribed oral use). In addition, having a stable, legitimate supply can reduce the need to resort to criminal activity to fund drug use, reducing the secondary, wider social harms of drug use.
- *To begin a process of change in drug-taking behaviour*: a major aim in substitute prescribing is to fully supply the dependent drug and to move the patient away from extra recreational drug use and chaotic polydrug misuse. After stabilization, the user should be encouraged to discontinue contact with dealers and friends who continue to use drugs in a chaotic fashion.
- *To provide an incentive to continued patient contact and involvement with treatment services*.

Box 14.8 Requirements for a controlled drug prescription

- The prescription may be printed but must be signed by hand.
- States the patient's name, age, and current address.
- Gives the name, concentration, and type of preparation required (e.g. methadone, 1mg in 1mL, sugar-free suspension).
- States the required dose and frequency.
- States the total quantity of drug to be dispensed in both words and figures.
- Clearly signed and dated.

Substitute prescribing should only be considered where

- There is objective evidence of current dependence. This should include a history of daily consumption, a description of withdrawal symptoms, history of drug-seeking to relieve or prevent withdrawals, and consistent presence of the drug on urine screening.
- The patient displays realistic motivation to change their drug use in a way which would be aided by prescription (e.g. to cease IV heroin use on instigation of oral methadone prescription).
- The doctor believes the patient will cooperate with the prescription and that circumstances exist to allow adequate monitoring.

Assessing the need for substitute medication

Before prescribing substitute medication for detox or maintenance, the treating doctor should positively confirm dependence via:

- Positive history of daily use with features of dependence syndrome.
- Presence of the drug in two urine specimens at least 1wk apart.
- Objective evidence of withdrawal features at assessment.

Substitute prescribing 2: opiates

Opiate detoxification

Opiate withdrawal In an opiate-dependent individual, withdrawal symptoms appear 6–24hrs after the last dose and typically last 5–7 days, peaking on the second or third day. Withdrawal following discontinuation of the longer-acting methadone is more prolonged, with symptoms peaking on the seventh day or so and lasting up to 14 days. *Symptoms of opiate withdrawal:* sweating; dilated pupils; tachycardia; hypertension; piloerection ('goose flesh'); watering eyes and nose; yawning; abdominal cramping; nausea and vomiting; diarrhoea; tremor; joint pains; muscle cramps.

Symptomatic medication Several oral non-opiate medications are effective in ameliorating symptoms of opiate withdrawal. Unlike opiates, they are not liable to abuse or diversion to the black market.

- *Lofexidine* α-adrenergic agonist. Start 200mcg bd, ↑ in 200–400mcg steps up to max 2.4mg daily in 2–4 divided doses. Baseline BP, and monitor BP while raising the dose (risk of symptomatic hypotension); 10-day course; withdraw over 2–4 days.
- *Loperamide* Treatment of diarrhoea. 4mg initially, with 2mg taken after each loose stool, for up to 5 days. Max daily dose: 16mg.
- *Metoclopramide* For nausea/vomiting. 10mg dose, max 30mg daily.
- *Ibuprofen* For headache/muscle pain. 400mg dose, max 1600mg daily.

Substitute prescribing Several opiates are used in detox regimes. Where it is planned to continue prescribing on a maintenance basis, currently methadone is the drug of choice.

- *Methadone* Long-acting synthetic opiate. Its half-life is 24hrs, and it is suitable for daily dosing (which can be supervised) (see Table 14.8). At daily dose of >80mg, it produces near saturation of opiate receptors, minimizing the 'reward' of further consumption. Prescribed as a coloured liquid, unsuitable for IV use, at concentration of 1mg/1mL. A sugar-free form is available. Licensed for use in opiate withdrawal and maintenance.
- *Buprenorphine* A partial opiate agonist. Licensed for treatment of drug dependence. Available in od sublingual preparation. 8mg ≈ 30mg methadone. May produce less euphoria at higher doses than methadone. Abuse potential, as tablet can be prepared for injection.
- *Dihydrocodeine* Short-acting opiate. Not licensed for use in drug dependence. Occasional use in reduction regimes in patients already on a stable dose of street dihydrocodeine or in the final stages of dose reduction in patients on doses of methadone of <15mg daily. The need for bd–qds doses means that all dosages cannot be supervised.

Table 14.8 Converting opiate dose to methadone dose

Drug	Daily dose	Methadone equivalent
Street heroin	0.5mg–1g	50–80mg
Morphine	10mg	10mg
Dipipanone (cyclizine)	10mg/30mg	4mg
Dihydrocodeine	30mg	3mg
Pethidine	50mg	5mg
Codeine phosphate	30mg	2mg

Opiate maintenance

Aim is to prevent under-dosing (risk of use of street opiates, withdrawal symptoms) and overdosing (sedation, more drug available than required—with diversion to the black market). There is research evidence that a methadone script reduces street usage, criminality, and drug-related mortality. For outpatient initiation of methadone maintenance, arrange to review the patient in the morning, with them having consumed no opiates for 24hrs. Assess withdrawals, and dispense methadone as follows:

- None or mild → no prescription. Review following day.
- Moderate (aches, dilated pupils, yawning) → 10–20mg methadone.
- Severe (vomiting, piloerection, hypertension) → 20–30mg methadone.

Review after 4hrs, and repeat the dose if severe withdrawals continue, up to 30mg. Review daily over the first week, with dose increments of 5–10mg daily, if indicated. Methadone reaches a steady state 5 days after the last dose change. Arrange regular review after the first week, making subsequent increases by 10mg on each review, up to ~120mg. Stabilization may take up to 6wks to achieve. For maintenance monitoring, see Monitoring of maintenance prescribing, p. 639.

Dose reduction After stabilization and complete abstinence from street opiates, a decision should be made as to whether the aim is dose reduction or maintenance prescribing. Rapid reduction regimes reduce the dose over 14–21 days (perhaps using the drugs outlined in Substitute prescribing 2: opiates, Symptomatic medication, p. 636, as adjuncts). Usually reduction is more gradual. Slow reduction is over 4–6 months, reducing by ~5–10mg each fortnight. Make the largest absolute cuts at the beginning, and smaller, more gradual cuts as the total dose falls (i.e. keep the percentage drop in dose similar). In general, do not carry out reduction against the wishes of the patient—it is better to carry on a maintenance script than return to street use. Occasionally, 'tread water', then restart reduction.

Opiate relapse prevention In previously dependent opiate users who have successfully completed detox, the opiate antagonist *naltrexone* may be used as an aid to relapse prevention. Taken regularly, it will prevent the rewarding, euphoriant effect of opiate consumption.

Naltrexone Prescribed to aid abstinence in formerly dependent patients who are drug-free for >7 days. Start at 25mg, ↑ to 50mg daily. Total weekly dose of 350mg may be divided and given 3 days/wk (e.g. to aid compliance or to enable supervision)—give 100mg on Monday and Wednesday and 150mg on Friday. Naltrexone is also used in specialist inpatient facilities to facilitate rapid detox over 5–7 days.

Substitute prescribing 3: benzodiazepines

Benzodiazepine detoxification

BDZ withdrawal Chronic BDZ use leads to development of dependence, with a characteristic withdrawal syndrome. The symptoms appear within 24hrs of discontinuing a short-acting BDZ but may be delayed for up to 3wks for the longer-acting preparations. *Symptoms of BDZ withdrawal:* anxiety; insomnia; tremor; agitation; headache; nausea; sweating; depersonalization; seizures; delirium.

Substitute prescribing As for opiates, BDZ substitute prescribing should only be undertaken where there is clinical evidence of dependence, a clear treatment plan, and suitable patient monitoring in place. Substitute prescribing in BDZ dependency uses long-acting *diazepam*. In prescribing for patients with BDZ dependency, convert all BDZ doses to diazepam, using Table 14.9. The aim is to find the lowest dose which will prevent withdrawal symptoms (which may be well below the amount the patient has been taking). Divide the daily dose to avoid over-sedation.

Benzodiazepine maintenance

Unlike methadone maintenance in opiate dependency, there is no evidence that long-term BDZ prescription reduces overall morbidity. There is evidence that long-term prescription of >30mg of diazepam daily is associated with harm. New prescriptions should be for 30mg or less, with patients already on higher doses reduced to this amount.

Dose reduction Cut the dose by ~1/8th of the total dose each fortnight. For low dose, 2.5mg fortnightly; for high dose, 5mg fortnightly. Review and halt, or temporarily increase if substantial symptoms re-emerge. If the patient is also opiate-dependent and on methadone, keep methadone stable while reducing the BDZ.

Table 14.9 Conversion to equivalent diazepam dose

Drug	Dose
Diazepam	5mg
Nitrazepam	5mg
Temazepam	10mg
Chlordiazepoxide	15mg
Oxazepam	15mg
Loprazolam	500mcg
Lorazepam	500mcg
Lormetazepam	500–1000mcg

Monitoring of maintenance prescribing

Detox and stabilization on maintenance medication are often followed by rapid relapse despite successful completion. It is important to build monitoring of compliance into treatment strategies from the beginning.

Review Regular review of all patients on maintenance prescription is indicated at least monthly. At each review:

- Is the dose sufficient? Is there evidence of withdrawals? Obtain feedback from the pharmacist/community nurse.
- Is the dose insufficient? Consider small weekly increases in dose. Stop if evidence of intoxication.
- Confirm use of illegal drugs via history, urine testing, and observation of evidence of IV use.
- Plan movement towards goals.
- Consider intervention in mental health/other issues.
- Consider the need for a period of ↑ supervision.

Supervision of substitute prescribing The aim of supervised consumption is to ensure that the drug is being used as prescribed.

- Supervised consumption usually for an initial minimum period of 3mths, taking into account work and childcare issues.
- Consider ongoing supervised consumption (e.g. in pharmacy).
- Once-daily dosing, with daily pick-up of drugs.
- No more than 1wk's prescription at a time.
- Advice regarding children and methadone.
- Close liaison with the pharmacist and GP.
- Thorough and clear records should be kept.
- No replacement of 'lost' prescriptions.

Discontinuing a failing treatment Where there is persistent non-compliance with treatment and where attempts to improve compliance or modify treatment goals have failed, then maintenance should be discontinued.

- Discontinue via a reduction regime.
- Offer involvement with other services.
- Inform the GP and pharmacist.

Psychotic illnesses and substance misuse

The association of substance misuse and psychotic features is common and problematic in clinical practice. The key to management is an accurate diagnosis. Psychotic symptoms represent an underlying psychiatric abnormality in this group of patients, as in any other. There is not a general finding of 'low-grade' psychotic features in substance users, and apparent psychotic features should not be attributed to effects of substance use without further inquiry.

Psychotic features during drug intoxication Substances with hallucinogenic or stimulant activity can produce psychotic features during acute intoxication. This is not consistent and varies by drug dose and setting. These are characterized by a rapidly changing pattern of symptom type and severity and include visual and other hallucinations, sensory distortions/illusions, and persecutory and referential thinking. They are characteristically rapidly fluctuating, hour by hour, and show resolution as the drug level falls.

Psychotic features during withdrawal In patients with physiological dependency on alcohol, BDZs, or cocaine, withdrawals may be complicated by delirium in which variable psychotic features may be prominent. These will occur in the context of the general features of delirium (Acute confusional state (delirium), p. 854). There may be fluctuating visual or tactile hallucinations and poorly formed persecutory delusional ideas.

Residual psychotic illness (drug-induced psychosis) In some individuals, psychotic features continue after the period of acute intoxication and withdrawals has passed. These may be symptomatically more typical of primary psychotic illness and, once established, should be treated as for acute episodes of schizophrenia (Initial treatment of acute psychosis, p. 200).

Genuine comorbidity Many individuals with primary psychotic illnesses will misuse substances. In addition to the intrinsic risks of substance misuse, this carries risks in this group of diminished treatment compliance, risk of disinhibition leading to violence, and exacerbation of the primary illness. In view of the sometimes obvious (to others) causal link between drug use and relapse, it is worth asking why patients persist in substance use. Reasons include:

- Endemic drug use within the patient's environment (e.g. home or social setting) or within other individuals with mental health problems.
- As a means of self-medicating distressing positive and negative symptoms (which may be improved by addressing these symptoms directly).

Legal issues related to drug and alcohol misuse

Fitness to drive It is the patient's responsibility to inform the DVLA of any 'disability likely to affect safe driving'. The Driver and Vehicle

Licensing Agency (DVLA) regards drug misuse as a disability in this context. Group 1 licences cover motorcars and motorcycles; group 2 licences cover HGVs and buses. Decisions regarding licensing are made on a case-by-case basis; however, the DVLA's current guidelines are as follows:

- *Alcohol misuse:* loss of licence until 6-mths (group 1) or 1-year (group 2) period of abstinence or controlled drinking has been achieved, with normalization of blood parameters.
- *Alcohol dependence:* loss of licence until 1-year (group 1) or 3-year (group 2) period of abstinence, with normalization of blood parameters. Consultant referral and support may be required.
- *Dependency/persistent use of cannabis, amphetamines, MDMA, LSD, and hallucinogens:* loss of licence until 6-mth (group 1) or 1-yr (group 2) period of abstinence. Medical assessment and urine screening may be required.
- *Dependency/persistent use of heroin, morphine, cocaine, and methadone:* loss of licence until 1-yr (group 1) or 3-yr (group 2) period of abstinence. Independent medical assessment and urine screening prior to relicensing. A favourable consultant report may be required for group 1 and will be required for group 2. Subject to annual review and favourable assessment, drivers complying fully with a consultant-supervised methadone maintenance programme may be licensed.

Travel abroad Patients receiving a methadone prescription can travel abroad with a supply. If travelling for <3mths and carrying <3mths' supply, a personal import or export licence is not required. However, it is advised that a letter is obtained from the prescribing doctor or drug worker, which should confirm the patient's name, travel itinerary, names of prescribed controlled drugs, dosages, and the total amounts of each to be carried. This advice applies only to the right to take the drug out of the UK and return with any surplus. Travellers are advised to contact the embassy or consulate of the destination country prior to travel to ensure that import of methadone is allowed under local laws—countries' regulations vary widely. If travelling for >3 months and for more detailed information, see http://www.homeoffice.gov.uk/ [accessed 12 July 2018].

Registration of drug addicts Compulsory registration of all drug addicts to the Home Office register of addicts ceased in 1997. Since then, data have been collected on a regional basis via the anonymized regional drug misuse databases. Details regarding supply of forms in each area can be found in the *BNF*.

Drug testing and treatment orders (DTTOs) A form of community sentence introduced in the UK in 2000. The court makes an order requiring offenders with drug problems to undergo treatment and follow-up with a drug treatment service. This may be part of another community order or a sentence in its own right. The sentencing court monitors compliance via mandatory urine testing. Sentence plans may change in response to individual progress or problems. May last from 6mths to 3yrs.

Drink driving limits

(See Table 14.10.)

On 5 December 2014, the Scottish Government implemented new legislation for a lower drink driving limit in Scotland. The previous level of 80mg per 100mL of blood was reduced to 50mg. The new legislation was based on the logic model of reducing the BAC level of drivers, with the aims of reducing alcohol-related road traffic injuries and deaths. In 2010, NICE[13] reviewed the evidence for the effectiveness of a lowered BAC level in drivers and concluded that there was strong evidence supporting a reduction in road traffic injuries and deaths in certain contexts.

Table 14.10 Drink driving limits in different jurisdictions

Level of alcohol	England, Wales, and Northern Ireland	Scotland and Republic of Ireland
Micrograms per 100mL of breath	35	22
Milligrams per 100mL of blood	80	50
Milligrams per 100mL of urine	107	67

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Chapter 15

Child and adolescent psychiatry

Introduction

Child and adolescent psychiatry is a stimulating and varied specialty. Working with children, young people, and families across all ages and stages of development with a multitude of different presentations, while at the same time thinking about their difficulties in the context of the wider system, adds to the challenges and complexities of the specialty. Children and young people are an interesting, diverse, and, at times, challenging population with which to engage. Building a therapeutic relationship is essential for effective practice, and strategies used show a greater reliance on play, playfulness, imagination, and creativity. There is more of a focus on MDT working, and close liaison with other agencies and disciplines is also important. We now know that there is a strong association between adverse childhood experiences and longer-term mental and physical health problems. Improving the mental health of infants, children, and young people is therefore one of the most important interventions for improving health globally, and child and adolescent psychiatrists are in an ideal position to lead the way in this field.

The origins of Child and Adolescent Mental Health Services

It is strange to think that until early into the twentieth century, children were essentially considered to be 'small adults'; there was limited awareness of concepts with which we are all now very familiar such as theories of cognitive and psychological development, effects of immaturity, attachment theory, genetics, the impact of trauma, etc. Reflecting the ideas of the times, children with behavioural disorders were considered as having 'moral problems', which were treated with punishment. Also, the classification of mental health 'derangements' for young people was similar to those used for the adult population.

Child psychiatry as a specialty began to develop in the early 1920s from the fusion of a number of disparate professions and agencies that had contact with troubled young people, including the medical profession, education, psychology, and the criminal courts. This led to the formation of child guidance clinics, established in response to an increasing awareness that psychological problems start in childhood and that early intervention is the best way to prevent future mental illness. The first child guidance clinic in Europe was founded in the East End of London in 1927, and thereafter their formation spread rapidly. These services tended to be community-based, with limited provision of hospital-based services. Early treatments focused on the psychoanalytic theories of Anna Freud and Melanie Klein and play therapy, with concurrent guidance being offered to the parent. The integration of behavioural approaches, family therapy, and psychopharmacology were later developments, reflecting advances in other areas of psychiatry. A subsequent merging of child guidance clinics and inpatient services in the 1970s led to the formation of community services, although these were still disparate and variable in their approach and organization. In the 1990s, a model was proposed of Child and

Adolescent Mental Health Services (CAMHS) provision being organized into four different tiers, and this continues to be the present-day structure of services in the UK.

The term CAMHS is used in two different ways:

- The first is a generic term for all services that support young people with emotional, psychological, and mental health difficulties.
- The other applies more specifically to specialist CAMHS, identified as Tiers 2, 3, and 4 in *the tiered concept of CAMHS*.

The remit of specialist CAMHS has expanded in many areas to provide input up to the age of 18 and, in some areas, to transfer care of young people with learning disabilities into CAMHS.

The tiered concept of CAMHS

- *Tier 1*—workers in primary care or universal services, e.g. GPs, health visitors, school nurses, social workers, teachers, youth workers, etc., who come into contact with young people and whose main role and training are not in mental health.
- *Tier 2*—specialist mental health clinicians with training in child development who work individually with young people and their families, usually in community clinics. Their focus is on mild to moderate mental health difficulties and may include direct contact with young people or consultation to Tier 1.
- *Tier 3*—clinicians working as part of an MDT who see young people with more complex, moderate to severe mental health problems, which may be of an acute onset or more chronic and enduring in nature. Input can include consultation.
- *Tier 4*—specialist teams working with young people with severe and/or complex difficulties requiring a combination or intensity of interventions that cannot be provided by Tier 3, e.g. specialist outpatient teams, day patient services, and inpatient units.

The multidisciplinary team

The importance of a multidisciplinary approach in child and adolescent psychiatry cannot be overemphasized. The professional groups represented in teams vary but may include psychiatry, psychology, nursing, family therapy, child psychotherapy, social work, OT, and speech and language therapy. A newer group of primary mental health workers has also been developed, largely operating at Tier 2, but having links with Tier 3 CAMHS. Within teams, the complementary skills and expertise that each profession brings to the assessment/treatment of a case is recognized, and reflecting this, there is often less of a sense of 'hierarchy' within the MDT, compared to other areas of psychiatry, while leadership is still maintained.

Consultation

Traditionally, specialist CAMHS has always offered consultation to other agencies that work with young people, helping to provide a mental health perspective on their difficulties, and this continues to be an important role for them. Whether providing direct or indirect input, there is a focus on CAMHS being part of a child-centred,

integrated network of services, all working together to best meet the needs of the child or young person.

Assessment 1: principles

The biopsychosocial model

This concept is central to the approach taken when working with a child or young person presenting with mental health or behavioural difficulties. It highlights that to be able to fully understand their difficulties and formulate an effective management plan, we need to consider the different biological, psychological, and social factors at play, which might be contributing to the young person's presentation in a variety of ways. It is important to remember that several factors may interact with each other too, giving rise to symptoms. It is helpful to hold the biopsychosocial model in mind throughout all stages of assessment and intervention.

Children, young people, and their families

It is unusual for a young person, especially a child, to come into contact with CAMHS at their own request. More commonly, they have been referred because someone else is concerned about them—often a parent, but sometimes a teacher or social worker—and the young person does not necessarily acknowledge they need help or agree to referral. It is important to remember this from the outset; the identified 'patient' may be a reluctant attendee at an appointment, experiencing a variety of different emotions, including anger and irritation about being 'dragged along', or fear and uncertainty about what to expect, all of which have implications for fostering engagement and therapeutic relationships. The situation can be very similar where a family has been referred against their will to CAMHS by statutory agencies such as social work.

Children and young people do not exist in isolation—they are dependent on others as caregivers and interact with other people as part of their daily lives, whether at home, at school, or as part of social activities. When carrying out an assessment of a young person's difficulties, it is important to gather additional information from people who know them well, while still working within the statutes of confidentiality and consent appropriate to that young person.

Reflecting this, it is usual for a first assessment appointment to be attended by a number of different people, usually at least a parent, siblings, and/or a close relative, although the family may also bring a neighbour, a social worker, a respected community figure, etc. These different people frequently have contrasting experiences of, and views about, the young person's problem and what they think needs to change. It can seem a daunting task at first, working to ensure that everyone present—including the young person—feels they have had the opportunity to be heard and say what they think is important. The clinician needs to be sensitive to any dynamics or tensions arising within the interview and work to manage and contain these effectively, while at the same time

remaining objective and somewhat 'neutral' (i.e. not being seen to be taking sides).

It is useful to remember that while families usually attend their first appointment wanting help, they may also harbour feelings of failure, guilt, or blame about the young person having difficulties. They might find it awkward having to talk about these or think they are being judged, and it is important to acknowledge this and let the family know they are being listened to and their concerns taken seriously. Also, it is not unusual at the start of an assessment for a parent to take this as an opportunity to offload their worry and feelings of frustration and anxiety, which can be heard by the young person as blaming and 'pointing the finger' at them. While it is important to acknowledge and reframe this as parental concern, the clinician needs to demonstrate they are interested in hearing everyone's point of view and are not 'taking sides'.

A little advance preparation is essential, thinking about the information given in the referral and the areas you want to cover in the first meeting; an interview that is structured and set at a pace that allows everyone to feel they are able to say what is important will help to contain a family's anxieties much more effectively than one that is disorganized and unfocused.

Being able to be flexible in your approach is a valuable skill in CAMHS. As was previously mentioned, we never know exactly who will attend a first appointment. Usually—but not always—the child or young person will come along, accompanied by an adult. However, it should not automatically be assumed this is a parent, and a potential faux pas can be avoided by asking the young person to tell you who they have brought along with them. Increasing diversity in society expands the notion of the 'nuclear family 'and includes single parents, same-sex parents, reconstituted families, kinship care, and professional foster care.

In circumstances where a referral indicates prominent input from another agency, e.g. social work, it can be helpful to suggest they attend the appointment, too, both to support the family and to add to an understanding of their difficulties.

Challenges to be mindful of

A number of factors need to be kept in mind when thinking about how to gather the information required from a family most effectively. These include:

- The age and developmental stage of the child—it goes without saying that a younger child will not be able to tolerate a lengthy interview and requires a different approach to an adolescent.
- The presence of mental or physical disorder in the young person or a parent, e.g. hyperactivity, difficulties with memory, mobility problems.
- Communication difficulties, e.g. hearing impairment.
- Use of an interpreter if there is not a shared spoken language.

Assessment 2: considerations

Initial considerations

- Introduce yourself, and find out who is in the room with you. Often the only information you have about attendees is the name of the referred child or young person; it can be helpful to use this as a means to engage the young person and invite them to tell you who they have brought with them. This also lets the young person know that you are interested in what they have to say. Remember, not all family members may share the same surname—it is useful to check this out in advance before making a mistake.
- Take a few minutes to set the scene and orientate everyone to the purpose of the meeting, making reference to the initial referral and how long the appointment will last. This can make a huge difference, helping to allay anxieties and foster engagement. It can be helpful to reflect that many families are unsure about what to expect when they first attend CAMHS and to check out with individual family members how they felt about coming to the appointment.
- Explain the format of the meeting, i.e. you asking the family questions and talking with everyone present to better understand the young person's difficulties, and the outcome; this is usually a letter to the referrer and/or GP, often copied to the family too.
- It is important to raise the issue of confidentiality and its limits, particularly in relation to child protection concerns. Also, sometimes adults in the room do not want to talk about certain topics in front of other younger family members, and you should let them know that if this situation arises, they should indicate they would prefer to discuss these matters in private. Similarly, for adolescents, it is important to give them the opportunity to have some individual time with you (although not all take up this offer).
- A 45-min meeting can seem a very long time for younger family members. It is helpful if age-appropriate toys and drawing materials are provided, with permission given for them to be used when people want to. This can give valuable clinical information about concentration and organizational skills, and it is always interesting to observe how the family negotiates the task of tidying up at the end of the session. It is important to remember that most young people are very good at multitasking, i.e. engaging in drawing and playing while, at the same time, listening to what others are talking about.
- Some CAMHS teams like to gather information before an initial appointment, which can focus the assessment and help children and families feel heard, e.g. using the Development And Well-Being Assessment (DAWBA).

Tips for taking a history

- The pace and duration of the interview and communication styles used will vary greatly, depending on the ages of the young people present, but it is important to keep everyone as involved as possible throughout the interview. This can be achieved by checking out with different family members if they agree with what someone else has said or if they see things differently.

- Try to get a clear description of the problem as each person sees it; it may well be that there are a number of different views expressed which can then be explored further. Remember not to appear to be 'taking sides', but it is acceptable to challenge someone's viewpoint, which then enables you to understand it better.
- It is also important to ask about times when the problem is less in evidence and if there is anything the family have tried that helped, e.g. taking a firm stance with the young person, or the involvement of other agencies.
- Asking about family composition and family history is a useful way to gather information about the relationships between different family members, their own upbringings, and any mental and physical health difficulties. Recording this as a genogram can be a helpful way of condensing a wealth of information into a more accessible, visual form.
- Asking the young person about school, their hobbies/interests, and friendships shows you are interested in them and helps to get a good understanding of their general level of functioning. As with any psychiatric assessment, it is important to ask about any recent changes in functioning, including the presence of worries or fears, experiences of bullying, feelings of low mood or hopelessness, abnormal experiences, thoughts of self-harm/suicide, etc. Because of developmental immaturity, some may not be able to articulate their experiences, and corroborative information is essential. Also, remember that children and young people can present very differently when anxious, depressed, or psychotic, compared to adults.
- The importance of gathering a detailed developmental history as part of a full assessment cannot be overemphasized; while it may be that this is not focused on at a first meeting, a careful developmental history obtained at a subsequent meeting can uncover a wealth of information about the origins of the problem.
- With adolescents, remember to enquire about substance use and any forensic history (this may be something that is explored during individual time with the young person).

Mental state assessment

- Follows a similar framework to that used with adults, but with allowances made for the level of development. For children under the age of 12, you can still comment on what you have observed such as: the level of activity and attention; physical and cognitive development; the mood and emotional state; the quality of their social interaction with family members (familiar people) and you (a stranger); and the response to boundary setting.
- Notice how the family functions/interacts during the meeting; look out for patterns of communication, degrees of warmth, power dynamics, alliances between family members, etc. Is the young person's viewpoint validated or dismissed within the family?
- Sometimes, a physical examination might be needed as part of the first meeting, e.g. low-weight anorexia, and it is usual to have

a parent or other chaperone present for this.

Assessment 3: practice points

The importance of additional information

- In addition to gathering corroborative information from family members, a full and comprehensive assessment usually involves obtaining consent from the young person or an adult to liaise with other agencies involved with them. Examples include:
  - School—remember, some young people present differently within the educational setting, compared to home, and classroom observation or conversation with teaching staff or the educational psychologist (if involved) is very useful. Also, some standardized rating scales, e.g. Connor's Questionnaires, are designed for teachers to complete.
  - Other caregivers—these include health professionals (e.g. the child's GP, a paediatrician, or the health visitor) and social agencies such as social work. The latter may have become involved in supporting the young person and/or their family on a voluntary or statutory basis.
- Consider using rating scales appropriate to the age and stage of the young person [e.g. Connor's Questionnaire, Moods and Feelings Questionnaire, Children's Yale–Brown Obsessive–Compulsive Scale (CY-BOCS), Kiddie Schedule for Affective Disorders and Schizophrenia (K-SADS), as indicated].
- Sometimes it may be necessary to request additional assessments to get a better understanding of the young person's difficulties, e.g. speech and language, OT, neuropsychology, etc., or to arrange for physical investigations, e.g. haematology, biochemistry, chromosome studies, EEG, CT.

Constructing a formulation and management plan

- When beginning to formulate and construct a management plan, it is important to think about the young person's difficulties in terms of the biopsychosocial model (The biopsychosocial model, p. 648) and to consider how these relate to the 5 Ps: Presenting problems, Predisposing, Precipitating, Perpetuating, and Protective factors (see Box 15.1).
- It is often possible to identify areas of overlap in all domains, which then inform potential management strategies.
- Remember to incorporate risk assessment within your management plan. Keeping the young person and their family involved in this process helps to ensure the best outcomes.

Box 15.1 Formulation—the 5Ps approach

Formulation is one of the key skills required in child and adolescent psychiatry. It is about collaboratively making sense of someone's story to create a meaningful representation, which helps both understanding and management. Commonly, the 5Ps approach is used:

- *Presenting problems*—the reasons for consulting in the first place.
- *Predisposing factors*—which lead a person to be vulnerable to mental health problems such as genetics, family history, and temperament.
- *Precipitating factors*—which trigger the problems such as stress, substance misuse, and trauma.
- *Perpetuating factors*—which keep the problem going such as maladaptive coping strategies/styles and ongoing precipitating factors.
- *Protective factors*—which reduce the effect of mental health problems such as resilience, strengths, and social support.

Confidentiality, consent, and capacity

Good medical practice principles of confidentiality and consent extend across the age range and apply to children and young people.[1,2,3] Effective communication involves listening carefully to the child or the young person and their family. Clear age-appropriate communication is important in ensuring the rights of children and young people. In general, most of what children and young people say can be kept confidential. Exceptions to this would be if there is a risk of serious harm to the child or young person or to someone else, or if there was a legal requirement to disclose certain information. If confidentiality has to be breached, it is always best practice to discuss this with the child and their family when possible.

Clear documentation of discussions around confidentiality, consent, and capacity is very important, and a multidisciplinary approach is best. The child protection team and legal advice should be sought early where any difficulties arise. The GMC in the UK has a useful document outlining doctors' responsibilities and giving guidance for working with 0- to 18-year olds.[1]

A young person aged over 16 is presumed to have capacity to consent to treatment, while a child aged under 16 can consent if they are deemed competent. Capacity involves assessing whether the child or young person understands what the treatment or investigation is, why it is needed, the possible outcomes of treatment, and what could happen if they do not receive treatment. A child can consent if they are able to understand and retain the information, weigh up the decision, and are able to communicate this back to others. Capacity assessments are decision-specific, and so a child may be able to consent to some aspects of their care and treatment, but not to others.

Points to remember

- If a child is unable to consent, then parental consent can be used.
- For 16- and 17-year olds in England, Wales, and Northern Ireland, parents can consent to treatment that is in the young person's best interest. In Scotland, 16- and 17-year olds who do

not have capacity to consent can be treated under the Adults with Incapacity (Scotland) Act 2000.
- Emergency treatment can be given without consent, to save a child or young person's life or to prevent serious deterioration in their health.
- A parent cannot override a decision that a competent child makes which clinicians think is in their best interest.
- The Mental Health Act should generally be used for any patient treated against their will for a mental disorder.
- Different legislation exists in different parts of the UK.

Development

Infancy

Brain development begins *in utero*, and in the first few years of life, the brain goes through a fascinating period of rapid growth and development. Positive attachment to a caregiver, stimulation, and nurturing are crucial for development. Both genetic and environmental factors influence brain development and the strength of nerve networks and pathways. Myelination seems to follow a particular pattern through different brain regions, and this is reflected in patterns of physical, social, and emotional development.

Childhood

By the age of 5 or 6, the brain will be at around 90% of its adult weight. Childhood is a time of transition and change, and this brings with it social complexity and both physical and cognitive demand. Childhood experiences shape the structure of the brain, and so learning, social interaction, play, and positive relationships and attachments are crucial at this time.

Adolescence

The WHO identifies adolescence as the period in human growth and development that occurs after childhood and before adulthood. It is a time of rapid development and is distinct from being a 'mini-adult'. The average age of onset of puberty has fallen, and this means that particularly in the developed world, individuals achieve physical and sexual maturity before they assume adult roles. There are a number of biological, psychological, and social changes that occur over these years, and it is a time of transition and adaption for young people and those around them. This time of change involves both exploration and experimentation of rules, boundaries, and expectations. Coupled with changes in brain development, this can bring with it positive experiences, but also vulnerability and risk.

Brain development continues throughout childhood, adolescence, and young adulthood, and we are learning more about this though structural and functional imaging. Some of the biggest changes in adolescent brain development are in the prefrontal cortex, to do with cognitive processes, planning, impulse control, and risk-taking. The limbic system, which is associated with memory and emotion, is also under development at this time. This goes some way to

explaining the experience of adolescence. The adolescent brain goes through both a period of synaptic pruning, where lesser-used brain connections are removed, and a process of myelination where nerve connections are strengthened. This process can be influenced by biological, environmental, social, and emotional experiences. There is growing evidence that stress during this sensitive period of development can affect neural connections, and therefore brain maturation. Stress during this important period can contribute to the development of mental illness and may be significant in the vulnerability to disorder.

Assessing development

Assessment involves thinking about children in the context of their age and stage of development. Every child or young person needs to be seen within the context of their family and society as a whole. Each child is unique, but there are developmental pathways, norms, and milestones which can be used as a guide in assessment.

A child may exhibit behaviour that is out with the conventional norms without having any disorder or difficulty. However, it is essential to hold in mind a normal developmental trajectory when assessing children, young people, and their families, taking into account ethnicity, culture, and religion. Thinking about development includes thinking systemically about transitions and change, both for the individual and for those around them.

In assessing a child's development, it is helpful to consider:

- *Physical development:* gross and fine motor.
- *Language:* expressive and receptive.
- *Emotional development:* recognition and differentiation, expression, and regulation.
- *Social development:* social reciprocity, play, awareness of cues, sharing, friendships, and communication.
- *Theory of the mind:* the idea that another has a separate mind with separate thoughts and feelings. Being able to 'tune in' to others. Develops over time, but most have by the age of 4. For further information, see 'Sally Anne test' in Baron Cohen *et al*.[4]
- *Cognitive development:* understanding, problem-solving, memory, rationalizing, conceptualizing, inference, development of schemas. For further reading, see the work by Jean Piaget,[5] although bear in mind this is largely based on observation of his own children.
- *Moral development:* involves pro-social behaviour, empathy, right and wrong, justice, responsibility, and reasoning. For further reading, see Kohlberg's stages of moral development.[6]

> 'You see a child play, and it is so close to seeing an artist paint, for in play a child says things without uttering a word. You can see how he solves his problems. You can also see what's wrong.'
>
> Erik Erikson

Resilience

Definition

> 'Resilience refers to the process of, capacity for, or outcome of, successful adaptation despite challenging or threatening circumstances.'

Masten *et al*. 1990. Resilience and development: Contributions from the study of children who overcome adversity. *Development and Psychopathology*. 1990;**2**:425–444.

(See Fig. 15.1.)

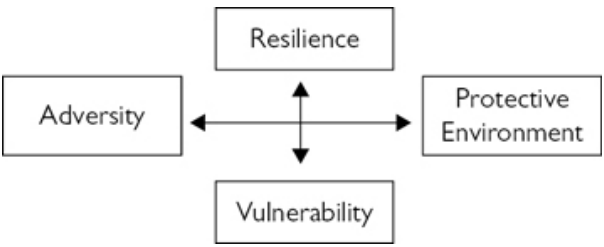

Fig. 15.1 The Resilience Matrix.

Source: data from *The Child's World: Assessing Children in Need, Training and Development Pack* (Department of Health, NSPCC and University of Sheffield 2000).

Nature and nurture

Not all children experience adversity in the same way, and the concept of 'orchids and dandelions' has been used to illustrate this. Orchids are sensitive flowers that can struggle when not treated well but flourish in optimal conditions, while dandelions seem to bloom wherever they grow. This confers the notion of genetic risk but also highlights that the most sensitive children can thrive in the right environment. This may also go some way in helping us think about why some children develop mental health problems and others do not, despite significant adversity. Interventions or strategies to promote resilience and the ability to 'bounce forward' is therefore an important task for anyone working with children or young people in the prevention and treatment of mental health problems.

Factors promoting resilience

- *Child:* easy temperament and good nature; ♀ gender (prior to adolescence) and ♂ gender (during adolescence); higher IQ; good social skills; feeling of empathy with others; sense of humour; attractiveness to others; awareness of strengths and limitations; sense of identity and agency; positive values; good self-esteem and self-efficacy; good problem-solving skills.[7]
- *Family:* secure base; warm and supportive caregivers; good parent–child relationship; parental harmony; a valued social role,

e.g. helping siblings; where parental conflict exists, a close relationship with one parent or other attachment figure.

- *Environment:* supportive extended family; successful school experiences; valued social role, e.g. job, volunteering, helping neighbour; a close relationship with an unrelated mentor; membership of a religious or faith community; extracurricular activities.

Attachment

John Bowlby laid the foundations for the development of the attachment theory. Early relationships with attuned, responsive, and available caregivers are crucial to an infant's brain development and help them to get a sense of who they are, explore the world around them, and develop a positive internal working model of a relationship. Good-quality relationships, based on sensitive, reliable, and consistent caregiving, help children build a positive attachment or bond with the people closest to them. At times of stress, infants seek comfort and soothing. If they receive attuned care, their levels of stress hormone decrease. Children who do not have caregivers able to help soothe distress can have high levels of cortisol, which can cause damage to neurons. A child's ability to safely understand and regulate their emotions, understand the emotions of others, and trust in relationships can also be greatly affected.[8]

Mary Ainsworth (1970)[9] devised the Strange Situation experiment with 12- to 18-month-old infants, which categorized infant–parent relationships into three distinct groups: secure, insecure avoidant, and insecure ambivalent. This experiment involves separations and reunions with caregivers and observes response. A fourth category, disorganized, was added by Mary Main in 1986[10] (see Table 15.1).

Table 15.1 Attachment styles

	Attachment style	Percentage of children	Features in strange situation
1	Secure	60–70	Distressed by separation but can quickly be soothed on reunion. Associated with attuned parenting
2	Insecure-avoidant	15–20	Seems unconcerned at separation or reunion. Associated with unresponsive parenting
3	Insecure-ambivalent	10–15	Distress at separation and resistance to comfort on caregiver return. Associated with inconsistent parenting
4	Disorganized	5–10	Confused and at times contradictory behaviour as if does not know what to do. Often associated with maltreatment or parental trauma

It is important to remember that categorizing attachment is based on the relationship, and not the child. A child can have a secure attachment with one person and an insecure attachment with another. For further information, watch Tronick's' Still face' video[11] and Ainsworth's Strange Situation experiment.

Reactive attachment disorder

Reactive attachment disorder (RAD) is an under-recognized and under-diagnosed disorder, which is associated with significant psychiatric comorbidity. It describes a difficulty in social relatedness and functioning, often associated with maltreatment. ICD-10 describes two forms of RAD: the inhibited, emotionally withdrawn, hypervigilant type and the disinhibited, indiscriminately friendly type. There is also emerging evidence for coexistence of these types in some children. DSM-5 describes two distinct disorders: RAD (inhibited form) and disinhibited social engagement disorder. These have been placed in a new chapter 'Trauma- and stressor-related disorders', which groups childhood- and adult-onset trauma- and stressor-related disorders together (ICD-11 also places RAD and disinhibited social engagement disorder in a new section 'Disorders specifically associated with stress').

As recognition of attachment difficulties has slowly ↑, so too has the availability of attachment-based interventions that are developing a growing evidence base. Examples of attachment-based interventions include: video interaction guidance, attachment and bio-behavioural catch-up, circle of security, parent child/infant psychotherapy, and therapeutic play.

Infant mental health

The first years of life are times of active and dynamic brain development where neural connections and pathways are made, providing the foundations for future physical, emotional, and social well-being. There is mounting evidence that suggests that neglect and maltreatment disrupts the structure, biochemistry, and functioning of the brain. Maltreatment and adverse life experiences in childhood are associated with poorer outcomes, including enduring physical and mental illness.[12,13]

Very young babies do not show the classical signs of mental illness, but they reveal a wide range of emotions through their behaviour. Classification systems for early years do exist such as the DC 0-5 (Diagnostic Classification of Mental Health and Developmental Disorders of Infancy and Early Childhood). By the pre-school period, however, disorders more typical of later stages of development are evident.[14]

Most infant mental health problems can be understood in terms of disturbances in early relationship experiences. Sensitive and attuned caregiving is crucial to the development of secure attachments, which support infants to explore, interact, and relate to their wider world, express feelings, and learn how to regulate emotions safely. One of the most important interventions in infant mental health is therefore ensuring they receive this kind of care as soon as possible. Interventions targeting the parent/carer–infant relationship can be successful, lead to healthy brain development, and have a growing evidence base, and therefore rely on professionals recognizing mental health problems in this age group. Awareness and identification of infant mental health problems, as well as knowledge and skills in effective intervention, are an important component of training in psychiatry and in other specialties that come into contact with infants. The field of infant mental health is growing, and the potential to help change children's trajectory is enormous.

> 'Recovery from the effects of early maltreatment can be rapid and remarkable if safe nurturing care is achieved early enough—ideally in the first year of life and because the window of opportunity for this kind of recovery is small, early identification and focused intervention are imperative.'
>
> NSPCC 2016

An approach to behavioural problems

Sometimes children and young people present with behavioural problems, rather than complaints of stress or depression. They may not have the necessary level of development to recognize and then express these feelings; and they are sometimes brought to services, rather than referring themselves; therefore, it is the observable problem, i.e. the behaviour, that is presented.

Differential diagnosis of various behavioural 'symptoms'

Common behavioural presentations include; hyperactivity, inattention, separation problems, moodiness, peer/social problems, aggression/oppositionality, sexually inappropriate behaviour, regressed behaviour, somatization, tantrums, and rituals.

Since individual symptoms can occur in more than one disorder, it is worth considering a differential diagnosis for the presenting behavioural symptom. It is also extremely important to differentiate a clearly maladaptive behaviour from one that is developmentally or situationally appropriate. 'Normal' behaviours also include those that form part of the child's expected testing and experimentation of the world.

Assessment of behavioural disorders—general principles

- *Identify the problem behaviour/s*—obtain a full description (from parents, child, teachers, etc.) of the problem behaviour/s. This should include the evolution of the behaviour, a chronology of the child's typical daily activities, the setting in which the behaviour occurs, its effects on family, school, relationships, etc., and attitudes of others to the behaviour/s. It is always important to speak to the child alone (if possible) to establish their views, desires, and mental state.
- *Think about other difficulties*—assessing for other psychiatric disorders is important, and they can often be masked by the presenting problems. Use of a questionnaire, such as the DAWBA, can be very useful and avoid the situation where the entire assessment interview is taken up with hearing various versions of the same behaviour, while not getting a chance to hear about other symptoms such as fears, obsessions, compulsions, tics, etc.
- *Determine the parental strategy*—it is important to find out how the parents deal with the behaviour/s. *Do they agree with each other?* This also includes information about their expectations, philosophy of parenting, interpretation of the behaviour/s, and moral, religious, and cultural views on parenting, etc. How do the parents react or respond to the behaviour/s? How do they discipline or punish? What do they tolerate? Are they permissive or restrictive? Are they over-protective or uninvolved? Do they feel empowered or impotent, helpless, and incompetent as parents? How do they manage their frustrations, anger, etc.? What coping mechanisms do they have?
- *Family history and dynamics*—as well as gathering a full family history of health, psychiatric problems, social and cultural circumstances, and support structures, it is also important to assess parental and sibling relationships, the presence of any significant stressors or losses, and how the problem behaviour interacts with family dynamics.
- *Social behaviour*—the evolution of the child's social, including social developmental, behaviour, attachment behaviour, imaginary play, reading of social cues, relationships, and language use.

- *School behaviour*—attendance, changes in school, separation issues, performance, peer and teacher interactions and responses, friendships, bullying, etc.
- *Child's health and development*—pregnancy, birth, and developmental milestones. Was the child planned? How did siblings react? How did parents and siblings cope? Any postpartum problems? Was any professional support required? Also, child's temperament, illnesses, treatment, etc.
- *Direct observation of parent–child interaction*—during the interview, it is important to note how the child behaves and how parents respond and interact with the child. If siblings can be present, their behaviour and interactions can also be evaluated. A home and/or school visit may add additional information about the behaviour in these settings.
- *Collateral information*—teachers, extended family, and social services may be able to provide important input, and permission should be sought to contact and involve them where appropriate.
- *Getting a sense of the antecedents, behaviour, and consequences* (ABC charts)—can be a useful tool to use with families.

Management

This will be informed by the assessment, but generally it is useful to help the child and family understand the thoughts and feelings contributing to the behaviour. This aids in both reducing negative interpretations of the behaviour and in helping to change the problem behaviour. More specific management issues are addressed under topic headings. Prevention is covered in Box 15.2.

Box 15.2 Prevention strategies and policy implications

- *Preschool child development programmes*—identifying parents/families at risk and instituting home visits and support.
- *School programmes*—identifying children at risk and instituting classroom enrichment, home visits, and parent and teacher training.
- *Community programmes*—identifying children and adolescents through their involvement with social agencies and instituting interventions such as enhanced recreation programmes, parent training, and adult mentoring of youth.
- *Social and economic restructuring*—to reduce poverty and improve family and community stability.

Conduct disorders

Conduct disorders (CDs) are characterized by a *repetitive* and *persistent* pattern of antisocial, aggressive, or defiant behaviours that violate age-appropriate societal norms.[15] CDs can be divided into CD and oppositional defiant disorder (ODD). DSM-5's 'Disruptive, impulse-control, and conduct disorders' groups CD and ODD with intermittent explosive disorder, antisocial personality disorder, pyromania, and kleptomania, whereas ICD-11 places

them in their own section 'Disruptive behaviour or dissocial disorders' ( [ICD-11 proposals vs DSM-5, p. 1121).

Conduct disorder

Epidemiology

More common in boys and urban populations. Prevalence 5–7% in the UK.

Clinical features

Depend on age/stage of the child: aggression/cruelty to people and/or animals, destruction of property, bullying, deceitfulness, lying/blaming others, theft, fire setting, truancy/running away from home, severe provocative or disobedient/defiant behaviour, forced sexual activity, use of a weapon. Behaviours significantly impact on family, peer relationships, and schooling. ICD-10 3+ features from the severe category, one of which must have occurred for 6mths. Subtypes: confined to family context, unsocialized, and socialized. DSM-5 requires three characteristic features over 12mths, with one for at least 6mths, and has a specifier 'limited pro-social emotions', i.e. callous and unemotional interpersonal style across multiple settings/relationships (associated with severe CD).

Associations

Social disadvantage: poverty, low socio-economic class, overcrowding, homelessness, social isolation, high rates of deviancy, truancy, unemployment. *Parenting:* parental criminality, parental psychiatric disorder and substance misuse, inconsistent and critical parenting style/attachment difficulties, parental conflict, domestic violence, child maltreatment. *Child:* possible genetic role, perinatal complications, low IQ, neurodevelopmental problems, brain damage, epilepsy, temperament, attachment problems, and poor interpersonal relationships.

Comorbidity

ADHD; learning difficulties (especially dyslexia); substance abuse; depression; anxiety disorder; ASD.

Differential diagnosis

Adjustment disorder; ADHD; ASD; normal child (but parents/teachers have unrealistic expectations); PTSD; anxiety disorder; depression; learning difficulty; psychosis.

Course and outcome

- Can be a persistent disorder, especially when onset younger. Many with adolescent onset do not develop antisocial features as young adults.
- Around half will receive a diagnosis of antisocial personality disorders as adults. Substance misuse, mania, schizophrenia, OCD, major depressive disorder, and panic disorder are also seen in adult life. There is an ↑ risk of early death, often by violent and sudden means.

- ↑ risk of social exclusion, poor school achievement, long-term unemployment, criminal activity, and poor interpersonal relationships, including those with their own children.

Assessment

- See the family and child, and establish a positive therapeutic relationship.
- Full history, with collateral from the school, social worker, and legal system.
- Consider use of the Strengths and Difficulties Questionnaire (SDQ).[16]
- Identify causal, risk, and protective factors—including comorbidity, e.g. ID, mental illness, neurodevelopmental disorder, and substance misuse.
- Formulate the problem, and establish a management plan.

Management of conduct disorder

This will be planned on a case-by-case basis and is likely to require multi-agency communication and cooperation. Possible components include:

- Parent management training (PMT) (Parent management training, p. 673). NICE recommends group-based parent training/education programmes in children aged 12yrs or younger, e.g. Webster–Stratton incredible years programme, positive parenting programme (Triple P). Individual-based programmes are recommended only where there are difficulties in engaging with the parents or where the needs are too complex to be met by group programmes.
- Functional family therapy.
- Multisystem therapy—family-based, including school and community. Highly resource-intensive, but good outcomes (see Box 15.2).
- Child interventions—social skills, problem-solving, anger management, confidence building.
- Treat comorbidity, e.g. ADHD.
- Education—liaison with the school regarding additional support needs.
- Address child protection concerns (Child maltreatment 2: the duty of care, p. 714).
- Do not routinely prescribe medication—with specialist advice, risperidone can be considered for short-term management of severely aggressive behaviour (e.g. explosive anger, severe emotional dysregulation) when psychosocial interventions are unsuccessful. Discontinue if no improvement in 6wks.

Oppositional defiant disorder

Essence An enduring pattern of negative, hostile, and defiant behaviour, without serious violations of societal norms or the rights of others, usually in children aged <10yrs. DSM-5 recognizes three

types: *angry/irritable mood, argumentative/defiant behaviour*, and *vindictiveness*; has no CD exclusion criteria; specifies behaviour must occur most days for 6mths (if <5yrs) or once a week for at least 6mths (if >5yrs); and recognizes mild/moderate/severe forms. Behaviour may occur in one situation only (e.g. home) and be most evident in interactions with familiar adults or peers.

Epidemiology More common in boys and in childhood, rather than in adolescence. Prevalence 2–5%.

Outcome 25% show no symptoms later in life, but many progress to CD and/or substance abuse.

Management Same management principles as for CD.

Attention-deficit/hyperactivity disorder 1: overview

ADHD is characterized by the three core symptoms of inattention, hyperactivity, and impulsiveness. ICD-10 describes these symptoms together as hyperkinetic disorder, while DSM-5 (and ICD-11) recognizes three subtypes: *a combined subtype* where all three features are present, *an inattentive subtype* [attention deficit disorder (ADD)], and *a hyperactive–impulsive subtype*. Symptoms should be at developmentally inappropriate levels and be present across time and in different situations (e.g. home and school) for at least 6mths, and starting before 7yrs (DSM-5 criteria now state several inattentive or hyperactive–impulsive symptoms present before the age of 12yrs and allows for diagnosis in adults). Five per cent of UK schoolchildren would meet DSM-5 ADHD diagnostic criteria, and 1% would meet criteria for ICD-10 hyperkinetic disorder. It is at least 2–3 times more common in ♂.

Aetiology

ADHD has a heritability of 70–80%, and the risk of ADHD in siblings is 2–3 times i. Rates are ↑ in low-birthweight babies, in babies born to mothers who used drugs, alcohol, or tobacco during pregnancy, following head injury, and in some genetic and metabolic disorders.

Differential diagnosis

Age-appropriate behaviour in active children; attachment disorder; hearing impairment; learning difficulty; high-IQ child insufficiently stimulated/challenged in mainstream school; behavioural disorder; anxiety disorder; medication side effects; brain injury.

Comorbidity

ADHD is highly comorbid, with 50–80% of children having another disorder, including: specific learning disorders, motor coordination problems, ASD, tic disorders, CD, ODD, substance abuse, anxiety, depression, and bipolar disorder.

Clinical features

- *Inattention*—careless with detail, fails to sustain attention, appears not to listen, fails to finish tasks, poor self-organization,

loses things, forgetful, easily distracted, and avoids tasks requiring sustained attention.
- *Hyperactivity*—most evident in structured situations, fidgets with hands or feet, leaves seat in class, runs/climbs about, cannot play quietly, and 'always on the go'.
- *Impulsiveness*—talks excessively, blurts out answers, cannot wait turn, interrupts others, and intrudes on others.

Problems associated with ADHD

- *Short-term:* sleep problems, low self-esteem, family and peer relationship problems, reduced academic achievement, and ↑ risk of accidents.
- *Longer term:* development of comorbid problems (→ Comorbidity, see opposite), reduced academic and employment success, ↑ criminal activity, and antisocial personality disorder. ADHD symptoms may persist into adulthood (20–30% with full ADHD syndrome, and 60% with one or more core symptoms). Impulsivity–hyperactivity remits early, while inattention often persists. Studies show a pattern of psychopathology, cognition, and functioning in adults similar to that in children and adolescents. A poorer prognosis is associated with social deprivation, high-expressed emotion, parental mental illness, predominantly hyperactive–impulsive symptoms, CD, learning difficulty, and language disorder.

Assessment

- Interview the family and child.
- Observe the child, preferably in more than one situation, e.g. clinic and school.
- Collateral information from the school and other involved parties.
- Rating scales may be useful, e.g. Connor's rating scale, SDQ.
- Screen for comorbidity.
- Physical examination, including neurological examination.

Management

- Psychoeducation.
- Medication (→ Attention-deficit/hyperactivity disorder 2: medication, p. 670).
- Behavioural interventions, e.g. encouraging realistic expectations, positive reinforcement of desired behaviours (small immediate rewards), consistent contingency management across home and school, breaking down tasks, reducing distraction.
- School intervention/liaison.
- Treat comorbidity.
- Evidence base for dietary changes and fish oils poor at present.
- Voluntary organizations/online resources, e.g. the Attention Deficit Disorder Information and Support Service (ADDISS) (http://www.addiss.co.uk, accessed 13 July 2018)—information

and resources about ADHD for parents, sufferers, teachers, and health professionals; ADDers (http://www.adders.org, accessed 13 July 2018)—ADHD online information.
- Controversy is covered in Box 15.3.

Box 15.3 Controversy of ADHD

The concept of ADHD has been criticized as medicalizing a social problem. It is said to be over-diagnosed and that it undermines parents. The long-term benefits of medication remain unclear. Nevertheless, there is recognition that symptoms can continue into adult life and that, untreated, there are poor outcomes. Children and their families who have experienced a good response to medication usually want to continue with it despite long-term uncertainty.

Attention-deficit/hyperactivity disorder 2: medication

The currently available drug treatments for ADHD are symptomatic—they treat the core symptoms but do not cure them. Seventy per cent of affected children will show symptomatic response to medication, as demonstrated by: ↑ on-task behaviour; reduced fidgeting, finger-tapping, and interrupting; reduced impulsiveness; ↑ performance accuracy; reduced aggression; improved compliance; improved parent–child interactions; and improved peer status.

Commonly prescribed drugs

Methylphenidate A CNS stimulant licensed for treatment of ADHD in children over 6yrs. Available as an immediate-release preparation lasting around 4hrs (Ritalin®, Medikinet®, Tranquilyn®), and as modified-release preparations lasting 8 or 12hrs (Equasym XL®, Concerta XL®, Medikinet XL®, Xenidate XL®, Xaggitin XL®, Matoride XL®, Delmosart XL®, Ritalin-SR®). Modified-release preparations have the advantage that the medication does not need to be administered at school. *Side effects:* abdominal pain; nausea and vomiting; dry mouth; anxiety; insomnia; dysphoria; headaches; anorexia; and reduced weight gain. Growth suppression may be a long-term outcome of high doses over long periods—growth monitoring is advised.

Dexamfetamine/lisdexamfetamine (Elvanse®, Amfexa®, Dexedrine®) A CNS stimulant licensed for the treatment of ADHD in children whose symptoms are refractory to other drugs. *Side effects:* similar to those of methylphenidate.

Atomoxetine (Strattera®) A non-stimulant NARI licensed for the treatment of ADHD. Taken od, providing 24-hr cover. May take up to 6wks to have full effect. *Side effects:* anorexia; dry mouth;

nausea and vomiting; headache; fatigue; dysphoria; jaundice (liver damage); and suicidal thoughts.

Guanfacine (Intuniv®) A non-stimulant α2a receptor agonist. Indicated in children for whom stimulants are not suitable, not tolerated, or ineffective. *Side effects:* sedation, hypotension, bradycardia, GI side effects, depression, mood lability, and anxiety.

Clonidine α2 agonist. Unlicensed for this use in children. *Side effects:* hypotension; bradycardia; sedation, dizziness, and risk of rebound hypertension if stopped suddenly.

Principles of prescribing in ADHD

- The diagnosis of ADHD should be based on a comprehensive assessment conducted by a psychiatrist or a paediatrician with expertise in ADHD.[17] It should also involve the child, parents, and carers, and the child's school, and take into account cultural factors in the child's environment.
- Multidisciplinary assessment, which may include educational or clinical psychologists and social workers, is advisable for children who present with indications of significant comorbidity.
- The use of ADHD medication should be part of a comprehensive treatment programme involving advice and support to parents and teachers and which could include specific psychological treatments. While this wider service is desirable, any shortfall in its provision should not be used as a reason for delaying the appropriate use of medication.
- ADHD medication should only be initiated by psychiatrists or paediatricians with expertise in ADHD, but continued prescribing and monitoring may be performed by GPs, under shared-care arrangements with specialists.
- The choice of drug should be guided by: the presence of comorbid conditions; the different adverse effects of the drugs; specific issues regarding compliance identified for the individual child or adolescent; the potential for drug diversion and/or misuse; and the preferences of the child or adolescent and/or their parent or guardian. If there is a choice of more than one appropriate drug, the drug with the lowest cost is prescribed.
- Caution is required in prescribing for children and young people with epilepsy, psychotic disorders, or a history of drug or alcohol dependence.
- Prior to commencing medication, height, weight, pulse, and BP should be obtained and plotted in centile charts where appropriate. A history should be gathered for any significant past medical history, family history, and symptoms of syncope or breathlessness. A full cardiovascular examination should be carried out. An ECG should be carried out if there is any personal or family history of cardiac problems or any abnormal physical signs.
- Careful titration is required to determine the optimal dose level and timing. The medication should be discontinued if improvement of symptoms is not observed after appropriate dose adjustment.

- Regular monitoring is required. When improvement has occurred and the child's condition is stable, treatment can be discontinued at intervals, under careful specialist supervision, in order to assess both the child's progress and the need for continuation of therapy.

Medication monitoring

- Most adverse effects will disappear within a couple of weeks.
- There have been some concerns about small growth restriction in children taking psychostimulants, With this in mind, some children choose to have 'drug holidays' in order to catch up in terms of growth.
- Appetite suppression is a common side effect from stimulants, and children should have their weight monitored very carefully and dietitian advice sought, if necessary. Children and young people should be monitored for height, weight, BP, and pulse in the initial medication titration and then 6-monthly once on a stable dose.
- If there are difficulties with insomnia, melatonin is sometimes helpful for young people with neurodevelopmental problems.

Attention-deficit/hyperactivity disorder 3: adults

ADHD tends to improve with age but can continue into adulthood.[18,19] Over-activity often lessens, but impulsivity, poor concentration, and risk-taking can worsen. Problems arise with work, education, family, and social interactions. Comorbid depression, anxiety, low self-esteem, and drug misuse are common. Adults presenting with symptoms of ADHD in primary care or general adult psychiatric services, who do not have a childhood diagnosis of ADHD, should be referred for assessment by a mental health specialist trained in the diagnosis and treatment of ADHD or a specialist service, if locally available.

Points to note

( Neurodevelopmental disorders in adulthood, p. 136.)

- Drug treatment for adults with ADHD should always form part of a comprehensive treatment programme that addresses psychological, behavioural, and educational or occupational needs.
- None of the currently available drug treatments are licensed for initiation in adults, although atomoxetine is licensed for continuation treatment into adulthood.
- It would be unusual to stop other effective treatments just because an individual has turned 18 yrs old.
- Most guidelines suggest methylphenidate as first-line treatment for adults, provided it is not contraindicated.
- The need for long-term medication should be closely monitored and reviewed at least annually.
- Specific guidance on dosing can be found in NICE guideline NG87[20] and the *BNF*.

Parent management training

PMT has, until very recently, been described as a group of treatment procedures in which parents are trained to modify their child's behaviour.[21] More recent definitions of PMT encompass its broader power in improving communication within families. PMT is not simply about generically changing a child's behaviour, which is achieved mostly by improving the quality of communication within the family. More importantly, PMT helps foster meaningful mutual understanding within the family and helps create an environment that fosters healthier psychological development for children.

The treatment is conducted primarily with the parents/caregivers (both parents when possible, but it can be conducted only with one parent or caregiver). PMT can be offered as its own therapeutic intervention or as one component of family therapy, or it can be combined with pharmacological treatments (as in the case of children with ADHD). Significantly, the therapist works only with the parents, and therefore, all the changes in a child's behaviours are mediated by the changes in the ways that parents/caregivers communicate with their children. Typically, PMT is offered in 8- to 25-weekly sessions. It can be offered in very different settings—from school meetings to paediatricians' offices—or it can even be integrated into psychiatric practice.

Techniques

- The main goal of PMT is to help parents promote pro-social behaviours and decrease deviant behaviour for their children. To accomplish that, the parents are trained to identify and conceptualize their children's problem behaviours in new ways. Hands-on practices/rehearsals are typically part of the training.
- Parents are taught to use positive reinforcement contingently, frequently, and immediately when children demonstrate 'good' behaviours.
- Mild punishment can also be used, but harsh or severe punishments are discouraged.

Indications

- PMT is the main component of the treatment of children with oppositional behaviour disorder. It is helpful in the treatment of ADHD.
- It has been recognized more recently to be very helpful also in the treatment of children with anxiety disorders.
- Its preventative potential has also been demonstrated, as PMT decreases the chance of children evolving with delinquent and antisocial behaviours when their parents receive the intervention.

Autism spectrum disorders

ASD are a group of lifelong developmental disorders characterized by their effect on social and communication skills, as well as by a restricted, stereotyped, repetitive repertoire of interests and activities.[22,23] DSM-5 (and ICD-11) now uses 'Autism spectrum disorder' as an umbrella term in the chapter on

'Neurodevelopmental disorders' for the former separate diagnoses that remain in ICD-10: autistic disorder (autism), Asperger's disorder, childhood disintegrative disorder, and pervasive developmental disorder not otherwise specified (PDD-NOS). Although 80% of individuals with childhood autism have learning disability, about 80% of the population with ASD are of normal intellectual ability. (For a more detailed description of autism and other PDDs, see Chapter 17, Intellectual disability: Pervasive developmental disorders, p. 820; Autism, p. 822.)

Clinical features

Difficulties with social relationships

- Few or no sustained relationships.
- Persistent aloofness or awkward interaction with peers.
- Unusually egocentric, with little concern for others or awareness of their viewpoint and limited empathy or sensitivity.
- Lack of awareness of social rules and reciprocity.

Problems in communication

- Odd voice, monotonous and perhaps at an unusual volume, talking at (rather than to) you, with little awareness of your response.
- Language is superficially good, but too formal, stilted, or pedantic and with difficulty in catching any meaning other than the literal.
- Impassive appearance, with few gestures and abnormal gaze (i.e. limited non-verbal communicative behaviour).
- Awkward or odd posture and body language.

Restrictive and repetitive patterns of behaviour, activities, or interests

- Intensely pursued and unusually circumscribed interests.
- A set approach to everyday life; unusual routines or rituals; change often upsetting.
- Focus on rules.

Sensory sensitivity

- Can be under-sensitive or oversensitive—to sound, light, pressure, texture, smell, taste, and proprioception.

Comorbidity

Depression, anxiety, bipolar disorder, psychosis, ID, OCD, ADHD, tic disorders, dyspraxia, impaired cognition in various domains (e.g. perception, executive functioning), visual/auditory impairment, epilepsy.

Assessment—key areas

- Assessment should be considered in all children aged <3yrs who have regression in language or social skills, as well as those with clear features.

- History of specific problems ( Autism spectrum disorders, Clinical features, see opposite), level of distress and impairment in all aspects of life, comorbidity, cognitive ability, and impact on parents/carers and sources of support (obtain information from as many sources as possible).
- Consider referral for specialist assessment: speech and language, educational psychology (via school), OT (including sensory assessment), and physiotherapy.
- Observation of child.
- Consider use of diagnostic tools, e.g. Autism Diagnostic Interview–Revised (ADI-R), Diagnostic Interview for Social and Communication Disorders (DISCO), Developmental Dimensional and Diagnostic Interview (3di), and Autism Diagnostic Observation Schedule (ADOS).
- Medical investigation as appropriate, e.g. karyotyping, DNA, fragile X analysis, audiological examination, investigation for recognized aetiologies (e.g. tuberous sclerosis).
- A multidisciplinary approach is preferred (especially complex cases), and diagnosis is made by a variety of professionals, including psychiatrists, paediatricians, speech and language therapists, and psychologists.

Management

Effective management is informed by thorough assessment of the individual child's and family's needs and is likely to involve more than one agency.

- Information (verbal and written) and support regarding the diagnosis.
- Liaison with education services regarding appropriate support and school placement. Educational psychology can provide advice in this area.
- Parenting programmes specific to ASD.
- Adaptation of the child's environment, activities, and routines, e.g. visual timetabling.
- Communication interventions.
- Sensory sensitivity adaptations or interventions.
- Treat comorbidity—ASD may alter the treatment approach and prognosis.
- An antipsychotic, e.g. risperidone, for short-term treatment of significant aggression. Monitor closely, and discontinue if no benefit in 6wks.
- Melatonin for sleep disturbance when behavioural measures alone have not been successful.
- Wider family/sibling support, including respite care, eligibility for benefits, and social work assistance.
- Inform about additional sources of information/support, e.g. National Autistic Society ( http://www.autism.org.uk/, accessed 13 July 2018).

Autism in girls

Girls may be able to mask some of their difficulties through learned responses, behaviour, and imitation. Special interests can be fairly typical of other girls their age, but the intensity is very different. Girls with ASD can also have a greater sense of imagination or fantasy play than boys. Diagnostic criteria do not reflect gender differences in presentation.

Tic disorders

(See also Movement disorders in psychiatry, p. 132)

Epidemiology 2:1 ratio of boys to girls in community-based samples. Prevalence 5–10/10,000 in European and Asian populations.

Aetiology Thought to involve interaction of genetic and environmental factors. Multiple vulnerability genes implicated and link with chromosome 2. Association with psychosocial stress well known, and heightened HPA axis and noradrenergic system reactivity demonstrated. Likely disturbance in the DA system also suggested. Other possibilities include gestational and perinatal insults, exposure to androgens, heat, fatigue, and post-infectious autoimmune mechanism (Box 15.6, p. 691).

Clinical features

Tics are sudden, repetitive, stereotyped, and involuntary movements or sounds. They are frequently associated with antecedent sensory phenomena, including inner tension and premonitory urges, and tic performance may result in fleeting relief. ICD-10 (and ICD-11) divides tic disorders into different durations and types:

- *Tourette's syndrome:* multiple motor tics and one or more vocal tics, although they do not need to occur at the same time. Sometimes associated with copropraxia. Occurs for over 12mths.
- *Chronic motor/vocal tic disorder:* either motor or vocal, but not both for over 12mths.
- *Transient tic disorder:* tics do not persist for longer than 12mths. Most common form of tic and often seen in younger children.
- *Tic disorder not otherwise specified*.

DSM-5 has slightly different terms, but similar criteria for diagnosis.

Motor tics often begin between the ages of 3 and 8yrs, a few years before the onset of vocal tics. Typically, tics vary over time, with more complex tics emerging after some years. The severity of tics waxes and wanes, with exacerbations often related to fatigue, emotional stress, and excitement. Tic severity usually peaks in early adolescence, with most showing a marked reduction in severity by the end of adolescence. Coprolalia is strongly associated in the public mind with this disorder, but it is actually uncommon and not required for diagnosis.

Comorbidity OCD and ADHD common; depression, anxiety, learning difficulties, ASD, migraines. Associated problems include

sleep difficulties, poor impulse-control, and disruptive behaviours.

Key aspects of assessment

- Assess the degree of interference with the child's family, school, and social life.
- Careful perinatal, developmental, family, and medical history.
- Screen for associated difficulties.

Management

- Psychoeducation for the child and family and lifestyle adjustment: what tics are, realistic expectations, stress reduction, caffeine reduction.
- Close liaison with school and educational interventions.
- Behavioural interventions—habit reversal training looks promising. Consists of awareness training, self-monitoring of tics, relaxation training, competing response training, and motivational techniques. An extension of this is exposure and response training
- If tics are severe and impairing, consider medication, e.g. antipsychotics, α2 agonists. Beware the tendency of tics to wax and wane, regardless of treatment.
- Treat comorbidity. SSRIs may be helpful in comorbid OCD. Methylphenidate is no longer contraindicated in comorbid ADHD.
- Information and support can be gained from Tourettes Action ( http://www.tourettes-action.org.uk, accessed 13 July 2018) and Tourette Scotland (http://www.tourettescotland.org, accessed 13 July 2018).

Language, learning, and motor coordination disorders

Speech and language delay and disorder

A distinction is drawn between speech and language delay and disorder. Delay indicates that speech and language acquisition is occurring at a slower rate, but in the expected sequence. Disorder implies that speech and language development is not following the usual sequence, suggesting specific difficulties in an aspect of the language system that is impacting on the child's overall language development.

Disorders include specific speech articulation disorder, expressive language disorder, and receptive language disorder. Both delay and disorder are commonly multifactorial in aetiology. They can impact on a child's learning and literacy, social development, and emotional well-being and may initially present with behaviour problems. Assessment by a speech and language therapist is indicated.

Learning disorders

Generally, the educational psychologist is ideally placed to identify and advise on the management of these disorders. However, it is not unusual for the first presentation of these disorders to be to CAMHS as behavioural problems.

Reading disorder (dyslexia)

Difficulty with reading, in most cases involving a deficit in phonological processing skills. Four per cent of school-age children. ♂ predominance. There is often a family history of dyslexia. Twenty per cent have comorbid ADHD or CD. Management includes one-to-one supported teaching, and parent involvement improves long-term outcome.

Disorder of written expression

Often coexists with dyslexia and manifests as difficulties with spelling, syntax, grammar, and composition. Occurs in 2–8% of school-age children, with a 3:1 ♂ predominance. Difficulties may first emerge with a shift from narrative to expository writing assignments.

Mathematics disorder

♀ predominance and occurs in 1–6% of school-age children. Often associated with visuospatial deficits and attributed to right parietal dysfunction.

Developmental coordination disorder

- Developmental coordination disorder (DCD) and dyspraxia are generally held to be synonymous and refer to an impairment of, or difficulties with, the organization, planning, and execution of physical movement with a developmental, rather than acquired, origin.
- It can be comorbid with disorders of learning and behaviour. Over half have attention difficulties, of which a minority will meet criteria for a diagnosis of DAMP: this disorder features **D**eficits in **A**ttention, **M**otor control, and **P**erception, and there are overlaps with ODD and ASD.
- Can impact on self-esteem, family and peer relationships, and school life.
- DCD prevalence 6%, more common in ♂. Premature and low-birthweight babies at ↑ risk.
- First presentation may be to CAMHS with behavioural difficulties. More usually seen in paediatrics and primary care. Assessment and input from OT and physiotherapy may be necessary.

Enuresis

The normal variation in the age of acquisition of bladder control makes it difficult to demarcate the disorder. By the age of 5yrs, only 1% children have troublesome daytime wetting. Nocturnal enuresis, however, continues to affect 15–22% of boys and 7–15% of girls at the age of 7yrs. Primary (never dry) and secondary (previously dry) types are distinguished. Enuresis can impact on self-esteem and family and peer relationships and restrict activities. There is a reduction in rates of enuresis with time, but a small minority will continue to experience problems into adult life.

Aetiology Nocturnal enuresis has a strong genetic component. Both psychosocial and pathophysiological associations have been

demonstrated. Diurnal enuresis is more likely to be associated with structural and functional disorders of the urinary tract, and less likely to predict that other family members will have shown enuresis.

Management The majority of children will be managed in primary care or by specialist enuresis clinics in the UK. Referrals to CAMHS are usually reserved for cases where enuresis is part of a wider disturbance of emotion and behaviour, or where serious psychological consequences have developed in an enuretic child.

- Careful assessment will inform management.
- Psychoeducation for the child and parents.
- Treat organic causes, e.g. structural abnormality, infection.
- Nocturnal enuresis: there is robust evidence to support the use of enuresis alarms. 'Night lifting', reward systems (e.g. star charts), and medication may also be helpful.
- Diurnal enuresis: body alarms, watch alarm to remind the child to use the toilet, medication, specific psychological approaches, e.g. anxiety management if related to fear of toilet.
- ERIC (Enuresis Resource and Information Centre): provides information and resources to improve childhood continence ( http://www.eric.org.uk, accessed 13 July 2018).

Encopresis

Again, determining what is abnormal is problematic, but soiling more frequently than once a month after the fourth birthday is regarded as an elimination disorder if it is not attributable to a general medical condition. Primary and secondary forms are recognized as for enuresis. Constipation and soiling are common presentations to paediatrics, with only a small minority being referred to CAMHS. These latter children tend to have significant psychological problems, in addition to soiling—an association with emotional abuse. There can be considerable impact on self-esteem, family and peer relationships, and social activities. Most soiling will cease by the age of 16yrs.

Types of soiling

- 95% present with functional constipation with retention and overflow. Both physical (persistent faecal loading leading to loss of sensation of rectal filling, anal fissure) and psychological (toilet fears, fear of painful defecation) factors may be relevant.
- Never toilet-trained.
- Frightened to use the toilet.
- Deliberately depositing faeces in inappropriate places.

Management

As most cases are likely to have multifactorial causes, a comprehensive biopsychosocial assessment is necessary to guide management. Possible elements of treatment include:

- Lifestyle changes, e.g. adequate fluid and dietary fibre.
- Education of the child and family, and assistance to view the child more positively.

- Medical management, e.g. laxatives.
- Behavioural approaches, e.g. star charts.
- Family therapy, e.g. Sneaky Poo—a narrative therapy and an externalizing approach that helps to unite the family against the problem of soiling, which is personified as the character 'Sneaky Poo'.

Sleep disorders

Classified as for adult sleep disorders (Introduction, p. 432). The main syndromes that manifest in children and adolescents are: *nightmare disorder* (REM-related parasomnias, p. 464); *sleep terror disorder* (Disorders of arousal (from NREM) (G47.59), p. 460); and *sleepwalking disorder* (Sleepwalking (somnambulism) (F51.3), p. 460).

Sleep is essential for the healthy development of children. Sleep disturbance is a frequent problem and can have a very negative impact on a child's and family's level of functioning and quality of life. It is important to ask children, young people, and families about any difficulties getting to sleep or staying asleep, as well as asking about any unusual night-time activity or daytime tiredness. A clear history of current bedtime routine, including time, pattern of sleep, activity before bed, and eating/drinking before bed, is helpful. Evidence is building for the detrimental effect of electronic devices on children's sleep due to the effect of blue-wavelength light on melatonin.

The physiology of sleep changes from birth through adolescence, as does the sleep requirement. The prevalence of sleep disorders in the CAMHS population is not clear, as they do not always fulfil the full diagnostic criteria for disorder as for adult sleep disorders.

High rates of sleep disturbance are seen in anxiety, trauma, depression, neurodevelopmental disorder, ID, substance misuse, and some physical health disorders. This can be a symptom of the disorder itself or a side effect of treatments offered. Other reasons include narcolepsy, RLS, nightmares, night terrors (young children, shortly after falling asleep, appear highly distressed and seem awake but are still asleep), and sleepwalking.

Management involves treating any physical cause or iatrogenic side effect, sleep hygiene, behavioural work, and sometimes medication under specialist advice.

Anxiety disorders: overview

Anxiety and fear are an inherent part of the human condition and, in times of danger, are often adaptive. As a result of changing developmental and cognitive abilities during childhood, the content of normal fears and anxieties shifts from concerns about concrete external things to abstract anxieties. Anxiety disorders are

characterized by an irrational fear or worry, causing significant distress and/or impairment in functioning, and their relative prevalence reflects this shift in content. Thus, specific disorders appear more common during specific stages of development.

Epidemiology

Anxiety disorders are among the most common psychiatric disorders in youth. Prevalence rates range from 5% to 15%, with 8% requiring clinical treatment. Age of onset varies for each disorder. Separation anxiety disorder and specific phobia usually have onset in early childhood, and GAD occurs across all age groups, while OCD, social phobia, agoraphobia, and panic disorder tend to occur in later childhood and adolescence.

Aetiological factors

Genetic vulnerability; temperament that exhibits 'behavioural inhibition' (timidity, shyness, and emotional restraint with unfamiliar people or situations); insecure attachment; stressful or traumatic life events; high social adversity; over-protective/critical/punitive parenting.

Organic causes of anxiety

Medical conditions: hyperthyroidism; cardiomyopathy; arrhythmias; respiratory and neurological diseases. *Substances:* alcohol; caffeine; cocaine; amphetamines; cannabis; SSRIs; LSD; ecstasy; NPS, etc.

Presentation of anxiety in children and adolescents

- Particularly in children, it is difficult to obtain a history of cognitive, emotional, and physical symptoms. Often somatic symptoms are the only feature that the child will be able to readily describe. Nevertheless, with sensitive questioning, fears and worries can be elicited.
- Behavioural presentations include over-activity, inattention, sleep disturbance, separation difficulty, regression, school refusal, social withdrawal, aggression, ritualistic behaviours, and somatization.

General principles of management

- Use the ABC (antecedents, behaviour, and consequences) approach to help the child and family understand what happens when the child feels anxious.
- Show how others' reactions are influencing anxiety.
- Stress reduction, including relaxation.
- Psychoeducation regarding anxiety, e.g. connection between physical, cognitive, and emotional components.
- Age-appropriate CBT approaches.

Separation anxiety disorder, generalized anxiety disorder, and panic disorder/agoraphobia

Separation anxiety disorder

Essence Characterized by ↑ and inappropriate anxiety around separation from attachment figures or home, which is developmentally abnormal and results in impaired functioning. It occurs in about 3.5% of children and 0.8% of adolescents.

Normal separation anxiety Separation anxiety is a normal feature of development. Anxiety in a 2-yr old who is being separated from his/her parent into the care of a stranger is normal since, at this developmental stage, the child may perceive the attachment figure as the only source of safety. On the other hand, disabling separation anxiety in a 7-yr old is considered abnormal since the child has achieved a level of cognitive development at which he/she should have learnt that many non-attachment figures might be considered 'safe'.

Causes Genetic vulnerability; anxious, inconsistent, or over-involved parenting; and regression during periods of stress, illness, or abandonment.

Symptoms Anxiety about actual or anticipated separation from, or danger to, attachment figure; sleep disturbances and nightmares; somatization; and school refusal.

Comorbidity Depression; anxiety disorders (panic with agoraphobia in older children); ADHD; oppositional disorders; learning disorders; and developmental disorders.

Management Psychological approach, with emphasis on relaxation and managing anxiety, using an age-appropriate CBT approach.

Generalized anxiety disorder of childhood

Essence Characterized by developmentally inappropriate and excessive worry and anxiety on most days about things not under one's own control. Commonly in relation to performance, health, well-being, and non-specific 'free-floating worries'. Severe enough to cause distress and/or dysfunction. Strong need for reassurance. Affected children are often perfectionist and self-critical. The most common anxiety disorder of adolescence, with ~4% prevalence in this group. More common in ♀ during adolescence. Only one-third seek treatment.

Symptoms Present for at least 1mth. Excessive worry; restlessness, irritability, and fatigue; poor concentration; sleep disturbances; muscle tension. *In children:* somatic symptoms (headache; stomach pains or 'irritable bowel'; rapid heartbeat; shortness of breath); nail biting and hair pulling; and school refusal.

Comorbidity Very high rates—up to 90%. Other anxiety disorders, depression, CDs, and substance abuse are the most common.

Management

- Good evidence for the use of CBT. This can be individual, group, or family-based, and it may be especially beneficial for parents to be involved in younger children or when parental anxiety is high.
- Psychoeducation regarding the nature and treatment of anxiety disorders, along with supportive listening and clarification.

- Formulation may indicate the use of other psychosocial approaches.
- Although not supported by a great deal of research evidence, use of SSRIs may be considered.

Panic disorder/agoraphobia

Essence Panic attacks are recurrent and often 'out-of-the-blue' experiences of severe anxiety, with both psychological and physiological features. Anticipatory anxiety is also a feature, with fear of another attack. A panic attack is described as a discrete period of ↑ fear, peaking at about 10min and lasting about 30min to 1hr.

Symptoms Sweating, flushing, trembling, palpitations and tachycardia, chest pain, shortness of breath and choking, nausea and vomiting, dizziness, paraesthesiae, depersonalization and derealization, and a fear of dying. *Note:* in young children, somatic symptoms predominate, rather than classic symptoms. Agoraphobia may or may not coexist with the disorder but is usually present. The essential feature is anxiety about being in a situation in which escape would be difficult or help unavailable, should a panic attack occur. This leads to avoidance of places or situations and may result in school refusal and separation anxiety.

Epidemiology Panic disorder has an estimated prevalence of 3–6% and is more common in ♀ post-puberty. Peak onset is 15–19yrs.

Comorbidity Depression, substance abuse, and other anxiety disorders (especially social phobia) are the most common.

Management As for GAD.

Social phobia, simple phobias, and selective mutism

Social phobia

Essence *Extremely* common and often undiagnosed. It is characterized by marked fear of one or more social or performance-related situations where the person is exposed to scrutiny and in which embarrassment may occur. Exposure to social situations usually causes an anxiety reaction (may be a panic attack) that is distressing. Thus, situations are either avoided or endured with discomfort. This may lead to agoraphobia and, in severe cases, school refusal.

Epidemiology Social phobia is most common in adolescents, with an estimated prevalence of 5–15%, as opposed to only 1% in children. It is more common in girls, and the average age of onset for both genders is 12yrs. Family studies demonstrate a 2-fold ↑ risk for social phobia in the relatives of social phobia probands, while twin studies show a 3-fold ↑ risk in MZ twins.

Comorbidity High rates of other anxiety disorders (especially GAD, simple phobia, and panic disorder) in ~30–60% of cases, with

mood disorders (20%) and substance abuse also frequent comorbidities.

Prognosis Although the prognosis for treated social phobia is fair to good, comorbid conditions may persist and hinder educational and social progress. Those who experience symptoms in two or more situations have a poorer outcome than those experiencing symptoms in a single situation only.

Management

- Good evidence for the use of CBT exists. This can be individual, group, or family-based, and it may be especially beneficial for parents to be involved in younger patients or when parental anxiety is high.
- SSRIs can be considered where CBT alone has failed.
- Psychoeducation regarding the nature and treatment of anxiety disorders, along with supportive listening and clarification.
- Formulation may indicate the use of other psychosocial approaches.

Simple phobias

Essence Excessive fear of an object or a situation with distress and phobic avoidance. There may be anticipatory anxiety, and exposure can precipitate a panic attack.

Aetiology Probable interaction of genetic influence, inhibited temperament, parental influence, and specific conditioning.

Epidemiology Very common (10% in some studies).

Comorbidity Depression; substance abuse.

Subtypes Animal phobias; natural environment phobias (especially 5- to 10-yr olds); blood/infection/injury phobias; situational phobias (e.g. lifts, closed spaces); other.

Management

- Involve the family and, if appropriate, others, e.g. teacher.
- CBT, including desensitization, modelling, contingency management, relaxation training, and self-statements.

Selective mutism

Essence A consistent failure to speak in social situations in which there is an expectation for speaking (e.g. at school) despite speaking in other situations. It has been considered both as an anxiety and an oppositional disorder.

Epidemiology Rare, affecting 3–8/10,000 in the UK, unlike extreme shyness which is common in the first year at school. Slightly more common in girls.

Comorbidity Many children who develop selective mutism have premorbid speech and language problems. Comorbidity with developmental delay/disorder, communication disorder, elimination disorders, and anxiety disorders observed.

Management Difficult to treat. There is a small evidence base for use of behavioural therapy, CBT, SSRIs, and individual psychotherapy. Involve the family and school in treatment.

Post-traumatic stress disorder

Essence A syndrome characterized by a triad of symptoms: intrusive re-experiencing of a traumatic event; avoidance; and hyperarousal.[24,25] Recognized in children since the 1980s. Symptoms variable in young children, but similar to adult pattern in older children (Post-traumatic stress disorder 1: diagnosis, p. 402).

Traumatic event Requires exposure to a situation or event which is catastrophic or highly threatening.

Epidemiology Prevalence varies according to age but develops in ~3–6% of children exposed to trauma. Most exposed do not develop the disorder, and those who are affected usually have a pre-existing vulnerability (i.e. 'an unnatural response to an unnatural event').

Clinical presentation in young children

Identification of PTSD in children presents particular problems but can be improved by asking the child directly about their experiences. Do not rely solely on the caregiver's history.

Scheeringa criteria[26]

- Compulsive repetitive play representing part of the trauma and failing to relieve anxiety.
- Recurrent recollections of the event.
- Nightmares, night terrors, and difficulty going to sleep.
- Constriction of play.
- Social withdrawal.
- Restricted affect.
- Loss of acquired developmental skills, especially language regression and toilet training.
- ↓ concentration and attention.
- New aggression.
- New separation anxiety.

Note: post-traumatic stress symptoms that do not meet PTSD criteria can still be very disabling and deserve attention in their own right.

Comorbidity Common in PTSD, with depression, anxiety disorders, and substance abuse frequent in adolescents. Behavioural disorders common in young children. See Box 15.4 for NICE guidelines on treatment of PTSD. Complex trauma is discussed in Box 15.5.

Box 15.4 NICE guidance on treatment of PTSD in children and adolescents*

Interventions in the first month after a trauma

- Offer trauma-focused CBT to older children with severe post-traumatic symptoms or severe PTSD in the first month after the event.

Interventions >3mths after a trauma

- Offer children and young people a course of trauma-focused CBT adapted, as needed, to suit their age, circumstances, and level of development. (This should also be offered to those who have experienced sexual abuse.)
- For chronic PTSD in children and young people resulting from a single event, consider offering 8–12 sessions of trauma-focused psychological treatment. When the trauma is discussed, longer treatment sessions (90min) are usually necessary.
- Psychological treatment should be regular and continuous (usually at least once a week) and delivered by the same person.
- Do not routinely prescribe drug treatments for children and young people with PTSD.
- Involve families in the treatment of children and young people where appropriate, but remember that treatment consisting of parental involvement alone is unlikely to be of benefit for PTSD symptoms.
- Inform parents (and, where appropriate, children and young people) that apart from trauma-focused psychological interventions, there is no good evidence for the efficacy of other forms of treatment such as play therapy, art therapy, or FT.

* Source: data from NICE Clinical guideline (CG26) *Post-traumatic stress disorder: management*. Mar 2005. https://www.nice.org.uk/guidance/cg26 [accessed 13 July 2018].

Box 15.5 Complex trauma

(Exceptional stressors and traumatic events, p. 390.)

Essence: a diagnosis utilized clinically (and allowed in ICD-11 as complex PTSD) when dealing with those who have experienced prolonged periods of abuse and have PTSD symptoms plus difficulties in regulating emotion and maintaining relationships and an impaired sense of self.

Treatment: often using a trauma-based model involving:

- Psychoeducation, stability, and safety work, e.g. grounding for dissociation and anxiety.
- Trauma processing.
- Reintegration work (re-establishing social and cultural connections).

Obsessive–compulsive disorder

Essence OCD is characterized by ego-dystonic obsessions or compulsions. Compulsive behaviours, either physical or mental, often serve to reduce anxiety and prevent something bad from happening, as in ‘magical thinking’. ICD-10 criteria require obsessions and,or compulsions present most days for at least 2wks. They are ego-dystonic, the person’s own thoughts, and an

attempt is made to resist the acts. Symptoms have to be severe enough to impair functioning and lead to distress. DSM-5 has a chapter on disorders involving obsessional thoughts such as OCD, body dysmorphic disorder, and trichotillomania. ICD-11 similarly includes body dysmorphic disorder, olfactory reference disorder, hypochondriasis, hoarding disorder, and body-focused repetitive behaviour disorders in 'Obsessive–compulsive and related disorders' (Obsessive–compulsive disorder 1: clinical features, p. 384)

Epidemiology Prevalence in adolescents 1–3.6%. May occur as early as 5yrs of age, and the mean age of onset is around 10yrs. ♂ predominance (♂ : ♀ = 3:2) in childhood, with equal gender distribution in adolescence. Mild *subclinical* obsessions and compulsions are common in the general population (4–19%), and the disorder merges with normality. This is a persistent disorder, which is often veiled in secrecy—the mean delay to presentation is 2yrs.

Aetiology Associated with chromosome 3 and serotonin systems. Genetic and non-genetic factors probably equally important. Only 15% have a clearly identifiable precipitating factor.

Clinical features

- *Obsessions:* intrusive, repetitive, and distressing thoughts or images. Common themes: contamination, harm coming to others, sexual, aggressive, religious.
- *Compulsions:* repetitive, stereotyped, unnecessary behaviours. Common rituals include washing, checking, repeating, ordering, and reassurance seeking. Rituals may involve parents and are part of normal development, especially in 3- to 7-yr age groups. More likely to be OCD if the rituals or thoughts distress the child, they take up a lot of time, and they interfere with the child's everyday life.
- Multiple obsessions and compulsions common.
- Poor insight more common in child cases.

Differential diagnosis

Normal developmental rituals; Tourette's/tic disorder; depression; ASD; eating disorder; psychosis.

Comorbidity

Seventy per cent have at least one comorbid disorder. Includes other anxiety disorders, ADHD, ODD, Tourette's syndrome, ASD, mood disorders, Sydenham's chorea (see Box 15.6), and PANDAS.

Box 15.6 Neuropsychiatric causes of OCD symptoms

PANDAS (paediatric autoimmune neurological disorder associated with Streptococcus)

An autoimmune syndrome associated with OCD and/or tic disorder, with pre-pubertal onset, characterized by episodic

exacerbations of symptoms in association with evidence of group A β-haemolytic streptococcal infection.[1]

PANS (paediatric acute-onset neuropsychiatric syndrome)
A newer term used to describe all cases of abrupt-onset OCD, and not just those associated with streptococcal infections.

Sydenham's chorea
Post-*Streptococcus*, acute-onset movement disorder affecting the basal ganglia and often with associated psychiatric presentation such as OCD symptoms, tics, and changes in mood and behaviour. It can also affect other body systems, including the heart and joints.[2]

1 https://www.nimh.nih.gov/labs-at-nimh/research-areas/clinics-and-labs/pdnb/web.shtml [accessed 13 July 2018].

2 http://www.sydenhamschorea.org.uk [accessed 13 July 2018].

Assessment

- Family and individual assessment where possible.
- The young person may be reluctant to discuss aspects of obsessions/compulsions.
- CY-BOCS may be useful both as a rating scale and to obtain a clear picture of obsession/compulsion.
- Screen for comorbidity.

Treatment

- Consider guided self-help for mild impairment in the first instance.
- If more severely affected, offer developmentally appropriate CBT and ERP in group or individual format. Involve the family, where possible, in planning and process of treatment, and the school, etc., as necessary.
- Following multidisciplinary review, consider SSRI, in addition to CBT and ERP, if no response. Monitor closely, and advise of delay in onset of medication action of up to 12wks. After remission, continue medication for at least 6mths, then consider gradually withdrawing medication.
- If SSRI fails, consider change to different SSRI/clomipramine. Need ECG prior to clomipramine treatment.
- In specialist settings, augmentation with antipsychotic may be appropriate.
- Consider inpatient care in the most severe cases associated with major impairment and distress unresponsive to outpatient care. Also where there is significant self-neglect or suicide risk.
- Absence of comorbidity and good insight increase chances of successful outcome.

Eating disorders 1

Eating disorders in children and adolescents include anorexia nervosa, bulimia nervosa, and their variants characterized by

disturbed or inadequate eating patterns associated with abnormal preoccupation with weight and shape.

Anorexia nervosa

Essence

Weight loss associated with abnormal beliefs and preoccupation regarding weight and/or shape. ICD-10 and DSM-5 criteria are used (Anorexia nervosa 1: overview, p. 410), but the 'weight criterion' of BMI <17.5 is problematic in children and adolescents who are still developing. Calculating the percentage weight for height can also be a very useful measure, and a weight for height of <85% is concerning.

Epidemiology

Prevalence 0.3% in adolescent ♀. Lower rates in boys and pre-pubertally.

Assessment

- Family and individual—often secrecy around behaviour.
- Eating—intake, weight control measures, attitude to weight/shape.
- Assessment of factors contributing to, and maintaining, the disorder, e.g. acute life stress, obesity, parental weight concerns, peers, psychological factors such as perfectionism, and personal ineffectiveness.
- Comorbidity.
- Detailed and thorough risk assessment.
- Full physical assessment and investigations, as appropriate, e.g. bloods, ECG, bone density [dual-energy X-ray absorptiometry (DEXA)], ovarian ultrasound scan (USS).
- Motivation to change.
- The Junior MARSIPAN,[27] published by the Royal College of Psychiatrists, provides clear guidance for assessing the level of risk and informing management.

Management

Involves physical, psychological, educational, and social aspects and will usually require a multidisciplinary approach.

- Complications of eating disorders can be life-threatening, and paediatric admission can be required for stabilization.
- In general early intervention leads to better outcomes.
- Treatment should normally involve the whole family, and the effects of anorexia nervosa on other family members should be recognized.
- Restoration of healthy weight, allowing further growth and development, and treatment of physical complications.
- Meal plans should be agreed carefully with dietitian input.
- Prevention and recognition of refeeding syndrome is essential (Refeeding syndrome, p. 417)

- Provide education on nutrition and healthy eating. Carers should be included in any dietary education or meal planning.
- Patients should be offered family interventions that directly address the eating disorder, and also individual sessions to provide support, improve motivation, and address core maladaptive thoughts, attitudes, and feelings, e.g. family-based therapy.
- Treat comorbidity. Note psychological symptoms often improve with weight gain.
- The balance of responsibility for treatment between parents and young people will vary according to the age of the young person. Nevertheless, where young people refuse necessary treatment, parental right to override this must be considered, as well as use of MHA legislation.
- Where the young person is at serious risk, e.g. through physical compromise or suicidality, or is not progressing in outpatient treatment, specialist inpatient or day patient care in age-appropriate settings should be considered.
- Liaison with school, e.g. graded return if has been absent.
- Relapse prevention.

Bulimia nervosa

Essence

Disorder characterized by recurrent binges and purges, a sense of lack of control, and morbid preoccupation with weight and shape. Rarely occurs pre-pubertally, much more common in girls, often comorbid with depression. Many people with bulimia are of a normal weight.

Management

- Work with the family to establish clear structures and boundaries. Strike a balance between individual work and family work.
- Adolescents with bulimia nervosa may be treated with CBT adapted, as needed, to suit their age, circumstances, and level of development, and including the family as appropriate.
- Address physical health concerns, e.g. due to frequent vomiting.
- No clear evidence to support drug treatments in this age group, but fluoxetine could be a useful adjunct in older adolescents.

Eating disorders 2

Many children present with clinically significant disorders, which do not fit diagnostic criteria. Children and adolescents may also present with other types of clinical eating disturbance, including the following.

Avoidant/restrictive food intake disorder (ARFID)

DSM-5 (and ICD-11) diagnosis—eating or feeding disturbance, as manifested by persistent failure to meet appropriate nutritional and/or energy needs, leading to one or more of the following:

- Significant weight loss (or failure to achieve expected weight gain or faltering growth in children).

- Significant nutritional deficiency.
- Dependence on enteral feeding or oral nutritional supplements.
- Marked interference with psychosocial functioning.

It is not characterized by disturbance of thoughts regarding weight and shape or by weight loss behaviours, and it cannot be attributed to a medical condition or better explained by another mental health disorder.

Pica

This is a common condition (in ICD-10/11 and DSM-5) where there is persistent (>1mth) eating of non-nutritive substances at a developmentally inappropriate age (>1yr). Common substances are: dirt, stones, hair, faeces, plastic, paper, wood, string, etc. It is particularly common in individuals with developmental disabilities and may be dangerous or life-threatening, depending on the substance ingested. Consequences may include toxicity, infection, or GI tract ulceration/obstruction. Typically occurs during second and third years of life, although young pregnant women may exhibit pica during pregnancy. Hypothesized causes include: nutritional deficiencies; cultural factors (e.g. clay); psychosocial stress; malnutrition and hunger; and brain disorders (e.g. hypothalamic problem).

Rumination disorder

DSM-5 (and ICD-11: rumination–regurgitation disorder) diagnosis characterized by voluntary or involuntary regurgitation and re-chewing of partially digested food. Occurs within a few minutes postprandial and may last 1–2hrs. Regurgitation appears effortless and is preceded by belching. Typical onset 3–6mths of age; may persist for several months and then spontaneously remit. Also occurs in older individuals with ID. May result in weight loss, halitosis, dental decay, aspiration, recurrent respiratory tract infection (RTI), and sometimes asphyxiation and death (5–10% of cases). Causes include: ID; GI tract pathology; psychiatric disorders; and psychosocial stress. Treatment includes physical examination and investigations, behavioural methods, and nutritional advice.

Other disorders

- Selective eating characterized by long-standing restriction of the types of food eaten: rarely harmful but can result in social difficulties.
- Pervasive refusal/pervasive arousal withdrawal syndrome (not in DSM/ICD): a rare disorder defined as ‘a profound and pervasive refusal to eat, walk, talk, or engage in self-care’. May require inpatient treatment.
- Eating disturbance may also be a feature of other disorders (e.g. depression, OCD) or part of a physical disorder where there is a psychological component to the presentation.

Depression in children and adolescents

Epidemiology

The 12-mth point prevalence is 1% pre-pubertal and 3% post-pubertal. No sex difference pre-pubertal, more common in ♀ thereafter.

Risk factors

♀ , post-pubertal, parental history of depression, personally undesirable life events resulting in permanent change of interpersonal relationships in friends or family, past history of depressive symptoms, high trait levels of neuroticism or emotionality, ruminative style of thinking.

Aetiology

Stress vulnerability model useful in understanding the development of depression. Vulnerability (genes, endocrine, early family factors) interacts with social stressors (poverty, family discord, etc.) to provoke depression at time of life stress.

Clinical features

Children and young people can present in a different way to adults, although diagnostic criteria remain the same in terms of mild, moderate, and severe depressive disorder and a duration of at least 2wks with symptoms present most of the time.

- *Mood changes:* unpleasant mood—may not be described as sadness, but as 'grumpy', 'irritable', or 'down'; also anhedonia.
- *Thought changes:* reduced self-esteem, confidence, concentration, and self-efficacy. Hopelessness, guilt, indecisiveness. Suicidal thoughts must be taken seriously. Rarely psychotic symptoms.
- *Physical/behavioural changes:* reduced energy, motivation, self-care. Fatigue, apathy, withdrawal, appetite and sleep change, aches and pains, self-harming, and suicidal behaviour.
- *Results in impairment of functioning*—school, social, family, etc.
- *Recovery:* 10% at 3mths, 50% at 1yr, 70–80% at 2yrs. Treatment shortens the duration of illness.
- 30% recurrence within 5yrs; 3% risk of suicide over the next 10yrs. Chronic/recurrent illness significantly impairing all aspects of life.
- 20% will later manifest bipolar disorder.

Comorbidity

Fifty per cent to 80% meet criteria for additional non-depressive disorder, including CD/ODD, separation anxiety, OCD, ADHD, eating disorder, and other anxiety disorders.

Differential diagnosis

Physical health conditions; certain medication, substance misuse; adjustment disorders; other psychiatric disorders.

Assessment

- Family and individual interviews. Assess whether depression is present, contributing factors to development and maintenance, presence of comorbidity, and suicide risk.
- Collateral from teachers, GP, social services, etc.

- Consider use of rating scales, e.g. Moods and Feelings Questionnaire.
- Physical examination and laboratory investigations, as indicated.

Treatment

(Based on NICE guidance.)[28]

Mild depression—usually at Tier 1 or 2

- Up to 4wks of 'watchful waiting'—stay in contact with the family.
- If symptoms continue, offer 2–3mths of individual non-directive supportive therapy, group CBT, or guided self-help.
- If unresponsive, refer for Tiers 2/3 review, and treat as for moderate to severe.

Moderate to severe depression—Tiers 2–4

- Offer individual CBT, IPT, or family therapy for at least 3mths as first-line treatment.
- If unresponsive after 4–6 sessions, multidisciplinary review and consider alternative/additional psychological therapy and pharmacotherapy.
- If unresponsive after further six sessions, comprehensive multidisciplinary review and consider alternative psychotherapy, including child psychotherapy.
- Consider inpatient treatment if the child/young person is at high risk of suicide, serious self-harm, and self-neglect, or when the required intensity of treatment (or supervision) is not available elsewhere, or for intensive assessment.

Pharmacotherapy/electroconvulsive therapy

Medication should be combined with psychological therapy. Ensure a full discussion of the rationale, delayed onset of action, time course, need to take regularly, and risks/benefits of drug with the family, and provide written information. Monitor for side effects and benefits. Limited evidence SSRIs increase the risk of suicidal ideation and/or behaviour and of discontinuation of treatment due to adverse events. Fluoxetine is recommended first line (10mg daily, increase if necessary to 20mg after 1wk). Second line: sertraline or citalopram. TCAs, venlafaxine, and St John's wort are not recommended. Continue medication for at least 6mths after remission, then phase out over 6–12wks. In psychotic depression, consider augmentation with atypical antipsychotic. Only consider ECT for young people (12–18yrs) with very severe depression and either life-threatening symptoms or intractable and severe symptoms that have not responded to other treatments. Monitor regularly for 1yr for the first episode or 2yrs for a recurrent episode. If at high risk of relapse, consider follow-up work as prevention or to promote the child's and family's identification and management of early warning signs.

Suicide and self-harm in young people

This section should be read alongside Assessment after suicide, p. 848 in Chapter 18.

Asking about self-harm and suicidal thoughts must be part of all psychiatric assessments. Sometimes young people will ask clinicians not to tell parents about their suicidal thoughts or self-harming. At the beginning of each assessment, discussion should be had around confidentiality. Young people should be encouraged to share information around self-harm and suicide with parents or carers. Information cannot be kept confidential if there is a serious risk of harm to the young person or to others.[29]

Epidemiology

There has been an overall increase in self-harm and suicide during the twentieth century, and suicide now represents the third cause of death in adolescents. Completed suicide is more common in ♂; however, suicide attempts and self-harm are more common in ♀ and include self-poisoning, cutting, burning, swallowing things, and head banging.

Factors increasing the risk of completed/attempted suicide

- Persistent suicidal ideas.
- Previous suicidal behaviour.
- High lethality of method used and ongoing availability of lethal method.
- High suicidal intent and motivation, e.g. planning, stated wish to die.
- Ongoing precipitating stresses, e.g. interpersonal conflict, legal problems.
- Mental disorder: mood disorders, psychosis, substance misuse, CD, anxiety disorders, PTSD, eating disorders.
- Poor physical health.
- Psychological factors: impulsivity, neuroticism, low self-esteem, hopelessness.
- Parental psychopathology and suicidal behaviour.
- Physical and sexual abuse.
- Disconnection from major support systems, e.g. school, family, work.

Self-harm

Around 1 in 12 young people will self-harm at some point, and it can be an important sign of high emotional distress that requires exploration and intervention. Some young people self-harm as a release from difficult feelings, while others may self-harm to regain a sense of control or to punish themselves. Young people can often become caught in a cycle of feeling initial relief through self-harm, followed by feeling guilt, which then increases the chance of further self-harm. Most young people who self-harm do not intend to kill themselves.

Among adolescents who harm themselves, the factors that are most likely to be associated with a higher risk of later suicide include:

- ♂ gender.
- Older age.
- High suicidal intent.
- Psychosis.
- Depression.
- Hopelessness.
- Having an unclear reason for the act of self-harm.

Prevention

- Screening and treating psychiatric disorders.
- Crisis lines/access to help.
- Promoting positive mental health in schools.
- Education of parents, the public, and the media.
- Intervene in cluster situations (e.g. several suicides in a school).
- Reduce access to means, e.g. limits on paracetamol purchase.

Management

Parents/carers have a responsibility to ensure the safety of their child, and they should be involved in assessment and management. Good risk assessment, management plans, and crisis intervention can make a significant difference to the outcomes for children and young people.

- Safe care planning may involve several agencies, including: child and adult medical and mental health services, social work, police, education, and voluntary agencies. Writing down the safety plan and giving copies to young people and their families is useful.
- NICE guidelines and guidance from the Royal College of Psychiatrists advise admission to an age-appropriate medical bed following self-harm, to allow both medical treatment and a full psychosocial assessment to be carried out at an appropriate time by trained professionals.
- Mental health risk assessment by a specially trained staff member, with ready access to psychiatric opinion, is essential.
- A minority will need inpatient psychiatric care. This should be in an age-appropriate unit.
- It is usually appropriate to refer on to the local CAMHS to allow a fuller assessment and ongoing support, including work in establishing safer coping skills and strategies.
- Where assessment reveals abuse issues, these need to be tackled according to the local procedure.

Bipolar disorder in children and adolescents

Epidemiology

Bipolar affective disorder is rare in prepubescent children; prevalence in adolescents is ~1%. Familial factors are important, with a four times greater risk of mood disorder in the offspring of parents with bipolar affective disorder.

Presentation

Will depend on the phase of the disorder. See Depression in children and adolescents, p. 696 for depression. A hypomanic/manic child may present as over-active, has a reduced need for sleep, and be full of self-belief, grandiose, and challenging of authority. They are often irritable with pressured speech and racing thoughts and can become aggressive or violent. Poor concentration affects school performance. Overspending, sexual disinhibition, and risk-taking behaviour may feature. Psychotic symptoms may be present. Mixed affective states are also recognized.

Diagnosis

Adult criteria are used (Introduction, p. 316), but:

- Mania must be present.
- Euphoria must be present most days, most of the time (for 7 days).
- Irritability is not a core diagnostic criterion.
- Symptoms must be developmentally inappropriate and out with the normal for that child.
- Do not diagnose solely on the basis of a major depressive episode in a child with a family history of bipolar disorder, but follow up such children carefully.
- DSM-5 now includes 'Disruptive mood dysregulation disorder' (DMDD) in the 'Depressive disorder' chapter for children up to the age of 18yrs who exhibit persistent irritability and frequent episodes of extreme behavioural dyscontrol (to combat the over-diagnosis of childhood bipolar disorder).

Differential diagnosis

- ADHD or CD. Seek history of clear-cut episodes of elated mood, grandiosity, and cycles of mood. Mood cycles may also help distinguish bipolar affective disorder from schizophrenia.
- Substance misuse.
- Organic causes.
- Sexual, emotional, and physical abuse may manifest as disinhibition, hypervigilance, or hypersexuality.

Comorbidity

ADHD (70%), substance abuse (40%), ODD 40%), anxiety disorders (30%), Tourette's syndrome (8%), bulimia nervosa (3%).

Outcome

Early-onset bipolar affective disorder and treatment delay have a poorer outcome. There is commonly a family history, suggesting that this is a highly genetic form of bipolar affective disorder. The course is often chronic and less responsive to treatment, with atypical and rapid-cycling features especially difficult to treat. Suicide risk is high in bipolar disorder, with rates of completed suicide of ~10%.

Assessment: key areas

- Individual and family.
- Thorough developmental history, family history of mood disorder, pattern of mood changes.
- If psychotic symptoms are present, referral to an early intervention psychosis service is recommended.
- Comorbidity.
- Impact of disorder on life—family, friends, school, etc.
- Collateral information from school, etc.
- Physical examination and appropriate investigations.
- Level of risk—suicide, exploitation, violence.
- Capacity/consent/legislation.

Management[30]

- Involve parents/carers in developing care plans, so they can give informed consent, support treatment goals, and help ensure adherence.
- Consider inpatient or day patient admission to age-appropriate services or more intensive community treatment for patients at risk of suicide or other serious harm.
- *Acute mania:* NICE recommends aripiprazole[31] as a possible treatment (for up to 12wks) for moderate to severe manic episodes in young people aged 13yrs and older with bipolar I disorder. Other treatment recommendations are as for adults (Treatment of acute manic episodes, p. 340). Start at lower doses than for adults, using the children's *BNF* as a guide. Medication monitoring must be carried out, as per guidelines. Valproate should not routinely be used in girls of childbearing age.
- *Depression:* if mild, monitor and support. If moderate to severe, offer psychological therapy first, e.g. CBT, IPT, for at least 3mths. If the episode is severe, consider medication, as per adult guidance, but with dose reduction (Treatment of depressive episodes, p. 342).
- *Long term:* consider an atypical antipsychotic associated with less weight gain and no increase in prolactin levels. As second line, consider lithium for ♀ patients and valproate or lithium for ♂ patients.
- Psychological interventions include: psychoeducation/relapse prevention and support to individual and family; CBT; IPT, family therapy.
- Education and vocational training, school liaison, additional support.
- Voluntary organizations and support groups.

Psychosis[32,33]

Psychosis in adolescence is uncommon, and very uncommon in children. Psychosis is an umbrella term for a range of experiences affecting thoughts, feelings, behaviour, and perception and is a constellation of signs and symptoms, rather than diagnosis.

Disorders include: schizophrenia, schizoaffective disorder, and delusional disorder. Diagnosis is on the basis of standard ICD-10 or DSM-5 criteria (The diagnosis of schizophrenia, p. 184).

Psychosis in children and adolescents

Psychotic illnesses are rare in young children and present a particular challenge in both diagnosis and management. Very young children under 6yrs have preoperational cognitions, and thus 'reality testing' is blurred by a range of normal fantasy material. Imagined friends, transient hallucinations under stress, and loose associations may all occur within the normal spectrum of development. There is also growing evidence for an association between trauma and psychosis.

Differential diagnosis There are many causes of apparent psychotic symptoms in children and adolescents. This means that assessment of a child with symptoms requires extreme care and thoroughness.

Possible explanations include

- Normal experience.
- Organic conditions (e.g. TLE, thyroid disease, SOL, automimmune disorders, WD, encephalitis, and substance misuse disorders).
- Mood disorders.
- Pervasive developmental disorder/autism.
- OCD.
- Schizophrenia.
- Bipolar affective disorder.
- Language disorders.
- Dissociative disorders.
- Culture-bound syndromes.

Schizophrenia

Prevalence

One in 10,000 children, increases with age, peak onset 15yrs onwards.

Clinical features

- More often insidious than acute onset.
- Often up to 12mths of prodromal phase with transient symptoms.
- Associated with poor premorbid function with developmental delay.
- Negative symptoms often precede positive symptoms and are prominent.
- Comorbidity common—conduct and developmental problems, substance misuse.
- Strong family history of schizophrenia/psychosis.
- Poorer outcome than adult-onset schizophrenia. Poor premorbid functioning, negative symptoms, 'disorganized' clinical presentation, and longer duration of untreated psychosis predict worse outcome.

Assessment: key areas

- Good engagement important.
- Detailed developmental history.
- History from multiple informants, including family and school.
- Ask about negative symptoms.
- Screen for comorbidity, including substance misuse.
- Risk assessment.
- Physical examination and medical investigations may include CT/MRI/EEG brain and psychosis screen bloods. Consider testing serum for VGKC antibodies and NMDA receptor antibodies. ECG important if wanting to start medication.
- Consider use of rating scale, e.g. K-SADS.
- 5Ps formulation helpful for thinking about stress and vulnerability.

Management

- Inpatient, day-, or outpatient care? Will depend on complexity, level of risk, likely engagement/concordance, and likely effect on the child of being away from the family. Care should be in age-appropriate setting. Early intervention psychosis services are becoming more common.
- Medication—age-specific evidence base limited. SGA favoured over FGA. Choice of antipsychotic can be influenced by side effect profile, and patients should be made aware of this, e.g. potential weight gain with olanzapine. Risperidone is usually first line, and aripiprazole second line (if risperidone has not been tolerated, contraindicated, or ineffective).[33]
- Children must be monitored closely, following local guidelines.
- 'Treatment resistance' defined as ineffective trials of at least two atypical antipsychotics at optimum dosage for around 6–8wks. Clozapine may be useful, and around two-thirds of patients will benefit.
- BDZs or antipsychotics may be useful in managing acute behavioural disturbance not responsive to non-pharmacological measures (Severe behavioural disturbance, p. 1048).
- Antipsychotic medication will likely need to be continued for at least 18–24mths post-recovery.
- Supportive, psychoeducational, and specific psychotherapeutic individual work, e.g. CBT for psychosis, social skills training.
- Family support, education, and therapeutic work, as appropriate.
- Manage comorbidity.
- Ongoing risk assessment and management.
- Educational/vocational input, e.g. reintegration package to school, specialist education provision, supported college/work placements.
- Awareness of consent/capacity/legal issues.
- Voluntary sector—Young Minds website, Mind>.
- Help with access to advice regarding benefits, housing, and other supports.
- Thoughtful and measured transition to adult services.

Gender identity disorder

Gender identity disorder (GID) in young people was, until a few years ago, thought to be an extremely rare condition. Recently, however, there has been a huge increase in the number of referrals to specialist young people's gender services, and it is not unusual for generic CAMHS to work with young people with gender issues, either as a referral for assessment or to monitor any concurrent mental health difficulties.

GID (or gender dysphoria) refers to distress about incongruence between an individual's sex assigned at birth and their perceived gender. Diagnostic criteria, prognosis, and interventions offered differ, depending on the age of presentation (see also Gender identity and gender dysphoria 1: overview, p. 508).

Gender identity disorder in childhood (F64.2)

- Pre-pubertal child; ♂:♀ ratio ranges between 6:1 and 3:1.
- An aversion to ♂/♀ anatomical structures and insistence they want to be, or are, the opposite sex.
- A preoccupation with interest/activities, peer group, and clothing more stereotypically associated with the opposite sex.
- Dysphoria must be present for at least 6mths.
- <20% of cases persist into adolescence, and onset of puberty can lead to a resolution or intensifying of dysphoria. Therefore, it is important the child experiences early puberty and medical management is supportive—'watchful waiting'—allowing for the possibility of change. Some parents elect to support their child by allowing them to transition to their perceived gender, either full time or on a more intermittent basis, e.g. on holiday or in safe spaces, such as home.
- When puberty starts, if dysphoria persists there may be a role for puberty blockers (GnRH analogues) ( Staged process of intervention, see below).

Gender identity disorder in adolescence and adulthood (transsexualism—F64.0)

- Post-pubertal; ♂:♀ ratio is close to 1:1.
- The desire to live and be accepted as a member of the opposite sex, usually accompanied by the wish to make their body as congruent as possible with the preferred sex, and usually accompanied by a desire to change their body and how they present to others.
- Dysphoria is not a symptom of another mental disorder or a chromosomal abnormality.
- Almost 100% of cases persist into adulthood.
- Depending on the age and stage of the young person, a number of different interventions can be considered.

Staged process of intervention

The World Professional Association for Transgender Health (WPATH) Standards of Care[34] advocates a 'staged process' of

medical intervention, moving in a step-by-step manner from fully reversible interventions to partially reversible and, finally, irreversible interventions. This allows for assimilation of change and reflects the possible fluidity of gender. The age at which interventions can be initiated varies between countries, reflecting the differences in legal systems and the age of majority.

- *Stage 1*—assessment/exploration—taking a detailed, comprehensive history, including the young person's understanding/experience of 'gender'; questionnaires, such as the Utrecht Gender Dysphoria Scale, may be used. If dysphoria is 'persistent, consistent, and insistent', physical interventions can be considered; evidence of this might include the young person starting to progress with 'social transitioning', i.e. adopting on an identity more congruent with their perceived gender.
- *Stage 2*—'Puberty blockers' (GnRH analogues) may be initiated by endocrinology to halt further pubertal development or in advance of initiating gender affirming hormones. These are fully reversible and give the young person 'space' and time to consider their options without ongoing physical body changes.
- *Stage 3*—gender-affirming (also known as 'cross-sex') hormones can be considered if dysphoria persists. Some of their physical effects are irreversible, e.g. deepening of the voice, and the negative impact of hormones on a young person's fertility also needs to be considered prior to their initiation. Consent and capacity also need to be assessed.
- *Stage 4*—Gender-affirming surgery. These irreversible procedures include bilateral mastectomy and chest reconstruction surgery, and genital (or gender reassignment) surgery—the latter is not offered to adolescents.

Young people's gender identity services encourage a collaborative network approach, maintaining close links and regular liaison with other professionals involved with the young person.

Associated mental health difficulties

Young people with gender dysphoria experience high rates of depression, self-harm, and suicidal ideation, most likely as a consequence of bullying and stigmatization. Accepting the recent increase in the number of referrals to gender services, it is likely that a growing number of these young people will also have contact with local CAMHS teams.

It is also increasingly recognized that there is a much higher prevalence of ASD in the gender dysphoric population than would be expected, and with less of a ♂:♀ ratio differentiation. The reasons for this are unclear and require further research—are these separate or co-occurring conditions? Is dysphoria a reflection of ASD 'restricted interests'? Assessment can be more protracted in such cases, but a diagnosis of ASD does not preclude an individual also meeting the criteria for a diagnosis of gender dysphoria.

ICD-11 renames GID 'Gender incongruence (of childhood; of adolescence or adulthood)' and shifts the concept outside of 'Mental, behavioural, or neurodevelopmental disorders' and into

'Conditions related to sexual health'. There is increasing awareness that gender is not a binary concept (i.e. ♂/♀), and some people identify as non-binary; this will need to be reflected in future revisions of operational criteria.

Substance misuse in children and adolescents

Substance misuse is increasingly common in young people. It affects 13% of adolescents referred to mental health services. The characteristics of use and the approach to management can be different to those in adults. Comorbidity is common—conduct problems, depression and other emotional disorders, ADHD, and eating disorders. Types of use include:

- Experimentation/exploration—usually social, about adventure.
- Social use—social acceptance important.
- Emotional/instrumental use—for the 'high' or to suppress unpleasant feelings and deal with stress.
- Habitual use—salience, tolerance, and negative consequences on life become prominent.
- Dependence—full dependence syndrome (The dependence syndrome, p. 574).

Assessment: key areas

- Involve the family where possible.
- Substance—types, routes, quantity, cost, context.
- Consequences of use—family, friends, development, education, employment, physical and mental health, criminal activity.
- Attitude to referral—Prochaska's theory of change.
- Link with other agencies, e.g. social services, education, youth justice.
- Risk—to self, others, child protection.

Management

- Brief interventions may be sufficient for young people with less severe substance misuse problems. The developmental stage and a shorter history mean rapid changes can be made.
- More severe problems are addressed by coordination of multiple agencies, e.g. mainstream CAMHS, social and education services.
- Structured treatment by specialist young people's substance misuse treatment services is recommended for the under-18s who have significant substance misuse problems (normally polydrug and alcohol misuse). This could include harm reduction interventions, psychosocial treatments (motivational therapies, cognitive behavioural treatments, family-based supports and treatment), and occasionally pharmacological interventions. Again this occurs in the context of interventions to address all of the young person's health, social, family, and educational needs, and therefore involves multiple agencies. The involvement of a young person's family or those with parental responsibility is

considered good practice and may be required with regard to consent.

Paediatric liaison psychiatry

Paediatric liaison psychiatry is a subspecialty of child and adolescent psychiatry, bringing together mental health clinicians with their paediatric colleagues, so that children who present with emotional distress through physical symptoms and those who experience psychiatric disorder associated with chronic paediatric conditions can have all of their health needs met. This may include: responding to children presenting with psychiatric crises in acute medical settings; management of unexplained symptoms; treating anxiety and mood disorders which are comorbid with chronic paediatric and life-limiting conditions; and diagnosing and managing children with complex neuropsychiatric disorders.

Mental health disorders are more prevalent in children with chronic paediatric conditions, particularly neurological, e.g. >35% of children with epilepsy will have an associated psychiatric disorder. Families appreciate that their children benefit from having all of these difficulties understood and treated in the one setting. A paediatric liaison service is not simply a CAMHS service located within a paediatric setting, but rather an MDT focusing on supporting paediatric practice through clinical discussions, joint work, teaching, and research activities.

Children and young people present to paediatric settings with self-harm, and in addition to supporting their psychiatric assessment and follow-up, paediatric liaison psychiatry clinicians have an important role in training paediatric staff, so that their response is compassionate and timely and supports the management of risk in this vulnerable population. NICE guidance supports young people who self-harm being offered an overnight stay which allows for a cooling-off period, as well as facilitating a comprehensive assessment the following day, ideally by a service which will provide follow-up. Other acute presentations can include acute anxiety, depressive disorder with suicidality, eating disorders, and psychosis, which will require a full psychiatric assessment and potentially a referral to community-based or inpatient CAMHS.

In addition to what psychiatric expertise can bring to paediatric neurology services, there is increasing evidence of the need for neurological expertise in the assessment of psychiatric presentations in children (such as anti-NMDA encephalitis which may present as psychosis). Neurological symptoms, such as Tourette's syndrome and Sydenham's chorea, which present to neurology may require significant therapeutic intervention with psychiatric medicines and/or psychological therapies. With ABI which may be due to trauma, cancer, or infection, there is a recognized pattern of acute and chronic neuropsychiatric vulnerability that requires a team approach to rehabilitation, involving a range of mental health skills in nursing, psychology, and psychiatry. Often a joint assessment involving both a psychiatrist

and a neurologist is the most efficient way to make a case formulation and plan further investigation and therapy. A similar approach is required for medically unexplained symptoms (MUS) which can affect any system in the body, with children and young people regularly presenting with non-epileptic seizures and motor or sensory difficulties.

Children and young people with intellectual disabilities

Children and young people with ID have disproportionately higher rates of mental health and behavioural difficulties, physical comorbidities, adverse life events, and poverty than their typically developing peers. Around 40% will have a comorbid mental health disorder. These can be more difficult to recognize, especially if the patient has limited or no verbal communication. Diagnostic overshadowing can lead to significant changes in presentation being misattributed to ID, rather than comorbid mental, physical, or psychological disorder.

Patients may present in crisis or distress on a background of longer-term changes in presentation. Biopsychosocial assessment is particularly important for patients with IDs. It is always important to exclude underlying physical health causes, e.g. pain, acute infection, or constipation. This is especially important if the ID is the result of a disorder with recognized medical complications, e.g. tuberous sclerosis. There is increasing information available about genetic disorders which also have a behavioural phenotype, i.e. characteristic patterns of motor, cognitive, linguistic, and social abnormalities.[35]

Multidisciplinary assessment is often required to provide a formulation which confirms diagnoses but also identifies additional protective factors or issues that can support or might hinder therapeutic interventions, e.g. sensory impairments/processing abnormalities, social and communication difficulties, sleep abnormalities, and psychosocial or iatrogenic factors.

Interventions are rarely uni-modal and should be specific and targeted to realistic goals. They should be developed in collaboration with the patient and their family/carers and within the context of involved services, e.g. may require additional community-based resources from social services. They should be culturally sensitive and appropriate to the patient's physical and mental health needs. Psychoeducation should be accessible to the patient and family to help them understand the IDs and comorbid difficulties.

There is often pressure on doctors to prescribe medication, especially at times of crisis. The cost–benefit ratio for prescribing any medication should be carefully considered. Medication is only helpful if it is appropriately targeted to a significant underlying symptom, e.g. anxiety. Short-term sedation in the absence of a clear assessment and care plan can further reduce the patient's

adaptive functioning and opportunities for learning. If medication is required, it is often used off licence. It is therefore important to:

- Identify any relative and absolute contraindications to medication, based on the patient's current presentation and past history.
- Identify symptoms that can be successfully managed, and include baseline assessments.
- Identify what other appropriate interventions might be needed. e.g. psychological.

Medication should be proposed as a trial, bearing in mind its mode of action, adverse effects (which may be more likely in a patient with IDs), and potential interactions with other medication the patient may be taking. It should also be in a preparation acceptable to the patient, e.g. whether they can swallow it or tolerate the smell/taste. This can be especially problematic for patients on the autism spectrum.

Informed consent should be sought from the patient, and if they are deemed not to have capacity to give it, the necessary legislation should be used.

The outcomes of any interventions should be monitored by reviewing the presence of target symptoms, the impact of potential adverse effects and the patient's adaptive functioning.

Forensic child and adolescent psychiatry

This is a small subspeciality within child and adolescent psychiatry, which deals with the mental health of young people who pose a significant risk of offending or behaving violently. Forensic Child and Adolescent Mental Health Services (FCAMHS) across the country have been set up to deliver assessment and treatment to a complex population in whom multiple comorbidities, social and educational disadvantages, higher incidence of physical ill health, and frequent drug and alcohol problems are present.

Looked after and local authority-accommodated, young people are more likely to have a mental disorder (46%) than a matched socially disadvantaged control group (15%) living in private households.[36] Young people in secure care have higher rates (three times) of mental disorder than controls in the community.[37] Apart from CDs, other psychiatric comorbidities include affective disorders, psychosis, anxiety disorders, ADHD, substance misuse disorder, and personality disorders. One study[38] showed that ♀ sentenced young offenders had a 32% (16% in ♂) lifetime history of suicidal attempt.

Many studies have shown that the peak age for a minor offending is 17–18yrs, of whom only a minority (5–10%) who are more likely to have experienced over a prolonged period of time severe family adversity and coercive parental style persist into adulthood.[39] Callous and unemotional personality traits may arise as a result of multiple genetic, perinatal, and early developmental factors (early attachment difficulties, poor peer relationships, and serious early life child sexual abuse).[40] A few longitudinal studies have shown that children with CD at the age of 7yrs are ten times more likely to

be involved in criminality in adulthood.[41] Childhood adversity (physical neglect, poor parental supervision, disrupted family, large family size, a convicted parent, mother with depression) between the ages of 8 and 10yrs is a good indicator of later antisocial traits.[42]

Secure CAMHS services

A range of services are available to offending adolescents, including adolescent inpatient services, secure hospitals, forensic CAMHS, general CAMHS, youth offender institutions (YOIs), youth offending teams (YOTs), secure training centres (STCs), specialist schools, social services, secure children's homes (SCHs), voluntary sector, and adult mental health services. Services widely vary across the UK.

Forensic adolescent consultation and treatment service (FACTS)

There are three such Tier 4 services in England and Wales, and they provide specialist consultation, assessment, and treatment to mostly 10- to 18-year olds who present with high-risk behaviours in the community in the context of significant mental health needs. These teams have emerged from, and are usually aligned to, local medium secure units.

Community-based forensic teams (FCAMHS)

These Tier 3 and 4 community teams have emerged from local CAMHS services and provide specialist assessment, treatment, and consultation service to courts, YOIs, YOTs, STCs, CAMHS, Looked After and Accommodated Children (LAAC) services.

Secure inpatient services

The majority of secure CAMHS inpatient services meet medium secure standards, but they look after young people who, on one hand, may be ready for transition to community services and, on the other, meet high-secure referral criteria (there is no high-secure provision for young people). Referral to medium secure units is through the National Commissioning Group (NCG)[43] that meets weekly to consider referrals nationally. There are also low-secure units both in the NHS and in the independent sector. All the above units are mostly based in England. Scotland does not have secure inpatient services for adolescents and refers patients to England via the NCG. However, there have been recent developments that aim to address this gap.

Child maltreatment 1: general issues

Maltreatment

We now have a greater understanding of the effect of maltreatment on the developing brain, and there is evidence that abuse and neglect can lead to structural and functional changes.[44,45] Children who have been maltreated are more likely to have mental health and physical health problems in the future.

Child maltreatment is any action or inaction, which causes significant harm to a child. Abuse of power, responsibility, and grooming are often factors in maltreatment. The WHO[46] estimates that a quarter of all adults have been physically abused, and 1 in 5 women and 1 in 13 men have been sexually abused. Many people will have also experienced emotional abuse. It is likely that if a child experiences abuse, it will be of more than one type.

Types of abuse

Domestic abuse

Witnessing (seeing, hearing, noticing injuries) domestic violence or being involved in an abusive relationship. This can include physical and sexual violence, threats, psychological abuse, financial abuse, and taking control over all aspects of another's life.

Physical abuse

Hitting, shaking, throwing, poisoning, burning or scalding, drowning, suffocating, or otherwise causing physical harm to a child [includes fabricated/induced illness (previously known as Munchausen syndrome by proxy (see Box 15.7)].

Neglect

The persistent failure to meet a child's basic physical/psychological needs, likely to result in serious impairment of the child's health and development. Includes failure to provide adequate: food, clothing, shelter, and supervision; protection from harm or danger; and access to appropriate medical care. Also includes substance misuse during pregnancy.

Emotional abuse

Persistent emotional maltreatment resulting in severe effects on the child's emotional development. Includes denigration, humiliation or rejection, emotional neglect, developmentally inappropriate expectations, repeated separations, and mis-socialization of the child. Other types of abuse are likely to result in emotional abuse.

Box 15.7 Fabricated or induced illness

- Manifest by a person feigning or inducing illness in a child (or others) in order to obtain medical attention.
- A form of child abuse in that it subjects the child to emotional abuse, unnecessary medical procedures, hospitalization, or other treatments that are harmful to the child.
- Can be very difficult to detect as the perpetrating (and colluding) adult/s often deny and disguise their behaviour.
- It is essential for professionals to be alert to it, especially where a child repetitively presents for medical attention.
- Undetected, this form of abuse can result in very serious consequences (including fatality) for the child.
- DSM-5 and ICD-11 both use the term 'Factitious disorder imposed on another'.

Sexual abuse

Forcing or persuading a child into sexual activity. This can include contact and non-contact abuse. This may include penetrative and non-penetrative physical acts, and noncontact activities such as involving children in looking at, or producing, sexual images, watching sexual activities, or encouraging children to behave in sexually inappropriate ways. There has been an increase in sexual abuse and exploitation with the rise in Internet use.

Online abuse

Any form of abuse occurring on the Internet and can include cyberbullying, sexual abuse, and grooming.

Female genital mutilation

Partial or total removal of the genitalia, with no medical reason.

Child trafficking

Removal of children from their homes to be sold and/or exploited for work, sexual abuse, or criminal activity.

Child maltreatment 2: the duty of care

All healthcare professionals have a duty to safeguard and promote the welfare of children. It is important to remain alert to the possibility of abuse or neglect. The assessment of risk and interventions to protect children require a multidisciplinary and multi-agency approach. In general, the duty to patients, including that of confidentiality, is overridden by the duty to protect children. Referrals regarding possible abuse will usually be made to social work services or the police.

Making a child protection referral

- Know how to access your local multi-agency child protection procedures and follow them.
- It is good practice to discuss the referral with the child, as appropriate to their age and understanding, and with their parents, to seek agreement to the referral, unless such discussion would place the child at risk of significant harm. It is not necessary to have agreement to make the referral.
- Ensure that you carefully document all concerns, discussions, decisions made, and reasons for these decisions.
- Discuss the situation with a senior colleague.
- Follow up oral communications in writing.
- Have as much information regarding the child and your concerns available as possible.
- Do not do anything that may jeopardize a police investigation, e.g. asking a child leading questions or attempting to investigate the allegations of abuse. If in doubt, seek advice.

Child maltreatment—where does CAMHS fit in?

- Being alert to abuse, responding to concerns expressed by individuals and families, and making a child protection referral.
- Involvement in multi-agency discussion and planning for the child.

- Assessment of mental health problems, including neurodevelopmental disorders.
- Therapeutic work, as appropriate.

Mental health outcomes of abuse

Children who are abused have an extremely high rate of psychiatric disorders, both during the abuse and later on. Some of the most common disorders/difficulties associated with previous abuse include:

- PTSD/complex trauma.
- Attachment disorder.
- Dissociative disorders.
- Conversion disorders.
- Emotional dysregulation.
- Depression.
- Substance misuse.
- Self-harm.
- Neurodevelopmental disorders.

Looked-after children

'Looked after' is the term used to describe all children in public care, including those in foster or residential homes and those still with their own parents/family but subject to care orders.[47] The majority have become 'looked after' because of abuse or neglect.

Outcomes for looked-after children

In general terms, young people have significantly poorer outcomes in terms of education, employment, and physical and mental health.

Mental health of looked-after children

Children and young people who have been looked after have often experienced many risk factors for the development of mental health problems: abuse or neglect, family dysfunction, parental ill health or substance misuse, changes of carer, high socio-economic disadvantage, discrimination, and trauma. Adverse childhood experiences are closely related to the development of physical and mental health problems. Mental health problems in LACs are common, and >1 diagnosis is often present.

Common presentations include: depression, anxiety disorders, behavioural difficulties, self-harm, emotional dysregulation, substance misuse, attachment disorder, PTSD, ADHD, and ASD-like difficulties.

Working with looked-after children

This requires multi-agency cooperation, as multiple needs must be met.

- A stable and secure environment for the child where their physical, emotional, and social developmental needs are met is fundamentally important.
- A positive attachment with a caregiver is essential.
- Even if a change of environment is unavoidable, continuity in the form of attending the same school and retaining the same

workers is important.
- Support to the child's carers—social work services, CAMHS, and other agencies may all play a role.
- Individual CAMHS work with the child can be helpful in the context of these needs being met.
- Placement instability is not a reason to withhold CAMHS input.
- Important RCTs are under way to investigate the impact of infant mental health teams for young children who have been maltreated.

'The test of the morality of a society is what it does for its children.'

Dietrich Bonhoeffer (1906–1945) German Protestant theologian and anti-Nazi activist

Prescribing in children and adolescents

- Children and adolescents are not small adults! This is particularly important in regard to the dynamics and kinetics of medication.[48,49] Some drugs are metabolized faster, while others more readily cross the blood–brain barrier. Susceptibility to side effects also varies with age (e.g. children are more likely to develop dystonias and less likely to develop akathisia with neuroleptic treatment).
- Medication should be considered as just one component of treatment—it should be accompanied by psychological, social, and educational interventions.
- Medication is often prescribed for symptoms, rather than syndromes (e.g. stimulants for hyperactivity symptoms in a variety of disorders).
- Drug trials in children are problematic, both ethically and practically, so there are inadequate data regarding safety and efficacy for many psychotropics. Clinicians are often faced with ethical decisions regarding the use of medication not licensed for use in these age groups.
- The decision to prescribe needs to take into account both the young person's and the parents' attitudes to medication, and to consider issues of consent and capacity.
- Potential benefits and risks have to be weighed up in each case, fully discussed with families and recorded in the notes. Often providing written information can be helpful.
- Start low and go slow. Starting doses with children and adolescents are often at least half that of what would be prescribed in adults.
- Dose titrations are done gradually, with close attention to side effects.
- Avoid polypharmacy where possible.
- Some children and young people can also have paradoxical reactions to medication, e.g. BDZs can cause severe agitation.
- Drug monitoring in accordance with local and national guidelines should always be carried out, e.g. antipsychotic medication,

ADHD medication.

Family therapy

While FT or systemic practice is a treatment we tend to associate more specifically with child and adolescent psychiatry nowadays, its origins actually stem from research in adult psychiatry carried out in the 1940s and 1950s looking at the impact of different patterns of communication and interaction in families where a member had a diagnosis of schizophrenia.[50] FT has been influenced by many different schools of thought since then, including psychodynamic theory, general systems theory, social constructionism, feminist ideas, and attachment theory.

While there are an increasing number of different approaches used in FT, they all recognize the 'interrelatedness' of the person with the problem and other family members, and the role of the family 'system' in helping to resolve the problem and share the idea that 'the whole of the system is more than the sum of its individual parts'. In addition, the causality of a problem is described as 'circular', rather than linear.

By the general systems theory, all systems strive to maintain homeostasis, i.e. resist change. However, all families are constantly experiencing change, as individual family members grow, develop, and individuate (or not); this is described as the family life cycle. These changes present challenges for all families, e.g. an emerging adolescent striving for independence, and problems arise when the family becomes 'stuck' and is not able to resolve successfully these transitions.

FT can be used wherever it is recognized there are difficulties in family relationships. Depending on the problem, it may be used as the main treatment in child and adolescent psychiatry or concurrently with other treatments such as individual therapy and/or medication.

Key elements of some different family therapy models

Structural FT Minuchin proposed that clear rules govern optimal family organization and structure, with a focus on hierarchy, subsystems, and boundaries. Challenges to this structure results in problems which the family attempts, with success, to address. In this model, the therapist takes a directive, 'expert' stance to change family behaviours and re-establish the preferred structure.

Strategic FT In this model, developed by Haley, problems always arise because of difficulties with hierarchy within the family system. Haley suggested that rather than attempting to resolve this, the family was ambivalent about having the problem, as it provided some gain for them. Reflecting this idea, the therapist takes a more strategic stance to overcome their resistance, such as using 'paradox', e.g. suggesting the problem may not be resolvable, and setting family tasks such as 'prescribing' or 'pretending' the problematic symptom.

In these early models of FT, the therapist was very much the 'expert', with a focus only on behaviour. Failure to comply was

interpreted as resistance, and there was no acknowledgement of a family's beliefs, feelings, or past experience. Subsequent models of FT began to address this power imbalance, recognizing the family as the real 'experts' in what might be effective, with more of a focus on collaboration as the therapist works with the family to jointly explore their difficulties.

Milan systemic FT This model was developed in the early 1970s in response to the closure of large psychiatric institutions in Italy. There is increasing emphasis on family beliefs and meanings, and the idea of there being no single objective truth about the problem. The Milan model introduced the concepts of 're-framing' the problem and hypothesizing, as well as ideas about neutrality and curiosity, with the therapist taking more of a 'not-knowing', non-expert stance.

More recent developments in FT reflect the influence of social constructionism. There is also recognition that the family is the expert—the therapist 'joins' them to work collaboratively to resolve the problem—and more of a focus on the use of language; examples include:

Narrative FT Difficulties are a reflection of unhelpful, dominant, 'problem-saturated' narratives (or stories) we hold about ourselves. The therapist helps to highlight 'unique outcomes' to challenge this narrative and, through the use of 'externalization', i.e. separating the problem from the person, helps to rewrite this to a more helpful one.

Solution-focused FT This is the opposite of taking a 'problem-focused' medical history, with an interest on exceptions and solutions. Goals and scales are used, and the 'Miracle Question', problem-free talk, and complements are important elements of this approach.

Circular questioning Karl Tomm highlighted that the different way a question is asked about a problem—either 'circular' or' linear'—can be a therapeutic intervention in itself, serving to either add additional information and open new possibilities of change for the family or maintain the restricted status quo, respectively.

Most FT practitioners work using an integrated approach, incorporating elements of many different models, which allows for flexibility and best 'fit' with each family. Also, some therapists work as part of a team using a one-way mirror. Use of the reflecting team lets the family observe the team 'reflect' on their prior conversation with the therapist, so allowing new perspectives and possibilities to emerge.

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Chapter 16

Forensic psychiatry

Introduction

The word 'forensic' derives from the Latin *forensis* (the forum or court). The scope of forensic psychiatry can be broadly defined as those areas where psychiatry interacts with the law. Although all psychiatrists may be involved, from time to time, in forensic work, forensic psychiatrists in the UK are specifically involved in the assessment and management of mentally disordered offenders and other patients with mental disorders who are, or have been potentially or actually, violent. Provision of forensic services varies across the country, and forensic psychiatrists work in a variety of settings (e.g. high-security hospitals; medium-secure units; low-secure wards and sometimes open wards; outpatients, day hospitals, and within community teams; prisons).

This chapter on forensic psychiatry concentrates on mentally disordered offenders. Mental health legislation, incapacity legislation, and other non-criminal legal matters are covered in Chapter 20

(see also Table 16.1). The practice of forensic psychiatry is dependent on legislation, the criminal justice system, and local service provision. Hence, although some aspects have fairly wide applicability (e.g. the relationship between mental disorder and offending), many aspects (e.g. legal provisions for mentally disordered offenders) are specific to a particular jurisdiction. We have tried to cover the main legal jurisdictions of the British Isles—England and Wales, Scotland, Northern Ireland (NI), and the Republic of Ireland (RoI)—in some detail.

Table 16.1 Abbreviations used to refer to legislation

a	article
p	paragraph
s	section
sch	schedule
MHA 1983	Mental Health Act 1983
MHA 2001	Mental Health Act 2001
MH(NI)O 1986	Mental Health (Northern Ireland) Order 1986
MCA(NI) 2016	Mental Capacity Act (Northern Ireland) 2016
MH(CT)(S)A 2003	Mental Health (Care and Treatment) (Scotland) Act 2003
CP(S)A 1995	Criminal Procedure (Scotland) Act 1995
CJ(NI)A 1966	Criminal Justice (Northern Ireland) Act 1966
CJ(NI)O 1996	Criminal Justice (Northern Ireland) Order 1996
CL(I)A 2006/2010	Criminal Law (Insanity) Act 2006/amended 2010
CP(IUP)A 1991	Criminal Procedure (Insanity and Unfitness to Plead) Act 1991
PoCC(S)A 2000	Powers of Criminal Courts (Sentencing) Act 2000
Other legislation will be referred to in full, or abbreviations used in tables or boxes will be explained where they arise.	

A brief history of forensic psychiatry

Major crimes carried out by those who are mentally unwell are referred to in Greek mythology, ancient drama, and philosophical writings. Heracles (known as Hercules by the Romans) was punished with madness by the jealous Goddess Hera. He misidentified and killed his children, mistaking them as attackers before embarking on his atoning labours. Orestes, driven to despair following his father's death, hears the voice of the Gods commanding him to kill the perpetrator—his mother. His story, depicted in the original courtroom drama by Euripides (*c.*480–406 BC), sees him acquitted by the casting vote of the head judge as the jury is split 50:50 as to his culpability. Plato (*c.*428–347 BC), writing a model law for his utopian republic, suggested a reduced punishment for mentally disordered homicide perpetrators.

The first identified mentally disordered offender was Aelius Priscus in 180 ce. When asked whether he, a man who killed his mother in a fit of rage, should be held responsible for the crime, the joint Emperors Marcus Aurelius and Commodus replied that if it was determined that Priscus's actions were the result of furor due to alienation of the mind and that he killed his mother under the guise of madness, then punishment need not be considered since he is punished enough by madness itself. Roman jurists believed that, like children, the mad lacked judgement, depriving their actions of informed consent. They did not seek punishment for the insane, but they did mandate confinement. In the case of Aelius Priscus, the Emperors ordered him to be kept under restraint to protect his safety and that of his neighbours. The burden of confinement fell to the families in the first instance.

That advice was to influence the development of the insanity defence across Europe and was cited in homicide cases in Venice until the Middle Ages. The English jurist Henri de Bracton (*c.*1210–1268) wrote about criminal intent, stating that only through examination of the actions and intent of a crime can the commission of a criminal act be established. Richard of Cheddestan (1270) who, while deranged, killed his wife and children before failing to kill himself was simply confined to prison by the Sheriff of Norfolk and thus was subject to a special Royal Inquiry.

By the eighteenth century, there were a number of legal writings about the insanity defence and tests for fitness to plead, but there was no disposal to psychiatric hospital for those acquitted. In 1800, King George III narrowly missed being killed by a bullet, as he entered the Royal Box at Drury Lane Theatre. The assailant was James Hadfield, an ex-military man who, following a head injury, had conversations with God and laboured under various religious delusions. At his trial for high treason, Hadfield's lawyer successfully argued that he was insane at the time of the offence. Until that time, defendants acquitted on the grounds of insanity were generally released back to the safekeeping of their families. This case led to the development of the Criminal Lunatics Act of 1800, which allowed for the indefinite detention of insane defendants. Hadfield was admitted to Bethlem Hospital where he spent the remainder of his life.

Insanity law, as we recognize it today, led from the acquittal on the grounds of insanity of Daniel M'Naghten in 1843. He had attempted to murder Prime Minister Robert Peel but instead shot and killed the Prime Minister's private secretary Edward Drummond. At trial, his defence successfully argued that M'Naghten's delusions of persecution had rendered him no longer a reasonable and responsible being. Due to the controversy of the case, the House of Lords posed questions to a panel of judges, and the answer to one such question, regarding the legal definition of insanity, became enshrined in law as the M'Naghten Rules (

Legal criteria, p. 779).

The evolution of forensic services

After the development of the Criminal Lunatics Act of 1800, special wings at Bethlem Hospital were established. The Central Mental Hospital in Dublin was the first secure hospital in Europe and began in 1850 as Central Criminal Lunatic Asylum for Ireland. In England, a secure institution was opened in 1863 at Broadmoor Hospital to house an increasing population of mentally ill offenders at Bethlem. Further high-

security or 'special' hospitals opened later in the twentieth century—Rampton in 1912 as an overflow facility for Broadmoor, and Ashworth in 1988 following a merger of Moss Side Hospital and Park Lane Hospital, itself opened as a Broadmoor overspill unit in 1974. In Scotland, Carstairs was an Army Hospital from 1939 to 1948 before becoming the 'State Institution for Mental Defectives', and following the transfer of criminally insane prisoners from HM Prison Perth, it was renamed the 'State Mental Hospital' in 1957, covering both Scotland and NI.

In the 1970s, Graham Young, an ex-patient of Broadmoor Hospital, poisoned a number of his work colleagues, leading to convictions of murder and attempted murder. Subsequent recommendations made in the *Butler Report* of 1975 led to the creation of medium-secure hospitals to act as intermediate step-down units between high-secure care and the community in the 1980s. Later, in 1992, the *Reed Report* emphasized the importance of close-to-home care and the least restrictive alternative. This, together with the increasing population of prisoners and community patients requiring secure hospital care, led to the creation of low-security hospitals, offering a bridge between secure care and community living (Low-security units, p. 751).

The criminal justice system

The criminal justice process

The following outlines the chain of events that may happen, following the commission of an offence.

Offence reported to police → police record offence → police investigate offence → police find suspect → police charge suspect → report to prosecutor → decision of prosecutor to prosecute → initial court appearance (remanded on bail or in custody) → trial → conviction → sentence (community, prison, fine, discharge, mental health disposal).

Most offenders will not go through all these stages (e.g. by pleading guilty, an offender may go from initial court appearance directly to sentencing). At various stages, there may be specific provisions for mentally disordered offenders (Overview of the pathways of mentally disordered offenders through the criminal justice and health systems, p. 770; Table 16.3, p. 772).

Prosecution

- *England and Wales*—following report by police, the *Crown Prosecution Service* decides whether the individual should be prosecuted; headed by the *Director of Public Prosecutions*; service divided into areas and further into branches, each headed by the *Chief Crown Prosecutor*. Some minor offences prosecuted by the police.
- *Scotland*—the *Lord Advocate* responsible for prosecuting serious crimes; heads the *Crown Office* in Edinburgh; most work carried out by 'advocates-depute'. The *procurators fiscal* prosecute less serious crimes locally.
- *NI*—the Department of the *Director of Public Prosecutions* for NI. The Director discharges his functions under the superintendence of the Attorney General.
- *RoI*—Director of Public Prosecutions.

Criminal courts

England and Wales

- *Magistrates Court* All adult defendants appear here first for a decision to remand on bail or in custody; hears all summary (minor) cases and some indictable (serious) cases; maximum sentence 6mths' imprisonment ± £5000 fine; magistrates are mainly lay justices of the peace, with legally qualified stipendiary magistrates in some urban areas. No jury.
- *Crown Court* Deals with more serious indictable offences—cases are committed by the Magistrates Court for trial and/or sentencing; deals with appeals from the Magistrates Court; six regions or 'circuits'; trials heard by a judge and jury (12 adults); sentencing by a judge.
- *Youth Court* Juvenile offenders (10–17yrs); magistrates with special training hear cases; deals with all offences, except the most serious.
- C*ourt of Appeal (criminal division)* Usually three judges; hears appeals by the defendant against a conviction or sentence; hears appeals by the Crown against a sentence; can increase or reduce a sentence.
- *Queen's Bench Division of the High Court (Divisional Court)* Appeals on points of law and procedure.
- *UK Supreme Court* Established by the Constitutional Reform Act 2005 and assumed the judicial functions of the House of Lords in 2009. Highest appeals court in the UK for civil matters and in England, Wales, and NI for criminal matters.

Scotland

- *District Court* Minor cases heard by lay justices of peace (maximum sentence 60 days' imprisonment) or (only in Glasgow) stipendiary magistrates (similar powers to a sheriff).
- *Sheriff Court* Six sheriffdoms, each headed by a Sheriff Principal; summary (sheriff alone) or some solemn (sheriff and jury) cases heard; maximum sentence 12mths' (summary) or 5yrs' (solemn) imprisonment.
- *High Court of Justiciary (criminal trials)* Hears serious cases; judge and jury (15 adults); unlimited sentencing powers; Edinburgh, Glasgow, and on circuit in other towns and cities.
- *High Court of Justiciary (Court of Criminal Appeal)* Highest court of criminal appeal in Scotland. Cases heard by three or more judges; no appeal to UK Supreme Court.

Northern Ireland

- Essentially as for England and Wales.
- *Diplock Courts* (Judge sitting alone) were used for indictable scheduled (mainly terrorist) cases 1973–2006.

Republic of Ireland

- *District Court* Legally qualified justices; summary (up to 6mths' imprisonment) and some indictable (up to 12mths' imprisonment) cases heard.
- *Circuit Court* Cases heard by a judge and jury; indictable cases and appeals from a District Court.
- *Central Criminal Court (High Court)* Cases heard by a High Court judge and a jury; serious indictable cases.
- *Special Criminal Court* Only scheduled offences (mainly terrorist cases); cases heard by three judges.

- *Court of Criminal Appeal* One justice of the Supreme Court and two of the High Court hear appeals from Circuit, Central Criminal, and Special Criminal Courts.
- *Supreme Court* Chief Justice and High Court justices hear appeals from the Court of Criminal Appeal.

Crime

A crime is an act to an individual, a community, the society, or the state that is punishable by law. It is a fluid, man-made concept defined by societal rules modified by legislation. What constitutes a crime varies across geography and history. The age of criminal responsibility is 10yrs old in England and Wales and NI, 12yrs in RoI, and 8yrs in Scotland, but the minimal age of prosecution is 12yrs. Crime is broadly divided into *crimes against the person* (interpersonal violence, assaults, homicide, sexual offences, indecent exposure), *crimes of dishonesty* (burglary, theft, fraud, forgery), *criminal damage* (property damage, arson), *car crime, drug crime* (use, possession, supplying), and *other*.

Crime rates

(See Table 16.2.) Only about half of crimes is reported to the police (and officially recorded), of which 13% resulted in a charge/summons (9% for sexual assaults) in England and Wales in 2016. Peak rates 18–20yrs for ♂, 2–3yrs earlier for ♀. Young ♂ aged 10–20yrs account for 50% of crimes. ♀ comprise under 20% of offenders.

What are the 'causes' of crime?

- **Biological** The idea of 'born criminals' (Cesare Lombroso) has been discredited in favour of environmental factors. Concordance rates of antisocial behaviour in MZ and DZ twins vary widely. No clear evidence that XYY (so-called 'super-♂' syndrome) causes criminality.
- **Intelligence** Lower intelligence is disproportionally represented in prison populations and in victims of crime.
- **Upbringing** Poor parental supervision, harsh/erratic discipline (high punishment, low praise), marital disharmony, low parental involvement, antisocial families, large family size.
- **Personality** Impulsivity, low threshold for aggression, other traits associated with antisocial personality disorder or psychopathy (callousness, low victim empathy, irresponsibility, egocentricity).
- **Alcohol and substance misuse** Linked to antisocial behaviour, impulsivity, and poor behavioural control, and directly to criminal acts (e.g. acquisitive acts to fund habit). Indicator of risk in forensic populations.
- **Childhood disorders** ADHD, CD, and ODD are all associated with future offending.
- **Social theories** *Rational choice theory:* people act in self-interest; they choose to offend after weighing up potential reward against risk (e.g. being caught). *Social disorganization theory:* delinquency is higher in areas with poor housing, poor health, socio-economic disadvantage, transient populations, and low employment. *Strain theory:* crime occurs when cultural goals (e.g. wealth, status) are not within an individual's reach through acceptable means (e.g. education, employment). Associated with theories of social deprivation and marginalization. *Subculture theory:* individuals gain respect and status in communities with pro-offending values through antisocial behaviour, 'gang culture', and committing delinquent acts with others. *Social control theory:*

people conform to social norms due to strong social bonds and break the law when such bonds are weak. Conformity relates to an upbringing with law-abiding principles, commitment to a particular lifestyle (e.g. being employed, a parent), and attachment to law-abiding peers. *Labelling theory:* the act of labelling someone a criminal makes them a criminal. *Gender theory:* men commit crime disproportionately. Feminist perspectives suggest that 'being ♂' is a dominant position, and expressions of masculinity may involve engagement in crime.

Table 16.2 Crime statistics for the British Isles

Comparisons across jurisdictions should be made cautiously. The number of crimes with the percentage of total for that jurisdiction in parentheses are quoted here.

	England and Wales (2017/18)[1]	Scotland (2016/17)[2]	NI (2017/18)[3]	RoI (2017)[4]
Violence against the person	1,395,688 (25.3)	7164 (3.0)	34,162 (34.8)	16,725 (7.8)
Sexual offences	150,732 (2.7)	10,822 (4.5)	3443 (3.5)	2975 (1.4)
Robbery	77,103 (1.4)	16,299* (6.8)	577 (0.6)	21,276 (9.9)***
Theft	2,009,697 (36.4)	84,867 (35.6)	30,262 (30.8)	69,661 (32.5)
Criminal damage and arson	590,299 (10.7)	52,514 (22.0)	18,290 (18.6)	23,253 (10.8)
Drug offences	136,089 (2.5)	32,641 (13.7)	6502 (6.6)	16,850 (7.9)
Possession of weapons	38,694 (0.7)	3271 (1.4)	1000 (1.0)	2370 (1.1)
Public order	385,864 (7.0)	18,795 (7.9)	1107 (1.1)	31,231 (14.6)
Fraud and forgery	638,882 (11.6)	12,039 (5.0)	2958** (3.0)	6124 (2.9)
Total	**5,515,882 (100)**	**238,651 (100)**	**98,301 (100)**	**214,623 (100.0)**

* Only housebreaking.

** Miscellaneous crimes against society.

*** Robbery and burglary.

All sources below accessed 25 July 2018:

1 https://www.ons.gov.uk/peoplepopulationandcommunity/crimeandjustice/bulletins/crimeinenglandandwales/yearendingmarch2018

2 http://www.gov.scot/Publications/2017/09/3075

3 https://www.psni.police.uk/inside-psni/Statistics/police-recorded-crime-statistics/

4 https://www.cso.ie/multiquicktables/quickTables.aspx?id=cja01

Homicide

Definition

Homicide is the killing of a person by another.

Types

- *Murder*—a person of sound mind and discretion (i.e. sane) commits an unlawful killing (i.e. not self-defence or justified) of any reasonable creature (human being), with an intent to kill or cause grievous bodily harm. The verdict results in mandatory life imprisonment.
- *Manslaughter/culpable homicide—voluntary:* killing with intent to murder, but partial defence applies (e.g. suicide pact, severe provocation); *involuntary:* (1) conduct was grossly negligent, given the risk of death, and did kill; (2) conduct was an unlawful act involving a danger of harm and resulted in death. A judge can impose any sentence.
- *Infanticide* (not in Scotland)—killing of a child under 1yr old.
- *Death by dangerous driving*.

Psychiatric defences

- *Insanity*—based on the absence of *mens rea* (a guilty mind) (Criminal responsibility 1, p. 778).
- *Diminished responsibility* (reduces murder to manslaughter)—the perpetrator was suffering from an abnormality of the mind, a broader concept than mental disorder, at the time of killing (Criminal responsibility 2, p. 780).

Homicide rates

A total of 571 recorded homicides in England and Wales (2015/2016), 57 in Scotland (2015/2016), 24 in NI (2014/2015), and 62 in RoI (2015). Rates per million population/yr: England and Wales 10, Scotland 10, NI 13, RoI 14, USA 40, and South Africa 320.

Victims of homicide

Usually ♂ (70%); highest rates per million population are children under 1yr old; 10% of victims are under 16yrs [57% killed by (step)parent]; women more likely killed by partner/ex-partner (44% in women, 6% in men); men more likely killed by friends or acquaintances (32% in men, 8% in women) or strangers (31% in men, 12% in women). A third of victims are under influence (alcohol ± illicit substances) at the time of death in England and Wales.

Perpetrators of homicide

Predominantly ♂; most common methods: (1) sharp implement, (2) kicking/punching (♂ victims), strangulation/asphyxiation (♀ victims); quarrels, revenge, and loss of temper are common circumstances; 2 in 5 suspects under influence (alcohol ± illicit substances) at the time of the offence (especially ♂).

Mental disorder and homicide

A minority of offenders are mentally disordered. Alcohol and drug dependence most common (1 in 3 suspects are drug users in England and Wales), then personality disorder. Schizophrenia, delusional disorder, and depression may be relevant in a few cases.

Psychiatric assessment in homicide

As with other offences, the mental state needs to be assessed both currently and retrospectively at the time of the offence. It is important to ascertain whether the person was criminally responsible (which involves exploring the circumstances of the murder and what the person was

thinking when they committed the offence), whether the person has a mental disorder, what the risks are, what, if any, treatment is recommended, and where this treatment ought to be provided (see Box 16.1).

Box 16.1 Legal aspects of homicide in different jurisdictions

The definitions of what constitutes murder differs across the individual nations in the UK and RoI. In England, Wales, and NI, the offender must be of sound mind and discretion and had malice aforethought. Intent is assumed if reckless, knowing that death or serious injury was a virtual certainty. The definition is narrower in the RoI which incorporates an intentional act to kill. In Scotland, murder is committed when the accused acted with the intention to kill or acted with 'wicked recklessness'.

Scotland differs from England, Wales, NI, and the RoI, with the crime of culpable homicide, instead of manslaughter. There is no legal category for suicide pacts. Additionally, there is no crime of infanticide in Scotland.

Violence 1: theoretical background

Violence is an act that causes injury or harm, but notions of what constitutes acceptable and unacceptable behaviour and what constitutes harm are culturally influenced and constantly under review, as values and social norms evolve. For example, use of corporal punishment in schools was once common, but now such punishment would constitute assault. Besides death and physical injury, psychological insults, property damage, and verbal abuse also constitute harm. This section will focus on acts of physical assault on others.

Types of aggression

Violence can be classified in terms of determinants, goals, victims, characteristics of the act, or motivation. Aggressive acts can incorporate both instrumental and expressive elements, e.g. aggression used to subdue a victim for sexual gratification (instrumental) and as an angry reaction to the victim fighting back (expressive).

- *Instrumental aggression*—occurs as a by-product of trying to attain a goal. The act of violence is not an end, but a means to some other end, e.g. aggression in a mugging is aimed at obtaining money. Predatory aggression is a related term used in animal studies to describe aggression used for hunting food. Sadistic aggression is a form of instrumental violence used to achieve sexual and/or emotional pleasure through control and /or inflicting harm on a victim.
- *Expressive aggression*—(aka hostile or affective aggression) is affect-driven. It is triggered by a strong, sometimes disproportionate, emotional response (usually anger) to a situation. Acts tend to be impulsive, brief, and explosive, but they may be planned. The primary goal is to harm the other person; examples are violence in response to the discovery of infidelity or in response to being threatened. Specific types of expressive aggression which occur primarily in the animal kingdom are intermale, maternal, and territorial aggression.

Theories of aggression

- **Biological** Ethological studies of animals suggest that aggression functions to ensure population control by aiding selection of the

strongest for reproduction and social organization; low levels of 5-HT activity and cholesterol associated with aggression; modest genetic contribution; limbic and frontal areas important in determining aggression; testosterone may have a role.

- **Psychodynamic** *Freud:* aggression initially seen as a response to frustration, later as an instinct; hostile character traits may be caused by fixation at/regression to oral or anal stage. *Ego psychologists:* aggressive instinct needs to be sublimated or displaced. *Neo-Freudians:* emphasized sociocultural origins of aggression. *Attachment theory:* emphasizes early relationships and the impact of their disruption on adult interaction.
- **Learning theory** Rewarding/reinforcing contingencies important, leading to the development and maintenance of aggressive responses to certain stimuli or in order to attain a goal (material gain, escape from aversive stimulus). *Frustration aggression hypothesis*: frustration leads to aggression, depending on the perceived value of the blocked goal and the degree of frustration; punishment may inhibit aggression but may itself be frustrating or provide model for aggression. *Observational learning* (modelling).
- **Cognitive** Learning theories seen as too simple and cognition important; cognitive distortions about victims may facilitate aggressive behaviour; appraisal of arousal and context important in determining occurrence of aggression; causal attributions and moral evaluations of self and others may facilitate or reduce aggression.
- **Social** *Social structure theory:* poor socio-economic standing stifles the pursuit of financial and social success, so seeks success through deviant methods. *Social process theory:* socialization process through contact with institutions and social organizations steers the individual towards violence. *Neutralization theory:* neutralization of personal beliefs and values, as the person drifts between conventional and offending behaviour. *Social control theory:* direct (e.g. through punishment) and indirect (e.g. through social affiliation) control prevents violence. *Labelling theory:* an original deviant act (primary deviance) results in stigmatization and labelling, leading to hostility, alienation, and resentment in the individual and further deviant behaviour (secondary deviance).

Violence 2

Causes of a violent act

Violent acts involve a perpetrator, a victim, and contextual factors. There will usually be an interplay between factors related to these three. Many of the background factors associated with offending generally (Crime, p. 728) are associated with violence, although violent offenders are usually young adults, rather than teenagers. The specific factors of importance in determining the occurrence of aggressive acts are the same as those needing to be considered in assessing risk of violence (Assessing risk of violence, p. 748).

Types of violent offences

There are a wide range of recognized violent offences. For example, in England and Wales, ‘violence with injury’ includes attempted murder, intentional destruction of a viable unborn child, causing death by

dangerous driving/careless driving when under the influence of drink or drugs, more serious wounding or other act endangering life (including grievous bodily harm, with and without intent), causing death by aggravated vehicle taking, assault with injury, and assault with intent to cause serious harm and less serious wounding offences. 'Violence without injury' refers to threats or conspiracy to murder, harassment, other offences against children, and assault without injury (formerly common assault where there is no injury). The seriousness of an assault may be determined by chance factors such as the availability of medical care and the physical health of the victim. Other ways of categorizing violent offences are in terms of the victims and circumstances: domestic/spousal abuse, child abuse (Child maltreatment 2: the duty of care, p. 714), and elder abuse.

Rates of violence

See Table 16.2—the breakdown in figures can be found within weblinks.

Psychiatric assessment and management

The clinical assessment of a person who has been violent or who appears to be at risk of violence involves a thorough psychiatric history and an MSE and an assessment of risk (Assessing risk of violence, p. 748). If the person is facing criminal charges, then a report may have to be prepared, considering the issues set out in Court reports and giving evidence 1, p. 764. Management of risk is described in Factors to consider (based on HCR-20), Risk management, p. 749. The acute management of violent patients is described in Severe behavioural disturbance, p. 1048.

Domestic violence

One in four women and one in six men experience domestic violence during their lifetime. Women are victims of 70% of domestic violence. In over 10% of cases, serious injuries occur (e.g. broken bones, loss of consciousness). May be a contributory factor in 25% of suicide attempts, and in 75% of cases, children witness the violence. Accounts for 25% of violent crimes in Britain (which will be an underestimate).

Elder abuse

A systematic review found a wide variation in prevalence across countries, from 3% to 27%.[1] Over 6% of older people reported abuse in the last month; 5% of couples reported abuse in their relationships. A quarter of those dependent on carers reported significant psychological abuse, and a fifth reported neglect.

Sexual offences 1

Offences range from indecent exposure to rape.[2,3] Other types of offences (e.g. homicide, assault, robbery, theft, and burglary) may have a sexual component. Sex offending, sexual deviation, and inappropriate sexual behaviour (a range of sexual behaviours which cause offence and/or harm to others) are overlapping, but distinct, concepts. A man who commits a sexual offence against a child may or may not be a paedophile, and a man who exposes himself may or may not be an

exhibitionist. A 17-yr-old ♂ who has sexual intercourse with his 15-yr-old girlfriend is committing a sexual offence but will probably not have a sexual deviation. Here the focus will be on indecent exposure and contact sexual offences against adults and children.

Types

There is a wide range of sexual offending, including, but not limited to, rape, sexual assault (with or without penetration), sexual coercion, sexual exposure, voyeurism, administering a substance for sexual purposes, communicating indecently (with a child), trafficking for sexual exploitation, intercourse with an animal, and soliciting; special legislation exists to prosecute sex offenders, but legal classification says little about the actual incident. Whether the behaviour is an offence or abusive depends on whether the victim is able and willing to consent. All sexual behaviour with children is abusive and illegal. Possession of extreme pornography (depicting bestiality, necrophilia, or severely sadistic acts) is illegal in the UK.

Rape and sexual assaults on adults

Usually men against women. ♀ perpetrators uncommon. Most rapists are young men from poor social and economic backgrounds, who have a history of other offending. Sadistic fantasy is common in men, but sadistic sexual offending is rare.

Rape and sexual assaults on children

♀ children are most commonly victimized. *Intra-familial abuse* (incest) is usually perpetrated by fathers or stepfathers against daughters. Family pathology (dysfunctional families with generational blurring) often mixed with pathology in the perpetrator (substance misuse, personality disorder). *Extra-familial abuse* is less common. Adolescent offending is associated with poor social skills, physical unattractiveness, and isolation from peers. Adult offenders are more likely to have paedophilic sexual fantasies than adolescent and intra-familial offenders. Can reflect general antisocial attitudes or the expression of repressed paedophilic impulses in susceptible, disinhibited men (by alcohol, stress, psychiatric disorder). Many offenders can become skilled at targeting and grooming victims to gain trust.

Online sexual offending against children

The Internet has increasingly become a method of distributing obscene/unlawful sexual images, especially of children. The speed of technological developments and the global reach of the Internet, across legal jurisdictions, have left the police and legal authorities struggling to keep pace, and the law in this area is continually developing. In England and Wales, the Protection of Children Act 1978 and Section 160 of the Criminal Justice Act 1998 made it an offence for anyone to take or allow to be taken, possess, show, distribute, or publish any indecent image of a child. Similar laws exist in Scotland and NI. The Criminal Justice and Immigration Act 2008 outlawed possession of ‘extreme pornographic images’.

Rates of offending

A total of 2.5% ♀ and 0.4% ♂ reported experiencing a sexual offence in previous 12 months; the vast majority was indecent exposure, sexual threats, and unwanted touching; 0.4% of women were victims of rape (or attempts) in 2012; ♀ aged 16–19yrs at highest risk of victimization, risk decreases with advancing age; victim–offender relationships in most

serious offences: partner (56%), other person known to victim (30%), stranger (10%), and family member (7%); 15% of offences reported to the police.

Aetiology

Multiple theories have been proposed; single-factor models include biological (e.g. abnormal hormone levels, genetic abnormalities), evolutionary (e.g. sexual coercion as a conditioned response to overcome competitive disadvantage), personality (e.g. poor childhood attachment leads to ineffectual relationships, antisocial attitudes, etc.), cognitive (involves thinking errors of denial, minimization, entitlement, and blaming of victim; distorted interpretation of actions, e.g. confusing a hug with sexual interest), social learning (abused to abuser or influence of extreme pornography resulting in sexual deviance), and feminist (does our culture tolerate masculine violence towards women?). Single-factor theories are flawed and have largely been replaced by multifactor models incorporating personal, psychological, and environmental factors.

Typologies

Various typologies have been proposed (based on the nature of the act, motivation of the offender, characteristics of the offender, and characteristics of the victim) but lack validity and reliability. Examples include compensatory, sadistic, power/control, and opportunistic typologies for rapists. Sexual offenders are a heterogenous group, and it is not helpful to squeeze them into typology boxes.

Rates of sexual re-offending

Ten to 20% of sexual offenders commit further sexual offences over 5–10yrs; non-sexual recidivism more common than sexual recidivism; higher in extra-familial child molesters, compared to familial molesters; the more diverse the offender (♂ and ♀, adults and children), the higher the risk of re-offending.

Sexual offences 2

Characteristics of sex offenders

A heterogenous group; possible relevant factors are deviant sexual fantasy, sexual dysfunction, abnormal personality (impulsivity, lack of empathy, inhibition, social anxiety), relationship difficulties (poor social skills, social isolation), alcohol or drug misuse, cognitive distortions (regarding sex, women, or children), problems with assertiveness and control of anger, histories of victimization.

Mental disorder and sex offending

The most common mental disorders found in sex offenders are personality disorder, paraphilias, and alcohol and substance misuse; severe mental illness is rare. Sex offenders with psychosis share many features of other sex offenders, and offending is rarely due to specific psychotic symptoms. Disinhibitions due to mania or organic disorders may lead to, usually minor, offences. Most sex offences committed by people with ID are associated with lack of sexual knowledge, poor social skills, and inability to express a normal sex drive appropriately. A few more serious and persistent offenders with ID may share characteristics with other sex offenders. Sexual side effects (e.g. anorgasmia, impotence) sometimes cause paradoxical problems such as an increase in masturbation and the devising of more deviant sexual fantasies.

Assessment

Aim to gather sufficient evidence to determine the risk, and formulate an understanding of the case. Use as many sources of information as possible. At interview—full psychiatric history, including psychosexual history (see Box 16.2), personality assessment, and MSE; explore the nature of current and previous offences. Try to establish a rapport before asking about sexual history. Some centres (mainly in North America) use penile plethysmography (measuring the extent of penile erection in response to various stimuli). Viewing time assessments are based on the finding that people spend more time looking at images they find sexually appealing.

Box 16.2 Components of a psychosexual history

- Acquisition of sexual knowledge, e.g. from peers, family, pornography.
- Sexual attitudes, e.g. rape-supportive, towards women/children.
- Sexual development, e,g. age of puberty, age started dating, age of first sexual encounter.
- Relationship history, e.g. number, duration/quality of relationships, gender/age of partners, fidelity, abuse.
- Sexual orientation, e.g. ♂, ♀, children.
- Sexual fantasies.
- Sex drive, e.g. strength of libido, sexual preoccupation.
- Sexual dysfunction, e.g. erectile issues, premature or delayed ejaculation (can also ask about medications and physical health).
- Current sexual practices, e.g. nature and frequency of sexual outlets (e.g. intercourse, masturbation), materials used (e.g. pornographic images, videos, thoughts), specific conditions required for arousal.

Risk assessment

Risk factors can be divided into *historical factors* (e.g. previous sexual and non-sexual violence, childhood behavioural problems, employment problems, substance misuse, relationship problems), *stable dynamic factors*—most commonly targeted through treatment (e.g. poor social influences, hostility towards women, pro-offending attitudes, poor problem-solving, sexual deviance, impulsivity, callousness), and *acute factors* that may indicate that offending is imminent (e.g. stress, escalation in drug or alcohol use, new access to victims). Interestingly, denial has not been found to be related to recividism and may actually be protective. Poor victim empathy is also not a risk factor. Various sexual violence risk assessment instruments are available, including Static-99, Sexual Violence Risk-20 (SVR-20), and Risk for Sexual Violence Protocol (RSVP).

Management

Needs to be individualized and based on risk assessment.

Monitoring Techniques include talking to the offender, friends, and family; covert surveillance; CCTV; drug and alcohol testing; and checking use of the media/Internet.

Supervision Overly restrictive supervision can be counter-productive, but strategies can involve detention in institutions (prison, secure hospital), mandatory assessment at day centres, notification requirements of whereabouts, electronic tags, and curfews.

Treatment Psychological programmes are available in prisons and through probation in the community; group CBT is the treatment of choice. SSRIs may be useful in treating intrusive fantasies or urges; anti-libidinals are more appropriate where there is difficult-to-control hypersexual arousal or deviant sexual urges. Medication should be given on a voluntary basis.

Victim safety planning Involves restricting access to named victims or a group of potential victims. In the UK, multiple agencies (police, criminal justice, social work, prisons, health) work together via the multi-agency public protection arrangements (*MAPPA*) framework to provide risk management.

Circles of Support Is a service established in Canada, provided by trained volunteers, which provides social support for high-risk sex offenders no longer under statutory community supervision.

Stalking

Stalking[4] encompasses a constellation of behaviours in which an individual inflicts repeated, unwanted intrusions (contact or communications) upon another in a manner that could be expected to cause distress and/or fear in any reasonable person. Behaviours include following, loitering nearby, spying on, approaching victims, or communicating via phone calls, text messages, emails, or social media. Motivations are varied; different typologies have been described. Stalking has existed for centuries but only more recently been construed as a social problem. The first state to criminalize stalking was California in 1990, after a series of high-profile cases.

Epidemiology

One in five ♀ and one in ten ♂ are stalked at some point in their lifetimes; in the UK, 5 million people are stalked every year; 80–90% of perpetrators are ♂; 80% of victims are ♀. In a large Canadian study, 33% of victims were pursued by an ex-spouse, 14% by an ex-intimate partner, 28% by casual acquaintances, 8% by a stranger, 5% by a family member, 5% by a workmate, and 2% by a current spouse; 4% of stalkers were unidentified.

Stalker typology

- *Rejected stalkers* Pursue victims in order to reverse, correct, or avenge rejection (e.g. divorce, termination of relationship). Previous sexual relationship. They want to keep victim in their lives.
- *Resentful stalkers* Pursue a vendetta because of a sense of grievance against the victim. Motivated by a desire to frighten and distress. Not following a sexual relationship.
- *Incompetent suitors* Despite poor social or courting skills, incompetent suitors have a fixation on, or in some cases a sense of entitlement to, an intimate relationship with those who have attracted their amorous interest.
- *Predatory stalkers* Initially spy on victims as a precursor to a sexual assault. Stalking can be sustained in this group due to the stalker taking pleasure in voyeurism and fantasy about the coming attack. The victim is often a stranger or an acquaintance.
- *Intimacy seekers* Are infatuated with their victims and believe their victims are infatuated with them too. No previous sexual relationship.
- *Public figure stalkers* Comprise three additional groups: *help seekers* (repeatedly seek help from public figures, as do not know who else to

turn to), *attention seekers* (hungry for notoriety), and *chaotic* (motivation is intense, but uncertain).

Mental disorder

Stalking is a behaviour, not a mental disorder, but research suggests that up to 50% of offenders experience some sort of mental disorder, with personality disorders, schizophrenia and other psychotic disorders, depression, and substance use disorders being the most common. Where mental disorder does play a role, its contribution varies, depending on the nature of the symptoms experienced. A significant minority of cases occur as a result of erotomanic delusions, in which the stalker believes the victim to be in love with them. These stalkers invest heavily in their fictional relationships and often believe the victim has been secretly communicating with them through seemingly innocuous acts or via the media. Victims of stalking can develop depression, PTSD-like symptoms, anxiety disorders, and substance misuse problems.

Stalking of health professionals

Health professionals (especially mental health professionals) are at risk of being stalked, compared to the general public. In a Royal College of Psychiatrists postal survey, 10% of responding psychiatrists reported having been stalked; 30% reported harassment. Most stalkers were patients.

Stalking risk assessment[5]

Risk factors *For recurrence/persistence:* intimacy seeker or ex-partner, stalker over 30yrs, personality disorder (particularly combined with substance misuse), chronic psychosis, sending unsolicited materials; *for violence:* ex-intimate partner, absence of psychosis, suicidal ideation, revenge motive, poor education, threats of violence, personality disorder; *for homicide:* ex-intimate partner, appearing at victim's home, shorter duration of stalking; threatening messages in victim's car, last-resort thinking.

Screening tools (e.g. S-DASH and SASH) are sometimes used by the police to identify high-risk cases and guide prioritization.

Structured professional judgement tools (e.g. SAM, SRP) can help with risk formulation and management.

What to do if you are being stalked

- Inform others (family, friends, neighbours, work, police) what is happening, as stalkers will use embarrassed secrecy on the part of the victim to further their stalking aims.
- Protect personal information (e.g. social networking sites, household rubbish).
- Use an answering machine (enables recording of the stalker's calls).
- Keep a diary, and retain all evidence of stalking.
- Contact the police early and whenever further incidents occur.
- Obtain a restraining order which, if breached, will result in the incarceration of the stalker (although it will not usually prevent stalking in itself).
- Give one clear message that you are not interested in a relationship or that the relationship is over, but do not give repeated messages.

Other offences

Arson

Fire setting is a behaviour. Arson is a crime. Pyromania is a psychiatric diagnosis. Arson is one of the easiest crimes to commit. It is considered a serious offence due to the potential to threaten life and cause massive destruction. Only a small proportion (<20%) result in prosecution.

Motivations Fire setting can be accidental or intentional. Arson is wilful and malicious, therefore not accidental. Primary gain motives include revenge, attention seeking, delusional, excitement, boredom, sexual pleasure, cry for help, and jealousy. Secondary gain motives include insurance claims, rehousing, crime concealment, and political protest.

Psychiatric disorder Is over-represented in arsonists. Substance use disorders (particularly alcohol use) and personality disorder (particularly antisocial and emotionally unstable) are the most frequent. Psychosis and learning disability are less common. Pyromania is uncommon.

Pyromania is an impulse-control disorder in ICD-10 (Pathological fire-setting/pyromania (ICD-10/11; DSM-5), p. 422), involving a persistent preoccupation with fire and burning. Fire setting is associated with feelings of increasing tension before the act and intense excitement immediately afterward.

Assessment Full psychiatric assessment, with exploration of motive for fire setting and, in particular, any previous history of fire setting.

Management Treatment of any mental illness or substance use disorder; social skills training; psychological therapies (e.g. CBT); restriction of access to fire setting paraphernalia (e.g. matches, lighters) in hospital settings.

Outcome Rates of further arson 2–20%; rates of any re-offending 10–30%.

Other damage to property

Acts of vandalism are common, especially in adolescence. There is little psychiatric literature on criminal damage, excluding arson.

Crimes of dishonesty

Burglary, theft, and fraud are common offences which are rarely associated with psychiatric disorder. *Shoplifting* has attracted some clinical attention. About 5% of shoplifters suffer from significant mental disorder (personality disorder, substance misuse, depression, schizophrenia, dementia). Pure kleptomania is extremely rare (Impulse-control disorders 1, p. 422).

Drug offences

Mental disorder rarely an issue (with the obvious exception of substance misuse/dependence and associated conditions).

Car crime

Impaired ability to drive may be caused by a number of disorders (Fitness to drive, p. 972). Occasional rare cases of people disinhibited by mania or impaired by dementia who cause serious injury or death. However, mental disorder is rarely an issue in car crime.

Mental disorder and offending 1: overview

What is the relationship between mental disorder and offending?

Mental disorder is common and offending is common, so it would not be surprising to find an individual with both. But is the relationship more than coincidental? When looking at studies of this relationship, one needs to consider:

- The nature of the sample studied (community vs institutional; clinical vs epidemiological; pre-treatment vs post-treatment; offenders vs non-offenders).
- The criteria used to define mental disorder (legal vs clinical vs operationalized) and the method used to determine its existence (case notes vs interviews; clinically trained vs lay interviewers).
- The criteria used to define offending (types of officially recorded offences included; inclusion of unreported or unprosecuted 'offences') and the method used to detect offences (official records vs self-report vs third-party report).

Most of the research has focused on violence. The following are the main conclusions to be drawn from current evidence.

- People with mental disorder as a broad group are no more or less likely to offend than the general population.
- Some specific mental disorders do increase the risk of a person acting violently, particularly alcohol- and drug-related disorders and personality disorders, especially those with predominant cluster B characteristics (Classifications of personality disorder, p. 523).
- Schizophrenia has a modest association with violence, but the overwhelming majority of people with schizophrenia are never violent, being more likely to be victims than perpetrators of violence.
- In people with mental disorders, the factors most strongly associated with offending are the same as for non-mentally disordered offenders: ♂ gender, young age, substance misuse, disturbed childhood, and socio-economic deprivation.
- When considering an offence perpetrated by a person with mental disorder, one should bear in mind that, as with any offence, there is interplay between the perpetrator, the victim, and the situational circumstances. Although mental disorder may play a part, it is rarely the only factor that leads to an offence.

Mental disorder and offending 2: specific disorders and offending

Schizophrenia

The lifetime risk of violence in people with schizophrenia is about five times that in the general population. The factors most commonly associated with violence in people with schizophrenia are those associated with violence in people without psychosis. Alcohol and drug misuse are particularly important. Specific symptoms may be important but clearly are not enough in themselves; otherwise virtually every person with schizophrenia would be violent. Threat control-override symptoms (delusions regarding being threatened or being controlled) have been found to be associated with violence, but again, most patients with these symptoms are never violent. The role of command auditory hallucinations is unclear. When people with psychosis are violent, the victim is more likely to be known to them (particularly relatives) than when violence is committed by non-psychotic individuals.

Delusional disorders

Delusional disorders are probably over-represented among patients detained in secure psychiatric hospitals; however, research on the association between delusional disorders and violence is difficult to interpret, as the samples are usually selective and uncontrolled, and in many studies, patients with delusional disorders are categorized with patients with other psychoses, especially schizophrenia. ↑ risk of violence has been reported to be associated with persecutory delusions, misidentification delusions, delusions of jealousy, delusions of love, and querulous delusions. Jealousy may be dangerous, whether it is delusionally based or not. In some cases, it is difficult to differentiate between premorbid personality disorder (perhaps with paranoid and/or narcissistic features) and delusional disorder. The relevant beliefs are probably no less risky if they are over-valued ideas than if they are delusional.

Affective disorders

Affective disorders have a far less strong relationship with offending and violence than schizophrenia. Mania commonly leads to minor offending due to grandiosity and disinhibition but rarely leads to serious violence or sexual assaults. Depression is very rarely associated with violence or offending. Extended suicide (also known as altruistic homicide), in which a depressed parent (usually the father) kills members of their family before attempting, and perhaps succeeding in, killing themselves, is extremely rare and impossible to predict. In some cases, it occurs in depressive psychosis associated with nihilistic delusions, but more commonly, there is a history of marital breakdown in people who are depressed and suicidal but not psychotic. A historical association between shoplifting and depression has been highlighted but is probably insignificant.

Alcohol- and drug-related disorders

Alcohol- and drug-related problems are more strongly linked to offending and violence than any other mental disorders. A number of aspects of alcohol and substance misuse may be relevant—direct effects of intoxication or withdrawal; funding the habit; personal and social consequences of dependence; the neuropsychiatric sequel of prolonged misuse; and the social context (peer group, socio-economic deprivation, childhood mistreatment); and personal characteristics (impulsivity and sensation seeking), which may lead to substance misuse, may also be associated with offending.

Personality disorders

Personality disorder is more strongly related to offending and violence than mental illness. Personality-disordered offenders are heterogenous —only a very small number are psychopathic (→ Psychopathy and 'severe' personality disorder, p. 524). Various aspects of personality disorder may be related to offending: impulsivity, lack of empathy, poor affect regulation, paranoid thinking, poor relationships with others, and problems with anger and assertiveness.

Learning disability

Offending occurs more often in people with milder forms of learning disability than in those with severe learning disability. Offences are broadly similar to those in non-learning-disabled offenders and are associated with family and social disadvantage. Evidence for ↑ rates of sex offending and fire-raising is based on highly selected patient samples in secure hospitals and is therefore questionable. In some learning-disabled offenders, poor social development, poor educational achievement, gullibility, and impaired ability to communicate may be important factors. Profound and severe learning disability may be associated with disturbed behaviour, including aggression, but would rarely come to the attention of the criminal justice system.

Organic disorders

Aggression is well recognized in dementia and delirium but rarely leads to serious violence. Substance misuse is both a risk factor for TBI and a common psychiatric outcome. Up to 70% of those with TBI experience irritability, and up to a quarter demonstrate aggressive behaviour. It is no longer thought that there is an association between epilepsy and criminal behaviour, and violence resulting from epileptic activity is extremely rare.

Assessing risk of violence

Context Risk of violence to others is assessed by psychiatrists in a range of situations[6,7,8] (e.g. acute assessments in casualty, allowing patients leave, court reports, determining whether a patient should progress from a secure setting; see Box 16.3).

Types of violence risk assessment

- *Clinical:* traditionally carried out in an unstructured manner, perhaps guided by the research literature. Clinical risk assessment criticized due to lack of reliability, validity, and transparency.
- *Actuarial* [e.g. violence risk appraisal guide (VRAG)]: statistical approaches based on multivariate analyses of factors in samples of forensic patients or prisoners to determine which predict further violence. Variables predictive of recidivism, given weightings, and combined to give a score. From this score, a probability of recidivism can be calculated. Criticized as factors identified invariably historical, unchangeable attributes. Considered by some to be inflexible and unable to inform risk management.
- *Structured clinical* [e.g. Historical, Clinical, and Risk 20 (HCR-20)]: intermediate approach. Combines historical factors of actuarial approach with dynamic factors in structured way. Clinically the consideration of each factor is more important than the actual scores, so act as useful aides- mémoires. The approach here is based on this method.

Box 16.3 Risk assessment instruments

A number of risk assessment instruments have been developed. Most require specific training, and all require familiarity with the tool and the risk being assessed. There is no consensus as to which tools should be used and when, and some argue that they should not be used at all.

- **Violence:** *structured clinical*—Historical, Clinical, and Risk 20 (HCR-20); Risk Assessment, Management, and Audit systems (RAMAS);

Risk Assessment Guidance Framework (RAGF); Offender Assessment System (OASys). *Actuarial*—Violence Risk Appraisal Guide (VRAG); Psychopathy Checklist-Revised (PCL-R); Reconviction Prediction Score (RPS); Risk of Reconviction (ROR) score; Offender Group Reconviction Scale (OGRS).

- **Sex offending:** *structured clinical*—Risk of Sexual Violence Protocol (RSVP). *Actuarial*—Sexual Offending Risk Appraisal Guide (SORAG); Rapid Risk Assessment of Sex Offender Recidivism (RRASOR); Static 99; Sex Offender Needs Assessment Rating (SONAR); Matrix 2000.
- **Spousal abuse:** *Structured Clinical*—Spousal Assault Risk Assessment (SARA).

Information Sources of information determined by the nature and context of the assessment, using as many sources of information as possible: records (psychiatric, general practice, social work, prison, school, criminal), interviews (patient, relatives, staff), psychometric (e.g. PCL-R). The process of risk assessment should take a multidisciplinary approach.

Factors to consider (based on HCR-20)

- **Historical** *Previous violence* (convicted and non-convicted, nature, motivation, victims, context); *previous antisocial behaviour* (other than violence); *relationships* (lack of relationships, unstable relationships); *employment* (poor employment record, disciplinary problems); *substance misuse; mental illness* (noting its relationship to previous aggression); *personality disorder* (dissocial, emotionally unstable, paranoid, psychopathy); *childhood problems* (behavioural disturbance, mistreatment); *previous violent attitudes* (entrenched beliefs, values, or thoughts); *previous difficulties with supervision* (absconding, lack of attendance, lack of compliance).
- **Current (internal)** *Symptoms* (delusions, hallucinations); *threats* (towards particular victim or group); *fantasies* (violence, sexual); *attitudes* (pro-criminal, minimization, denial); *impulsivity—instability (affective, behavioural, or cognitive); insight* (into illness, personality, previous violence, and precursors); *response to treatment or supervision* (pharmacological and psychosocial); *plans* (realistic).
- **Current (external)** *Weapons; access to victims; support* (formal and informal); *destabilizers* (alcohol, drugs, homelessness, victimization); stress (relationship problems, debt, life events).

Formulation 'The act of understanding the underlying mechanism of an individual's harm potential in order to develop sensitive and proportionate hypotheses to facilitate change'.[9] Anchored by historical factors, with current factors indicating immediate/short-term risk. Risk of what, to whom, when, under what circumstances? Acknowledge uncertainties and information gaps. Emphasize context(s) in which a person may be at i/d risk. If using actuarial methods: are they applicable to this person/risk? Are normative values from an appropriate sample?

Communication The assessment must be communicated in an appropriate and understandable way to others, *including the patient*. It must also be documented. Use of scores, percentages, or terms such as low, medium, or high should be explained.

Risk management The factors identified in the risk assessment should indicate areas to be addressed in management. They may point

to the need for specific treatments (pharmacological or psychological), supervision, support, detention, or victim safety planning.

Scenario planning Despite best efforts, subsequent violence still occurs. Risk scenarios make the final bridge to risk management and are a projection about what *could* happen, not a prediction of what *will* happen. Consider repeat offence scenario, optimistic scenario (less serious act), pessimistic scenario (more serious act), and a 'twist' scenario (nature of violence changes, e.g. different type of victim).

Secure hospitals and units

Within the health service, there are psychiatric hospitals and units that offer varying degrees of security.[10] The terms high, medium, and low security are used to categorize these services and give some indication of the level of risk that can be managed within a particular unit. However, there are no clear definitions of these levels of security. Different units at the same security level may operate in very different ways; there is blurring between the different levels, and rather than thinking of patients in terms of the level of security required, it is better to consider a particular patient's risk, how this should be managed, and how a particular unit may or may not be able to manage the risk. The network of secure services for a particular area varies considerably from region to region.

Security does not just rely on the physical barriers and monitoring, although these are important. Knowing patients well (from studying their backgrounds and interacting with them) and developing good relationships with them contribute to 'relational security'. Security is also maintained through the procedures set out to manage the environment (e.g. procedure for accessing different activities). It is important to recognize that security is maintained through these three concepts: relational, procedural, and environmental security. Multidisciplinary risk assessment and management are essential to this process.

High-security hospitals

There are five high-security hospitals in the British Isles:

- *English special hospitals—Ashworth, Broadmoor, and Rampton:* serve England and Wales and are each part of a local NHS Trust. Each has about 500 beds.
- *State Hospital (Carstairs):* serves Scotland and NI. Managed by a special health board. About 140 beds.
- *Central Mental Hospital (Dundrum):* serves the RoI. Managed by the Eastern Health Board. About 80 beds.

Patients are admitted from prisons, courts, or less secure hospitals. Patients must be detained under mental health or criminal procedure legislation. The majority of patients have committed offences, but a substantial minority are transferred from other hospitals where they are unmanageable. Patients should pose a grave immediate danger to the public. Admissions are usually for several years.

Medium-security units

Medium-security units are not as virtually escape-proof as high-security hospitals but are more secure than locked wards. Vary in size from 30 to 100 beds. Each region in England and Wales has one or more medium-security unit. There are three in Scotland, and one in NI. Patients are admitted from prisons, courts, and less secure units, and also from high-security hospitals. Admissions are not usually for >2yrs. Patients may

move on to low-security units, open wards, or the community, being managed by general or forensic services, depending on local service provision, patients' backgrounds, and clinical needs.

Some specialist units have been developed for personality-disordered patients, learning-disabled patients, women, and adolescents. The State Hospital (Carstairs) and the Central Mental Hospital (Dundrum) admit many patients who would have been admitted to medium-security units in England and Wales, due to differences in the development of local secure forensic provision in Scotland, NI, and the RoI.

Low-security units

Low-security units and wards have locked doors but do not usually have a secure perimeter. Some regional forensic services have a combination of low- and medium-security wards; in areas of Scotland and NI, there are low-security forensic wards without medium-security units. IPCUs are low-security short-stay wards, primarily for the care of acutely disturbed general psychiatry patients. In a few areas, they also take patients from courts, prisons, and more secure units, but they are not well suited to providing longer-term assessment or treatment.

Progression through levels of security

Patients in secure settings progress through a rehabilitation programme, and their security needs are not static. The level of security should be reviewed regularly, and the patient transferred to a facility providing the necessary level of security when this is appropriate. Scottish legislation allows patients to appeal against the level of security if they feel this is excessive. This is not possible in other jurisdictions.

Referring a patient to secure forensic services

- A comprehensive assessment should be made, and details of this should be sent with the referral.
- Particular attention should be given to the risk the person poses (Assessing risk of violence, p. 748) and why this risk cannot be adequately managed in less secure services.
- Patients should meet the criteria for compulsory detention in hospital under the relevant legislation.

Police liaison

Prevalence of psychiatric disorder

Recent NICE guidance states 39% of people held in custody by the police suffer from mental disorder.[11]

Liaison and diversion

- **Diversion** of people with mental disorders from the criminal justice system to healthcare can operate at any stage of the criminal justice process. The term is often used to refer to *early diversion*, the transfer of mentally disordered people from police custody or at their first court hearing.
- **Diversion schemes** operate in some areas whereby a specific service is provided to the police and/or courts to help identify and divert mentally disordered individuals. These schemes may also be known as police or court *liaison schemes*.
- **Police or court liaison** is the process or system by which mental health services provide assessment and/or diversion for people with

mental disorder at an early stage of the criminal justice process.

In many cases where a person is diverted, the police, prosecutor, or court will discontinue the criminal justice process. This will be particularly appropriate in most cases where individuals with mental disorder will have committed relatively minor offences. However, diversion does not necessitate this, and where appropriate, particularly where more serious offences have been committed, a prosecution may be pursued, in parallel with diversion for care and treatment.

Powers allowing the police to take a person to a place of safety

- The police have powers under mental health legislation to convey a person whom they believe is suffering from mental disorder to a place of safety. (Specific powers are set out in Box 16.4.)
- The purpose of these powers is to allow for a psychiatric assessment.
- Use by the police of these powers does not oblige mental health services to admit the person.

Arrest and detention in custody

Where an offence has been committed, a mentally disordered offender may be arrested and taken into police custody.

- *Issues to address when assessing a person in custody*:
  - Is there evidence of mental disorder?
  - Is treatment in hospital required? If so, how urgently?
  - What is the nature of the alleged offence, and is there any evidence of a serious risk to others?
  - Is the person fit to remain in police custody?
  - Is the person fit to be interviewed by the police? Do they require an appropriate adult?
  - Would they be fit to plead if they were to appear in court (Fitness to plead 1: assessment, p. 774)?
- *Options following assessment if a person appears to be mentally disordered*:
  - Admission to hospital informally or under mental health legislation.
  - Treatment in the community.
  - Recommend admission on remand, following first court appearance.
  - Recommend further assessment on remand in custody or on bail, following first court appearance.
- *Fitness to remain in police custody:* there are no legal criteria to determine whether a person is 'fit to remain in police custody'. A person may be unfit to remain in police custody due to physical illness or mental disorder. Where a person is mentally disordered, such that there would be a serious immediate risk to their own health if they remained in the police cells, then they would be unfit to remain in police custody and should usually be admitted to hospital. This would normally be discussed with a representative of the prosecutor for the court where the case would be heard..

Box 16.4 Powers allowing the police to take a mentally disordered person to a place of safety

England and Wales Section 136 MHA 1983 allows the police to apprehend a person who appears to be mentally disordered in a public place, and to convey them to a place of safety where they may be detained for up to 72hrs. The place of safety should be a mental health setting, but often a police station is used. The purpose of

Section 136 is to allow for the person to be assessed by mental health services. Following the assessment, the person may be diverted to mental health services (informally or under compulsion), arrested and taken into police custody, or released.

Scotland Section 297 MH(CT)(S)A 2003 allows similar provisions in Scotland, but detention may be for up to 24hrs only.

NI Article 130 MH(NI)O 1986 allows similar provisions in NI, but detention may be for up to 48hrs only.

RoI Under Section 12 MHA 2001, if a garda has reasonable grounds for believing that a person is suffering from a mental disorder and that, because of the disorder, there is a serious likelihood of the person causing harm to himself/herself or another person, the garda may take the person into custody. If necessary, the garda may use force to enter the premises where it is believed that the person is. The garda must then go through the normal application procedure for involuntary detention in an approved centre. If the garda's application is refused, the person must be released immediately. If the application is granted, the garda must remove the person to the approved centre.

Note: in England and Wales, Scotland, and NI, these powers do not allow the police to enter premises if they want to remove a person who appears to be suffering from a mental disorder. Under these circumstances, powers are available under Section 135 MHA 1983, Section 293 MH(CT)(S)A 2003, and article 129 MH(NI)O 1986.

Police interviews: fitness, false confessions, and appropriate adults

Mental disorder may affect a police interviewing[12,13,14] by: impairing the ability of a person to communicate; leading to the person giving unreliable evidence; or making a person vulnerable to becoming distressed. In some cases, mental disorder may be so severe that a person is unfit to be interviewed.

- There is no legal basis for *fitness to be interviewed*, but the following issues may be relevant:
  - Does the detainee understand the police caution after it has been fully explained to him or her?
  - Is the detainee fully orientated in time, place, and person and does he or she recognize the key persons present during the police interview?
  - Is the detainee likely to give answers which can be seriously misconstrued by the court?
- Where a person is mentally disordered and fit to be interviewed, an *appropriate adult* should be present during the police interview. Appropriate adult schemes operate differently in the different jurisdictions of the British Isles (Appropriate adults, p. 754).
- *False confessions* have been at the heart of some notorious miscarriages of justice. Three types are recognized:
  - Voluntary (the person voluntarily presents and confesses to a crime he has not committed).
  - Coerced compliant (persuasive interrogation leads to a person confessing to an offence they know they have not committed).
  - Coerced internalized (amnesia or subtle manipulation by the interrogator leads to the person believing they have committed a crime which they have not).

Appropriate adults

- *England and Wales*—the Police and Criminal Evidence Act (PACE) 1984 and its Codes of Practice provide a statutory basis for appropriate adults. Appropriate adults should be requested by the police where a detained person is under 16yrs or is deemed to be 'vulnerable' (perhaps due to mental disorder). The appropriate adult may be a relative or carer.
- *Scotland*—no statutory basis for appropriate adult schemes. Schemes operate to provide appropriate adults, who should not be a relative or carer and who should be requested by the police when they are interviewing any mentally disordered person. These schemes do not cover children.
- *NI*—similar statutory basis as England and Wales.
- *RoI*—no specific provisions.

Court liaison

Court liaison broadly covers all aspects of psychiatric assessments for courts, but here it is used narrowly to refer to psychiatric assessment at an early (usually the first) court appearance. The terms 'liaison' and 'diversion' in relation to the police and courts are described in Police liaison, p. 752. Preparation of court reports and giving evidence in court are covered in Court reports and giving evidence 2, p. 766.

Some areas have court liaison or diversion schemes, aimed at identifying people with mental disorders at an early stage of the court process and diverting them to appropriate mental health services where necessary. Some screen all detainees, but most rely on referrals from criminal justice staff when mental disorder is suspected. In many schemes, the first assessment is by a CPN who then refers the person on, if necessary. Backup from psychiatrists is necessary for those cases where admission, particularly under compulsion, may be necessary.

Features of successful court liaison schemes

- 'Owned' by mainstream general or forensic services.
- Staffed by senior psychiatrists.
- Nurse-led and closely linked to local psychiatric services.
- Good working relationships with courts and prosecution.
- Good methods for obtaining health, social services, and criminal record information.
- Access to suitable interview facilities.
- Use of structured screening assessments.
- Direct access to hospital beds.
- Ready access to secure beds.
- Access to specialized community facilities.
- Integrated with police and prison liaison schemes.

In many areas, there are no dedicated schemes. Under these circumstances, it is important that it is clear to the police, courts, social services, and health services how an urgent assessment may be obtained, if necessary.

Issues to be addressed when assessing a person at an early court appearance

- Is there evidence of mental disorder?
- Is assessment and/or treatment in hospital required?
- If so, how urgently?

- What is the nature of the alleged offence and is there any evidence of a serious risk to others?
- Is the person fit to plead (Fitness to plead 1: assessment, p. 774)?

Options following assessment if a person appears to be mentally disordered

- Admission to hospital informally or under mental health legislation.
- Treatment in the community.
- Recommend admission on remand (Overview of the pathways of mentally disorered offenders through the criminal justice and health systems, p. 770).
- Recommend further assessment on remand in custody or on bail.

In many cases, it will be appropriate for the criminal justice process to be discontinued. However, where serious offences are alleged, it would be usually appropriate, if diversion is necessary, for the person to be remanded in hospital (Overview of the pathways of mentally disorered offenders through the criminal justice and health systems, p. 770).

Prison psychiatry 1: overview

Introduction

In 2014, England and Wales had a prison population of 146 prisoners per 100,000 people. This is the eleventh highest rate of incarceration among European jurisdictions, and the highest rate among western European jurisdictions. Scotland had the twelfth highest rate, with 145 prisoners per 100,000, and NI was lower with a rate of 98 prisoners per 100,000 (ranked twenty-second). Prison populations continue to grow.[15,16,17] Prisons in the UK are either local prisons (accommodating remand prisoners and prisoners serving sentences of <2yrs) or training prisons (taking prisoners serving sentences of >2yrs). In practice, a number of prisons perform both functions. Security varies, depending on the categories of prisoners held. All prisoners are categorized solely on security considerations—'A' (the highest category, requiring maximum security) to 'D' (the lowest category, suitable for open conditions). Most ♀ prisoners are kept in separate prisons.

The prison remand

A person accused of committing an offence may be held on remand in prison, while awaiting trial and/or sentence. Courts should not remand a person in custody, unless there is a good reason not to grant bail. Mentally disordered offenders are more likely to be remanded in custody than other offenders, perhaps because: they are more likely to be homeless; they are considered less likely to comply with bail; they are perceived as more dangerous because of their mental disorder; there are a number of statutory objections to bail for mentally disordered defendants, even where the offence is not punishable by imprisonment; and even though remands in custody for reports are discouraged, there is a lack of hospital or specialist bail facilities.

The prison sentence

A prison sentence is imposed on an offender by a judge. He will consider a number of factors, including any mitigating or aggravating circumstances. The sentence may serve one or more of the following functions: punishment, deterrence, reparation, incapacitation, and rehabilitation. In certain circumstances, there may be a mandatory prison sentence (e.g. a life sentence for murder). Most prisoners serving determinate sentences are released before the end of their sentence and subject to a period of supervision and/or recall. The exact nature of this depends on the nature of the offence and the length of the sentence imposed, as well as progress within the prison. Life-sentenced prisoners have a tariff (minimum time to serve as punishment) set by the judge. Following the end of the tariff period, the parole board may authorize the release of the prisoner on 'life licence'. They are subject to recall to prison, should they breach their parole conditions. Following a legal challenge, the UK Home Secretary has lost the power to set the tariff for prisoners sentenced to life imprisonment, although the Attorney General has the power to petition the Court of Appeal to increase any prison terms which are seen as unduly lenient. The legality of 'whole-life orders' (i.e. where the prisoner is sentenced to die in jail) has previously been challenged in the European Court of Human Rights. These orders were found to be legal, as the Home Secretary in exceptional circumstances can review them. In Scotland, an Order of Life-Long Restriction can be added to the sentence of an individual who is felt to pose a significant risk to the general public. In practice, this means that an extensive risk management plan must be developed before a prisoner can receive parole, often resulting in the prisoner spending longer in prison.

Mental disorder in prisoners

The prevalence of mental disorder in the prison population is high, in comparison with the general population, with some estimates as high as 90% when drug and alcohol problems are included. Estimates for specific disorders include: psychotic disorders 3.1–4.2%; major depression 8.8–11.7%; alcohol-related disorder 18–30%; drug-related disorder 10–48%; and personality disorder (excluding antisocial) 7–10%. It has been estimated that 23–55% of prisoners have psychiatric treatment needs, with 2–5% requiring transfer to a psychiatric hospital.

Mental health services in prison

Traditionally, the prison health service has been separate from the mainstream health service. Between 2008 and 2013, the responsibility for providing healthcare in prisons was passed to the NHS in England, Wales, Scotland, and NI. This was in response to findings that healthcare available in prisons was poorer than that available to the general population. Prison psychiatry is now provided by private providers, contracted by the NHS, or NHS psychiatrists working within the prison (normally 1–2 sessions per week). There are normally psychiatric nurses based within the prison, and NHS psychologists also provide input. Access to treatment remains a significant concern.

A limited health screen occurs on reception to prison, and prisoners can be identified as having mental health needs. Prisoners can request reviews and can also be referred by prison staff if there are concerns.

Prison psychiatry 2: the role of the psychiatrist

Psychiatrists may be asked to assess prisoners for the following reasons:[18]

- To provide court reports ( Court reports and giving evidence 1, p. 764).
- To provide assessment and treatment, as part of the NHS team providing healthcare.
- For statutory purposes (e.g. preparing reports for the parole board).

Normally routine appointments will be in the prison healthcare centre (similar to an outpatient department). For other contact (court or parole reports), a specific arrangement will be made. When arranging to see a prisoner, a psychiatrist should make an appointment that will fit in with the prison routine. There will be usually only 2–3hrs in the morning or afternoon when there is access to prisoners. The psychiatrist will have to wait to be escorted by prison staff.

Assessment of prisoners

Prisoners should be seen on their own, unless prison staff or other sources indicate this would be unwise. It may be difficult to get relevant information about the prisoner's day-to-day functioning and presentation from prison staff, although attempts should be made to do this. Ask the prisoner for a relative's telephone number and permission to speak to them. The prison medical file may not contain all the necessary information, and in some cases, other prison records should be examined. History-taking, MSE, and information gathering should proceed as with any other psychiatric assessment.

Options in the management of mentally disordered prisoners

If a psychiatrist assesses a prisoner and finds that they are mentally disordered, he may:

- Treat the person in prison.
- Arrange for the person to be transferred to mental health services, either by arranging direct transfer from prison ( Overview of the pathways of mentally disorered offenders through the criminal justice and health systems, p. 772) or by recommending a mental health disposal through the courts if the prisoner has not been sentenced yet.

No prison, or prison medical centre, is recognized as a hospital under mental health legislation; therefore, compulsory treatment under the MHA cannot be given. All prisoners with severe mental illness should be transferred to hospital for treatment. Legal provisions for transferring prisoners to hospital are set out on  Legal provisions for transfer of prisoners to hospital, p. 762. Similar provisions for remand prisoners are discussed in  Overview of the pathways of mentally disorered offenders through the criminal justice and health systems, p. 770 and listed in Table 16.3 for each jurisdiction.

Treatment in prison

- Medication, monitoring, and modest psychological treatment (supportive psychotherapy perhaps utilizing some cognitive–behavioural or psychodynamic techniques) may be offered to prisoners with mental disorders who do not require treatment in hospital.
- Various treatment programmes to address offending behaviour have been developed in prisons. These are run by the prison service and do not involve mental health services. Programmes are available for

areas such as sexual offending, anger management, alcohol and substance misuse, and problem-solving.
- Some prisons specialize in treating certain mentally disordered prisoners, e.g. HMP Grendon in England offers therapeutic community treatment for personality-disordered prisoners who volunteer to be transferred there; there is a 17-bed psychiatric unit at HMP Maghaberry in NI.

Prescribing in prison

Prescribing in prison should be similar to prescribing in the community—with some additional considerations. In the prison environment, there can be additional barriers to compliance, with medication being diverted (stolen or sold). Mental health patients can be bullied for medication. Consideration should be given to the 'street value' of medication when prescribing. Medication can be 'supervised', meaning it is dispensed daily or 'in possession', i.e. the prisoner is given a small supply of medication (usually weekly or monthly). Supervised medication increases compliance. The form of medication should also be considered—orodispersible or liquid medications increase compliance and reduce the risk of diversion.

Suicide in prison

Suicide is the most common mode of death in prisons. There are ~600 episodes of self-harm and one suicide per week in prisons in England and Wales. ♂ prisoners have a 3–6 times greater risk of suicide than those in the general population. The most common means is by hanging. Remand prisoners, young offenders, and those with a history of substance misuse and violent offences are at particular risk.

Many factors probably contribute to the ↑ rate of suicide in prisons, including: history of psychiatric disorder, previous self-harm, alcohol and substance misuse, and social isolation. Compounded by uncertainty, powerlessness, bullying, and isolation.

The task of identifying prisoners who are at risk is extremely difficult, as those who kill themselves share the same vulnerabilities and stresses with many other prisoners who do not. A major factor that may reduce suicide rates is improvement in prison conditions. Isolation of prisoners at risk in strip cells still occurs, although it is becoming less frequent and is against official guidance.

Legal provisions for transfer of prisoners to hospital

Sentenced prisoners

England and Wales

Section 47 MHA 1983 (as amended) allows for the transfer of a mentally disordered sentenced prisoner to hospital. There must be reports from two registered medical practitioners addressing what category of mental disorder the person suffers from and whether this is of a nature or degree to warrant hospital detention. The reports are submitted to the Secretary of State who decides whether or not to grant a 'transfer direction'.

Section 49 MHA 1983 (as amended) allows the Secretary of State to add a 'restriction direction' to a transfer direction, which has the same effect as a restriction order under Section 41 and may last as long as the

sentence the person was serving. In practice, Section 47 is rarely made without Section 49.

Scotland

Section 136 MH(CT)(S)A 2003 sets out similar provisions for Scotland. There must be reports from two medical practitioners (one approved) addressing whether the prisoner has a mental disorder, that the mental disorder is 'treatable', that the person would be at risk or pose a risk to others, and that the transfer is necessary. The reports are submitted to the Scottish Ministers who decide whether or not to grant a 'transfer for treatment direction'. All transferred prisoners are treated as restricted patients for the duration of the prison sentence that they are serving.

Northern Ireland

Article 53 MH(NI)O 1986 sets out similar provisions for NI. Two medical practitioners (one who is recognized as an approved medical practitioner under the terms of the Commission) must submit reports to the Secretary of State. The issues are similar to England and Wales, except that the mental disorder must be a mental illness or a severe mental impairment. The order is called a 'transfer direction'. Article 55 allows the addition of a restriction direction, as in England and Wales.

Republic of Ireland

Section 15 Criminal Law (Insanity) Act 2006 (amended 2010) allows for transfer of a prisoner suffering from a mental disorder to a designated centre for the purpose of receiving appropriate care and treatment. Transfer is authorized by the prison governor on the recommendation of one approved medical officer (if the prisoner agrees to the transfer) or of two approved medical officers (if the prisoner is unable or is unwilling to agree to the transfer).

Prisoners awaiting trial or sentence

England and Wales

Section 48 MHA 1983(as amended) is similar to Section 47 but provides for transfer of unsentenced prisoners. Other differences from Section 47 include: the person must have a mental illness or a severe mental impairment (cannot be used for a psychopathic disorder or a mental impairment), and there must be an urgent need for treatment. This Section also enables the transfer of civil prisoners and people detained under immigration legislation.

Scotland

Section 52 CP(S)A 1995 provisions ('assessment orders' and 'treatment orders'), as described in Table 16.3, may be used for prisoners awaiting trial or sentence. The necessary medical recommendations are made to the Scottish Ministers who then apply to a court for the person to be admitted to hospital, in the same way as for a hospital remand made at any court appearance. All transfers under this legislation are treated as restricted patients for the duration of the detention.

Northern Ireland

Article 54 MH(NI)O 1986 sets out similar provisions for NI as Section 48 MHA 1983 for England and Wales. Again, one of the two doctors must be an approved medical practitioner under the terms of the Commission. The prisoner may not be transferred to the State Hospital, as it is in another jurisdiction and the court process has not been completed. All

transfers under this legislation are treated as restricted patients for the duration of the detention.

Republic of Ireland

Sections 4 and 15 Criminal Law (Insanity) Act 2006 (amended 2010) sets out the provisions (Sentenced prisoners, p. 762) for prisoners awaiting trial or sentence.

Court reports and giving evidence 1

A psychiatrist may be required to provide reports and give evidence in criminal and civil proceedings. The following deals with reports in criminal proceedings. Reports may be requested by the prosecution, the court, or a solicitor. The assessment should be objective and professional and should not be influenced by which 'side' has made the request.

The clinical issues The clinical issues will involve those that psychiatrists usually assess: diagnosis, treatment needs, prognosis, etc. However, specific attention needs to be given to how these clinical issues interact with the legal issues in question. What is the relationship between any psychiatric disorder and past, present, and future offending? How might treatment or the natural course of the disorder impact on the likelihood of further offending? What impact might the current mental state have on the person's ability to participate in the court process?

The legal issues The request for psychiatric assessment should indicate the legal issues towards which the psychiatrist should direct the assessment. However, in many cases, the instructions are not specific. The main issues to consider are usually:

- Fitness to plead (Fitness to plead 1: assessment, p. 774).
- Responsibility (Criminal responsibility 1, p. 778).
- The presence of mental disorder and whether assessment and/or treatment under compulsion (or otherwise) is required (Mental disorder and offending 1: overview, p. 745).
- The risk the person poses (may be relevant in whether a restriction order is imposed, in determining if disposal should be to a secure unit or a special hospital, or perhaps in determining the nature of the sentence imposed; Assessing risk of violence, p. 748).

Before the interview

- Comprehensive background information should usually be provided by those requesting the report. Unfortunately, this is often lacking. Ideally, one should have the opportunity to examine: the document specifying the charges, the police summary, witness statements, records of interviews with the accused, records of previous offences, and other reports. Sometimes tape recordings of interviews and photographic or video evidence may be available.
- Arrangements should be made to interview the person in prison (if they have been remanded in custody), as an outpatient (if they have been remanded on bail), or in hospital (if they have been admitted to hospital). The psychiatrist should be given reasonable time to

complete the assessment and produce a considered report. If there is insufficient time, then this should be stated in the report and any opinion given should be qualified.

The interview

- Check the person's correct name and details. Introduce yourself and state who has requested the report.
- Make it clear that the interview is not confidential and that the information in the report will be seen by others.
- It is good practice and advisable to gain written consent from the person to access their health, prison, social work, or educational records.
- Clarify that the person has understood this, and seek their consent to prepare the report.
- If the person refuses to be interviewed, then this should be respected and reported to the person requesting the report.
- Ask the person's permission to contact a relative and/or their GP for further information.
- Follow the usual format for a psychiatric assessment.
- Enquiry about the circumstances of the offence, and the person's understanding of the court process will need to be made in addition.
- More than one session may be necessary in some cases.
- Physical examination and investigations should be performed, if indicated.

After the interview

Further information may be gathered from the following sources:

- Interviews with relatives or staff (healthcare, prison, or social services).
- Health (psychiatric or general practice), prison, social work, or educational records.
- In some cases, specific psychometric testing by a psychologist may be necessary (e.g. where a person appears to be learning-disabled).
- If insufficient time is available to complete a written report, evidence can be given verbally over the phone and the formal report can follow.

Court reports and giving evidence 2

The report

- The various strands of the assessment should be brought together in the report.
- The report should be clear, concise, well structured, and jargon-free.
- Technical terms (e.g. schizophrenia, personality disorder, delusions, hallucinations, thought disorder) should be explained if they are used.
- If a number of sources of information have been used, indicate where the particular factual information in the report has come from, particularly when there are inconsistencies (e.g. 'according to … ', 'he stated that … ').
- The main body of the report should present the information gathered; the opinion should present the conclusions concerning the relevant issues and lead to the recommendations.
- The opinion and recommendations should confine themselves to psychiatric issues. Punitive sanctions, such as imprisonment, should never be recommended.
- When recommending admission, further assessments, follow-up, or other treatment options such as medication, good practice would be to

describe what you have arranged, or intend to arrange, to ensure that this happens.

There are different formats for a court report, just as there are different ways of presenting the history and mental state. A suggested structure is given in Suggested format for criminal court report, p. 768.

What will happen to the report?

- The report becomes the property of whoever requested it.
- Defence reports may or may not be produced in evidence in a particular case; prosecution reports must be revealed to the defence.
- Copies of the report should not be sent by the psychiatrist to others (such as the patient's GP, another psychiatrist, or a probation officer) without the consent of both the person examined and the person who commissioned the report.
- A psychiatric report may come to be included in various records (health, prison, probation) and may, in the future, be used for reference or in further legal proceedings.

Giving evidence

In most cases, a psychiatrist will not be required to give oral evidence. However, under some circumstances, this will be the case—a report requires clarification, the court finds it difficult to accept the opinion, there are conflicting reports, and in specific circumstances where oral evidence is obligatory (e.g. where a restriction order is under consideration). If you are requested to attend court:

- Clarify with the court when you should attend.
- Prepare in advance by examining the papers and re-reading your report.
- Prepare in advance to comment on a conflicting report.
- Consult references and anticipate questions. You are often asked to read parts or all of your report aloud in court and to clarify any jargon along the way.
- Present in a smart, confident, professional manner, and be punctual.
- Counsel may request a conference before the court sits.
- Have a brief interview with the accused in the court cells if he has not been seen for some time and particularly where fitness to plead may be an issue.

When called to give evidence, you will be asked to take the oath, and then you will be questioned by the barrister or solicitor who called you. You will then be cross-examined by the 'other side' before being re-examined. You may take notes with you, but ask the judge before referring to them. Speak clearly and slowly, and explain technical terms. Address the judge. Avoid saying more than is necessary to answer the questions asked. If counsel's questioning is not allowing you to get the appropriate information across, then ask the judge if you may clarify your response.

A note on addressing the judge

- *England and Wales*—High Court: 'My Lord' or 'My Lady'; local judge: 'Your Honour'; Magistrate's Court: 'Sir' or 'Madam'.
- *Scotland*—High Court and Sheriff Court: 'My Lord' or 'Sir' and 'My Lady' or 'Ma'am'.
- *NI*—as England and Wales.
- *RoI*—'Your Lordship', 'Judge', or 'Sir'.

Suggested format for criminal court report

- The following sets out a comprehensive list of the matters that may be set out in a report.
- Not all of the issues will be relevant in every case. For example:
  - Where there is little information available and the recommendation is for further assessment, then the report may be relatively brief, focusing on the issues of relevance to the making of any relevant order.
  - Where the person has been convicted, consideration of fitness to plead, insanity at the time of the offence, and diminished responsibility (in murder cases) are irrelevant.
  - Where a report is updating a previous report prepared in the same case relating to the same offence (or alleged offence) or is recommending the extension of an order, then the report may be relatively brief, as long as it addresses whether the person fulfils the criteria for that order and why an extension is necessary.

Preliminary information

- At whose request the assessment was undertaken, the circumstances of assessment (place, time, any constraints on assessment such as inadequate time to complete assessment due to prison routine).
- Sources of information used (interview with the person, interviews with others, documents examined).
- The person's capacity to take part, or refuse to take part, and understanding of the limits of confidentiality.
- If any important sources of information could not be used, there should be a statement as to why this was the case.

Background history

Family history; personal history; medical history; psychiatric history; drug and alcohol history; recent social circumstances; personality; forensic history.

Circumstances of the offence or alleged offence

Give the person's account of events. Include information about the mood and mental state around the time of the alleged offence, any drug or alcohol use on the day of the alleged offence, and how they feel about the alleged offence now.

Progress since the offence or alleged offence

Particularly where there has been a considerable period of time since the (alleged) offence.

Current mental state

Opinion

- Fitness to plead.
- Presence of a mental disorder currently and whether the criteria for the relevant order are met.
- Presence of a mental disorder at the time of the offence:
  - The relationship between any mental disorder and the offence (this is still relevant, even if the person has been convicted, as it may affect the choice of disposal).
  - Whether the person was insane at the time of the offence.
  - In murder cases, whether there are grounds for diminished responsibility.
- Assessment of risk:

- The risk that the person might pose of re-offending.
- The relationship between this risk and any mental disorder present.
- Does the person require to be managed in a secure setting (medium-security unit, high-security hospital)?

- What assessment or treatment does the person require?
  - Does the person need further assessment? (Where? Does the person need a period of inpatient assessment, and at what level of security? Why? What issues remain to be clarified?)
  - Does the person require treatment? (What treatment do they need and where?)
- State any matters that are currently uncertain and the reasons they remain uncertain.

Recommendation

- Should the court consider using any particular order? (And if so, what arrangements have been made for the person to be received in hospital or elsewhere under this order?)
- Under whose care will the person be?

Consider whether an alternative order may be appropriate if circumstances change, so that the order recommended here cannot be acted on, e.g.

- If the person is or is not found to be insane.
- If the person is or is not convicted.

Medical practitioner's details

Name; current post; current employer and name of supervisor; qualifications; whether fully registered with the GMC; approved under relevant mental health legislation; a statement that the report is given on soul and conscience (in Scotland); statements as to whether the medical practitioner is related to the person and has any pecuniary interest in the person's admission to hospital or placement on any community-based order (if mental health disposal is being recommended). The medical practitioner should sign the report.

Overview of the pathways of mentally disordered offenders through the criminal justice and health systems

The following gives an overview of the criminal justice process and how, at each stage, mental disorder may lead to certain courses of action being taken. Different procedures are available in the four main jurisdictions of the British Isles (see Table 16.3 for a summary of the legal provisions for each jurisdiction). The numbers appearing in superscript in the following bullet points give an indication as to which procedures are not applicable in all four jurisdictions—1: England and Wales and Scotland only; 2: not in RoI; and 3: Scotland only.

Arrest and police custody

After being apprehended, an individual may be diverted to mental health services informally or under civil procedures. Police may also have specific powers allowing them to take mentally disordered individuals for assessment by psychiatric services.

Pre-trial

- At a pre-trial court appearance, a mentally disordered individual may be remanded to hospital for assessment and/or treatment.[2] With more

minor offences, criminal proceedings may be taken no further and an individual may receive care from mental health services either informally or using compulsory measures under mental health legislation.
- If an individual is remanded in prison but appears to be mentally disordered, procedures may allow for the transfer of that person to hospital.
- If an individual is remanded on bail, conditions may be attached, so that they are required to be assessed and/or treated by psychiatric services.

Trial

- If a person's mental state is such that they cannot participate in the court process, then they may be found unfit to plead and would subsequently only be liable to receive a mental health disposal.
- Mental disorder may affect a person's legal responsibility for their actions:
- Automatic behaviour (automatism) may lead to complete acquittal or acquittal on the grounds of insanity.
- A severe mental disorder may be such that a person is held not to be legally responsible for their actions and they are acquitted on the grounds of insanity (also known as not guilty by reason of insanity or lacking criminal responsibility by reason of mental disorder). Following such a finding, they would only be liable to receive a mental health disposal.
- In murder cases, mental disorder may lead to diminished responsibility, reducing the offence to manslaughter (culpable homicide in Scotland), thus avoiding the mandatory life sentence and allowing flexibility in disposal (which may be a penal or mental health disposal).
- Despite the presence of mental disorder at the time of trial and/or at the time of the offence, a mentally disordered offender may plead or be found guilty. Mental disorder may then be taken into account when sentence is passed.

Post-conviction/pre-sentence

- Procedures may allow a mentally disordered offender to be assessed in hospital after conviction, but prior to sentencing.[2]
- Individuals remanded in prison awaiting sentencing may be transferred to hospital if they appear mentally disordered, as at the pre-trial stage.[2]

Sentencing

Following conviction, a mentally disordered offender may receive a mental health disposal:[2]

- A compulsory order to hospital.
- A compulsory order to hospital, with special restrictions in more serious cases.
- A compulsory order to hospital, with a prison sentence running in parallel.[1]
- A compulsory order in the community.[3]
- Other community disposals.

Alternatively, they may, despite the presence of mental disorder, receive a penal disposal either in prison or in the community. During a prison sentence, if a person appears to be mentally disordered, they may be transferred to hospital.

Table 16.3 Legal provisions for procedures relating to mentally disordered offenders

See Table 16.1 for abbreviations.

	England and Wales	Scotland	Northern Ireland	Republic of Ireland
Police				
Detention of mentally disordered person in public place	s136 MHA 1983	s297 MH(CT)(S)A 2003	a130 MH(NI)O 1986	s12 MHA 2001
Detention of mentally disordered person in private premises	s135 MHA 1983	s293 MH(CT)(S)A 2003	a129 MH(NI)O 1986	s12 MHA 2001
Pre-trial				
Remand to hospital for assessment	s36 MHA 1983	s52K-S CP(S)A 1995	a43 MH(NI)O 1986	s4CL(I)A 2006/2010
Transfer of untried prisoner to hospital	s48 MHA 1983	s52B-J CP(S)A 1995 or s52K-S CP(S)A 1995	a54 MH(NI)O 1986	s4CL(I)A 2006/2010
Trial				
Criteria for fitness to plead	*R v Prichard*	*HMA v Wilson Stewart v HMA*	*R v Prichard*	s4CL(I)A 2006/2010
Procedure relating to a finding of unfitness to plead	s2–3 and sch 1–2 CP(IUP)A 1991	s54–57 CP(S)A 1995	a49 and 50A MH(NI)O 1986	s4CL(I)A 2006/2010
Criteria for insanity at the time of the offence	*M'Naghten Rules*	*HMA v Kidd*	CJ(NI)A 1966	s5CL(I)A 2006/2010
Procedure relating to a finding of insanity at the time of the offence	s1 and s3 and sch 1–2 CP(IUP)A 1991	s54 and s57 CP(S)A 1995	a50 and a50A CJ(NI)O 1996	s5CL(I)A 2006/2010
Post-conviction but pre-sentence				
Remand to hospital for assessment	s35 MHA 1983	s52B-J CP(S)A 1995 s200 CP(S)A 1995	a42 MH(NI)O 1986	s4CL(I)A 2006/2010
Remand to hospital for treatment	s36 MHA 1983	s52K-S CP(S)A 1995	a43 MH(NI)O 1986	s4CL(I)A 2006/2010
Interim hospital/compulsion order	s38 MHA 1983	s53 CP(S)A 1995	–	–
Transfer of untried	s48 MHA	s52B-J CP(S)A	a54	s15CL(I)A

prisoner to hospital	1983	1995 s52K- S or CP(S)A 1995	MH(NI)O 1986	2006/2010
Sentence				
Compulsory treatment in hospital	s37 MHA 1983	s57A CP(S)A 1995	a44 MH(NI)O 1986	–
Restriction order	s41 MHA 1983	s59 CP(S)A 1995	a47 MH(NI)O 1986	–
Hybrid order (hospital disposal with prison sentence)	s45A-B MHA 1983	s59A CP(S)A 1995	–	–
Compulsory treatment in community	–	s57A CP(S)A 1995	–	–
Guardianship	s37 MHA 1983	s58(1A)CP(S)A 1995	a44 MH(NI)O 1986	–
Intervention order for incapable adult	–	s60B CP(S)A 1995	–	–
Psychiatric probation order	sch2 (p5) PoCC(S)A 2000	s230 CP(S)A 1995	sch1(p4) CJ(NI)O 1996	–
Post-sentence				
Transfer of sentenced prisoners to hospital for treatment	s47 MHA 1983	s136 MH(CT)(S)A 2003	a53 MH(NI)O 1986	s15CL(I)A 2006/2010
Restriction direction for transferred prisoner	s49 MHA 1983	*	a55 MH(NI)O 1986	–

Notes: –, no procedure in this jurisdiction;

*, all s136 MH(CT)(S)A 2003 transfer directions in Scotland are restricted.

Fitness to plead 1: assessment

Essence If a person's mental disorder is such that they cannot participate adequately in the court process, then it has long been held that it is unfair for the person to be tried. If this is the case, the court finds the person unfit to plead and the trial does not proceed.

Legal criteria The details of these vary in different jurisdictions but broadly cover the same issues (see Box 16.5).

Box 16.5 Fitness to plead—legal criteria for finding

England and Wales: R v Prichard (1836) 7 C&P 303

'Whether he can plead to the indictment … [and] … whether he is of sufficient intellect to comprehend the course of proceedings on trial, so as to make a proper defence—to know that he might challenge any of you [the jury] to whom he might object—and to comprehend the details of evidence … '

Scotland: Criminal Justice and Licensing (Scotland) Act 2010
This Act replaced the common law understanding of unfitness to stand trial with a new statutory definition under Section 170: '(1) A person is unfit for trial if it is established on the balance of probabilities that the person is incapable, by reason of a mental or physical condition, of participating effectively in a trial. (2) In determining whether a person is unfit for trial the court is to have regard to: (a) the ability of the person to: (i) understand the nature of the charge, (ii) understand the requirement to tender a plea to the charge and the effect of such a plea, (iii) understand the purpose of, and follow the course of, the trial, (iv) understand the evidence that may be given against the person, (v) instruct and otherwise communicate with the person's legal representative, and (b) any other factor which the court considers relevant.'

NI
As for England and Wales.

RoI
Statutory definition under Section 4(2) Criminal Law (Insanity) Act 2006: 'An accused person shall be deemed unfit to be tried if he or she is unable by reason of mental disorder to understand the nature or course of the proceedings so as to: (a) plead to the charge, (b) instruct a legal representative, (c) make a choice, where available, on trial by jury or by summary, (d) make a proper defence, (e) in the case of a trial by jury, challenge a juror to whom he or she might wish to object, or (f) understand the evidence.'

Clinical assessment of fitness to plead

The assessment of fitness to plead is concerned with the current mental state and ability of an accused. The issue can be raised by the defence, the prosecution, or the judge. In England and Wales, at least two medical reports are required, and if raised by the prosecution, it must be proved *beyond reasonable doubt* or, if by the defence, *on the balance of probabilities*. In Scotland, it is referred to as unfitness for trial and was previously 'insanity in bar of trial'. Medical evidence is no longer required; however, the case may be adjourned for assessment to occur. In NI, it is referred to as fitness to be tried and at least two medical practitioners are required to give evidence, one of which must be oral. In RoI, fitness to plead is based on the evidence of an approved medical officer.[19] This involves:

- Making a diagnosis of mental disorder.
- Determining the impact of this disorder on the abilities covered in the legal criteria.

Clinicians should be aware that the mental state of an individual may change, and therefore, if some time has elapsed between a clinical examination and the accused's appearance in court, then a brief re-examination may be necessary.

Diagnoses that may be relevant

Dementia and other chronic organic conditions, delirium, schizophrenia and related psychoses, severe affective disorders (mania and depression), ID.

Features of an individual's mental state due to their disorder to be taken into consideration

- Ability to communicate (schizophrenic thought disorder, manic flight of ideas, depressive poverty of speech, dysphasia of dementia).
- Beliefs (e.g. the individual may have delusions that they have a divine mission and that the court process is irrelevant to them).
- Comprehension (may be impaired in dementia, acute confusion, or learning disability).
- Attention and concentration (may be impaired in any of the conditions listed here).
- Memory (as noted, amnesia for the alleged offence is irrelevant, but short-term memory failure due to organic impairment may be such as to make following proceedings in court impossible).

In some cases, suggestions may be made as to how the communication and understanding of the accused may be facilitated. However, such suggestions must be practicable in court. In most cases, psychiatric evidence is unanimous and followed unquestioningly in court. A recommendation that an individual is unfit to plead should be reserved for cases where this is beyond doubt. In borderline cases, certain measures (such as a hospital remand) may allow further assessment and treatment to clarify the issue. Where the index offence is relatively minor, it may be appropriate for charges to be dropped and for civil detention to be initiated. In such cases, prosecutors are usually keen to take this course.

Fitness to plead 2: procedures

What happens after a person is found unfit to plead?

A person who is unfit to plead may not be subject to penal sanctions. Traditionally, the person would be detained indefinitely in a secure hospital, with special restrictions on discharge, until they recovered to the extent that they could be tried (although the person would rarely go back for trial, even if they recovered!). This unsatisfactory arrangement is still the case in the RoI. In England and Wales, Scotland, and NI, following a finding of unfitness to plead, there is a trial of facts where the court determines if the person did the act charged. If the facts are found, the person may be subject to one of a range of mental health disposals, depending on their mental state, their needs, and the risk they might pose.

Proceedings following a finding

England and Wales

- Proceedings set out in the Criminal Procedure (Insanity and Unfitness to Plead) Act 1964 (amended 1991, 2004).
- Following a finding of unfitness to plead, there is a *trial of facts* held to determine whether, on the balance of probability, it is likely that the person committed the offence.
- If this is not found to be the case, the defendant is discharged; if it is found to be the case, the person may be subject to one of the following disposals:
  - Hospital order (almost identical to Section 37 MHA 1983).

- Hospital order with a restriction order (almost identical to Section 37 and Section 41 MHA 1983).
- Guardian order (almost identical to Section 37 MHA 1983).
- Supervision and treatment order (similar to a psychiatric probation order).
- No order.

- If the person has been charged with murder, then there is a mandatory hospital order with an unlimited restriction order.

Scotland

- Proceedings set out under Section 54 to 57 CP(S)A 1995, as amended by Criminal Justice and Licensing (Scotland) Act 2010.
- Following a finding of *unfitness for trial*, there is an 'examination of facts'.
- While awaiting this, the person may be placed in prison, on bail, or in hospital under a temporary compulsion order.
- At the 'examination of facts', a determination is made as to whether, on the balance of probability, it is likely that the person committed the offence.
- If this is not found to be the case, the defendant is discharged (but may merit civil detention if remains mentally unwell); if this is found to be the case, the person may be subject to one of the following disposals:
  - Compulsion order (almost identical to Section 57A CP(S)A 1995) in hospital or the community.
  - Compulsion order in hospital with a restriction order (almost identical to Section 57A and Section 59 CP(S)A 1995).
  - Interim compulsion order (almost identical to Section 53 CP(S)A 1995).
  - Guardianship order or intervention order (identical to such orders under the Adults with Incapacity (Scotland) Act 2000).
  - Supervision and treatment order (similar to a psychiatric probation order).
  - No order.
- In Scotland, there is no longer a mandatory restriction order in murder cases. The interim compulsion order is to be used in all cases where the person appears to pose a considerable risk to others; following assessment, if the person is determined to pose a high risk, according to the criteria set out under Section 210E CP(S)A 1995, then the mandatory disposal is a compulsion order to hospital with a restriction order.

Northern Ireland

- Articles 49 and 50A MH(NI)O 1986 set out almost identical procedures as for England and Wales.

Republic of Ireland

Under the Criminal Law (Insanity) Act 2006:

- If a person is found unfit to be tried, and the court is satisfied that there is reasonable doubt that he committed the alleged act, it will acquit him and no further action under criminal proceedings will be taken.
- If that is not the case, then following a finding of unfitness to be tried, the person must be examined by a doctor to determine if they meet the criteria for detention under the MHA 2001; this may occur via a 28-day period of assessment in a designated centre.
- If the person does meet such criteria, then they are detained in a designated centre until they are fit to be tried or they no longer require

detention in hospital. The designated centre may be a prison or a hospital.

Fitness to stand trial

Fitness to stand trial is a separate issue from fitness to plead. It concerns whether a person is so unwell (either mentally or physically) that they are unable to appear in court or appearing in court would be detrimental to their health. If you have concerns about a person's fitness to stand trial, you can respectfully recommend they do not attend court; however, ultimately, the court will make a decision regarding this. In most circumstances, an individual who was unfit to stand trial due to mental disorder would be unfit to plead.

Criminal responsibility 1

If a person was mentally disordered at the time of an offence, this may affect their legal responsibility for their actions. The relevant legal issues are:

- Insanity at the time of the offence.
- Automatism.
- Diminished responsibility (Criminal responsibility 2, p. 780).
- Infanticide (Criminal responsibility 2, p. 780).

Insanity at the time of the offence

In some cases, the court may find that a person's mental condition was such that they cannot be held responsible for their actions; they are then acquitted on the grounds of insanity [also known as insanity at the time of the offence, not guilty by reason of insanity, or guilty but insane (the present term in the RoI)]. For legal criteria, see Box 16.6.

Automatism

- If an individual commits an offence when their body is not under the control of their mind (e.g. when asleep), they are not guilty of the offence.
- Legally, this is called an *automatism*. (*Note:* this is different from the clinical concept of automatism occurring during a complex partial seizure.)
- In England and Wales, two legal types of automatism are recognized: insane and sane (*automatism simpliciter*). The distinction is based on whether the behaviour is likely to recur:
  - **Insane automatism**—due to an *intrinsic* cause (e.g. sleepwalking, brain tumours, epilepsy), results in acquittal on the grounds of insanity.
  - **Sane automatism**—due to an *extrinsic* cause (e.g. confusional states, concussion, reflex actions after bee stings, dissociative states, night terrors, and hypoglycaemia), results in complete acquittal.

  Note: the distinction is less important now that there is a flexible range of disposals available for those found insane.
- In Scotland (until recently), **sane automatism** was not recognized—it is now recognized only in cases where an *external factor* is shown to have caused the accused's dissociated state of mind.

What happens after a person is acquitted on the grounds of insanity?

- Disposal after acquittal on the grounds of insanity is identical to that following a finding of unfitness to plead with the facts found in England and Wales, Scotland, and NI; and that following a finding of unfitness to plead in the RoI (see Box 16.6).

Box 16.6 Insanity at the time of the offence—legal criteria

England and Wales: M'Naghten Rules of 1843 (West and Walk 1977)

'Every man is presumed to be sane, until the contrary be proved and that to establish a defence on the grounds of insanity it must be clearly proved that at the time of committing the act the accused party was labouring under such a deficit of reason from disease of the mind to not know the nature and quality of the act; or that if he did know it, that he did not know that what he was doing was wrong.'

Scotland: Criminal Justice and Licensing (Scotland) Act 2010

As for the issue of unfitness to stand trial, this Act replaced the common law understanding of insanity at the time of the offence with a new statutory definition under Section 168: '(1) A person is not criminally responsible for conduct constituting an offence, and is to be acquitted of the offence, if the person was at the time of the conduct unable by reason of mental disorder to appreciate the nature or wrongfulness of the conduct. (2) But a person does not lack criminal responsibility for such conduct if the mental disorder in question consists only of a personality disorder which is characterised solely or principally by abnormally aggressive or seriously irresponsible conduct.'

NI: Criminal Justice (NI) Act 1966

A defendant who is found to have been 'an insane person' at the time of the alleged offence shall not be convicted. 'Insane person' means 'a person who suffers from mental abnormality which prevents him—

- from appreciating what he is doing; or
- from appreciating that what he is doing is either wrong or contrary to law; or
- from controlling his own conduct.'

Mental abnormality is defined as 'an abnormality of mind which arises from a condition of arrested or retarded development of mind or any inherent causes or is induced by disease or injury'.

RoI: Section 5 Criminal Law (Insanity) Act 2006

'Where an accused person is tried for an offence and, in the case of the District Court or Special Criminal Court, the court or, in any other case, the jury finds that the accused person committed the act alleged against him or her and, having heard evidence relating to the mental condition of the accused given by a consultant psychiatrist, finds that —(a) the accused person was suffering at the time from a mental disorder, and (b) the mental disorder was such that the accused person ought not to be held responsible for the act alleged by reason of the fact that he or she—(i) did not know the nature and quality of the act, or (ii) did not know that what he or she was doing was wrong, or (iii) was unable to refrain from committing the act, the court or the jury, as the case may be, shall return a special verdict to the effect that the accused person is not guilty by reason of insanity.'

Criminal responsibility 2

Diminished responsibility

- In murder cases, a person's mental condition may be such that although they cannot be fully absolved of responsibility, they are found to be of diminished responsibility (known as impaired mental responsibility in NI).
- A finding of diminished responsibility does not result in acquittal, but in conviction for the lesser offence of manslaughter (or culpable homicide in Scotland).
- For legal criteria, see Box 16.7.

Infanticide

- In cases involving the killing of a child aged under 12mths by the mother, she may be convicted of infanticide, instead of murder, if the court is satisfied that the balance of her mind was disturbed by reason of her not fully having recovered from the effect of giving birth to the child, or by reason of lactation consequent upon the birth (Infanticide Act 1938 for England and Wales, Infanticide Act (NI) 1939, Infanticide Act 1949 for the RoI).
- These criteria set a lower threshold than those for diminished responsibility.
- Disposal in such cases is flexible, as with manslaughter.
- This defence is not available in Scotland where diminished responsibility would be used instead in such cases.

What happens following a finding of diminished responsibility?

- A person is convicted of manslaughter (or culpable homicide in Scotland), instead of murder.
- There is therefore no mandatory sentence of life imprisonment, and the court may pass any sentence it sees fit—penal sanctions in the community or prison, or any of the mental health disposals available following conviction (Overview of the pathways of mentally disordered offenders through the criminal justice and health systems, p. 770).

Box 16.7 Diminished responsibility—legal criteria

England and Wales: Section 2 Homicide Act 1957 (as amended by The Coroners and Justice Act 2009)

'When a person is party to the killing of another, he shall not be convicted of murder if he was suffering from such abnormality of mind (whether arising from a condition of arrested or retarded development of mind or any inherent causes or induced by disease or injury) as substantially impaired his mental responsibility for his acts and omissions in doing or being a party to the killing.'

In **R v Byrne (1960) 44 Cr App R 246**, 'abnormality of mind' was interpreted widely as: 'A state of mind so different from that of ordinary human beings that the reasonable man would term it abnormal … wide enough to cover the mind's activities in all its aspects, not only the perception of physical acts and matters and the ability to form a rational judgement whether an act is right or wrong, but also the ability to exercise will-power to control physical acts in accordance with that rational judgement.'

Scotland

These were recently set out in Galbraith v HMA Advocate 2001 SCCR 551. The conclusions of the court were: 'In essence, the judge must decide whether there is evidence that, at the relevant time, the accused was suffering from an abnormality of mind which substantially impaired the ability of the accused, as compared with a normal person, to determine or control his acts.'

'Psychopathic personality disorder' and voluntary intoxication are excluded. The effect of a finding of diminished responsibility is that the accused is found guilty of culpable homicide, rather than murder.

NI: Criminal Justice Act (NI) 1966 (as amended by Section 53 Coroner and Justice Act 2009)

'A person who kills or is a party to the killing of another is not to be convicted of murder if they are suffering from an abnormality of mental functioning which … (a) arose from a recognised mental condition (b) substantially impaired their ability to (i) understand the nature of their conduct, (ii) to form a rational judgement or (iii) to exercise self-control or (c) provides an explanation for their acts and omissions in doing or being a party to the killing.' 'Proof shall be sufficient to reduce, under this section, a verdict of murder to one of manslaughter if it satisfies the jury that, on the balance of probabilities, the accused was suffering from abnormality of mental functioning.'

RoI: Section 6 Criminal Law (Insanity) Act 2006

'Where a person is tried for murder and the jury or, as the case may be, the Special Criminal Court finds that the person—(a) committed the act alleged, (b) was at the time suffering from a mental disorder, and (c) the mental disorder was not such as to justify finding him or her not guilty by reason of insanity, but was such as to diminish substantially his or her responsibility for the act, the jury or court, as the case may be, shall find the person not guilty of that offence but guilty of manslaughter on the ground of diminished responsibility.'

Assessing 'mental state at the time of the offence'

Clinical examination

- Necessitates the reconstruction of the circumstances of the offence and, in particular, the mental state of the accused at that time.
- Along with interviewing the accused, it is extremely helpful to peruse witness statements, police reports, and transcripts of police interviews (or, if possible, to view videotaped interviews).
- Other important sources to help with 'retrospective' assessment include:
  - Relatives or other persons who knew the defendant at the time.
  - Any psychiatric assessment carried out soon after the offence (if the police or court were sufficiently concerned about their mental state).
  - Any records of contact with psychiatric services at the time and the views of relevant staff who were involved in these contacts.

Putting the legal criteria into clinical terms

For insanity at the time of the offence

- The accused should have been suffering from a severe mental disorder which was the overwhelming factor in determining the occurrence of the offence.
- There should be a clear relationship between the offence and the symptoms of the mental disorder. The accused may well have been

suffering from a mental disorder at the time of the offence; however, this does not automatically mean they are automatically considered insane at the time of the offence.

- It should be noted that the criteria for insanity at the time of the offence in Scotland, NI, and the RoI are broader than not knowing what one is doing or that it is wrong, and encompass an inability to control one's actions due to mental disorder (see criteria in Box 16.6).
- Diagnoses that may be relevant include: dementia and other chronic organic disorders (including those secondary to alcohol or drug misuse); delirium (including DT); schizophrenia and related psychoses; severe affective disorders with psychotic symptoms; and severe ID.

Note: in most successful cases, the diagnosis is a psychotic disorder, and delusions or hallucinations are directly relevant to the behaviour constituting the offence.

For diminished responsibility

- The accused should have evidently been suffering from an 'abnormality of the mind' (i.e. a mental disorder not severe enough to deem them 'insane', but of sufficient degree to substantially impair their ability to determine or control their actions; see criteria in Criminal responsibility 2, p. 780).
- Diagnoses that may be relevant include: any of the diagnoses listed here for insanity, as well as: non-psychotic affective disorders; acute stress reactions, adjustment disorders, and PTSD; personality disorders (not primary dissocial personality disorder in Scotland); sexual deviation (not in Scotland); and mild to moderate ID and pervasive developmental disorders (including ASD).
- Other conditions that have been successful in gaining a diminished responsibility verdict are PMS and 'battered spouse syndrome'.

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Chapter 17

Intellectual disability

Introduction

Patients with an ID have unique needs, sufficiently different from those of the general population as to require specialist psychiatric services. The incidence of mental illness is ~2–3 times that of the general population, and illness often presents in a different manner. It is a complex subspecialty, encompassing everything, from molecular genetic diagnostic techniques to provision of adequate social supports, and which requires an enquiring mind and a truly holistic approach to medicine.

Psychiatrists in ID will be involved in the assessment and treatment of acute and chronic mental illness, challenging behaviour, and pervasive developmental disorders, and will require a more detailed knowledge of how physical illness, epilepsy, sensory impairments, and environmental factors affect the

presentation of mental disorders. While challenging, it can be a very rewarding specialty where appropriate management can dramatically improve the quality of life for patients.

The ID psychiatrist will work with children, adolescents, adults, the elderly, families, and carers in a variety of clinical settings, usually in collaboration with a range of other professionals in a variety of disciplines:

- Paediatricians, during childhood, but particularly at the time of establishing the cause of developmental delay.
- Clinical geneticists and genetic counsellors, either in childhood or in adulthood, when looking both at the individual and the family for potential genetic causes.
- Social work departments when setting up and reviewing appropriate packages of care, particularly when an MHA or a capacity/incapacity legislative framework is in place.
- Psychologists are often involved in both the assessment and subsequent management of patients with ID. They will often use mixed methods, drawing on behavioural, cognitive, and dynamic approaches. In some services, music therapists and art therapists are involved in individual and group work.
- Speech and language therapists play an important role in the assessment and management of people with an ID and are vital members of the multidisciplinary health team.
- Occupational therapists, physiotherapists, and dietitians all have particular roles in the ID team, more so than in general adult psychiatry, and, as such, are often full-time members of the team.
- Family/carers are at the 'coal face' of care, and it must always be remembered that they have often years of experience with their child/ward. It is essential to engage the family/carers in the assessment and management.

The ID psychiatrist will often act as a focal point in the collation and dissemination of information, being a 'fixed point' for the family/carers who may be somewhat 'at sea' with the dizzying array of professionals involved in the care of the child or adult with ID.

Historical perspective

The Mental Deficiency Act (1913) and the Elementary Education (Defective and Epileptic Children) Act (1914) were turning points in the management of those diagnosed as 'mentally defective' or 'feeble-minded' (by 'duly qualified' medical practitioners) in the UK, requiring local authorities to provide suitable care in special institutions or the guardianship of families and educational placements in special schools or classes. These 'segregation' acts moved those with ID from home, asylum, or workhouse to special institutions, with the aim of providing for their special needs and the hope of social treatments (through education and training).

The motivation of at least some of those who advocated institutional care may have been admirable. Unfortunately, the definition of ID (defined as 'idiots', 'imbeciles', and the 'feeble-minded') was related to subjective measures, such as the 'ability to

care for oneself', rather than objective measures such as intelligence. This led to abuses such as other 'deviant behaviours' (e.g. having an illegitimate child, habitual drunkenness) being used as grounds for committal to an institution. In addition, the institutions became focuses for contemporary social concerns, by scapegoating the 'feeble-minded' as the cause of everything, from social problems (e.g. poverty, alcoholism, unemployment, promiscuity, illegitimacy) to imperial, and even racial, decline.

Progress was gradually made in the use of more objective assessment of 'defectives', but most medical authorities believed causation was inherited (a 'neuropathic trait'). This fed directly into prevalent eugenic notions of preventing 'racial decline' by segregation, with physical stigmata (e.g. facial characteristics) seen as 'proof' that appearance (especially 'racial characteristics') and mental health were interrelated. Nowadays, such ideas seem simplistic (like the practice of phrenology at the time), but the notion that the Caucasian races were 'more civilized' had significant influence at the beginning of the twentieth century. Some doctors even advocated compulsory sterilization 'to protect social health, but permit liberty'. It would take decades, and two World Wars, before social, political, and scientific pressure finally dismantled these firmly held ideas.

Impetus for change came from growing concerns about the effects of large institutions, the forms of treatment, and the rights of those with ID. In the 1960s, official enquiries found evidence of abuse, malpractice, and neglect. Alarm among social reformers about the conditions in institutions was fuelled by Erving Goffman's *Asylums*. Efforts were made to reduce stigma by replacing older labels with less pejorative terms (e.g. 'mental subnormality', 'mental retardation', and 'mental handicap' for 'mental deficiency'; 'idiot', 'imbecile', 'trisomy 21', or 'Down's syndrome' for 'mongolism'; 'congenital hypothyroidism' for 'cretinism'). In 1968, ICD-8 (WHO) classified 'mental retardation' according to the *severity* of intellectual impairment (by IQ assessment) and social factors. The 1970s and 1980s saw major policy changes, emphasizing integration with mainstream resources and education, away from institutions and to the community. Many people with ID moved from hospitals to purpose-built hostels or 'group homes'.

Understanding of the aetiology of ID expanded from the 1950s onwards, with Lionel Penrose's *Biology of Mental Defect* in 1949 and the discovery of the genetic basis of Down's syndrome by Jérôme Lejeune in 1959. By the 1970s, most standard textbooks recognized multiple aetiologies (genetic and environmental), separating pre-, peri-, and postnatal causes. Karyotyping, identifying metabolic abnormalities, and isolating infectious agents allowed for laboratory diagnoses, rather than reliance on clinical observation. Pharmacological treatments of epilepsy, behavioural disturbance, movement disorders, and psychiatric comorbidity; dietary treatments of metabolic disturbances; behavioural and cognitive approaches; improved assessment/management of

social/occupational functioning, communication problems, and educational needs have allowed rational management of ID.

The last 20yrs have seen enormous changes in the way that people with IDs are viewed and the way in which they are treated. The large institutions are largely gone, and indeed many of the small hospitals as well. The majority of patients live either in their own homes or in a small community placement with paid carers. While this has undoubted benefits when compared to the large, anonymous institutions, it has created an entirely new set of challenges and problems. Some patients miss the social aspects of the group setting and are frustrated that the only people with whom they have contact are paid carers/support workers. The design of care provision has come a long way, but there will always be a need to keep on improving.

The clinical terms used to refer to individuals with ID have changed over the years, as formerly neutral terms have acquired pejorative connotations and been replaced. When DSM-5 was published, it used the term 'intellectual disability', rather than 'mental retardation' (see Box 17.1). ICD-11 has replaced the term 'mental retardation' with 'disorder of intellectual development' (provisional, mild, moderate, severe, profound, and unspecified), and the Royal College of Psychiatrists have renamed the previous 'Learning Disability' faculty to 'Intellectual Disability', in line with international nomenclature. In the UK, these terms all have the same meaning.

Box 17.1 'Rosa's Law' (US Federal Statute, Public Law 111-256)

Rosa Marcellino, an 8-year-old girl with Down's syndrome from Maryland, was taunted frequently and pejoratively called 'retard' in a demeaning manner. With support from her state representative and US Senator Barbara Mikulski, legislation was initiated, leading to the change in the law, replacing the term 'mental retardation' with 'intellectual disability'.

http://www.gpo.gov/fdsys/pkg/PLAW-111publ256/pdf/PLAW-111publ256.pdf [accessed 11 July 2018].

Classification

ICD-10 and DSM-IV previously agreed on the use of the terms mild, moderate, severe, and profound to describe the degree of ID or 'mental retardation' (ICD-10), with arbitrary cut-offs varying only slightly (see Table 17.1).

Table 17.1 Classification

IQ range for categories	ICD-10	DSM-IV
Mild	50–69	50–55 to 70
Moderate	35–49	35–40 to 50–55
Severe	20–34	20–25 to 35–40
Profound	Below 20	Below 20–25

DSM-5 no longer quotes IQ scores in the diagnostic criteria, although they are still included in the description of ID with an IQ of <70 (2 standard deviations below the mean), considered to be an indication of ID. The severity of ID now includes measures of both deficits in intellectual functions and adaptive functioning. The same applies to proposed ICD-11 criteria of 'significantly below average intellectual functioning and adaptive behaviour' that are ~2–3 (mild), 3–4 (moderate), or >4 (severe/profound) standard deviations below the mean. In ICD-11, severe and profound disorders of intellectual development are differentiated exclusively on the basis of adaptive behaviour differences.

ICD-10 guidelines

ICD-10 defines 'mental retardation' as 'a condition of arrested or incomplete development of the mind, characterized by impairments of skills manifested in the developmental period, i.e. cognitive, language, motor, and social abilities'.

Mild Delay in acquiring speech, but eventual ability to use everyday speech; generally able to independently self-care; main problems in academic settings (e.g. reading, writing); potentially capable of working; variable degree of emotional and social immaturity; problems more like the normal population. Minority with a clear organic aetiology, variable associated problems (autism, developmental disorders, epilepsy, CDs, neurological and physical disabilities).

Moderate Delay in acquiring speech, with ultimate deficits in use of language and comprehension; few acquire numeracy and literacy; occasionally capable of simple supervised work. Majority have an identifiable organic aetiology, and a substantial minority have associated problems (autism, developmental disorders, epilepsy, CDs, neurological and physical disabilities).

Severe Similar to moderate, but with lower levels of achievement of visuospatial, language, or social skills. Marked motor impairment and associated deficits.

Profound Comprehension and use of language very limited; basic skills limited at best; organic aetiology clear in most cases; severe neurological and physical disabilities affecting mobility common; associated problems (atypical autism, pervasive developmental disorders, epilepsy, visual and hearing impairment) more common.

DSM-5 criteria

- Deficits in intellectual functions confirmed by both clinical judgement and individualized standardized intelligence testing (e.g. reasoning, problem-solving, planning, abstract thinking, judgement, academic learning, learning from experience).
- Deficits in adaptive functioning resulting in failure to meet developmental and sociocultural standards for personal independence and social responsibility. Without support, these deficits limit functioning in one or more activities of daily life (e.g. communication, social participation, independent living) across multiple environments (e.g. home, school, work, community).
- Onset as for ICD-10: 'during the developmental period', discriminating ID from ABI.
- Guidance on the assessment of severity suggests consideration of three domains:
  - *Conceptual:* language, reading, writing, maths, reasoning, knowledge, and memory.
  - *Social:* empathy, social judgement, communication skills, ability to make and retain friendships.
  - *Practical:* personal care, job responsibilities, money management, recreation, school tasks.

'Subcultural' intellectual disability

Although the concept of 'psychosocial' causation (due to physical and emotional neglect) is controversial, it is true to say that mild or borderline intellectual impairment is more common in families of lower socio-economic status. This is best viewed as a cultural norm, and individuals generally have no, or only minor, impairments in adaptive functioning (i.e. lack of disability) ( Disability, p. 792). Generally the intellectual ability of family members is also in the borderline range, dysmorphic characteristics are less likely, and other impairments or disabilities are unusual. This is in contrast to biological causation where impairments are more significant, there is no difference in socio-economic status, parents and siblings are usually of normal intelligence, and dysmorphic features are more common.

Disability

Disability is an inherently difficult concept to define and depends on a complex interplay between the person and their environment. It is not a diagnostic term, and nor are the phrases 'intellectual disability' or 'mental retardation'. Instead these are descriptions of impairments of functioning on various levels, which have an aetiology that is known (e.g. Down's syndrome) or unknown (e.g. childhood disintegrative disorder).

The International Classification of Functioning, Disability, and Health (ICF)

First introduced by the WHO[1] as a means of trying to establish a standardized approach to describing health and health-related

domains. The current version was established in 2001 and is more focused on describing people's levels of functioning, rather than on disability. It aims to establish disability as something that can occur in everyone to some degree, rather than being something stigmatizing.

The ICF describes disability and functioning as umbrella terms denoting the positive and negative aspects of functioning from a biological, individual, and social perspective. Functioning is regarded as the dynamic interaction between a person's health condition, environmental (external) factors, and personal (internal) factors, and ICF organizes this information in two parts. Part 1 deals with functioning and disability, while Part 2 covers contextual factors.

There are three levels of functioning, and disability results from dysfunction of these levels:

- *Body functions and structures* (physiological and anatomical systems)—problems with these cause impairment.
- *Activities* (carrying out a task or action)—issues with this cause activity limitation.
- *Participation* (involvement in a situation)—issues with this cause participation restrictions.

There is a complex, dynamic, and often unpredictable relationship between these entities. Simple linear inferences are too reductionistic, as the interactions go both ways (see Fig. 17.1). Judging overall disability from a diagnosis alone and ignoring personal factors when assessing participation or environmental factors when assessing activity limitation are likely to give a false picture of an individual's functional capacity. It is vital to collect data on these various entities independently and to empirically explore the associations between them.

The WHO Disability Assessment Schedule

The WHO Disability Assessment Schedule (WHODAS 2.0, 2010)[2] is an assessment tool that accompanies the ICF and gives standardized measurements of health and disability. It scores functioning in six different areas over the previous 30 days:

- *Cognition*—how well someone is able to understand and communicate.
- *Mobility*—how well someone is able to get around.
- *Self-care*—how well someone can manage their personal care.
- *Getting along*—how well someone manages to interact with others.
- *Life activities*—how well someone manages in domestic, leisure, and occupational settings.
- *Participation*—how well someone manages to join in community activities.

Once scoring is completed, this equates to a metric range of 0–100 (with zero being classed as 'no disability' and 100 being 'full disability').

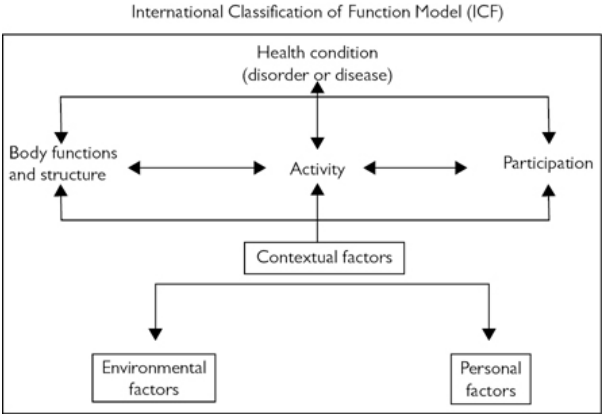

Fig. 17.1 The ICF model.

Source: data from World Health Organisation (2001) *International Classification of Functioning, Disability and Health (ICF)*. See WHO website: http://www.who.int/classifications/icf/en/ [accessed 11 July 2018].

Aetiology

A specific cause for ID can be identified in about 80% of severe and 50% of mild cases. Modern classifications of aetiological factors are based on timing of the causative event (see Table 17.2)—about 50–70% of cases will be attributable to a prenatal factor, 10–20% to a perinatal factor, and 5–10% to a postnatal factor.

The identification of aetiological factors is important, because it allows for discussion of the risk of recurrence in future pregnancies. A known cause can allow for discussion of likely disabilities, possible cognitive impairments, and prognosis. This can be useful for planning supports/services, access to education, and optimizing environmental factors.

Genetic causes

- Autosomal chromosome disorders (e.g. Down's syndrome; Down's syndrome, p. 806).
- Sex chromosome disorders (Sex chromosome disorders, p. 817).
- Deletions and duplications (Deletions and duplication syndromes, p. 808).
- Autosomal dominant (Autosomal dominant syndromes, p. 810) and recessive (Autosomal recessive syndromes, p. 812) conditions.

- X-linked recessive (X-linked recessive syndromes, p. 816) and dominant (X-linked dominant syndromes, p. 814) conditions.
- Presumed polygenic conditions (e.g. neural tube defects, pervasive developmental disorders).
- Mitochondrial disorders, maternally inherited [e.g. myoclonic epilepsy with ragged red fibres [MERRF)].

Central nervous system malformations of unknown aetiology

About 60% of all CNS malformations do not have a known genetic or exogenous cause. The types of malformation seen indicate the timing of the causative event, but not its nature (see Table 17.2).

Table 17.2 Types of malformation and timing of the causative event

Timing (in gestation)	CNS event	Malformation
3–7wks	Dorsal induction	Anencephaly, encephalocele, meningomyelocele, other neural tube closure defects
5–6wks	Ventral induction	Prosencephalies and other faciotelencephalic defects
2–4mths	Neuronal proliferation	Microcephaly or macrocephaly
3–5mths	Neuronal migration	Gyrus anomalies and heterotopias
6 mths (to first year of life)	Neuronal organization	Myelination. Disturbed connectivity (dendrite/synapse formation). Disturbed proliferation of oligodendrocytes and myelin sheets

External prenatal factors

(Non-genetic causes of intellectual disability, p. 818.)

Infection; exposure to medication, alcohol, drugs, and toxins; maternal illness (diabetes, hypothyroidism, hypertension, malnutrition) and gestational disorders. These factors are particularly damaging in the early stages of fetal development during blastogenesis or organogenesis.

Perinatal factors

Occurring around the time of delivery. Neonatal septicaemia; pneumonia; meningitis/encephalitis; other congenital infections; problems at delivery (asphyxia, intracranial haemorrhage, birth injury); other *newborn* complications (respiratory distress, hyperbilirubinaemia, hypoglycaemia).

Postnatal factors

Occurring in the first years of life. CNS infections, vascular accidents, tumours; causes of hypoxic brain injury (e.g. submersion); head injury (e.g. RTAs, child abuse); exposure to toxic agents; psychosocial environment (i.e. deprivation).

Other disorders of unknown aetiology

(Disorders of unknown aetiology, p. 819.)

These include: cerebral palsies, epilepsy, ASD, and childhood disintegrative disorders.

Establishing the cause

This requires a comprehensive history from the parents, examination of antenatal and perinatal records, and physical examination of the child.

Factors in the history

- *Family history*—parents: ages; consanguinity; medical history; any previous pregnancies (including abortions, stillbirths). Wider family: any history of ID; specific cognitive impairments; congenital abnormalities; neurological or psychiatric disorders.
- *Gestational history*—general maternal health and nutrition; maternal infections; exposure to medication, drug and alcohol use, toxins, radiation; chronic medical conditions; history of pre-eclampsia, abnormal intrauterine growth or fetal movements.
- *Birth of child*—gestational age; whether multiple pregnancy (birth order); duration of labour; mode of delivery; any complications; any placental abnormalities. Examination of birth records (Apgar scores, weight, length, head circumference).
- *Neonatal history*—need for special care (respiratory distress, infections, hypoglycaemia, hyperbilirubinaemia), baby checks (physical examination, Guthrie test).
- *Childhood history*—weight gain, growth pattern, feeding pattern, sleeping pattern, early developmental milestones. History of childhood illnesses (especially CNS infections or seizures, metabolic/endocrine disorders) and accidents. General systemic enquiry.

Physical examination

- Look for evidence of any dysmorphic features, and note whether these are seen in close relatives (e.g. skin—pigmentation, dermatoglyphs; facial features; musculoskeletal abnormalities).
- Full physical examination of all systems, including neurological examination for localizing signs.
- If suggested by the history/examination, ophthalmic and audiology examinations should be arranged.

Investigations

- Standard tests will include FBC, U&Es, LFTs, TFTs, glucose, infection screening (blood and urine), and serology (ToRCH—toxoplasmosis, rubella, cytomegalovirus, herpes simplex virus; HIV).

- Where dysmorphic features are evident, or physical signs indicate, arrange X-rays of the skull, vertebrae, chest, abdomen, hands, feet, and long bones; cardiac/abdominal ultrasound.
- If a metabolic disorder is suspected (e.g. progressive course), arrange screening tests of blood and urine.
- If a genetic disorder is suspected, tests may include array comparative genomic hybridization (CGH), karyotyping, or more specific genetic testing (e.g. FraX DNA testing).
- Other more detailed investigations may include neurophysiological tests (EEG, evoked potentials), neuroimaging (cranial ultrasound, CT/MRI, functional imaging), (neuro)pathological examination (fibroblast culture; biopsies—muscle, skin, rectum).

The process of assessment

When a person with ID presents to services because of a particular problem (e.g. 'challenging behaviour' or mood disturbance), the task for the clinician is to determine the underlying *cause* and to consider any predisposing, precipitating, and perpetuating factors. Causation will often be multifactorial, and because of this, a structured assessment approach is best. Some aspects of assessment may be well documented (e.g. the aetiology of the ID), particularly when the patient is an adult. Any diagnostic formulation should always take note of previous assessments and highlight what further assessments may be helpful. It is always useful to consider any protective factors which can potentially be harnessed or used to aid improvement.

Assessment of the nature and severity of the intellectual disability

- *Intellectual impairment*—assessed using standardized psychometric tests (e.g. Wechsler scales). There are often important differences in subscale scores (e.g. verbal vs performance IQ).
- *Severity of ID*—using ICD-10 or DSM-5 criteria (Classification, p. 790).
- *Disabilities*—assessments of functioning [e.g. Vineland Adaptive Behaviour Scales, American Adaptive Behavior Scales, Hampshire Assessment for Living with Others (HALO)].
- *Impact*—assessment of quality of life and life experiences (e.g. Life Experiences Checklist).
- *Aetiology*—Establishing the cause, p. 796.

Assessment of the current problem

- *Full physical examination*—this may identify undiagnosed problems, which the patient may be unable to communicate.
- *MSE*—Psychiatric comorbidity in intellectual disability, p. 826. Mental illness (which may go unrecognized and untreated)

can be a causative or a complicating factor in many presentations.
- *Environmental and social factors*—in addition to assessment of the patient, attention should also be focused on the patient's living situation, relationships, activities, and current stressors, noting particularly any recent changes.

Current support network

Assessment will involve not only talking to the patient, but also gathering information from previous documentation (including previous diagnoses and current treatments) and talking to the family and to any carers and to any other support services or education services involved. The aim is to view the current problem in the light of past experiences, known problems, and current situational factors. A longitudinal approach is advised (i.e. does the current presentation reflect a recurrent problem, or is it part of progressive functional decline, or does it represent a new, unidentified problem or an unmet need?). It is useful to document the current supports received by the patient and any important contacts for future reference.

Needs assessment

Should it be the case that the person's needs have changed, then there may be a statutory responsibility to undertake a formal 'needs assessment', taking into account the wishes of the person (if they have capacity to make the kinds of decisions required) and others involved in care provision. This includes social care, educational, and healthcare needs.

Increasingly, more joint work is being done between psychiatry of ID departments and social work departments. As a result, it is likely that you will be more involved in discussions and assessments of patients, with a view to deciding on what their overall care needs are, in addition to their particular psychiatric needs. Naturally, this will be in an MDT but will include consideration of:
- Level of supervision by nursing/care staff, e.g. day and night staffing ratios, sleeping vs waking night cover, same building or next door building.
- Layout of the building.
- Location of the building.
- Compatibility of different patients if being considered for group accommodation.

Communicating with people with intellectual disabilities

Up to 90% of people with ID have some form of difficulty with communication, the severity of which can vary. Coupled with this, there is a much higher level of sensory impairment among people with ID than in the general population. These difficulties can make effective communication with someone with ID more complex and require a more skilled approach. It is important to introduce yourself fully to the person you are assessing and in a way they understand.

Borderline/mild intellectual disability

People with borderline, or even mild, ID can appear to understand conversations and have developed sufficient social skills to allow them to mask their deficit in communication skills. They may be too embarrassed to reveal their lack of understanding, therefore meaning they leave the consultation without understanding what has been said to them.

It is important to use simple, everyday language in short sentences and to check the person understands. As with standard assessments, it is important to start the consultation with open questions, but the move to more closed questions may be quicker as the person may find it easier to answer questions where there is less dubiety about them.

The interview may take longer than you expect, but try not to hurry things along by trying to finish sentences or try and guess what the person is trying to say. It helps to be definite around the length of the consultation if you need to be—this avoids the person feeling they have done something wrong when the consultation ends, particularly as they may not pick up on subtle signs that the consultation is ending.

Moderate/severe intellectual disability

As the severity of the ID worsens, it is likely that communication skills will be more limited, although it is important not to assume this. Non-verbal signs, such as gestures and facial expressions, are even more important with people with a moderate/severe ID. For example, using a thumbs up/thumbs down to judge good or bad and using a serious facial expression when talking about something serious can be helpful.

Environmental considerations

Bearing in mind the level of sensory impairment, carrying out an assessment in a quiet environment with limited distractions will be of benefit to all parties involved. This ensures, even with sensory impairment, the best chance of the person hearing or understanding you. The lack of distractions also ensures you are able to hold the person's attention for as long as possible.

Collateral history

Most people with ID will attend consultation with a support worker or carer, either formal or informal. It is important to ask consent from the person to have their carer present during the consultation. It can be very helpful to have a carer present, as they will likely be able to assist with communication, as well as provide a collateral history. One should, however, take care to keep the patient with ID the focus of the consultation, avoiding the temptation to speak only to the carer. You should also give the patient the opportunity to speak to you alone if they wish, as they may have concerns they do not wish to disclose in front of their carer. They will also be able to discuss further with the person once they leave the room and remind them of the information they have been given.

Asking about symptoms

It can be difficult at times to distinguish what symptoms are present in someone with ID due to communication difficulties. It may be helpful to identify any changes in behaviours or routines, and to look for things which are different from the norm for that person. It is important not to allow yourself to assume that current symptoms can be attributed to a developmental disorder or other diagnosis (diagnostic over-shadowing). In some circumstances where a person has more severe communication difficulties, the diagnosis of mental illness may be based more on observations and collateral histories.

Communication systems

Some people with ID have specific systems they use to communicate, normally in the form of communication aids. An example of this is the 'Picture Exchange Communication System' (PECS). This is a system initially developed for children with autism, which is now used for people with ID. This system allows them to communicate through symbols in order to make themselves understood. Widgit is another way of communicating through symbols and can be used for people who are unable to understand written material (e.g. in leaflets). Widgit can be used to communicate with people who also struggle to understand more complex situations.

Considering management choices

The therapeutic environment

Provision of care and support should always be within an appropriate setting. Support may be: *general* (care provided by usual carers, schools, and community teams) and/or *specific* (addressing particular needs, e.g. special education, parental support groups, physical or psychiatric problems, maladaptive behaviours). Although, in general, every effort will be made to sustain a 'normal' environment (remaining at home, integration into mainstream schools, use of local community resources), often more specialized environments are necessary.

Overcoming communication difficulties

- Use of aids to overcome/improve sensory deficits (e.g. hearing aids, glasses).
- Strategies for improving communication—PECS, symbol dictionaries, Makaton, sign language.
- Because of often unique communication styles, it is important that family/carers who know the patient are available to assist/improve communication and that their expertise is shared among new staff.

Factors influencing management choices

- The nature of the problem (e.g. biological, psychological, social).
- The degree and aetiology of the ID.

- Comorbid physical conditions (which may restrict medication choices).
- Situational factors (e.g. practicalities of instituting various treatment options, supports, ability to monitor progress).

Admission to specialist environments

Sometimes disabilities or problems may be too severe or too complex to be managed with standard community resources because:

- The degree of ID or the specific cognitive impairments requires a well-structured, predictable environment that cannot be provided elsewhere.
- The degree of physical impairment requires more intensive specialist nursing or a safer environment where medical care is close at hand (e.g. severe treatment-resistant epilepsy).
- The severity of behavioural problems prohibits management at home (e.g. abnormally aggressive or disinhibited behaviour which constitutes a serious risk of harm to the patient or to others).
- The person requires treatment for a comorbid psychiatric disorder, which has failed to respond to initial treatment or requires a review of medications.

In the past, there was a preference for people with ID to remain as inpatients for a prolonged period, but recently there has been a drive to try and reduce this (see Box 17.2).

Box 17.2 Winterbourne View Hospital

In 2011, a television programme uncovered abuse of patients with ID by staff in an assessment and treatment unit in England, which prompted a Department of Health review[1] across NHS England, looking at the care and treatment of patients with ID. The review concluded that these patients were receiving poor care in inpatient facilities for too long a period and too far from home.

As a result of this review, an initiative was launched to reduce the number of inpatients. Care and treatment reviews were also introduced, and NICE guidelines about challenging behaviour (Oct 2015; https://www.nice.org.uk/guidance/QS101) and care and treatment (Jan 2017; https://www.nice.org.uk/guidance/QS142) of patients with IDs were published [both accessed 11 July 2018].

1 Department of Health: *Transforming Care: A National Response to Winterbourne View Hospital*. Dec 2012. http://www.rcpsych.ac.uk/pdf/final-report.pdf [accessed 11 July 2018].

Other reasons for admission may include

- Respite placements to allow individuals and their families some relief from the intensity of long-term care.
- Assessment of complex problems—to disentangle environmental from illness factors or where treatment requires close monitoring.

- ‘Crisis’ admissions due to an acute breakdown of usual supports.

Cautionary notes

- Attributing treatment success to a particular intervention may miss the real reason for improvement, e.g. return of a familiar carer, a more structured environment (if admitted to a specialist centre), or treatment effects on an undiagnosed primary condition (e.g. an anticonvulsant used for aggressive behaviour may actually be treating underlying epilepsy).
- Many conditions may run *relapsing–remitting* courses, leading to mistaken conclusions about the effectiveness of an intervention, which only becomes clear when symptoms return *despite* treatment.
- Improvement (or worsening) of symptoms may reflect *normal* maturational processes or, conversely, further pathological degeneration.
- Because of the wide variation in aetiology (genetic, environmental, psychological, social) and the complexity (and variable degrees) of cognitive impairment, most trials of treatment are, by nature, empirical. Most management plans will inevitably be *individually* tailored, and the current evidence base for many treatment modalities is limited.
- People within inpatient units should undergo regular review of their care and treatment, particularly to assess if inpatient care is still required.

Treatment methods

Behavioural treatments

May be used to help teach basic skills (e.g. feeding, dressing, toileting) and establish normal behaviour patterns (e.g. sleep) or more complex skills (e.g. social skills, relaxation techniques, assertiveness training). Behavioural techniques may also be used to alter maladaptive patterns of behaviour (e.g. inappropriate sexual behaviour, pica, phobias).

Pharmacological treatments

(See Box 17.3.)

Cautions

- Comorbid physical disorders (e.g. epilepsy, constipation, cerebral palsy) increase the need to closely monitor adverse effects.
- Atypical responses, such as ↑ (or reduced) sensitivity and ‘paradoxical’ reactions, are more common; hence, low doses and gradual increases in medication are advisable.
- The evidence base for many drug treatments is lacking, and many claims for efficacy are, at best, based on small, open, uncontrolled trials.

Antipsychotics

For the treatment of comorbid psychiatric disorders (e.g. schizophrenia and related psychosis) and acute behavioural

disturbance. May also be effective in managing ASD, self-injury, social withdrawal, ADHD, and tic disorders. Should only be used under specialist guidance.

Antidepressants

Effective for the treatment of depression, OCD, and other anxiety disorders. They have also been used in the management of violence, self-injury, 'non-specific' distress, and other compulsive behaviours.

Box 17.3 Standards for psychotropic drug prescribing

The Royal College of Psychiatrists issued standards for psychotropic drug prescribing in patients with ID, partly in response to Winterbourne View Hospital (see Box 17.2), due to concerns about patients receiving too much medication:[1]

- Indication and rationale for prescribing the psychotropic drug must be stated.
- Consent to treatment procedures should be followed.
- There should be regular monitoring of treatment response and side effects.
- Review and evaluation of the need for continuation or discontinuation of the psychotropic drug should be undertaken on a regular basis (preferably every 3mths at a minimum).

1 Faculty of Intellectual Disabilities: *Psychotropic Drug Prescribing for People with Intellectual Disability, Mental Health problems and/or Behaviour Which Challenges*. Practice Guidelines RCPsych April 2016. http://www.rcpsych.ac.uk/pdf/FR_ID_09_for_website.pdf [accessed 12 July 2018].

Anticonvulsants

There is some evidence for the use of anticonvulsants in the treatment of episodic dyscontrol (e.g. carbamazepine), but their effectiveness may be due to better control of underlying epilepsy.

Lithium

Aside from the treatment of bipolar affective disorder and augmentation of antidepressant therapy, lithium may have some utility in reducing aggressive outbursts.

Beta-blockers

May be useful in conditions of heightened autonomic arousal (e.g. anxiety disorders), which may be at the root of aggressive behavioural disturbance.

Stimulants

For the treatment of ADHD (e.g. methylphenidate) (Attention-deficit/hyperactivity disorder 2: medication, p. 670).

Opiate antagonists

May be effective in the treatment of repetitive self-injury (e.g. naltrexone).

Anti-libidinal drugs

Used in the treatment of sexual offending (e.g. cyproterone acetate and medroxyprogesterone, which reduce testosterone levels) (Sexual offences 2, p. 740), under specialist guidance.

Cognitive therapies and cognitive behavioural therapy

For borderline, mild, or moderate ID, cognitive approaches may be adapted to the level of intellectual impairment and the patient's style of communication. These may be effective in the teaching of problem-solving skills, the management of anxiety disorders and depression, dealing with issues of self-esteem, anger management, and treatment of offending behaviours (e.g. sex offenders).

Psychodynamic therapies

May be helpful in addressing issues of emotional development, relationships, and adjustment to life events (e.g. losses, disabilities, and bereavement). The range of approaches varies from basic supportive psychotherapy to more complex group and family therapies.

Down's syndrome

Down's syndrome (trisomy of chromosome 21) is the most common genetic cause of ID (1:800–1:1000). It is characterized by intellectual impairment and associated characteristic facies and habitus. Although Down's syndrome is diagnosed at birth, ID only becomes evident at the end of the first year of life, with subsequent delayed developmental milestones. The IQ in adults is most often below 50 (range: low to high/moderate ID). Those who survive into their 40s and 50s show pathological brain changes similar to Alzheimer's disease.

Aetiology

Risk factors for giving birth to a child with Down's syndrome are: maternal age over 40yrs; a previous child with the syndrome; and Down's syndrome in the mother (although pregnancy is rare). Incidence per 1000 living births is ~0.5 for a woman under 25, 0.7 under the age of 30, 5.0 under 35, 25 under 40, and 34.6 over the age of 45. Most children with Down's syndrome (70–80%) are born to mothers under the age of 35 (due to higher number of pregnancies in younger women).

Genetics

Full *trisomy 21* (non-disjunction) in 95% of cases. *Robertsonian translocations* in 5% (of which 45% show fusion—usually 14 and 21; also 13/15/22 and 21 described). *Mosaicism* (a mixture of normal and trisomic cell lines) in 2–5%—IQ can be in the 70s, and physical abnormalities may be less marked.

Clinical features

- *General*—short stature (mean 1.4–1.5m), overweight (30%), muscular hypotonia.
- *Head and neck*—brachycephaly and reduced anteroposterior (AP) diameter, maxilla reduced more than the mandible, underdeveloped bridge of the nose, eyes close together, Brushfield's spots (grey or very light yellow spots of the iris), epicanthic fold, low-set ears, high-arched palate, protruding tongue, instability of atlanto-axial joint, narrowed hypopharynx (may lead to sleep apnoea).
- *Congenital heart defects*—(50%), e.g. atrial or ventricular septal defect, mitral valve disease, patent ductus arteriosus.
- *Congenital GI abnormalities*—oesophageal atresia, Hirschsprung's disease, umbilical and inguinal hernia.
- *Hands*—short, broad hands with a single palmar crease (simian crease), syndactyly (webbed fingers), clinodactyly (incurving of fingers), and altered dermatoglyphics.
- *Eye defects*—strabismus (20%), myopia (30%), blocked tear ducts, nystagmus, late-life cataracts, keratoconus.
- *Hearing defects*—structural anomalies may lead to recurrent otitis media, sensorineural deafness.
- *Immunological abnormalities*—raised immunoglobulin G (IgG) and immunoglobulin M (IgM), lowered T-lymphocytes.
- *Endocrine abnormalities*—thyroid dysfunction (hypothyroidism—20%), diabetes.
- *CNS abnormalities*—reduced brain weight (10–20%), reduced gyri, cortical thinning, underdeveloped middle lobe of the cerebellum, reduced neuronal numbers in the cerebellum/locus caeruleus/basal forebrain, reduced cholinergic neurons, neuropathological changes similar to Alzheimer's disease (in those over 40yrs), epilepsy (5–10%).
- *Abnormal sexual development*— ♂ : normal course; delayed puberty; problems with spermatogenesis (unless mosaic). ♀ : normal onset of menstruation; fertile, but problems with ovulation and follicular growth; early menopause.
- *Psychiatric comorbidity*—in 18% of children and 30% of adults with Down's syndrome (usually depression 10%; less commonly bipolar disorder, OCD, Tourette's, schizophrenia, ↑ risk of autism).

Dementia in Down's syndrome

While dementia of the Alzheimer's type (DAT) is the most common type in Down's syndrome, all types of dementia can occur. There is an ↑ risk of DAT due to genetic factors (the amyloid precursor protein gene on chromosome 21 is implicated in early-onset Alzheimer's disease). Unfortunately, the diagnosis is often difficult, given the premorbid cognitive deficits and communication difficulties. The crucial element in diagnosis is establishing a history of change from an informant who has known the patient over a sufficient period as to be able to make a useful comparison.

Assessment

- Full history, focusing on previous abilities, presentation, and behaviour.
- Exclusion of other physical/psychiatric explanations, e.g. sensory loss, delirium, hypothyroidism, depression.
- Use of a standardized cognitive assessment battery, either to act as a baseline for decline or response to treatment.
- Full blood investigations, including FBC, U&Es, ESR, LFTs, TFTs, glucose, folate and vitamin B12, and serum drug levels if relevant.
- Consideration of CT/MRI brain or EEG, if indicated.

Management

- Treat all reversible additional factors.
- Optimize communication: use of pictures, communication dictionary, etc. (Considering management choices, p. 802).
- Liaison with psychology colleagues for potential behavioural management.
- Consideration of anticholinesterase inhibitors, but titrating at a significantly slower rate than normal (e.g. donepezil 5mg nocte for 4–6wks before increasing the dose). Seek advice from local experts.
- Appropriate placement, considering client mix, age group, and range of available activities.

Deletions and duplication syndromes

Angelman ('happy puppet') syndrome Microdeletion (60–75% of cases); karyotype 15q11–q13; incidence 1:10,000; a contiguous gene syndrome (the complement of PWS), with 80% due to deletion of maternally derived chromosome 15, 2% paternal uniparental disomy (pUPD), and the remainder due to direct mutations. *Clinical features*—ataxia (jerky limb movements, gait problems); epilepsy (86%); paroxysms of laughter; absence of speech; facial features (blond hair, blue eyes, microcephaly, flattened occiput, long face, prominent jaw, wide mouth, widely spaced teeth, thin upper lip, mid-facial hypoplasia); severe/profound ID; other behaviours (hand flapping, tongue thrusting, mouth movements); other problems [upper respiratory tract infections (URTIs), ear infections, obesity].

Beta-thalassaemia Mental retardation. Small deletion; karyotype 16pter–p13.3 (cryptic terminal deletion). *Clinical features*—ID.

Cri-du-chat Partial monosomy; karyotype 5p- (varies from deletion of a small band at 5p15.2 to the entire arm of 5p); usually sporadic, occasionally inherited; incidence 1:35,000. *Clinical features*—'cat-like' cry (possibly due to abnormal laryngeal development), microcephaly, rounded face, hypertelorism, micrognathia, dental malocclusion, epicanthic folds, low-set ears, hypotonia, severe/profound ID. Puberty occurs normally, and some may survive to adulthood.

di George (velo-cardio-facial) syndrome Microdeletion; karyotype 22q11.2; incidence 1:2000. *Clinical features*—50% have ID (mild: two-thirds; moderate: one-third), cardiac abnormalities [75%: Fallot tetralogy, ventricular septal defect (VSD), interrupted aortic arch, pulmonary atresia, truncus arteriosus], facial features (microcephaly, cleft palate/submucous cleft, small mouth, long face, prominent tubular nose, hypoplasia of adenoids—nasal speech, bulbous nasal tip, narrow palpebral fissure, minor ear abnormalities, small optic discs/tortuous retinal vessel/cataracts), hypocalcaemia (60%—seizures, short stature, hearing problems, renal problems, inguinal/umbilical hernia), hypospadias (10% of ♂), long and thin hands (hypotonia and hyperextensible fingers), associated behavioural and psychiatric disorders (including schizophrenia, blunted/inappropriate affect).

Prader–Willi syndrome (PWS) Microdeletion; karyotype 15q11–q13; incidence 1:40,000; the complement of Angelman syndrome; 75% due to deletion of paternally derived chromosome 15, 25% due to maternal uniparental disomy (mUPD) (i.e. inheritance of two genes from the same parent), ♂:♀ = 4:3. *Essence*—the striking feature of PWS is massive hyperphagia with associated compulsive food-seeking, and consequent marked obesity. The hyperphagia may be such that questions of how to appropriately limit the person's access to food must be addressed, sometimes requiring consideration of measures under capacity/incapacity legislative frameworks. *Clinical features—neonates:* hypotonia, sleepiness, unresponsiveness, narrow bifrontal diameter, triangular mouth (feeding difficulties and swallowing problems), strabismus, acromicria (shortness of extremities). *Childhood/adolescence:* short stature, hypogenitalism (cryptorchidism, micropenis; amenorrhoea), behavioural disorders (overeating and obesity, self-injurious behaviour), mild to moderate ID, speech abnormalities, sleep disorders. Affective psychoses are associated, particularly with the mUPD genotype. *Associated features*—small hands and feet, cleft palate, almond-shaped eyes, strabismus, incurved feet, clubfoot, congenital hip dislocation, abnormalities of the knees and ankles, scoliosis. *Other physical problems*—diabetes, GI problems (obstruction, duodenal ulcer, rectal prolapse, gallstones), heart disease, respiratory problems (asthma, cor pulmonale), renal calculi, hearing deficits, hypothermia.

Rubenstein–Taybi syndrome Microdeletion of the gene encoding human cAMP-regulated enhancer binding protein; karyotype 16p13.3; incidence 1:125,000. *Clinical features*—ID and dysgenesis of the corpus callosum. Broad thumbs and great toes; persistence of fetal finger pads; facial features (short upper lip, pouting lower lip, maxillary hypoplasia, beaked nose, slanted palpebral fissure, long eyelashes, ptosis, epicanthic fold, strabismus, glaucoma, iris coloboma); cardiac problems (pulmonary stenosis and hypertension, mitral valve regurgitation, patent ductus arteriosus); propensity to keloid formation; genitourinary features (hypoplastic kidneys, cryptorchidism, shawl scrotum); GI problems (constipation, megacolon); collapsible larynx (leading to sleep

apnoea); epilepsy (25%); behavioural problems (sleep problems, stereotypies, e.g. rocking, self-injurious behaviour).

Smith–Magenis syndrome Deletion in 17p11.2; incidence 1:50,000. *Clinical features*—moderate ID; facial features (brachycephaly, broad face, flattened mid-face, strabismus); myopia; short, broad hands; upper limb deformity; insensitivity to pain. *Behavioural problems*—'self-hugging' posturing, aggression, self-injury, hyperactivity, severe sleep problems, other autistic features.

Williams syndrome Small deletion; karyotype 7q11.23 (possibly gene for elastin or protein kinase—*LIMKI*); 1:15,000 live births; may also be related to excessive maternal vitamin D intake. Clinical features—hypercalcaemia (in ~50%) with supravalvular aortic stenosis and unusual facies. Neonates: may be irritable, have feeding problems, and failure to thrive. Childhood: growth retardation, 'elfin' facial features, hoarse voice, premature wrinkling and sagging of the skin, cardiovascular anomalies (e.g. supravalvular aortic stenosis), urinary tract abnormalities (asymmetrical kidneys, nephrocalcinosis, bladder diverticuli, urethral stenosis), pulmonary artery stenosis, mild to moderate ID (verbal often better than visuospatial and motor abilities). Often there is abnormal attachment behaviour (manifest as anxiety, poor peer relationships, hypersensitivity, or conversely as social disinhibition, excessive friendliness).

Wolf–Hirschhorn syndrome Partial monosomy; karyotype 4p–. Clinical features—severe ID; many survive to adulthood.

Autosomal dominant syndromes

Noonan's syndrome Occuring in 1:1000–1:2000; ♂ = ♀. Initial description of nine children seen in the Congenital Heart Disease Clinic who shared characteristic facies, anterior chest wall deformities (pectus carinatum or excavatum), and short stature. While a number of genes (including *PTPN11, SOS1*, and *KRAS*) have been identified, which can cause Noonan's syndrome, it remains a clinical diagnosis. *Clinical features*—varying degree of ID (from none to severe), short stature (80%), cardiac abnormalities (>80%), hepatosplenomegaly (25%), distinctive facies.

The following group of disorders are also termed phakomatoses — a variety of conditions of ectodermal origin with neurocutaneous signs. Although von Hippel–Lindau syndrome is not associated with ID, it is included for completeness.

Tuberous sclerosis (TSC) Occurring in 1:7000–10,000; ♂ = ♀. *Clinical features*—varying degree (usually severe) of ID (50%), seizures (e.g. 'Salaam attacks' and other types, in 90%), hamartomas of the CNS (including the retina), as well as ependymomas and astrocytomas, facial angiofibroma, adenoma sebaceum, depigmented skin patches ('ash leaf spots' in 96%), shagreen patches, depigmented naevi, subcutaneous nodules, 'café-au-lait' spots, fibromas of the nails, pitted tooth enamel, hypoplasia, and occasionally tumours of the heart

(rhabdomyeloma, hamartoma), kidney problems (Wilms' tumour, renal cysts), olfactory hamartomas, hypertension, and aortic aneurysm. *Subtypes—TSC1:* 1:12,000; associated with a gene (for hamartin—believed to be tumour-suppressing) near the ABO blood group locus on chromosome 9 (9q34—40% of cases); *TSC2:* associated with a gene for tuberin (a guanosine triphosphatase-activating protein, also believed to be tumour-suppressing) on chromosome 16 (16p13.3–), more psychiatric and behavioural problems; *TSC3:* a rare translocation of a gene on chromosome 12.

Neurofibromatosis *Type 1 (NF1, von Recklinghausen's disease)*—occurring in 1:3000; ♂ = ♀. Autosomal dominant condition, responsible gene on chromosome 17 (~50% spontaneous mutations). *Clinical features*—café-au-lait spots, freckling, dermal neurofibromas, nodular neurofibromas, Lisch nodules; associated with mild intellectual disability in ~50%. *Type 2 (NF2)*—occurring in 1:35,000. Autosomal dominant condition, responsible gene on chromosome 22. *Clinical features*—bilateral vestibular schwannomas, café-au-lait spots, juvenile posterior subcapsular lenticular opacities.

Sturge–Weber syndrome Caused by spontaneous genetic mutation in unknown location. *Clinical features*—'port-wine stain', typically covering part of the forehead and at least one eyelid, angiomas of the meninges in the temporal and occipital areas on the same side as the port-wine stain. Associated to varying degrees with ID. Epilepsy is the most common early problem, often starting before the age of 1. Hemiparesis may develop, usually contralateral to the port-wine stain. Buphthalmos (bulging of the eye) and glaucoma are common in the affected eye.

von Hippel–Lindau (VHL) syndrome A rare genetic condition caused by a mutation of the *VHL* tumour suppressor gene on chromosome 3p; 80% inherited, 20% new mutation. Symptoms caused by angiomas in various areas of the body. *Clinical features*—renal cysts/carcinomas, phaeochromocytomas, CNS haemangioblastomas, pancreatic cysts/tumours (can be neuroendocrine), subretinal haemorrhages secondary to retinal vessel tortuosities/aneurysms. Not associated with ID.

Autosomal recessive syndromes

These conditions include some of the lysosomal storage diseases, e.g. mucopolysaccharide storage—Hurler syndrome, Sanfilippo disease, sphingolipid storage—Tay–Sachs disease, Niemann–Pick disease (sphingomyelins), glycoprotein storage—sialidosis; phenylketonuria; and rare disorders such as Laurence–Moon syndrome and Joubert syndrome.

Phenylketonuria A preventable cause of severe ID, due to deficiency of phenylalanine hydroxylase (long arm of chromosome 12), leading to phenylalaninaemia and phenylketonuria; incidence 1:10,000; diagnosed postnatally ('Guthrie test'). *Clinical features*—fair hair/skin and blue eyes (lack of pigment—tyrosine deficiency), neurological signs (stooped posture, broad-based gait, ↑ tone and

reflexes, tremor, stereotyped movements). *Behavioural problems*—hyperactivity, temper tantrums, perseveration, echolalia. *Management*—supervised early dietary restriction of phenylalanine. *Prognosis*—even with dietary treatment, lower-than-average IQ.

Sanfilippo disease Due to disorders of the breakdown of heparan sulfate, of which there are four subtypes (types A–D). Incidence 1:200,000. *Clinical features*—severe ID, claw hand, dwarfism, hypertrichosis, hearing loss, hepatosplenomegaly, biconvex lumbar vertebrae, joint stiffness. *Behavioural problems*—restlessness, sleep problems, challenging behaviour. *Aetiology*—*type A* (most severe, most common) mapped to 17q25.3 (heparan sulfate sulfatase); *type B* 17q21 (*N*-acetyl-α-*D*-glucosaminidase); *type C* on chromosome 14 or 21 (acetyl-CoA-α-glucosaminide-*N*-acetyltransferase); *type D* 12q14 (*N*-acetyl-α-*D*-glucosamine-6-sulfatase). *Prognosis*—poor, many die between 10 and 20yrs of respiratory tract infections.

Hurler syndrome Due to deficiency in α-*L*-iduronidase (4p16.3); incidence 1:100,000. *Clinical features*—progressive ID (eventually severe/profound), skeletal abnormalities (short stature, kyphosis, flexion deformities, claw hand, long head, characteristic facial appearance), hearing loss, respiratory and cardiac problems, hepatosplenomegaly, umbilical/inguinal hernia. *Prognosis*—poor, some survive to 20s; may benefit from allogeneic bone transplantation.

Laurence–Moon syndrome Associated with multiple loci (11q13, 11q21, 15q22, 3p13); prevalence 1:125,000–160,000 (higher in Bedouins of Kuwait and Newfoundland). Also known as *Laurence–Moon–Biedl syndrome* (incorporating Bardet–Biedl syndrome which shares clinical features, but additionally there is central obesity and polydactyly). *Clinical features*—mild to moderate ID, short stature, spastic paraparesis, hypogenitalism (most ♂ are infertile), night blindness (due to red cone dystrophy), non-insulin-dependent diabetes mellitus (NIDDM), renal problems (diabetes insipidus, renal failure).

Joubert syndrome Exceptionally rare, no loci identified, but recessively inherited. *Clinical features*—severe ID, characteristic hyperpnoea ('panting like a dog'), cerebellar dysgenesis, hypotonia, ataxia, tongue protrusion, facial spasm, abnormal eye movements, cystic kidneys, syndactyly/polydactyly. *Behavioural problems*—self-injury. *Prognosis*—poor, no specific treatments.

Gaucher's disease Most common of the lysosomal storage diseases. Caused by deficiency of glucocerebrosidase, leading to accumulation of glucosylceramide, most commonly in the spleen, liver, lung, bone, and brain. *Type I*—the brain is unaffected, onset later in adulthood; *types II and III*—associated with ID, with type II being the most severe. *Prognosis*—type I, close to normal; type II, children usually die by age of 2yrs; type III, adolescence to adulthood. *Treatment*—enzyme replacement and bone marrow replacement both used in the treatment of types I and III. Unfortunately, there is no treatment for the neurological effects in types II and III.

X-linked dominant syndromes

Fragile X syndrome

A common inherited cause of ID, affecting 1:4000 ♂ and 1:8000 ♀, with X-linked dominant transmission. Penetrance is low, but greater in ♂ than ♀ (due to 'protective' effects of the second normal X chromosome in ♀). Gene sequence has been cloned[3] and designated *FMR-1*. The syndrome is associated with a large sequence of triplet repeats (CGG)n at a fragile site on the X chromosome (Xq27.3). In affected ♂, *n* >230–1000+; in transmitting ♂ and obligate ♀, *n* = 43–200; and in the general population, *n* = 6–54 (mean 30). *Clinical features*—variable, subtle, and often cannot be detected before adulthood. May include: large testicles and ears, smooth skin, hyperextensible fingers, flat feet, mitral valve prolapse, inguinal and hiatus hernia, facial features (long, narrow face with underdevelopment of the mid-face, macrocephaly), epilepsy (~25%), variable ID (borderline to profound). *Behavioural features*—appear to be similar to those seen in ADHD and autism: hand flapping/waving, repetitive mannerisms, shyness, gaze avoidance, poor peer relationships, communication difficulties (e.g. delayed language development, conversational rigidity, perseveration, echolalia, palilalia, cluttering, and over-detailed/circumstantial speech), psychiatric problems (e.g. prominent depression/anxiety). Many of the features of fragile X also overlap with those of autism, although debate is ongoing as to the exact nature of the relationship. *Note:* general domestic and daily living skills may be excellent. *Brain imaging*—reduced posterior cerebellar vermis, enlarged hippocampus and caudate nuclei, enlarged ventricles.

Other disorders with 'fragile' sites

Two other fragile sites have been found on the X chromosome. The original 'fragile X' site has hence been designated 'FRAX A'. FRAX E, caused by *FMR-2* mutation, is also associated with mild ID, with an incidence of 1:100,000 and 200–1000 triplet repeats. FRAX F has not (yet) been associated with any disorder. Another fragile site has been located on chromosome 16 (FRA 16), associated with a large GCC triplet expansion—but no specific clinical disorder.

Rett's syndrome

A pervasive developmental disorder (Pervasive developmental disorders, p. 820) almost exclusively affecting ♀, with an incidence of 1:10,000. Initially described by the Austrian physician Andreas Rett in 1966,[4] but only fully recognized after a second paper in 1983.[5] *Clinical features*—initially normal development, followed by four stages:

1. Early onset/developmental arrest.
2. Rapid destructive/regressive.
3. Plateau (or pseudo-stationary) and (4) late motor deterioration:

- *Stage 1* Onset usually 6–18mths. May be delays in gross motor skills. Infants may show ↓ eye contact and ↓ interest in toys. The typically described hand-wringing and ↓ rate of head growth may also be apparent.
- *Stage 2* Onset usually between 1 and 4yrs. Purposeful hand movements and spoken language are lost. Stereotypical hand movements, including wringing, washing, clapping, or tapping, are often seen. Emergence of some autistic symptoms and a worsening gait may be seen.
- *Stage 3* Onset usually before age 10, and can last for most of life. Seizures and motor problems more prominent. Some improvement in behaviour, with more interest in others and surroundings, and some improvement in communication skills.
- *Stage 4* This stage can last for decades and is typified by gradual worsening in mobility, with scoliosis, spasticity, and muscle weakness.

Aetiology Mutations in the *MECP2* gene on the X chromosome are present in the majority of girls with Rett's syndrome. Mutations on the *CDKL5* gene have also been implicated in a variant of Rett's syndrome with notably early-onset of seizures. *Prognosis*—poor, with continued motor deterioration and usually severe intellectual disability.

Aicardi syndrome

Rare (only 200 reported cases—all ♀); dysgenesis of the corpus callosum and cerebrum, with severe ID; prognosis poor (often death in infancy). *Clinical features*—microcephaly, facial asymmetry, low-set ears, eye lesions (chorioretinal lacunae), hypotonia, scoliosis, epilepsy. *Behavioural problems*—25%: aggression, lack of communication, tiredness/sleep problems, self-injurious behaviour.

X-linked recessive syndromes

These include other lysosomal storage diseases, e.g. mucopolysaccaride storage—Hunter syndrome; trihexosylceramide storage—Fabry disease, and other extremely rare conditions such as Lesch–Nyhan syndrome and oculocerebrorenal syndrome of Lowe.

Hunter syndrome Caused by iduronate sulfatase deficiency (mapped to Xq27–28); incidence 1:100,000 (more common in ♂ Ashkenazi Jews: 1:34,000). Symptoms are caused by build-up of glycosaminoglycans (GAGs) in a variety of body tissues. Only 20% have complete depletion of iduronate sulfatase, and two subtypes are recognized: *type A*—progressive ID and physical disability, with death before age 15yrs; *type B*—milder form, with minimal intellectual impairment and better prognosis. *Clinical features*—short stature, distinctive course, facies 'gargoylism', prominent forehead, enlarged tongue, flattened bridge of the nose, enlarged head, degenerative hip disease, joint stiffness, claw hand, chest

deformities (pes cavus or excavatum), cervical cord compression, hepatosplenomegaly, hearing loss, breathing obstruction, developmental delay, eye defects (retinitis pigmentosa, papilloedema, hypertrichosis), umbilical/inguinal hernia.

Lesch–Nyhan syndrome An extremely rare X-linked recessive condition, due to a mutation in the *HPRT* gene (hypoxanthine phosphoribosyl transferase) on the short arm of chromosome Xq26–27, with a nearly total loss of the enzyme, leading to hyperuricaemia. Incidence 1:380,000. Prognosis is poor, and most affected individuals die in early adulthood. *Clinical features*—children appear healthy at birth; dystonias become apparent around 3–4mths with delayed developmental milestones; later there is development of spasticity, choreoform movements, and transient hemiparesis (which may be misdiagnosed as cerebral palsy); variable degree of ID (usually severe); microcephaly is common; ~50% develop epilepsy. *Behavioural problems*—around age 2yrs (sometimes not until adolescence), self-mutilating behaviours may be seen (biting of lips, inside of mouth, fingers). Sometimes there is an episodic pattern, and some may show a reduction in frequency and severity after the age of 10yrs. May be associated with verbal and physical aggression. There is no clear cause for this behaviour—CNS findings include a reduction in DA in the basal ganglia and at synaptic terminals (but not in the cell bodies of the substantia nigra), with other monoaminergic systems apparently intact. *Management*—even treating hyperuricaemia does not appear to reduce behavioural problems; however, there is some evidence for the use of SSRIs.

Oculocerebrorenal syndrome of Lowe Very rare X-linked recessive condition (Xq24–26); incidence 1:200,000. *Clinical features*—moderate to severe ID (up to 25% have normal IQ), short stature, hypotonia, epilepsy (~30%), eye problems (e.g. congenital cataracts), renal problems (tubular dysfunction). *Behavioural problems*—temper tantrums, hand-waving movements, self-injury (~70%—especially in early adolescence).

Sex chromosome disorders

Turner's syndrome Sex chromosome monosomy; karyotype 45,XO; ♀ phenotype; 1:10,000 live births; generally normal IQ, with ID rare, although there may be specific deficits of visuospatial learning.

Trisomy X Sex chromosome trisomy; karyotype 47,XXX; 1:1000 ♀ births. *Clinical features*—slight increase in height, ~70% have intellectual disorder (usually mild), some evidence of reduced fertility (children have normal karyotypes), possibly ↑ incidence of schizophrenia.

Klinefelter's syndrome Sex chromosome trisomy; karyotype 47,XXY; 1:1000 ♂ births (50% due to paternal and 50% maternal non-dysjunction). *Clinical features*—variable degree of development of secondary sexual characteristics, with hypogonadism, scant facial hair (90%), and gynaecomastia (50%).

Taller than average (~4cm), asthenic body build, median IQ ~90 with skewed distribution—most in the 60–70 range, uncertain association with psychiatric disorders.

XYY ♂ Sex chromosome trisomy; karyotype 47,XYY; 1:1000 ♂ births. *Clinical features*—controversial suggestion of higher incidence in prison populations, IQ may be slightly lower than average, behavioural problems commonly seen.

Non-genetic causes of intellectual disability

Fetal alcohol spectrum disorder (FASD)

One of the major causes of ID; incidence 0.2–3 per 1000 live births. Umbrella term for the range of alcohol teratogenesis, including FAS. Ten to 20% of cases of mild ID may be caused by maternal alcohol use. Risk ↑ by: overall alcohol consumption, bingeing, other drug use (including smoking), genetic susceptibility, and low socio-economic status. May be due to the effects of alcohol on NMDA receptors, which may alter cell proliferation. *Clinical features*—postnatal signs of alcohol withdrawal (irritability, hypotonia, tremors, seizures); microcephaly; abnormal facial features (small eye fissures, epicanthic folds, short palpebral fissure, small maxillae and mandibles, underdeveloped philtrum, cleft palate, thin upper lip); growth deficits (small overall length, joint deformities); CNS features [high incidence of mild ID, associated behavioural problems (hyperactivity, sleep problems), optic nerve hypoplasia (poor visual acuity), hearing loss, receptive and expressive language deficits]; other physical abnormalities (atrial septal defect, VSD, renal hypoplasia, bladder diverticuli).

Iodine deficiency disease

Worldwide, the most common cause of severe intellectual impairment and largely forgotten in the West by virtue of good diet and iodized table salt. Important cause of ID, particularly because of its treatability. Mainly found in large areas of Asia, Africa, and South America.

Congenital hypothyroidism

A treatable cause of mental and growth retardation due to loss of thyroid function; incidence 1:4000, but now screened for neonatally and treated early with levothyroxine. If untreated, leads to the typical clinical picture of lethargy, difficulty feeding, constipation, macroglossia, and umbilical hernia.

Secondary to other toxins

For example, cocaine, lead, bilirubin, coumarin anticoagulants, phenytoin.

Secondary to infective agents

ToRCH (Toxoplasmosis, Rubella, Cytomegalovirus, and Herpes simplex virus), syphilis (*Treponema pallidum*), HIV, and other causes of meningitis and encephalitis.

Hypoxic damage

Secondary to placental insufficiency, pre-eclampsia, birth trauma, severe prematurity, 'small-for-dates' babies (fetal growth retardation), or multiple pregnancy.

Central nervous system and skull developmental abnormalities

Micro- and macrocephalies, spina bifida, hydrocephalus, craniostenosis, callosal agenesis, lissencephalies, holoprosencephalies.

Disorders of unknown aetiology

This includes a broad range of disorders associated with ID, but for which a clear aetiology is as yet undetermined, e.g. cerebral palsies, epilepsy, ASD (Autism, p. 822), childhood disintegrative disorders, and other clearly defined syndromes with a suspected, but not yet proved, genetic basis (e.g. Cornelia de Lange).

Disintegrative disorder

Clinical features—characterized by normal development until the age of 4yrs, followed by profound regression with disintegration of behaviour, loss of acquired language and other skills, impaired social relationships, and stereotypies. *Aetiology*—unknown, but may follow minor illness or viral encephalitis (e.g. measles). Also thought to have a genetic basis, but no genes identified. *Prevalence*—1 in 100,000. *Prognosis*—poor, with development of severe ID.

Cornelia de Lange syndrome (Brachmann de Lange syndrome)

Usually IQ is below 60 (range 30–86); prevalence 1:60,000; mode of inheritance unknown (possibly autosomal dominant), but >99% sporadic. *Clinical features*—hypertrichosis (hirsutism, synophrys, long eyelashes), facial features (depressed nasal bridge, eye abnormalities, prominent philtrum, thin lips, downturned mouth, anteverted nostrils, bluish tinge around the eyes/nose/mouth, widely spaced teeth, high-arched palate, low-set ears, micrognathia, short neck), limb deformities (especially upper limbs), cryptorchidism/hypoplastic genitals (♂), small umbilicus, low-pitched cry, small nipples. Associated with GI problems, congenital heart defects, visual and hearing problems, skin problems, epilepsy, and death in infancy. *Behavioural problems*—expressive language deficits, feeding difficulties, sleep disturbance, self-injury, temper tantrums, mood disorders, and autistic features.

Pervasive developmental disorders

Pervasive developmental disorders (PDDs) are a group of lifelong developmental disorders characterized by a triad of: abnormal reciprocal social interaction; communication and language impairment; and a restricted, stereotyped, and repetitive repertoire of interests and activities. In DSM-5 (and ICD-11), the single term

'autism spectrum disorder' is used to describe the range of diagnoses classified as PDDs in ICD-10. ICD-10 currently differentiates:

- Autism and atypical autism (Autism, p. 822).
- Rett's syndrome.
- Childhood disintegrative disorder.
- Asperger's syndrome.
- Pervasive developmental disorder not otherwise specified (PDD-NOS).

Patients with PDD show either a lack of normal development of skills or a loss of already acquired skills. There is gender bias, with ♂ > ♀ predominance in all syndromes, except Rett's syndrome (♀ predominance). Prevalence of PDD ranges from 10 to 20 cases per 10,000 individuals.

Asperger's syndrome[6]

Essence A syndrome first described by Hans Asperger in 1944, but only eponymously named in 1981 by Lorna Wing. Described by Baron-Cohen as 'the extreme male brain', with 'mind blindness'. Characterized by severe persistent impairment in reciprocal social interactions, repetitive behaviour patterns, and restricted interests. IQ and language are normal or, in some cases, superior. Children with Asperger's syndrome may have more striking autistic features before the age of 5 but later develop 'normally' in most spheres, excepting social behaviour. Social deficits commonly manifest in adolescence or early adulthood when the individual experiences difficulty with intimate relationships. Psychiatric comorbidity is high, with depression and anxiety the most common. Bipolar affective disorder and schizophrenia are more common than in the general population. Mild motor clumsiness (ICD-10) and a family history of autism may be present. **Epidemiology** ♂ predominance. Prevalence may be as high as 1 in 300, as Asperger's syndrome is almost certainly under-recognized.

Rett's syndrome

(X-linked dominant syndromes, p. 814.)

Childhood disintegrative disorder (CDD)[7]

Rare, occurring in fewer than 5 in 10,000 children. ♂ predominance. There is normal development for 2–3yrs, followed by a loss of acquired motor, language, and social skills between the ages of 3 and 4yrs. Stereotypies and compulsions are common. Cause is unknown, and prognosis is poor.

Pervasive developmental disorder not otherwise specified

Also termed 'atypical autism', PDD-NOS is relatively common and encompasses subthreshold cases where there are impairments of social interaction, communication, and/or stereotyped behaviour patterns or interest, but where full criteria for other PDDs are not met.

Autism

Autism was first described by Maudsley in 1867 and named 'infantile autism' by Leo Kanner in 1943. It is a syndrome that has engendered controversy in terms of its definition, relationship to other syndromes (e.g. schizophrenia), and aetiology.[8] Autism is characterized by the same triad of symptoms (Pervasive developmental disorders, p. 820) as the core symptoms of PDD: abnormal reciprocal social interaction; communication and language impairment; and a restricted, stereotyped, and repetitive repertoire of interests and activities, in the presence of developmental delay. If this triad of impairments is evident without developmental delay, the diagnosis of 'Asperger's syndrome' or 'ASD' may be given instead.

Eighty per cent of patients with autism have mild to moderate ID. In general terms, 1–2% of those with autism have a 'normal' life; 5–20% have a 'borderline' prognosis (i.e. varying degrees of independence), but 70% are totally dependent upon support.

Epidemiology The onset of symptoms is typically before the age of 3. ♂:♀ = 3–4:1. Prevalence is 5–10 per 1000 individuals.

Aetiology The cause is unknown, but a number of hypotheses exist: genetic (in Down's syndrome and fragile X); obstetric complications; toxic agents; pre/postnatal infections (with maternal rubella); autoimmune; and association with neurological disorders (e.g. TSC).

Pathophysiology *MRI*—some have ↑ brain size; ↑ lateral and fourth ventricles; frontal lobe and cerebellar abnormalities.

Pathology Abnormal Purkinje cells in the cerebellar vermis; abnormal limbic architecture.

Biochemistry One-third have ↑ serum 5-HT; some have ↑ β-endorphin immunoreactivity.

Clinical features

- *Abnormal social relatedness:* impaired non-verbal behaviour; poor eye contact; impaired mentation; failure to develop peer relationships; reduced interest in shared enjoyment; lack of social or emotional reciprocity and empathy; attachment to unusual objects.
- *Abnormal communication or play:* delay or lack of spoken language; difficulty in initiating or sustaining conversation; stereotyped and repetitive (or idiosyncratic) language; mixing of pronouns; lack of developmentally appropriate fantasy, symbolic, or social play.
- *Restricted interests or activities:* encompassing preoccupations and interests; adherence to non-functional routines or rituals; resistance to change; stereotypies and motor mannerisms (e.g. hand or finger flapping or body rocking); preoccupation with parts of objects.

- *Neurological features:* seizures; motor tics; ↑ head circumference; abnormal gaze monitoring; ambidexterity.
- *Physiological features:* unusually intense sensory responsiveness (e.g. to bright lights, loud noise, rough textures); absence of typical response to pain or injury; abnormal temperature regulation; ↑ paediatric illnesses.
- *Behavioural problems:* irritability; temper tantrums; self-injury; hyperactivity; aggression.
- *'Savants':* a minority may have 'islands of precocity' against a background of ID (i.e. isolated abilities, e.g. incredible memory or arithmetic skills).

Differential diagnosis Other PDDs; childhood schizophrenia; ID; language disorders; neurological disorders; sensory impairment (deafness or blindness); OCD; psychosocial deprivation.

Assessment[9]

- A multidisciplinary approach is required, involving psychiatrists, psychologists, paediatricians, neurologists, speech therapists, occupational therapists, social workers, and nursing staff.
- Full clinical evaluation, including physical and mental state, as well as specific developmental, psychometric, behavioural, and educational assessments, including clinical observation in different settings.
- Rating scales—Autism Diagnostic Interview–Revised (ADI-R); Autism Diagnostic Observation Schedule (ADOS-G); Diagnostic Interview for Social and Communication Disorders (DISCO).

Treatment strategies[9]

- STRUCTURE, ROUTINE, PREDICTABILITY.
- Aids to improve communication: symbol dictionaries, picture boards, social stories.
- Educational and vocational interventions: special vs mainstream.
- Behavioural interventions: includes behaviour modification, social skills training, and CBT methods.
- Family interventions: education, support, advocacy.
- Speech and language therapy; OT; physiotherapy; dietary advice, etc.
- Sleep management.
- Pharmacotherapy: symptom management, e.g. short-term antipsychotics for stereotypies (reviewed regularly and only under expert guidance[10]); SSRIs for compulsive and self-harming behaviours and depression/anxiety. Treat medical conditions (e.g. epilepsy, GI tract problems).

Epilepsy and intellectual disability

Epilepsy is significantly more common in people with ID than in the general population. The prevalence of epilepsy is ~40% in the hospitalized ID population and is higher in severe ID (30–50%) than in mild ID (15–20%). It may begin at any age; presentations may

change over time, and multiple forms may occur in the same individual.

Diagnosis

History and examination May be difficult to obtain accurate information, often relying on third-party accounts (home video may be useful). Try to exclude other differential diagnoses (e.g. infection, trauma, hypoglycaemia, hyperventilation, withdrawal from drugs or alcohol, over-sedation, localizing signs of intracranial pathology, evidence of movement disorders). Conduct an MSE, focusing on observed behaviours. Identification of any stressors (especially if anxiety-provoking).

Investigations Baseline laboratory tests—FBC, U&Es, LFTs, glucose. Consider EEG and CT/MRI (in complex cases video-EEG monitoring may be useful), PET, or SPECT (to detect areas of hypometabolism).

Co-occurrence

- Epilepsy is common in patients with ID of various causes, e.g. Down's syndrome (5–10%), fragile X (25%), Angelman syndrome (90%), Rett's syndrome (90%). This may be due to shared aetiologies, such as alterations in neuronal development and function, or co-associated brain lesions (haemorrhage, ischaemia, neoplasm, vascular malformation).
- Frequent epileptic seizures may lead to (or worsen) permanent loss of intellectual functioning (e.g. 'acquired epileptic aphasia'/Landau–Kleffner syndrome, progressive partial epilepsies such as epilepsia partialis Kozhevnikov or Rasmussen syndrome type 2), emphasizing the need for early diagnosis and treatment to prevent often fatal progression.

Epilepsy syndromes in infancy and childhood

Infancy *Early infantile epileptic encephalopathy*—due to congenital or acquired abnormal cortical development; early myoclonic epileptic encephalopathy, possibly due to metabolic disorders; infantile spasms/West syndrome[11] due to intrauterine infections (toxoplasmosis, CMV, rubella), Down's syndrome, TSC, progressive degenerative disorders, or intracranial tumours; severe myoclonic epilepsy. *Childhood*—a variety of other myoclonic epilepsy syndromes are recognized: Lennox–Gastaut syndrome, myoclonic–astatic epilepsy (Doose syndrome), progressive myoclonus epilepsies (Baltic or Lafora disease), Northern epilepsy.

Treatment

Note: practice varies geographically—in some areas, the lead is taken by neurologists, and in other areas, by ID psychiatrists and/or epilepsy specialist nurses.

Choice of treatment will depend upon a number of factors and should be personalized to the patient. It should take into account the type of epilepsy syndrome, possible drug interactions, and side effects.

***International Association of the Scientific Study of Intellectual Disability guidelines*[12]**

Collation of evidence for different treatments of epilepsy in ID:

- Generalized seizures—sodium valproate, lamotrigine.
- Partial seizures—valproate, carbamazepine, lamotrigine.

Points to note

- Behavioural problems may be associated with antiepileptic drugs and may be more common in patients with brain injury or ID (e.g. phenobarbital, primidone, BDZs, vigabatrin).
- Communication difficulties may make assessment of side effects more difficult.
- For intractable epilepsy, neurosurgery is an option, and it should not be excluded on the basis that the person has ID.

Prognosis

There is a wide variation in outcome; however, up to 70% of patients with ID can achieve good control of their epilepsy, without major side effects.

Common pitfalls

- Diagnostic over-shadowing, explaining new (epileptic) symptoms as being 'only' due to the ID.
- Epilepsy may be misdiagnosed in patients with ID, particularly when there is a history of sudden unexplained aggression, self-mutilation, and other 'bizarre' behaviours, including abnormal or stereotyped movements, fixed staring, rapid eye blinking, exaggerated startle reflex, attention deficits, or unexplained intermittent lethargy. (If antiepileptic medication has been previously prescribed for these kinds of presentation, consider careful withdrawal, with close monitoring.)
- Non-epileptic (pseudo-) seizure disorder can also occur in patients with epilepsy (compare with non-cardiac chest pain in patients with angina).
- Epilepsy-related behaviours may also be confused for psychiatric problems, e.g. hallucinations in simple (somatosensory) partial seizures; psychosis-like episodes during complex partial seizures (especially temporal or frontal lobe); or post-ictal confusion.

Psychiatric comorbidity in intellectual disability

In the assessment of patients with ID, it is important to always consider comorbid psychiatric illnesses, as they are both common and treatable. Psychiatric illness is often missed in the ID population, because of diagnostic over-shadowing (symptoms of mental illness mistakenly attributed to the ID). The diagnostic criteria for people with ID (DC-LD) were published in 2001 by the Royal College of Psychiatrists as an aid to the diagnosis of mental illness in the ID population.[13]

Schizophrenia

~3 times more common than in the general population. Age of onset tends to be earlier (mean 23yrs). More commonly associated

with epilepsy, negative symptoms of schizophrenia, and impairment of episodic memory.[14] In severe ID, there may be unexplained aggression, bizarre behaviours, mood lability, or  mannerisms and stereotypies.

Bipolar affective disorder

Prevalence is estimated to be greater than the general population (2–12%), with difficulty in making the diagnosis in severe ID. Symptom 'equivalents' may include: hyperactivity, wandering, mutism, and temper tantrums.

Depressive disorder

Commonly missed, as a quiet and withdrawn person may not be a focus of clinical attention. Biological features tend to be more marked, with diurnal variations. Suicidal thoughts and acts may occur in borderline to moderate ID but are less frequent in severe ID. Other causes of mood disturbance (e.g. perimenstrual disorders) should also be considered.

Other disorders

Anxiety disorders May be difficult to distinguish from depression, except where there are situational features.

OCD Reported to be more prevalent in ID. Differential diagnosis: ritualistic behaviours, tic disorders, behavioural manifestations of autism/Asperger's disorder.

ADHD Often a prominent feature in children with ID (up to 20%). Stimulants may help in mild ID with clear symptoms, but have no clear efficacy in severe to profound ID.

Personality disorder Difficult to define in the ID population, but prevalence is estimated in ~20% of mild to moderate ID patients who are inpatients.

Behavioural disorders and 'challenging' behaviour

Behavioural disorders are over-represented in ID populations, ranging from minor antisocial behaviours to seriously aggressive outbursts. Prevalence estimates are 7% of the ID population: 14% for inpatients (especially 25- to 29-yr olds) and 5% for those in the community (especially 15- to 19-yr olds).

Studies of behavioural disorders in the ID population identify six relatively consistent groupings of pathological behaviours,[15] which create a significant burden for parents/carers:

- Aggression–antisocial:
  - *Antisocial behaviours*—shouting, screaming, general noisiness; anal poking/faecal smearing (? secondary to constipation); self-induced vomiting/choking; stealing.
  - *Aggressive outbursts*—against persons or property.
  - *Severe physical violence*—rare.
  - *Self-injurious behaviour*—skin picking, eye gouging, head banging, face beating (more common in severe/profound ID; prevalence 10% overall, 1–2% most severe).
- Social withdrawal.

- Stereotypic behaviours (some of which may be *self-injurious*).
- Hyperactive disruptive behaviours.
- Repetitive communication disturbance.
- Anxiety/fearfulness.

When these behaviours are particularly severe, they are often termed *'challenging'* (see Box 17.4).

Box 17.4 Definition of challenging behaviour (Royal College of Psychiatrists)

'Behaviour of such an intensity frequency or duration as to threaten the quality of life and/or physical safety of the individual or others, and is likely to lead to responses that are restrictive, aversive or result in exclusion.'

Royal College of Psychiatrists. *Challenging Behaviour: A Unified Approach*. College Report CR144: Royal College of Psychiatrists, British Psychological Society and Royal College of Speech and Language Therapists; 2007 [Accessed: 12 Jul 2018]: https://www.rcpsych.ac.uk/usefulresources/publications/collegereports/cr/cr144.aspx

Associated factors

- *Cognitive functioning*—severe intellectual impairment, poor/absent language ability, poor social comprehension.
- *Temperament*—particularly high emotionality, activity, poor sociability.
- *Physical problems*—e.g. epilepsy, cerebral palsy, cardiac problems, GI problems, visual/hearing impairment.
- *Medication*—psychotropic drugs may produce or mask cognitive, behavioural, or emotional problems. Sometimes a 'drug holiday' may be helpful to assess how medication contributes to the presentation.
- *Psychological factors*—e.g. food, drink, pain.
- *Communication difficulties*—frustration due to inability to utilize normal forms of communication.
- *Adverse experiences*—common to the general population and also particular to the ID population, e.g. experience of institutions, social rejection, neglect, and emotional, physical, or sexual abuse.
- *Environmental factors*—living conditions, stability and continuity of day-to-day activities (a common precipitant is multiple short-term residential placements, with multiple changes in care staff). The quality of the care environment may be directly responsible for behavioural problems, and assessment should include factors such as social relationships, specific environmental stressors, consistency of care, and lack of stimulation.
- *Comorbidity*—psychiatric disorders may complicate the presentation of behavioural problems, e.g. *ADHD* (Attention-

deficit/hyperactivity disorder 1: overview, p. 668); *CD/ODD* (Conduct disorders, p. 664; Oppositional defiant disorder, p. 666); *tic disorders* (Tic disorders, p. 676); *anxiety disorders* (The common neuroses, p. 362)—fears/phobias, separation anxiety (Separation anxiety disorder, p. 684), PTSD (Post-traumatic stress disorder 1, p. 402), OCD (Obsessive–compulsive disorder 1, p. 384); depressive disorder (Diagnois 3: other clinical presentations and differential, p. 252); *bipolar disorder* (Bipolar (affective) disorder 1, p. 328); *PDDs* (Pervasive developmental disorders, p. 820). Identification and appropriate treatment may significantly improve behavioural problems.

Behavioural phenotypes

Many genetic causes of ID are associated with characteristic patterns of behaviour. Recognizing these 'behavioural repertoires' may help in diagnosis and management and forms the basis for ongoing research into the genetic basis of some behavioural problems. Examples include: *Down's syndrome* (oppositional, conduct, and ADHD); *fragile X syndrome* (autism, ADHD, stereotypies, e.g. hand flapping); *Lesch–Nyhan syndrome* (self-mutilation); *PWS* (OCD, multiple impulsive behaviour disorder, e.g. hyperphagia, aggression, skin picking); *Smith–Magenis syndrome* (severe ADHD, stereotypies—'self-hugging', severe self-injurious behaviours, insomnia); *Williams syndrome* ('pseudomature' language ability in some; initially affectionate and engaging; later anxious, hyperactive, and uncooperative).

Management of behavioural disorders

At all stages in assessment and management, it is essential to involve parents, carers, and other allied professionals (e.g. teachers), both as sources of information and in implementing any proposed interventions.

Assessment

- Exclusion of psychiatric disorder.
- Exclusion of physical disorder and assessment of general health.
- Assessment of physical impairments (vision, hearing, etc.).
- Assessment of communication difficulties (including formal speech and language assessment).
- Assessment of specific cognitive impairments (including formal psychological testing).
- Identification of environmental and social factors.

- Functional assessment of behaviour (including description of behaviour, situations, consequences, and reinforcers).[16]

Management

Following assessment, *specific* factors should be addressed—psychiatric/physical causes, reduction of stimuli/reinforcers, and modification of environmental factors.

Approaches may involve:

- *Educational interventions*—both for families/carers (to improve understanding) and for patients (to ensure educational needs are being appropriately met in a suitable setting).
- *Social interventions*—to address unmet needs at home, with family/carers, or to widen access to other services or facilities (to provide opportunities for social interaction and improve support networks).
- *Facilitating communication of needs*—addressing impairments of hearing, vision, and language (including use of pictures, sign language, and electronic speech devices).
- *Behaviour support plan*—identifying proactive strategies to improve quality of life, adaptions and strategies to change behaviour, preventative strategies to prevent distress, and reactive strategies to deal with challenging behaviour.[17]
- *Cognitive approaches*—at an appropriate level for the degree of cognitive impairment and language abilities—may range from counselling on specific issues to simple imitation of relaxation/breathing techniques.
- *Pharmacotherapy*—treatment for specific comorbid conditions (e.g. ADHD—stimulants; OCD—SSRIs, antidepressant treatment; tic disorders—antipsychotics; epilepsy—anticonvulsants). Medication to treat challenging behaviours should only be used if the risk of harm to the patient or others is high or if other interventions have failed. Other interventions should be continued, where possible, and medication reviewed on a regular basis. Sometimes a trial of antipsychotic treatment may be useful for serious aggression, hyperactivity, or stereotypies (caution in epilepsy; ↑ risk of EPSEs). Other options for aggression, agitation, or self-injurious behaviours (mainly empirical evidence): anticonvulsants, lithium, β-blockers, buspirone. For self-injurious behaviours alone, there is some evidence for opiate antagonists (e.g. naltrexone).
- *Physical interventions* (i.e. restraint)—from splints and headgear to isolation (to protect the individual and others from injury/damage to property). This should only be done as a last resort to protect the individual or others.

Any intervention should be closely monitored to ensure compliance, acceptability, and therapeutic response. In the case of medication, side effects should be minimized, and if treatment is deemed ineffective, drugs should be carefully withdrawn (to avoid secondary problems).

Forensic intellectual disability

The rate of offending in people with ID is consistently higher than that of the general population, with some studies estimating up to around 30% of people with ID come into contact with the criminal justice system.[18] As well as a higher arrest rate, persons with ID have a higher prosecution rate, related to a greater tendency to plead guilty and being less likely to plea bargain. Evidence also shows that people with a more severe ID are less likely to offend than those with mild or moderate disability.

Specific types of offence

- *Crimes of aggression* are more common in people with ID. Aggressive behaviour in patients with ID has a wide differential ( Behavioural disorders and 'challenging' behaviour, p. 828), including aggression associated with ictal or post-ictal states in patients with epilepsy and in association with ASD.
- A higher rate of *sexual offending* has been reported in people with ID. The reasons behind this are complex and not particularly well understood. This may relate to poor sexual knowledge, together with an attempt to fulfil normal sexual urges. Sexual Offender Treatment Programmes (SOTPs) can be adapted for those with ID. Use of libido suppressants is possible but remains controversial.
- *Arson* is another offence in which people with ID are over-represented. There appears to be a split in the reasons behind this, with some incidents being viewed as a 'cry for help' and others being due to a fascination with fire. A CBT programme has been developed in certain forensic units in England which is specifically for people charged with arson.

Assessment of people with forensic issues and intellectual disorder

- Given that offending behaviour in people with ID is seen as part of the challenging behaviour spectrum, assessment of this should be used as a basis for assessment of people in the forensic setting. This involves early identification of people with a higher risk of going on to develop offending behaviour, including those with environmental risk factors.
- The process should be flexible, dependent on the person's level of disability and functioning, as well as their needs. As part of the assessment, there should be a functional assessment of the behaviour, looking for any particular triggers which are potentially reversible.

Criminal justice and intellectual disability

- The criminal justice system can seem overwhelming to someone with an ID, and it is important they have appropriate support at all stages of the process ( Appropriate adults, p. 754). The National Appropriate Adult Scheme[19] aims to ensure that all

vulnerable people have access to a trained person who can ensure that the person's rights are being respected and make sure they understand when they are being interviewed by the police.

- If a person with an ID is charged and has to go to court, they should be assessed for their fitness to plead (Fitness to plead 1: assessment, p. 774). Even if they are fit to plead, a mental health disposal or treatment order may be more appropriate and they can be cared for in a secure unit, if required.
- People with IDs are, by their very nature, more vulnerable than some others, which can lead to bullying and intimidation within the prison system. They may also struggle with communication within the prison, and it is important that people working with them are made aware of this.
- A number of treatment programmes developed within the prison system can be adapted for people with ID, meaning they have the same access to treatment as other prisoners.

Transition periods

Adolescence

This may be a difficult transition period; issues that may require attention include:

- **Engaging with adult services** Loss of the additional support provided by supported mainstream or special schools may lead to problems if there is not a smooth transition to adult services. Where appropriate (or available), this may include moving to *social educational/day centres*. Some countries have specific legislation to ensure that needs are identified early.
- **Social/economic independence**
  - *Employment*—depending on the level of disability, this may be in *sheltered employment, workshops*, or *supported open employment*. Despite changing attitudes, there are considerable barriers to finding work in the open job market, although, for some, this may be worth pursuing.
  - *Living arrangements*—loss of additional social supports may actually increase the burden of care shouldered by the family. For some, the wish for independence or the lack of family support may be best met with *small group homes* where support may be tailored to individual needs.
- **Sexual relationships** Societal views may find it difficult to accept the fact that people with ID have normal sexual desires, which can be more of a problem for families/carers than the individuals themselves. Nonetheless, issues raised by appropriate sexual relationships will include consideration of contraception, understanding of the responsibilities of parenthood, and issues of commitment and marriage. Many people, particularly with mild ID, are capable of being successful parents and provide a stable environment for children, with appropriate support. Policy and

practice guidelines will often exist on this contentious topic, e.g. the 'Making Choices Keeping Safe' policy in Lothian.[20]

Later adulthood

- **Changing health needs** With increasing age, health needs may go unrecognized and there may be failure to access services. Patients with ID may lack capacity to consent to necessary medical treatment, but this should not be allowed to prevent appropriate treatment.
- **Changing mental health needs** These may relate to changing symptomatology over time, altered tolerance to medication, and additional specific age-related cognitive impairment (e.g. due to chronic intractable epilepsy or early-onset Alzheimer's disease in Down's syndrome).
- **Ageing carers** The ability of carers to continue to provide the same level of care for their children ought to be considered *before* a crisis is reached. This requires an ongoing assessment of the patient's needs and the carer's abilities. Increasing reliance on carers may lead to social isolation for the patient, and it is prudent to raise the issue of planning for the future at an early stage. Death of carers may produce multiple simultaneous difficulties when a patient with ID must cope with bereavement, loss of a familiar home setting, and adjustment to new carers and living with other individuals in a group setting.

Family issues

Having a child with ID is a major, and often unexpected, blow to any family. Individual responses vary, but the majority of parents adapt well to the situation and show remarkable resilience and resourcefulness. Depression is quite common in parents and should not be overlooked. Important positive factors include having a good relationship with their partner and the support of relatives and friends. Needs and priorities will vary over time and should be identified early and addressed collaboratively, with the involvement of parents and other carers in any key decisions (Needs and priorities, p. 837).

Early impact

Prenatal diagnostic screening can place parents in the unexpected position of having to make difficult choices, even *before* the birth of their child. Advice and counselling are a necessary and important part of the screening process and should not be ignored, even when testing is regarded as 'routine'. The mistaken assumption that screening 'guarantees' a healthy child may lead to even greater feelings of disappointment and anger, magnified further by anxious times after the birth, with a baby in a special care unit. Although some conditions can be diagnosed at birth, often parents only realize there is a problem when their child fails to reach developmental milestones or develops seizures after an apparently

'normal' infancy. Often the response is one of bereavement (Normal and abnormal grief, p. 400) or guilt, and parents may need support to 'work through' their feelings.

The importance of diagnosis

A clear diagnosis is essential and may greatly relieve the anxieties of many parents who may blame themselves for their child's problems. It may allow access to specific supports, including parent groups and support organizations. These can provide valuable support and education and help answer the many questions which parents have (e.g. usual course, associated problems, prognosis). For inherited conditions, the issue of further genetic counselling/testing of family members needs to be addressed. Provision of clear information allows individuals to make informed decisions about being tested and to weigh the risks of having other affected children.

The effect on other family members

Although it was previously thought that having a child with ID impacted adversely on other unaffected siblings (often leading to the removal of the child from the family), there is little evidence that this is the case and worries about long-term damage appear unfounded. In fact, brothers and sisters of individuals with ID often appear to be drawn to the caring professions and many end up working as doctors, nurses, teachers, or providing support for children with special needs. Grandparents may be a useful supportive resource for parents but may also need to come to terms with their own feelings of having a disabled grandchild.

The 'burden of care'

For carers, informal support may actually be more valuable than formal (professional) support. Frequent appointments or regular home visits may be more disruptive than helpful. Developmental delay brings with it associated problems (e.g. longer time until the child can walk, achieve continence, acquire language/communication skills, establish a normal sleep pattern). The social, financial, and psychological impact on carers should be acknowledged, and appropriate help and support provided. For infants and children, schooling may be both a benefit (in terms of learning social skills, support/respite for parents, and close contact with teachers/other parents) and a burden (particularly if necessary specialist schooling is not locally available). Transitional periods (e.g. adolescence/early adulthood) are accompanied by parental anxieties, as well as changes in how needs are met (Transition periods, p. 834). Advance planning will go some way to alleviate carer stress. Carers may also be concerned about what will happen to their child when they are no longer able to care for them, and an open discussion of these issues, with provisional planning, may help avert crises.

Needs and priorities

- Early, accurate diagnosis.
- Informative genetic advice to parents and other family members.
- Access to high-quality primary (and secondary) healthcare.
- Advice and access to appropriate help and support (practical help, financial assistance, social and educational needs).
- Help and advice with any communication problems (communication aids, learning of sign language).
- Consideration of the needs of carers (education, support groups, respite care).
- Provision of specialist and domiciliary help with specific behavioural problems.
- 'Safety net' of open access to support when necessary.
- Acknowledgement that needs will change over time (and planning for this; Transition periods, p. 834).

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Chapter 18

Liaison psychiatry

Introduction

Liaison psychiatry[1] is concerned with the assessment and management of psychiatric and psychological illnesses in general medical populations. The subspecialty is a relatively recent innovation and has expanded considerably in both role and practitioner numbers over the last 25yrs. It offers an opportunity for interesting and varied clinical practice and research at the interface between psychiatry and medicine.

History The development of a distinct subspecialty of liaison psychiatry arose, in large part, due to the physical separation of psychiatric specialists from their medical and surgical colleagues with the establishment of asylums separate from the general hospitals in the nineteenth century. Following this separation, a number of practitioners remained within the general hospitals with a special interest in 'nervous disorders', working at the boundary between neurology and psychiatry. At that time, the distinction between the two specialties was not as clear as it later became.

As neurological practice became more scientific, the role of psychological factors became less an object of clinical attention for neurologists. At the same time, psychoanalytic theories were pre-eminent within psychiatry, and interest in, and involvement with, organic illnesses declined. However, by the early twentieth century,

there was increasing attention to psychosomatic factors in the aetiology and maintenance of disease and their role in recovery. With the onset of 'biological psychiatry' in the mid-twentieth century, a number of pioneering individuals began psychiatric practice within the general hospitals. They advocated the need for recognition and treatment of psychological factors in physical illness and began the process of establishing links with medical colleagues, identifying appropriate cases for intervention and gaining funding for service development and research.

The development of the subspecialty was motivated by the low rate of outside referrals in proportion to the prevalence of the disorders in the medical population and increasing medical specialization, leading to a lack of confidence and competence with psychiatric/psychological problems in physicians and surgeons. By the 1970s, a distinct subspecialty was recognized in both the UK and the USA. It was staffed mainly by sole practitioners who were generally confined to the larger hospitals. They developed services and established models and ways of working and, in particular, developed links with individual departments with particular needs. In the last quarter-century, there has been growth in both role and practitioner numbers. This growth has often been service-led, with demand, and hence funding, from individual clinical services that see the need for regular psychiatric input.

Roles and responsibilities The role of the liaison psychiatrist and the types of referral seen will vary by the hospital type, the population served, and the specialty mix within the hospital.

- *Direct consultation on the general wards* Requests for advice on diagnosis, prognosis, and management of psychiatric disorder.
- *Direct liaison with specialist units* A closer relationship with a specialist unit, with involvement in unit planning, staff support, policy development, and training, as well as involvement in individual clinical cases.
- *Emergency Department* Assessment of patients presenting with symptoms suggestive of mental disorder, following deliberate self-harm, and of patients brought in by the police to a 'place of safety'.
- *Outpatient referrals* Outpatients referred from general medical, surgical, or obstetric clinics. Some services also take GP referrals, particularly of cases with somatization or MUS.
- *Teaching and training* Formal teaching of undergraduate and postgraduate medical trainees and training of paramedical and nursing staff.
- *Research and audit* Particularly research into the psychological and psychiatric effects of medical illness and into deliberate self-harm.

Presentations

The range of psychiatric presentations and disorders seen in the general hospital is very wide, and liaison psychiatrists can expect to see conditions described in all of the chapters of this handbook. In

our clinical practice, we have found the following 12 referral types to be the most common:

- Patients presenting after self-harm or with suicidal thoughts or plans (Assessment after self-harm, p. 848).
- Assessment of mood or anxiety symptoms (Assessment of depressive and anxiety symptoms, p. 844).
- Issues of consent, capacity, or detainability (Capacity and consent, p. 856).
- Assessment of confusion or cognitive impairment (Acute confusional state (delirium), p. 846).
- Assessment of psychotic symptoms (Assessment of psychotic symptoms and confusion, p. 846).
- Request for advice in a patient with pre-existing psychiatric problems.
- Patients referred during pregnancy or in the puerperium (Disorders related to childbirth, p. 494).
- MUS (Medically unexplained symptoms 1: introduction, p. 858).
- Alcohol or drug problems (Assessment of the patient with alcohol problems, p. 584; Assessment of the drug user, p. 630).
- Assessment prior to listing for organ transplantation (Assessment prior to organ transplantation, p. 878).
- Psychiatric symptoms secondary to organic illness (Chapter 4).
- Eating disorders (Chapter 9).

Working in the general hospital

While working as a psychiatrist in a medical setting, you are in a sense acting as an ambassador for psychiatry[2] in general. You may well be the only psychiatrist whom colleagues in other specialties will regularly meet. You should therefore aim to be available, approachable, considerate, and practical, and strive to be a 'problem-solver'. In this role as 'ambassador for psychiatry', you will have the opportunity to meet and encourage medical students and doctors in training, some of whom may not have previously thought of psychiatry as a career. You will also have the opportunity to teach staff in multiple professions and grades, both on a case-by-case basis and during formal teaching sessions.

When you first come to work in the general hospital, you may feel overwhelmed. There are many new disorders, altered presentations of familiar disorders, a new tempo of working, and patients suffering from medical conditions about which you may know very little. Additionally, general hospital doctors in the various specialties will have their own ideas about psychiatry, as well as about the indicated treatment in each case (which may differ from yours). Nonetheless, it is well to remember that you have a range of skills and knowledge that will be useful and are not shared by other members of staff. You should rely on these and your own judgement, backed up by senior colleagues, in difficult situations.

Taking referrals The person receiving the referral should take details of the patient, their GP, their treating team, and the nature of the problem, including its urgency. It is important to clarify what questions the treating team wants addressed. It is vital to clarify that the patient understands that psychiatric referral has been made and agrees to this.

Gathering information Where the situation is not an emergency, it is useful to review any departmental or other psychiatric records for previous contacts, prior to assessing the patient. A discussion with the GP may also be helpful. On arrival on the ward, review the medical record of this and previous admissions, and speak to a senior member of the treating team. Clarify the patient's diagnosis and any investigations or treatments planned. Discuss the patient with the nursing staff—they may have useful information regarding the patient's symptoms around the clock and their mood from day to day.

Approach to the patient Arrange a private room for the interview, if at all possible. Introduce yourself to the patient as a psychiatrist or a psychological medicine specialist. Explain your role, which may be misunderstood by the patient, who may feel you are there to 'see if I'm crazy'. Stating that the medical team is concerned about some of the patient's symptoms and they want a specialist in these symptoms to give them some advice is often an acceptable phrasing for patients.

Assessing psychiatric symptoms on the general wards The assessment of psychiatric symptoms in the general hospital is broadly similar to their assessment in psychiatric settings. There are, however, a number of important differences:

- The patient's medical condition, the clinical urgency of the situation, or the setting (e.g. A&E, ICU) may make full or normal assessment impossible.
- The patient's medical symptoms may confuse the issue—symptoms of psychiatric disorders overlap with those of many medical conditions.
- The differential diagnosis and relative likelihood of various psychiatric diagnoses are different between the general medical and psychiatric populations.

The assessment of depressive, anxiety, and psychotic symptoms and of confusion on the general wards is described in 

Assessment of depressive and anxiety symptoms, p. 844; Assessment of psychotic symptoms and confusion, p. 846; Assessment after self-harm, p. 848; Management after self-harm, p. 850; Depression in physical illness, p. 852; and Acute confusional state (delirium), p. 854, as well as the differential diagnosis for these symptoms in the general setting.

Management of psychiatric illness on the general wards The pharmacology and psychology of particular psychiatric disorders are broadly similar in the psychiatric and the general hospital settings. The differences relate to factors imposed by the patient's medical condition and the environment. When considering medication, consult Prescribing in pregnancy, p. 1028; Prescribing in lactation, p. 1030; Prescribing for patients with cardiovascular disease, p. 1032; Prescribing for patients with liver disease, p. 1034; Prescribing for patients with renal impairment, p. 1036; and Prescribing for patients with epilepsy, p. 1038, which describe the prescribing of psychotropics in specific medical conditions.

Documenting your findings When documenting your findings in the medical notes, remember that the written record has a dual purpose—it acts both to document the clinical contact and to communicate information about your findings and opinion. In general, the medical team will be more interested in the opinion and any associated management advice than in detailed history or psychiatric formulation. You should avoid any jargon or acronyms which are specific to psychiatry.

Stating your opinion Aim to specifically answer any questions you have been asked. If a definitive psychiatric diagnosis is possible, write this clearly in the notes, along with a provisional management plan and any treatment recommendations. Clarify in the notes if further psychiatric review is planned and when, and which symptoms should cause them to seek an earlier review. If at all possible, discuss your findings with the medical team face-to-face. Remember that general hospital doctors will have less experience than you in psychiatric issues, and it will be necessary to 'spell out' some things, e.g. what the implication of detention is, what side effects they should look out for after antipsychotic prescription.

Assessment of depressive and anxiety symptoms

Depressive symptoms

One of the most common referrals in liaison psychiatry is of patients with low mood. Apparent low mood is a common presentation of hypoactive delirium (Acute confusional state (delirium), p. 854), and so assessment of orientation and basic cognitive testing is an important part of the assessment of mood symptoms in the general setting. If delirium is ruled out, the next step is to assess the nature and severity of the mood disorder and, if depressive illness is present, to make suggestions as to appropriate management.

Differential diagnosis

Depressive illness (Depression in physical illness, p. 852; Differential diagnosis, p. 252), hypoactive delirium (Acute confusional state (delirium), p. 854), normal emotional response to illness or loss, adjustment reactions (Adjustment disorders, p. 398), drug or alcohol misuse, depression with organic cause.

Organic causes of depressive symptoms

- Neurological (CVA, epilepsy, Parkinson's disease, brain tumour, dementia, MS, HD, head injury).
- Infectious (HIV and related opportunistic infections, EBV/CMV, infectious mononucleosis, Lyme disease).
- Endocrine and metabolic (hypothyroidism, hyperprolactinaemia, Cushing's disease, Addison's disease, parathyroid disease).
- Cardiac disease (MI, cardiac bypass surgery, heart failure).
- Systemic disease (SLE, rheumatoid arthritis, cancer).
- Medications (analgesics, antihypertensives, levodopa, anticonvulsants, BDZs, antibiotics, steroids, combined oral contraceptive, cytotoxics, cimetidine).
- Substance misuse (alcohol, BDZs, cannabis, cocaine, opioids).

Key points in assessment

- *Is there evidence of confusion?* Examine for orientation, and perform a basic test of cognitive function (e.g. AMT, MMSE). Acute onset of confusion (or acute deterioration of existing impairment), together with an apathetic and 'depressed' presentation, is seen in patients with hypoactive delirium (Acute confusional state (delirium), p. 854).
- *How does the patient describe their mood?* It is vital to gain an understanding of the patient's subjective mood. Often referrals are made without this information because patients 'look depressed'.
- *Explore cognitive depressive symptoms* Biological depressive features may be less useful, as diagnostic features in physically ill patients—impairment of sleep, appetite, energy levels, concentration, and libido—may be due to depression or may be

due to the medical condition itself. For this reason, cognitive symptoms are more important diagnostically:

- *Do they describe hopelessness*? How do they view their situation? What do they think the future holds for them? Do they think things will ever improve? Patients with depressive illnesses tend to maintain a gloomy and pessimistic view of the future, while non-depressed patients will often remain optimistic about improvements in their condition and look forward to rehabilitation or discharge.
- *Anhedonia* Are they still doing things they enjoy doing (if they are physically able to)? If not, do they still wish they could do those things or have they lost interest altogether? Do they seem to retain pleasure in family visits?
- *Lack of reactivity* Are they flat in affect? Emotionless? These are more indicative of clinical depression.

- *Collateral information* Obtain information from close family or others who know the patient well. This can add insight into the severity, duration, and temporal relationship of the symptom course.

Anxiety symptoms

Anxiety is a common phenomenon in medically ill patients and may often be viewed as appropriate to their current situation. Where it is severe, prolonged, and out of keeping with the current situation or it is interfering with appropriate medical management, it may become a focus of clinical attention. Often medical patients do not meet the full diagnostic criteria for the diagnosis of an anxiety disorder—it is important to make an individual assessment and make a decision, based on symptom severity and impairment, as to whether treatment would help the anxiety.

Differential diagnosis

Realistic worry over a medical condition, primary medical condition, alcohol withdrawal, prescribed or illicit drug withdrawal (especially BDZ or opiate), drug intoxication (especially stimulants), GAD or panic disorder (new or exacerbation of pre-existing disorder), anxiety as part of a depressive illness, specific phobia (especially needles).

Organic causes of anxiety symptoms

- Neurological (epilepsy, dementia, head injury, CVA, brain tumour, MS, Parkinson's disease).
- Pulmonary (COPD, asthma, airway-assisted patients on weaning trials).
- Cardiac [arrhythmias, heart failure (CHF), angina, mitral valve prolapse].
- Hyperthyroidism, hypoglycaemia, metabolic acidosis/alkalosis, phaeochromocytoma.
- Medications (antidepressants, antihypertensives, anti-arrhythmics).
- Drugs of abuse (alcohol, BDZs, caffeine, cannabis, cocaine, LSD, ecstasy, amphetamines).

Key points in assessment

- *Medical work-up* Assess for medical causes for symptoms first. Has the patient had a complete medical evaluation for the physical complaints?
- *Consider substance abuse/ingestion* Always take a drug/alcohol history, and selected patients should have a urine drug screen.
- *Past psychiatric history* Does the patient have an underlying anxiety disorder that is being made worse by a new medical stressor?
- *Are there psychological anxiety symptoms*? Do the subjective findings match the objective findings? Does the patient feel like, or fear, they are going to die? Have they a sense of doom? Do they fear they are 'going crazy'?

Assessment of psychotic symptoms and confusion

Psychotic symptoms

While referrals for assessment of apparent psychotic symptoms are common in the general setting, presentations with functional psychoses are rare in comparison with psychiatric hospitals. They *are* seen in the Emergency Department in patients brought in by the police to a 'place of safety' and after self-harm (especially in those using violent or bizarre methods). However, in the majority of cases in the general hospital, psychotic features represent organic illnesses—commonly delirium, or are part of a withdrawal syndrome.

Differential diagnosis

Delirium (Acute confusional state (delirium), p. 854), drug intoxication or withdrawal, alcohol withdrawal, epileptic phenomena (Psychiatric aspects of epilepsy 1, p. 138), dementia (Dementia: general overview, p. 152), schizophrenia (The diagnosis of schizophrenia, p. 184), acute/transient psychotic disorders (Acute and transient psychotic disorders, p. 236).

Organic causes of psychosis

- Neurological (epilepsy, head injury, brain tumour, dementia, encephalitis, e.g. HSV, HIV, neurosyphilis, brain abscess, CVA).
- Endocrine (hyper-/hypothyroidism, Cushing's, hyperparathyroidism, Addison's disease).
- Metabolic (uraemia, electrolyte disturbance, porphyria).
- SLE ('lupus psychosis').
- Medications (steroids, levodopa, interferon, anticholinergics, antihypertensives, anticonvulsants, stimulants).
- Drugs of abuse (cocaine, LSD, cannabis, PCP, amphetamines).

Key points in assessment

- *The nature of any hallucinations* Auditory hallucinations are characteristic of functional psychoses, while visual hallucinations (and visual illusions and misperceptions) are seen in organic conditions.
- *Presence of fluctuations* Note whether symptoms are fluctuating in nature or associated with confusion and/or behavioural disturbance. A waxing and waning picture with alterations in attention and alertness suggests delirium, as opposed to a primary psychotic disorder.
- *Previous history* Note any previous history of psychotic illness or previous or current history of drug or alcohol use.
- *Time course of illness* How long have psychotic symptoms been present? Was there a gradual or sudden onset? Have previous similar episodes occurred before?
- *Vital signs* Withdrawal syndromes can present with psychotic symptoms. It is helpful to look for any autonomic instability, vital sign changes, sweating, and tremor, which may suggest an underlying withdrawal from alcohol or other sedatives. Such changes would be less likely in a primary psychotic disorder.

Confusion

A common referral is the request to assess for the severity and possible cause of confusion. A wide range of disorders and insults to the brain produce three common clinical presentations: (1) acute confusional state or delirium, (2) dementia (progressive or non-progressive), and (3) acute or chronic confusion. A common question is the extent to which confusion reflects an acute or a chronic deficit—often linked to requests for opinion about capacity/consent and placement issues. Another key question is whether there is a reversible component to the condition.

Differential diagnosis

Delirium (Acute confusional state (delirium), p. 854), dementia (Dementia: general overview, p. 152), alcohol withdrawal, drug intoxication or withdrawal, Wernicke–Korsakoff syndrome, epileptic phenomena, functional psychoses.

Key points in assessment

- *Bedside cognitive testing* Assess conscious level (via GCS; see Box 2.3) and orientation in time, place, and person, and make an objective measurement of confusion (e.g. AMT, MMSE, ACE-III-R; Assessing cognitive function 2, p. 86).
- *Previous history* For an accurate account of the previous history in a confused patient, it is *vital* to have corroboration of the patient's account—this should ideally be by a live-in or close relative or friend, but in their absence, a neighbour or GP may provide useful information. Note any previous history of cognitive impairment or functional decline; any history of alcohol of drug use; and any history of previous similar episodes.

- *Previous functional level* It is important to consider the degree of cognitive deficit now and the level of cognitive function over the lifespan, reflected in the educational achievement of the patient and their work status, and their recent cognitive function as reflected in their self-care, etc.
- *Medical status* Note the current medical condition, as recorded in the case records and nursing notes/observations. Note recent investigation findings, noting particularly any abnormal results or recent changes. Examine the drug kardex for any medications associated with confusion—have any medications recently been started or stopped?
- *Consideration of specialist testing* In selected cases, specialist neurocognitive assessment may be helpful.
- *Consideration of imaging* In consultation with medical and radiology colleagues, consider whether cerebral imaging (e.g. CT, MRI) is indicated.

Assessment after self-harm

Self-harm is 'self-poisoning or self-injury, irrespective of the apparent purpose of the act'.[3] Psychiatric assessment of such patients is mandatory once their medical condition allows. The involvement of mental health professionals in the assessment of patients following self-harm relates to the following observations:

- In this population of patients, roughly 1% will die by completed suicide in the 24mths after the initial act, with the risk highest in the weeks following the original act. This represents a mortality by suicide 50–100 times that of the general population.
- The rates of completed suicide are significantly raised in all mental disorders, excepting learning disability and dementia. Studies examining completed suicides in patients with mental illness show inadequate doses of therapeutic drug treatment, ↑ dropout rate from follow-up, and ↑ presence of untreated comorbidity.
- Clear risk factors exist for completed suicide (see Box 18.1), and the closer the self-harming patient approximates to these demographics, the greater the relative risk. However, the absolute risk is low, and estimate of the risk in a particular case relies on assessment of the individual act and the mental state.

Assessment The initial management of the patient following an OD or physical self-harm will be by specialist toxicologists or general medical/surgical specialists. Early psychiatric assessment may be required for advice regarding detainability, behavioural disturbance, drug/alcohol withdrawal, or delirium, but assessment of the self-harm itself should be deferred until the conscious level is full. The history should focus on the act itself, the patient's mental state and recent life events, and the past medical/psychiatric history. It may be easier to assess these in reverse order, moving from the factual history to the emotive descriptions of the self-harming act itself after building rapport.

Features of act

- *Method* In the UK, ~90% of self-harm is by self-poisoning, with self-cutting making up most of the remainder. Use of method likely to be fatal (e.g. jumping, hanging) is indicative of a clear intent to die.
- *Patient's belief in the lethality of the method* Did the patient believe that that combination of tablets was likely to be fatal? Serious suicidal intent is associated with medically trivial ODs—and vice versa.
- *Length of planning* Was the act impulsive—'on the spur of the moment', or planned in advance—and for how long?
- *Triggers* Was there a clear precipitant (e.g. row with partner)? Were they intoxicated at the time? Was there any direct 'gain' (e.g. patient in custody at the time of the act)?
- *Final acts* Was there a suicide note? Did they make any other 'acts of closure' (e.g. setting the affairs in order, arranging for the care of children)?
- *Precautions to avoid discovery* Where did the act take place? Would they have anticipated being found? Did they signal or tell their intentions to another? Was anyone else actually present at the time?
- *Previous similar acts* Is this act a repeat of a previous non-fatal act? Are there any different features?
- *Actions after act* What did they do after the act? How did they end up coming to hospital?

Mental state

- *Attitude now to survival* Are they relieved or disappointed to be alive? Do they have an ongoing wish to die? How do they feel about the future, and what plans (if any) do they have?
- *Affective symptoms* Current affective symptoms. Recent symptoms of low mood, anhedonia, and hopelessness. Biological depressive features.
- *Substance misuse problems* Evidence for current drug or alcohol misuse or dependence.
- *Other mental disorder* Enquire directly about other symptoms of mental disorder, as directed by the history.
- *Risk to others* Is there any evidence of intent to harm anyone else? Did the act put anyone else at risk?

Personal and past medical/psychiatric history

- *Recent life events* Describe recent events involving loss or change (e.g. bereavements, job loss, relationship break-up).
- *Current life situation* State of current significant relationships. Type and security of job and accommodation. Presence of legal/criminal problems.
- *Previous or current psychiatric diagnoses* Clarify with hospital records if further details required or if significant history.
- *Physical health problems* Again clarify with records or the GP, if required.

Box 18.1 Risk factors for completed suicide

Sociodemographic factors

- ♂ sex.
- Elderly.
- Single, divorced, or widowed.
- Living alone, poor social support.
- Unemployed or low socio-economic class.

Personal/mental health factors

- Previous self-harm.
- Any mental disorder (greatest risk in major depression and anorexia nervosa, then functional psychosis, then neurotic and personality disorders).
- Dependence on alcohol or drugs.
- Recent inpatient psychiatric treatment.
- Concurrent physical disorder.
- Recent bereavement.

Management after self-harm

Reasons for act Only a minority of patients presenting after self-harm have evidence of a clear intent to die. Assessment will reveal a mixture of the following types of case:

- Those whose intent was unequivocally to die but were prevented by discovery, chance, or overestimation of the lethality of the method.
- Those who were ambivalent whether they lived or died, 'letting the chips fall as they may'.
- Those whose act was impulsive and 'in the heat of the moment' in response to an immediate stressor.
- Those whose actions were designed to communicate distress—the classical 'cry for help'.
- Those whose actions were manipulative in nature and designed to provoke changed behaviour from others.
- Those attempting to escape from intolerable symptoms or an intolerable situation.
- Those whose intent is later unclear, even to themselves.

There may initially be diagnostic confusion with the following groups: (1) deliberate ODs of drugs taken for intoxicating effect; (2) deliberate self-injury (e.g. wrist cutting), which is a repetitive, ritualistic action where the intent is to relieve tension, not to kill or seriously injure; (3) accidental ODs of prescribed or over-the-counter (OTC) medication. (1) and (2) may merit psychiatric evaluation in their own right, and (3) should be examined carefully for evidence of post hoc rationalization of self-harm.

Assessment aims By the end of assessment, you should aim to answer the following questions:

- *Is there ongoing suicidal intent?* Evidenced by: continuing stated wish to die; ambivalence about survival; sense of hopelessness towards the future; clear intent to die at the time of the act.

- *Is there evidence of mental illness?* Diagnosed in the normal way. Most common diagnoses are depressive illness and alcohol misuse. Be alert to comorbid substance misuse and to the combination of an acute stressor on the background of a chronic condition.
- *Are there non-mental health issues which can be addressed?* Many patients will reveal stressors such as family or relationship difficulties and emotional problems (particularly relating to previous abuse; school or employment problems; debt; legal problems; problems related to immigration). They can be usefully directed to appropriate local services.

Management

- *Ongoing suicidal intent* In many cases, this will be managed by admission to a psychiatric ward, on a compulsory basis if necessary.
- *Mental illness*
  - *Patients already known to mental health services*—here close liaison with the usual team is required to agree a joint management plan.
  - *New diagnoses*—here the focus should be on integrating with an appropriate service for follow-up, rather than necessarily starting new treatments. The type of appropriate follow-up depends on the type of disorder (e.g. GP review for moderate depressive illness, referral to alcohol services for alcohol abuse). Short-term community outreach from liaison psychiatry can 'bridge' the patient to the general services. Try to ensure follow-up is as soon as possible, even if non-urgent, as otherwise non-attendance is very high.
  - *Admission required*—for both new and established mental illnesses, admission will sometimes be indicated after self-harm, even where there is no ongoing suicidal intent. This may be due to the seriousness of the condition (e.g. new psychotic illness) or to allow for a period of inpatient assessment of the mental state. It should not simply be in order to defer or devolve the decision about discharge—ask yourself what will have changed to mean discharge in a few days will be safer than now.
- *Other issues* With the patient's permission, discuss the case with an appropriate agency (e.g. abuse counselling service, school counsellor). Clarify the appropriateness of the referral and referral method, and feed these back to the patient.
- *In all cases* Discuss and agree the management plan with the patient. In most cases, discuss with the GP (mandatory if GP input is required). Consider the provision of an emergency crisis card, giving details of the emergency psychiatric service and telephone contact for emergency counselling/support services.

Frequent attenders A small minority of patients attend emergency services repeatedly with self-harm without suicidal intent. A management plan for such patients should be agreed on a case-by-case basis. The aim should be to avoid 'rewarding'

maladaptive behaviours (e.g. by repeated admissions providing 'time-out' from stressful situations), while providing appropriate support and treatment.

Depression in physical illness

Depressive illness is more common in those with physical illness than in the healthy population. In primary care, the prevalence of depressive illness is ~5%, while in medical outpatients, it is 5–10% and in medical inpatients 10–20%, with higher rates reported in some studies. The frequency of depressive illness is raised in those with more severe illnesses, and some conditions (e.g. cardiac and neurological disorders) show very high rates.

Occurrence of depression in physically ill patients adds to their morbidity, both due to the depressive symptoms themselves and by hampering the treatment of the underlying medical condition (e.g. by impairing compliance or by diminishing interest in rehabilitation).

Additionally, there is  risk of cardiac mortality in depressed patients, which is directly correlated with the severity of the depression.

Depression is poorly recognized and undertreated in general patients. In some medical settings, there is a lack of focus on psychiatric symptoms—'not willing to ask the question'. There is also often a reluctance to prescribe antidepressants in the context of medical illness. More often, the possibility of treatment is simply overlooked, with the patient assuming that the symptoms are due to their underlying disorder and the treating physician making assumptions (e.g. 'I'd be depressed in his situation') and not thinking of offering treatment.

Reasons for the association of depression and physical illness

- The physical illness causes the depression:
  - Biological cause, e.g. hypothyroidism, Cushing's disease, Parkinson's disease.
  - Psychological cause—related to loss or change, life events secondary to illness, e.g. amputation, and loss of sexual function. Particularly potent are fatal, or potentially fatal, disfiguring, or disabling diseases.
- The depression is a side effect of the treatment for the physical illness:
  - Drug treatments, e.g. steroids, β-blockers, digoxin, calcium channel blockers, aminophylline, theophylline, NSAIDs, cimetidine, metoclopramide, levodopa, methyldopa, isotretinoin, interferon alfa.
  - Disfiguring, painful, or prolonged treatments.
- The physical illness is a result of the depression, e.g. liver failure after paracetamol OD in the context of depressive relapse.
- The physical illness and the depression have a common cause, e.g. stressful life events acting as precipitants to both MI and depression.

- Their co-occurrence may be coincidental—depressive illness is common and its co-occurrence with other common illnesses can be expected by chance.

Presentations of depression in physical illness

Low mood, tearfulness, hopelessness regarding recovery, biological depressive features (poor sleep, appetite, energy, and concentration)—which may be misinterpreted as symptoms of the physical disorder, poor compliance, increase in somatic complaints or complaints of pain severity, apparent cognitive impairment (pseudodementia).

Diagnosis

Nursing staff are often more proficient than medical colleagues at identifying medical inpatients with depressive disorders. While operational diagnostic criteria are the same in physically ill as physically well patients, biological features may be less useful in making the diagnosis. Features include:

- Depression of mood (is it pervasive or do some activities, e.g. family visits, still provide pleasure?)
- Hopelessness (is the patient's attitude that although things are bad now, they can still look forward to, for example, going home or moving to the rehabilitation ward, or are they hopeless about any prospects for recovery?)
- Morning depression (do the nurses note a diurnal variation in mood or in other marker symptoms, e.g. interest in rehabilitation, talkativeness?)

Screening tools are available (e.g. Geriatric Depression Scale) and are used in some centres. They do not replace individual clinical assessment.

Treatment

(See also Treating depressive illness (without psychotic features), p. 266; Treating depressive illness (with psychotic features), p. 268.)

Effective treatment offers the possibility of improvement in mood (which is, of course, valuable in itself) but also improves rehabilitation, with better compliance, ↓ hospital stay, and an overall reduction in morbidity, mortality, and eventual disability.

- *Practical interventions:* e.g. attention to specific worries (e.g. clarification of prognosis, about which the patient may be unduly pessimistic); attempt to improve social contacts; aim to optimize the medical condition, mobility, and pain control.
- *Psychological support:* often the liaison psychiatrist will have a key role here, but you should also attempt to engage the nursing and paramedical staff in supportive psychotherapeutic interventions—often these staff members are enthusiastic about constructive involvement, but fearful of 'doing the wrong thing', and will appreciate your guidance.

- *Consideration of drug treatment:* treatment strategies are similar to those in patients without medical illness, while taking note of the advice given for treatment in specific medical conditions (Prescribing in pregnancy, p. 1028; Prescribing in lactation, p. 1030; Prescribing for patients with cardiovascular disease, p. 1032; Prescribing for patients with liver disease, p. 1034; Prescribing for patients with renal impairment, p. 1036; Prescribing for patients with epilepsy, p. 1038).
- *Specific psychological treatments:* individual psychotherapy is often unavailable in, or unsuited to, the general setting, but some therapies, e.g. CBT, are now incorporated into rehabilitation and pain management programmes.

Acute confusional state (delirium)

Essence

Stereotyped response of the brain to a variety of insults; commonly seen in inpatients; characterized by *acute* onset of fluctuating cognitive impairment (or deterioration in pre-existing cognitive impairment), associated with behavioural abnormalities. it is more common in those with chronic impairment already (e.g. dementia, may be undiagnosed).

Epidemiology

Incidence 10–20% of medical and surgical inpatients. High risk: elderly; pre-existing dementia; blind or deaf; very young; post-operative (especially cardiac); burn victims; alcohol- and BDZ-dependent; serious illness, particularly multiple. Carries significant mortality, as well as morbidity, to the patient and others. Common cause of delayed discharge.

Clinical features

- Impaired ability to direct, sustain, and shift attention.
- Global impairment of cognition with disorientation, and impairment of recent memory and abstract thinking.
- Disturbance in sleep–wake cycle, with nocturnal worsening.
- Psychomotor agitation.
- Emotional lability.
- Perceptual distortions, illusions, hallucinations—characteristically visual.
- Speech may be rambling, incoherent, and thought-disordered.
- There may be poorly developed paranoid delusions.
- Onset of clinical features is rapid, with fluctuations in severity over minutes and hours (even back to apparent normality).

Three clinical presentations are commonly seen: *hyperactive or agitated delirium* (psychomotor agitation, ↑ arousal, inappropriate

behaviour, delusions, and hallucinations); *hypoactive delirium* (psychomotor retardation, lethargy, excess somnolence); and *mixed delirium* (combination of these features with varying presentation over time).

Differential diagnosis

Mood disorder; psychotic illness (new mental disorder much less likely than delirium in a hospitalized patient, especially if elderly); post-ictal; dementia (characteristically: insidious onset, stable course, clear consciousness).

Aetiology

The cause is frequently multifactorial, and the most likely cause varies with the clinical setting in which the patient presents:

- *Infective*—UTI; chest infection; wound abscess; cellulitis; subacute bacterial endocarditis (SBE).
- *Metabolic*—anaemia; electrolyte disturbance; hepatic encephalopathy; uraemia; cardiac failure; hypothermia.
- *Intracranial*—CVA; head injury; encephalitis; primary or metastatic tumour; raised ICP.
- *Endocrine*—pituitary, thyroid, parathyroid, or adrenal diseases; hypoglycaemia; diabetes mellitus; vitamin deficiencies.
- *Substance intoxication or withdrawal*—alcohol; BDZs; anticholinergics; psychotropics; lithium; antihypertensives; diuretics; anticonvulsants; digoxin; steroids; NSAIDs.
- *Hypoxia*—secondary to any cause.

Course and prognosis

Usually has a sudden onset, with a fluctuating clinical course. There is gradual resolution of symptoms, with effective treatment of the underlying cause. Symptom resolution may be much slower in the elderly. There is often patchy amnesia for the period of delirium following recovery. Mortality is high (~20% will die during that hospital admission, up to 50% at 1yr). May be a marker for the subsequent development of dementia.

Assessment

(See also Assessment of psychotic symptoms and confusion, p. 846.)

- Attend promptly (the situation only tends to deteriorate, and behaviourally disturbed patients cause considerable anxiety on medical wards).
- Review the time course of the condition via notes and staff report—note recent investigation findings, particularly any abnormal results or recent changes. Examine the patient record for any drugs associated with confusion—have any medications recently been started or stopped?
- Establish the premorbid functional level (e.g. from relatives or GP).

Management

- Identify and treat the precipitating cause and exacerbating factors.
  - Likely primary cause varies according to setting and examination findings—remember the cause may be multifactorial.
  - Optimize the patient's condition—attention to hydration, nutrition, elimination, and pain control.
- Provide environmental and supportive measures.
  - Education of those who interact with the patient.
  - Make the environment safe.
  - Create an environment which optimizes stimulation, e.g. adequate lighting, reduce unnecessary noise, mobilize the patient when possible, and correct any sensory impairment (e.g. hearing aids, glasses).
  - Reality orientation. Firm, clear communication, preferably by same staff member (or small group of staff). Use of clocks and calendars.
- Avoid sedation, unless severely agitated or necessary to minimize risk to the patient or to facilitate investigation/treatment.
  - Use single medication; start at a low dose, and titrate to effects.
  - Give the dose, and reassess in 2–4hrs before prescribing regularly.
  - Consider oral haloperidol 0.5–1mg (max of 6mg daily), oral lorazepam 0.5–1mg (max of 4mg daily), or oral risperidone 1–4mg (max of 6mg daily)—consider giving preference to antipsychotic management first, as BDZs tend to worsen delirium, with the exception of alcohol withdrawal and gammabutyrolactone (GBL) withdrawal.
  - If the patient is withdrawing from alcohol, BDZs are first line ( Management of alcohol withdrawal 2, p. 594).
  - Review the dose regularly, and aim to stop as soon as possible.
- Regular clinical review and follow-up (MMSE useful in monitoring cognitive improvement at follow-up).

Capacity and consent

A fundamental principle of medical practice is that treatment of a patient should be with their valid consent. Valid consent is that which is informed, freely given, and obtained from a patient with *capacity*.[4] The medical team will often ask for a psychiatric opinion as to a patient's capacity to make treatment decisions. While all doctors should be familiar with the assessment of capacity and be prepared to make decisions regarding consent, liaison psychiatrists are often consulted on such matters, due to their experience in assessing mental disorder and abnormal mental states and their (usually) greater knowledge of applicable law.

Incapacity legislation Specific incapacity legislation exists in England and Wales (the Mental Capacity Act 2005); Scotland (the Adults with Incapacity Act 2000). These Acts and their accompanying codes of practice should direct and guide clinical

practice relating to incapacity for doctors working in these jurisdictions.

Referral types Occasionally, these referrals will take the form of a specific question, e.g. does this patient with dementia have capacity to give consent to a hip operation? More often, they reflect a number of worries about a patient's capacity, ability to care for themselves, and decisions which balance a patient's autonomy against best exercising their duty of care. The two most common referrals ask the following questions:

- Does this patient have the capacity to consent to, or refuse consent for, a procedure or treatment?
- Does this patient have the capacity to make personal welfare decisions (e.g. to choose to go home, rather than accept residential care)?

Occasionally, a referral is phrased as a capacity assessment when the patient is seeking to leave hospital against medical advice, and what is actually required is a decision as to the patient's detainability under the MHA. In these cases, the patient should be assessed for the presence of a mental disorder justifying detention in the normal way. In these cases, remember that detention under the MHA does not allow for the compulsory treatment of medical conditions.

Assessment of incapacity

1. Identify the question

The question 'Does this patient have capacity?' is essentially meaningless. Incapacity law and common law in the UK presume capacity in adults, and incapacity law explicitly encourages the exercise of residual capacity. Incapacity must therefore be assessed in relation to the particular decision required of the patient, and the nature of this decision should be established prior to the interview. Additionally, you should clarify with the medical team what treatment is proposed and what information has already been discussed with the patient.

2. Consider whether the patient has capacity to make the decision

Incapacity cannot be presumed on the basis of any individual patient factors (e.g. diagnosis of dementia, learning disability, brain injury, mental disorder) but must be assessed specifically for each decision. The questions to ask are—*for the decision required*: does the patient have the ability to:

- Make a decision?
- Understand the information relevant to the decision?
- Use or weigh that information in making the decision?
- Retain memory of the decision?
- Communicate the decision?

For example, in considering whether a patient can refuse an amputation in the setting of osteomyelitis and early gangrene, we need to establish whether the patient is aware of the nature of their illness, the treatment being offered to them, the risks and potential

benefits associated with that treatment, and any alternative treatment options, as well as the consequences of refusing treatment.

3. Evaluate the presence of psychiatric illness, and determine whether it is influencing the patient's decision

Even if the patient's decision reflects a fair grasp of the elements of consent, it is necessary to determine whether their judgement is being influenced by mental illness. For example, if the patient with gangrene understands the nature of their infection and the risks of surgery vs delaying treatment, we would not support their making a decision to avoid surgery if the decision was based on auditory hallucinations telling them that they do not deserve to live. Therefore, a comprehensive psychiatric assessment, screening for the presence of mental disorder, and including an evaluation of how they have made their decision are essential.

The psychiatric evaluation for capacity assessment needs to be comprehensive, particularly focusing on cognitive functions, reasoning, and judgement; however, it is otherwise similar to any thorough psychiatric examination. The primary difference lies in the additional examination of how the patient has made similar choices in the past and what role psychiatric symptoms are playing in their current decision.

4. Gather additional information

If the opinion is that the patient lacks capacity, then it will be important to establish: (1) what the patient's views on the matter were when greater capacity existed (e.g. did they discuss treatment outcomes with relatives? Is there an advance directive?), (2) what the views of the patient's relatives or carers are, (3) whether there is a relative with surrogate decision-making powers (e.g. attorney, court-appointed deputy in England and Wales, or guardian in Scotland).

5. Report and document opinion

You should formally document your opinion and the reasons for it, as well as speak to the treating team directly, if at all possible.

Medically unexplained symptoms 1: introduction

A substantial proportion of patients presenting to primary care or to any individual hospital specialty will have symptoms for which, after adequate investigation, no cause can be found. Non-specific symptoms without underlying organic pathology are very common and usually transient. Where they become prolonged enough to merit medical attention, they may present to any specialty, with presentations such as pain, loss/disturbance of function, and altered sensation.

Symptom 'meaning' The 'problem' of MUS arises, in part, from the different meanings symptoms hold for the patient and doctor. Patients present to doctors with illness (symptoms and behaviours); doctors diagnose and treat disease (pathology and other recognized syndromes). The patient wants explanation and

treatment for their symptoms, and the route to this is generally through being given a diagnosis. If there is no recognized diagnosis available, the doctor may respond with 'there's nothing wrong', expecting to be met with pleasure. The patient, however, is baffled —there is 'something wrong' and the symptoms are still there. The doctor may then undertake a number of courses of action—continue to investigate in the hope of finding something; treat the patient anyway as a therapeutic trial; refer to another specialty; or dismiss the patient.

Psychiatric role The role of psychiatry in the assessment and management of these patients has changed substantially over recent years (hopefully for the better). Formerly, patients were referred 'at the end of the line', often after prolonged, inconclusive tests and unsuccessful interventions. Patients often misinterpreted (and resented) the referral as suggesting that symptoms were 'all in your mind' or were feigned. Psychiatrists sometimes took an overly narrow view of their role and responsibility, unhelpfully dismissing patients as having 'no psychotic or depressive illness' or colluding with the patient's desire for a 'clean bill of mental health' in order to return to treatment-seeking behaviour. We are currently at an early stage of our understanding of medically unexplained illnesses. While no specialty has all the answers in the management of this patient group, psychiatry can offer: experience of the presentation of MUS across the hospital specialties; the ability to assess and treat the frequently comorbid depressive/anxiety symptoms; and a tolerance for diagnostic uncertainty and the ability to take a long-term view of improvements.

Misdiagnosis A frequently expressed concern doctors hold about this group of patients is the risk of 'getting it wrong' (often associated with poorly formed worries about litigation). A long-held belief was that, despite repeated negative findings, all such patients (or a majority) would eventually be found to suffer from an organic disease which would, in retrospect, account for their symptoms. This concern was largely based on older, poorly conducted studies with significant methodological flaws. Recent follow-up studies suggest that the misdiagnosis rate for functional illness is ~5% (e.g. comparable to other medical and psychiatric diagnoses such as idiopathic epilepsy and schizophrenia). This improvement has followed both the development of modern imaging and investigatory techniques, and the use of operational diagnostic criteria for psychiatric diagnosis.

Iatrogenic harm A problem common to all members of this group of disorders is the potential for iatrogenic harm. These patients often accrue considerable morbidity, and even mortality, due to excess negative investigations, irradiation, operative procedures, etc. Those disorders associated with chronic pain carry the risk of iatrogenic opiate dependency. Often at later stages in the patient's illness, this secondary morbidity is more problematic than the original symptoms. A major positive intervention in these patients is therefore the avoidance of iatrogenic harm.

Classification Patients presenting with somatic symptoms for which no adequate physical cause can be found make up a large and heterogenous group in all clinical settings, from primary to tertiary care. Our lack of full understanding of this group of disorders is reflected in the confusing and disputed classification system adopted. Our modern concepts arose from the concept of 'hysteria'—of repressed emotions being expressed as physical symptoms. There are differences between the current and proposed classifications of this group of disorders, and each classification system contains a number of disputed and unsatisfactory categories. One difficulty has been the residual old labels still in use; another has been the confusion of names indicating the symptom and disorder; a third has been the substantial overlap between the syndromes described.

Differential diagnosis The differential diagnosis for relatively acute, isolated MUS includes:

- Symptoms directly related to psychiatric disorders such as depression, anxiety disorders, or psychosis.
- Functional somatic illness ( Medically unexplained symptoms 2: clinical presentations, p. 860).
- Conversion and dissociative disorders ( Conversion (dissociative disorders), p. 868).
- Pain disorders ( Somatoform pain disorder, p. 866).
- Somatization disorder ( Somatization disorder, p. 864).
- Factitious disorder ( Factitious disorder (Munchausen's syndrome), p. 876).
- Malingering.
- Uncommon medical syndromes which have not yet been diagnosed.

Causative mechanisms These are currently unclear, but the following may play a part: patient psychological factors; patient's health beliefs; affective state; underlying personality; degree of autonomic arousal;  muscle tension; effects of hyperventilation; effects of disturbed sleep; effects of prolonged inactivity; impaired ability to filter afferent stimuli.

Medically unexplained symptoms 2: clinical presentations

Somatization

This is the experience of physical symptoms with no—or no sufficient—physical cause, with presumed psychological causation. Somatization is a symptom of various disorders commonly seen in liaison psychiatry and may occur: (1) as a normal accompaniment of physical illnesses; (2) as a common presentation of depressive illness; (3) as a core component of illness ('functional somatic

syndromes'); and (4) as part of a long-standing pattern of behaviour ('somatization disorder').

1. As a normal accompaniment of physical illnesses

Complaint of symptoms and help-seeking behaviour is adaptive. All illnesses have emotional components which deserve attention. Both doctor and patient may be more comfortable dealing with specialty-appropriate symptoms (e.g. a patient presenting with pain post-radiotherapy may be articulating a desire for reassurance that the tumour has not recurred). While some doctors may be reluctant to deal with the emotional context of illness, patients may have worries and express these as somatic complaints. These should often be understood as part of the emotional reaction to illness, not dismissed as 'functional overlay'. Their appropriate treatment is via consultation with the responsible clinician. Psychological factors may (positively or negatively) influence outcome in treatment of physical illnesses by their effects on advice-seeking, treatment compliance, and perceived quality of life.

2. As a common presentation of depressive illness

A frequent cause of MUS is somatized depression and anxiety. Somatic complaints (e.g. pain, GI complaints, weakness, loss of appetite) are common presentations of depression, with prevalence ↑ in certain subgroups (e.g. elderly, children, certain immigrant populations). Anxiety disorders (e.g. atypical panic attacks) can be the cause of unexplained cases of chest pain and shortness of breath. Conversely, anxiety and depressive symptoms are a common finding in both the physically ill and those with somatization.

3. As a core component of illness ('functional somatic syndromes')

These conditions are usually reported as individual clinical syndromes; however, several factors are common to them all. There is presentation by the patient with symptoms which are suggestive of an underlying organic illness; these symptoms cause distress; there is no identifiable organic illness which is sufficient to explain the symptoms, and the causation is attributed to psychological factors which may be more or less apparent. A variety of presentations are seen across the medical and surgical specialties:

- Cardiology—atypical chest pain.
- Respiratory medicine—HVS (Hyperventilation syndrome, p. 366).
- GI medicine—IBS.
- Infectious diseases—CFS.
- Rheumatology—fibromyalgia.
- Neurology—tension headache.
- ENT—globus syndrome.
- General surgery—unexplained abdominal pain.

- Gynaecology—chronic pelvic pain.
- Dentistry—atypical facial pain.

4. As part of a long-standing pattern of behaviour

Somatization disorder (Somatization disorder, p. 864).

Hypochondriasis (Hypochondriasis, p. 870) This is the belief that one has a particular illness, despite evidence to the contrary—usually takes the form of an over-valued idea, although it is more rarely frankly psychotic in nature. A particular form of hypochondriasis is dysmorphophobia (Body dysmorphic disorder, p. 872)—the belief that one has a significant deformity.

Conversion/dissociation (Conversion (dissociative) disorders, p. 868) 'Conversion' or 'dissociation' is the theorized process by which thoughts or memories unacceptable to the conscious mind are repressed from consciousness, and either are 'converted' into physical symptoms, sometimes with symbolic meaning to the patient, or result in disruption to the normal integrated functioning of the mind—as evidenced in symptoms such as amnesia, fugue, or stupor.

Factitious symptoms Factitious symptoms are those which are intentionally produced or elaborated, with the aim of receiving a medical diagnosis. Where there is secondary gain (e.g. obtaining opiate prescription, obtaining legal compensation), this is referred to as *malingering*.

Medically unexplained symptoms 3: management principles

Accepting cases for assessment

Psychiatrists should be reluctant to accept patients for assessment of MUS where significant doubt still exists in the treating doctor's mind as to the diagnosis (e.g. where significant further investigations are planned). They should also be reluctant to be put in the position of 'last hurdle' before an otherwise planned intervention (e.g. 'I'll perform your operation if the psychiatrist gives the go-ahead').

Management principles

Definitive treatments validated by RCT evidence are not currently available for MUS. In addition, these patients present a heterogenous group, in terms of presentation, 'psychological mindedness', and severity. Nonetheless, the following principles may be helpful. Management should include: (1) thorough assessment; (2) confident diagnosis; (3) clear explanation; (4) minimization of iatrogenic harm; (5) empirical use of potentially beneficial treatments; and (6) consideration of involvement in treatment trials.

Assessment

- Prior to the consultation, obtain the full hospital case records for all specialties. Discuss the case with the GP, and obtain copies of GP records, if available. Clarify whether the patient is seen in other hospitals or healthcare services, and aim to obtain these records. Establish whether there are any pending investigations and what the patient has been told about their presumed diagnosis.
- At the interview: establish full details of current symptoms, circumstances of symptom onset, and 'life context' of symptom development.
- Explore their illness beliefs—specific worries about the cause and possible prognosis; ask the patient to describe their understanding of their symptoms and what they feel they may represent.
- Full details of the past medical history (may be reticent—'no problems before current symptoms' or overly dramatic); what were they told at the time by the doctors treating them?
- Remember to explore possible psychiatric differential diagnoses —full mental state as normal, even if no symptoms spontaneously mentioned.
- Observe the patient in the waiting room/onward/entering and leaving the room—be alert to inconsistencies in symptoms.

Diagnosis

- A positive and confident diagnosis is crucial.
- Be willing to make organic and non-organic diagnoses (e.g. where there is undoubted organic disease, but also significant MUS morbidity).
- Acknowledge the patient's distress and disability; a diagnosis of MUS should not mean to the patient that you believe that there is 'nothing wrong with them'.

Explanation

- Terminology in this field is variable, imprecise, and potentially offensive (e.g. supratentorial, hysterical). The terms 'functional illness' or 'medically unexplained illness' are generally acceptable to patients.
- Begin with a clear explanation of what is (and what is not) wrong: 'You are suffering from a functional, not structural, problem of your nervous system. This is a common problem which we have seen in other patients.' Various analogies may be used as appropriate (e.g. computer hardware vs software problem; piano working, but out of tune).
- Emphasize what can and cannot be done: 'We can help train the body to function normally again' and 'We might not be able to pinpoint the exact cause'.
- Allow the patient to query what you have said (you should have allowed sufficient time at the end of the interview). Allow carers/relatives to become involved in this exploration of your explanation.
- Copy your clinic letter to the GP and hospital professionals caring for patient. Consider, in certain situations, copying the letter to the

patient.

Minimize iatrogenic harm

- In all MUS patients, be aware of the risk of iatrogenic harm and justify any risks taken by benefit to the patient, over and above the gratification of seeming to give the patient 'what they want'.
- Accept that there may be a chronic illness which can be managed, but not 'cured'.
- Appropriately investigate *genuinely new* symptoms.
- In planning further investigations in patients with MUS, greater weight should be placed on objective, rather than subjective, change.
- Clear verbal and written (and, in some cases, face-to-face) communication between all involved professionals is especially crucial in this group of patients—everyone should 'know what is going on'.
- Accept that there will be a proportion of severe cases who are unable to leave the sick role and who must be managed by changing how the system responds to them.

Empirical use of potentially beneficial treatments

- Often there is improvement in patient perception of symptoms following a confident diagnosis and explanation.
- All patients with prominent depressive/anxiety symptoms should have these treated in the normal way.
- Consider empirical trial of antidepressant medication, even where affective features are not prominent.
- Consider use of physiotherapy to aid regaining of functional loss.
- Consider referral for assessment for formal psychotherapy.
- Consider referral to other resource (e.g. pain management).

Involvement in treatment trials

- Little is known about the course of these disorders over time and less about appropriate treatments—consider patients for involvement in research.

Somatization disorder

Somatization disorder (ICD-10) is a disorder in which there is repeated presentation with MUS, affecting multiple organ systems, first presenting before the age of 40yrs. It is usually chronic in adults. In children, it usually involves one or a few organ systems, often for shorter periods of time. At all ages, it is associated with significant psychological distress, functional impairment, and risk of iatrogenic harm. In DSM-5, it has been incorporated, along with DSM-IV 'undifferentiated somatization disorder' and aspects of 'hypochondriasis', into 'somatic symptom disorder', and it is proposed that the condition is called 'bodily distress disorder' in ICD-11 (see Box 18.2

Clinical features Somatization disorder patients have long, complex medical histories ('fat-file' patients), although at interview, they may minimize all but the most recent symptomatology. Symptoms may occur in any system and are, to some extent,

suggestible. The most frequent symptoms are non-specific and atypical. There may be discrepancy between the subjective and objective findings (e.g. reports of intractable pain in a patient observed by nursing staff to be joking with relatives). Symptoms are usually concentrated in one system at a time but may move to another system after exhausting diagnostic possibilities in the previous one. The patient's life revolves around the illness, as does their family life. There is excessive use of both medical services and alternative therapies.

Diagnosis is usually only suspected after negative findings begin to emerge, because normal medical practice is to take a patient's complaints at face value. The key diagnostic feature is multiple atypical and inconsistent MUS in a patient under the age of 40yrs. Chronic cases will have had large numbers of diagnostic procedures and surgical or medical treatments. There is a high risk of both iatrogenic harm and iatrogenic substance dependence. Hostility and frustration can be felt on both sides of the doctor–patient relationship, with splitting (➔ Defence mechanisms, p. 892) between members of the treating team. Psychological approaches to treatment are hampered by ongoing investigations of ever rarer diagnostic possibilities and by the attribution of symptoms to fictitious, but 'named', medical entities.

Two-thirds of patients will meet criteria for another psychiatric disorder, most commonly major depressive or anxiety disorders. There is also association with personality disorder and substance abuse. Patients characteristically deny emotional symptoms or attribute them directly to physical handicaps—'the only reason I'm depressed is this constant pain'.

Aetiology Observable clinical association with childhood illnesses in the patient and a history of parental anxiety towards illness. ↑ frequency of somatization disorder in first-degree relatives. Possible neuropsychiatric basis to the disorder with faulty assessment of normal somatic sensory input. Association with childhood sexual abuse.

Epidemiology Lifetime prevalence of ~0.2%. Markedly higher rate in particular populations. ♀ : ♂ ratio 5:1. Age of onset is childhood to early 30s.

Differential diagnosis *Undiagnosed physical disorder*—particularly those with variable, multisystem presentations (e.g. SLE, AIDS, porphyria, TB, MS). Onset of multiple symptoms for the first time in patients over 40 should be presumed to be due to unexposed physical disease. *Psychiatric disorder*—major affective and psychotic illnesses may initially present with predominantly somatic complaints. Diagnosis is by examination of other psychopathology; however, over half of somatization disorder patients exhibit psychiatric comorbidity. *Other somatoform disorders*—distinguish from: hypochondriasis (presence of a firm belief in a particular disorder), somatoform pain disorder (pain, rather than other symptoms, is prominent), conversion disorder

(functional loss without multisystem complaints), factitious disorder (intentional production or feigning of physical symptoms to assume sick role), and malingering (intentional production of false or grossly exaggerated physical symptoms with external motivation). In practice, the main distinction is between the full and severe somatization disorder and somatization as a symptom in other disorders.

Assessment (Assessment, p. 862) Establish the reasons for referral, experience of illness, attitudes to symptoms, personal and psychiatric history, and family perspective.

Initial management (Management principles, p. 862) Make, document, and communicate the diagnosis. Acknowledge symptom severity and experience of distress as real, but emphasize negative investigations and lack of structural abnormality. Reassure the patient of continuing care. Attempt to reframe symptoms as emotional. Assess for, and treat, psychiatric comorbidity as appropriate. Reduce and stop unnecessary drugs. Consider a case conference involving the GP and treating physicians. Educate the parents/family.

Ongoing management

- Regular review by a single, named doctor.
- Reviews should be at a planned and agreed frequency, avoiding emergency consultations.
- Symptoms should be examined and explored with a view to their emotional 'meaning'.
- Avoid tests 'to rule out disease'—investigate objective signs only.
- All secondary referrals made through one individual.
- Disseminate management plan.
- These patients can exhaust a doctor's resources—plan to share the burden over time.

Some evidence for the effectiveness of patient education in symptom re-attribution, brief contact psychotherapy, group therapy, or CBT if the patient can be engaged in this.

Prognosis Poor in the full disorder; tendency is for chronic morbidity, with periods of relative remission. Treatment of psychiatric comorbidity and reduction of iatrogenic harm will reduce overall morbidity. Key for recovery in children and adolescents is rehabilitation and return to usual activities as soon as possible.

Somatoform pain disorder

In somatoform pain disorder, there is a complaint of persistent severe and distressing pain, which is not explained or not adequately explained by organic pathology. The causation of the symptom is attributed to psychological factors. This disorder is diagnosed where the disorder is not better explained by somatization disorder, another psychiatric diagnosis, or psychological factors in a general medical condition. In ICD-11, it is part of 'bodily distress disorder' (see Box 18.2).

All pain is a subjective sensation, and its severity and quality, as experienced in an individual, are dependent on a complex mix of factors, including the situation, the degree of arousal, the affective state, the beliefs about the source, and 'meaning' of the pain. The experience of pain is modified by its chronicity and associations, and there is a 'two-way' relationship with affective state, with chronic pain predisposing to depressive illness, while depressive illness tends to worsen the subjective experience of pain.

Comorbidity In common with the other somatoform disorders, there is substantial overlap with major depression (~40% in pain clinic patients) and anxiety disorders. Substance abuse (including iatrogenic opiate dependency) and personality disorder patients are over-represented.

Epidemiology No population data are available. The prevalence of patients with medically unexplained pain varies by clinical setting—higher in inpatient settings, particularly surgery, and highest in pain clinic patients.

Differential diagnosis Elaboration of organic pain, malingering (e.g. patient with opiate dependency seeking opiate prescription), genuine organic cause with absence of other manifestations (e.g. sickle-cell crisis, angina).

Assessment History from patient and informants, length of history (may be minimized), relationship to life events, general somatization, experience of illness, family attitude to illness, periods of employment, treatments, beliefs about cause, comorbid psychiatric symptoms.

Management (Management principles, p. 862) It is important to recognize and treat occult comorbid depression. It is often helpful to adopt an atheoretical approach—'let's see what works', and to resist pressure for 'all-or-nothing' cure or a move to investigation by another specialty. Opiates are not generally effective in chronic pain of this type and add the risk of dependence. *Psychological treatments*—these are directed towards enabling the patient to manage and 'live with' the pain, rather than aspiring to eliminate it completely; can include relaxation training, biofeedback, hypnosis, group work, and CBT. *Pain clinics*—these are generally anaesthetist-led, with variable psychiatric provision. They offer a range of physical treatments such as: antidepressants, transcutaneous electrical nerve stimulation (TENS), anticonvulsants, and local or regional nerve blocks.

Box 18.2 Disorders of bodily distress or bodily experience (ICD-11)

Bodily distress disorder (BDD)

This new broad category replaces the 'Somatoform disorders' of ICD-10 and will unite a number of previous separate categories like somatization disorder, somatoform autonomic dysfunction,

somatoform pain disorder, and neurasthenia. Core features include:

- Presence of bodily symptoms that are distressing to the individual:
  - Usually multiple bodily systems varying over time.
  - Occasionally a single symptom such as pain or fatigue.
- Excessive attention directed towards the symptoms, which may be manifest by repeated contact with healthcare providers and is not alleviated by appropriate clinical examination and investigations and reassurance.

Even when another health condition may be causing or contributing to the symptoms, the degree of attention is clearly excessive in relation to its nature and progression. Mild, moderate, and severe forms are differentiated in ICD-11, but no subtypes are specified.

X Body integrity dysphoria (BID)

Also called body integrity identity disorder (BIID), this extremely rare phenomenon is characterized by an intense and persistent desire to become physically disabled in a significant way (e.g. major limb amputee, paraplegic, blind). Onset is by early adolescence and is accompanied by persistent discomfort or intense feelings of inappropriateness concerning current non-disabled body configuration. The desire to become physically disabled results in harmful consequences, as manifested by:

- The preoccupation with the desire (including time spent pretending to be disabled) significantly interfering with productivity, leisure activities, or social functioning (e.g. the person is unwilling to have a close relationship because it would make it difficult to pretend).
- Attempts to actually become disabled, resulting in the person putting his or her health or life in significant jeopardy (e.g. lying on a railway track to amputate a limb).
- Surgical interventions being sought (and even agreed to), e.g. for an amputation or for transection of the spinal cord.

The nature of this disorder is disputed, with sufferers of BID explaining the desire for amputation as analogous to the desire of transsexuals for surgical sex reassignment or other more extreme forms of body modifications. There is some functional brain imaging evidence suggesting it is a disorder of body image, similar to neglect in stroke patients, with loss of insight (hence it is a form of neuropsychiatric disorder). This shadow of doubt over autonomy in BID has fuelled the ethical controversy over elective amputations of healthy limbs, which some BID proponents argue is their right.

Dissociative (conversion) disorders

In dissociative disorders (previously conversion disorders), there is a loss or disturbance of normal motor, sensory, or cognitive functions, which initially appears to have a neurological or other

physical cause but is later attributed to a psychological cause. These disorders were initially explained by psychodynamic mechanisms—repression of unacceptable conscious impulses and their 'conversion' to physical symptoms, sometimes with symbolic meaning. Any presumed psychodynamic mechanisms are no longer part of the current diagnostic classification, although the initiation or worsening of the symptom or deficit is often preceded by conflicts or other stressors. Symptoms are not produced intentionally, and the presence of 'secondary gain' is not part of the diagnosis.

Classification In DSM-5, 'conversion' refers to motor or sensory deficit, while 'dissociation' refers to disturbance in function of consciousness. Conversion disorders are classified with 'somatic symptom and related disorders', while dissociative disorders are classified separately. In ICD-10, dissociation and conversion are used synonymously, with dissociation preferred as it does not imply a definite psychological explanation. All expressions of such disorders are classified together under the heading 'F44, Dissociative (conversion) disorders'. In ICD-11, they are simply referred to as 'dissociative disorders', in a grouping which includes dissociative neurological symptom disorder, dissociative amnesia, trance disorder, and dissociative identity disorder.

Clinical features These vary, depending on the area affected, but the following are commonly seen:

- *Paralysis* One or more limbs or one side of the face or body may be affected. Flaccid paralysis is common initially, but severe, established cases may develop contractures. Often active movement of the limb is impossible during examination, but synergistic movement is observed (e.g. Hoover's test: the patient is unable to raise the affected limb from the couch but is able to raise the unaffected limb against resistance, with demonstrable pressing down of the heel on the 'affected' side).
- *Loss of speech (aphonia)* There may be complete loss of speech or loss of all but whispered speech. There is no defect in comprehension, and writing is unimpaired (and becomes the main method of communication). Laryngeal examination is normal, and the patient's vocal cords can be fully opposed while coughing.
- *Sensory loss* The area of loss will cover the patient's beliefs about anatomical structure, rather than reality (e.g. 'glove' distribution, marked 'midline splitting').
- *Seizures* Non-epileptic seizures are found most commonly in those with genuine epilepsy. Non-epileptic attacks generally occur only in the presence of an audience—no injury is sustained on falling to the ground; tongue biting and incontinence are rare; the 'seizure' consists of generalized shaking, rather than regular clonic contractions, and there is no post-ictal confusion or prolactin rise.
- *Amnesia* Memory loss, most often for recent events, not attributable to organic mental disorder, and too severe to attribute to ordinary forgetfulness. Usually patchy and selective amnesia—

true global amnesia is rare. There is expectation of recovery, and usually a history of recent traumatic event gradually emerges.

- *Fugue* Here there is dissociative amnesia plus a history of travel outside the patient's normal environs. The patient may 'come to' far from home, without memory of how they came to be there, and with variable amnesia for other personal information. Although there is amnesia for the period of the fugue, the patient has apparently functioned normally during this time (e.g. able to buy travel tickets, etc.). Again recovery can be expected in time, and a history of recent traumatic events is commonly found.

Diagnosis The diagnosis will usually be suspected due to the nonanatomical or clinically inconsistent nature of the signs. It is established by: (1) excluding an underlying organic disease or demonstrating a minor disorder insufficient to account for the symptoms; (2) finding of 'positive signs' (i.e. demonstration of function thought to be absent); and (3) a convincing psychological explanation for the deficit. Additionally helpful, though non-specific, is a prior history of conversion symptoms or recurrent somatic complaints or disorder, family or individual stress and psychopathology (recent stress, grief, sexual abuse), or the presence of a symptom model.

Treatment Clear presentation of the diagnosis, in collaboration with the treating medical team. Aim to present the diagnosis as positive (emphasizing the likelihood of recovery), rather than negative ('we couldn't find anything; it's all in your head'). In general, avoid interventions which could maintain the sick role or prolong abnormal function (e.g. provision of crutches to those with dissociative gait disturbance), and instead consider interventions directed towards graceful resumption of normal function (e.g. physiotherapy). Treat psychiatric comorbidity if present. Controlled treatment studies are absent; CBT, IPT, supportive psychotherapy, FT, and biofeedback are all potentially helpful.

Prognosis For acute conversion symptoms, especially those with a clear precipitant, the prognosis is good, with an expectation of complete resolution of symptoms (70–90% resolution at follow-up). Poorer outcomes for longer-lasting and well-established symptoms.

Hypochondriasis

Hypochondriasis is the preoccupation with the fear of having a serious disease, which persists despite negative medical investigations and appropriate reassurance, with subsequent distress and impaired function. In ICD-10, it is classified within 'Somatoform disorders', whereas ICD-11 places it in 'Obsessive–compulsive or related disorders'. DSM-5 has removed 'Hypochondriasis' completely, and the concept is subsumed by two new diagnoses within 'Somatic symptom and related disorders': somatic symptom disorder (for those with excessive somatic symptoms) and illness anxiety disorder (for those who are excessively anxious about illness).

Clinical features The central and diagnostic clinical feature is the preoccupation with the idea of having a serious medical condition, usually one which would lead to death or serious disability. The patient repeatedly ruminates on this possibility, and insignificant bodily abnormalities, normal variants, normal functions, and minor ailments will be interpreted as signs of serious disease. The patient consequently seeks medical advice and investigation but is unable to be reassured in a sustained fashion by negative investigations.

The *form* of the belief is that of an over-valued idea; the patient may be able to accept that their worries are groundless but nonetheless be unable to stop dwelling and acting on them. Where the belief in illness is of delusional intensity, the patient should be treated as for delusional disorder (Delusional disorder 1: clinical features, p. 230).

Aetiology As in somatization disorder, there may be a history of childhood illness, parental illness, or excess medical attention-seeking in the parents. Childhood sexual abuse and other emotional abuse or neglect are associated. In one aetiological model, individuals with a combination of anxiety symptoms and predisposition to misattribute psychical symptoms seek medical advice. The resulting medical reassurance provides temporary relief of anxiety, which acts as a 'reward' and makes further medical attention-seeking more likely.

Epidemiology Equal sex incidence. Very variable prevalence, depending on group studied (0.8–10.3%), higher in secondary care.

Differential diagnosis The main differentiation is from the feared physical disease. In most cases, this is straightforward, but the possibility of an early, insidious disease with vague physical signs and normal baseline investigations should be considered.

Comorbidity High (>50%) incidence of GAD. Hypochondriasis may also coexist with major depressive illness, OCD, and panic disorder. Examination of the time course of symptom development and most prominent clinical features helps to distinguish primary hypochondriasis from a secondary clinical feature of these disorders.

Management

- *Initial*—allow the patient time to ventilate their illness anxieties. Clarify that symptoms with no structural basis are real and severe. Aim to plan continuing relationship and review, not contingent upon new symptoms. Explain negative tests, and resist the temptation to be drawn into further exploration. Patients will, in the early stages, often change or expand symptomatology. Emphasize the aim to improve function. Break the cycle of reassurance, and repeat the presentation—family education may help in this.
- *Pharmacological*—uncontrolled trials demonstrate antidepressant benefit, even in the absence of depressive symptoms. Try fluoxetine 20mg, increasing to 60mg, or imipramine up to 150mg.

- *Psychotherapy* Behavioural therapy (response prevention and exposure to illness cues); CBT (identify and challenge misinterpretations, substitution of realistic interpretation, graded exposure to illness-related situations, and modification of core illness beliefs).

Body dysmorphic disorder

The core clinical feature of body dysmorphic disorder is preoccupation with the belief that some aspect of the physical appearance is markedly abnormal, unattractive, or pathological. This preoccupation causes distress and has the characteristics of an over-valued idea; it is not amenable to reassurance. The bodily part is found to be normal or, if abnormal, is only trivially so, compared with the degree of distress.

It is an unusual condition which has only relatively recently come prominently to clinical attention. It rarely presents directly, but such individuals may present requesting plastic surgery or mutilating surgical procedures, and hence come to psychiatric attention. There are many similarities to OCD in terms of clinical features and treatment response, and it is now classified alongside OCD in ICD-11 and is distinguished from ICD-11 'Body integrity disorder' which is characterized by the desire to become significantly physically disabled (see Box 18.2).

Clinical features There is preoccupation with the idea that some specified aspect of their appearance is grossly abnormal, markedly unattractive, or diseased. Any part of the body may be affected, most usually the face, head, and secondary sexual characteristics. Patients believe that the supposed deficit is noticeable to others and attempt to hide or minimize it. These beliefs may develop delusional intensity. There is associated functional impairment, agoraphobia, and risk of suicide. Comorbid behaviours, such as skin picking, rubbing, and topical applications, may cause worse secondary problems. Clinically significant disorder causes severe functional impairment, restriction of relationships and employment opportunities, and the risk of iatrogenic morbidity by unwarranted surgical procedures.

Aetiology Begins in late childhood or early adolescence, overlap with normal worries at this age.

Epidemiology Equal sex incidence. Less than 1% prevalence, but markedly over-represented in some groups [e.g. plastic surgery (10%) and dermatology]; 10% incidence in first-degree family members.

Comorbidity 60% risk of major depression.

Differential diagnosis There is significant overlap in terms of symptom profile with social phobia, hypochondriasis, OCD, somatic delusions in schizophrenia, and anorexia nervosa. Where the concerns are persistently delusional, ICD-10 reclassifies as delusional disorder, while DSM-5 (which classifies body dysmorphic disorder within 'Obsessive–compulsive and related disorders') allows the diagnosis of a delusional form.

Treatment

- *Operative*—plastic surgery to the affected part is generally not indicated, even successful surgery risks being followed by a new preoccupation or a focus on surgical scarring.
- *Pharmacological*—evidence for clinical effectiveness of SSRI; try fluoxetine 20mg, increasing to 60mg. If ineffective, try clomipramine up to 250mg. If delusional features, add an antipsychotic.
- *Psychological* Evidence for CBT; treatment focused on response prevention, challenging cognitive errors, and behavioural tasks.

Prognosis Chronic course with fluctuating symptom severity. Partial, rather than full, remission.

Chronic fatigue syndrome

CFS is a clinical syndrome, the central feature of which is severe fatigue, unrelated to exertion or triggered by only minimal activity, and unrelieved by rest. The fatigue is experienced as a subjective feeling of lethargy, lack of energy, exhaustion, and a feeling of ‘effort to do anything’. Patients also often complain of aching muscles, sleep disturbance, aching joints, headaches, and difficulties with concentration. They may date the onset of symptoms very precisely to an episode of viral infection with sore throat, fever, and tender lymph nodes. The syndrome was previously referred to as neurasthenia (in ICD-10 under ‘Other neurotic disorders’), then as myalgic encephalomyelitis (ME). The term CFS was later preferred, as it did not imply knowledge of underlying pathology or aetiology. The condition is referred to as post-viral fatigue syndrome in ICD-11 under ‘Other disorders of the nervous system’. CFS is not a *disorder* in the conventionally accepted sense, but a characteristic *clinical syndrome*. It shows diagnostic overlap with major depression, somatization disorder, and hypochondriasis but cannot be subsumed into these diagnoses because of substantial areas of lack of fit. Any operational diagnostic criteria for CFS will be contentious and will include people with chronic organic illnesses. Patients with this syndrome will often have passionately held beliefs about the cause of their symptoms and the appropriate management. A practical and pragmatic approach is advised from treating clinicians.

Aetiology Currently, the aetiology of CFS is unknown, with immunological, genetic, viral, neuroendocrine, and psychological causes suggested. While a minority of cases have a confirmed onset with viral illness, ongoing viral replication or chronic infection is not the cause. The condition is likely to be heterogenous, without a single or simple aetiology. At the moment, it may be best regarded as a spectrum of illness that is triggered by an acute reaction to stress or minor illness in a vulnerable individual with a persisting clinical syndrome caused by deconditioning and other secondary phenomena. Vulnerable individuals are those with

abnormal symptom attribution, ↑ awareness of normal bodily processes, cognitive errors, and perfectionist personality types.

Epidemiology Population prevalence of 0.2–0.4%, with women affected at four times the rate of men. Most common in people in their 40s and 50s. Occasionally occurs in children, particularly during adolescence.

Diagnosis CFS should be considered where there is complaint of fatigue, which: (1) is persistent and/or recurrent; (2) is unexplained by organic conditions or other psychiatric diagnoses; (3) results in substantial reduction in previous activity level; and (4) is characterized by post-exertion malaise and slow recovery after effort, AND one or more of the following symptoms:

- Sleep disturbance (e.g. insomnia, hypersomnia, unrefreshing sleep, disturbed sleep–wake cycle).
- Muscles and/or joint pain without evidence of inflammation.
- Headache.
- Painful lymph nodes.
- Sore throat.
- Minor cognitive dysfunction (e.g. impaired concentration, impairment of STM, word-finding difficulty).
- Worsening of symptoms following mental or physical exertion.
- Recurrent flu-like symptoms.
- Dizziness, nausea, and palpitations.

Comorbidity Many patients with CFS meet the criteria for other psychiatric diagnoses, most commonly major depression. Many patients resist a 'psychiatric' diagnosis, attributing mood disturbance to the restriction on activities caused by illness. Despite this, treatment of comorbid depressive or anxiety symptoms can produce clinical improvement.

Investigation findings Non-specific subjective cognitive impairment similar to that found in depression. Normal muscle function, with poor performance on tolerance testing related to deconditioning. No characteristic blood abnormalities or immune system abnormalities. There are no definite and replicable abnormal findings. Do minimum indicated tests.

Assessment Establish the diagnosis, and identify comorbid psychiatric disorders. Avoid confrontation with the patient, and attempt to agree a common understanding of the disorder. Acknowledge the severity of the symptoms and the consequent disability. Aim to take the focus of the interview towards potentially beneficial interventions and away from unwarranted investigations.

Management

There is no specific pharmacological treatment. The best evidence base exists for GET and CBT.

- *GET*—establish via a diary record the patient's daily activity level; establish with them their maximal tolerable level, even on their worst day, and encourage them to perform this level of activity every day, no more and no less, with a gradual negotiated

increase over time. The aim is to break the cycle of inactivity, brief excess activity, and consequent exhaustion.

- *CBT* (Cognitive behavioural therapy 1, p. 910).
- *Psychotropic medication*—consider antidepressant treatment trial, even where no clear-cut evidence of affective symptoms. Try SSRI first (e.g. paroxetine 20mg), as this patient group is intolerant of side effects.
- *Symptomatic medication*—patients may experience greater intolerance and more severe side effects from drug treatment. Where appropriate, drugs used for symptom control should be initiated at a lower dose than in usual clinical practice, and should be ↑ gradually.

Prognosis Outcome is difficult to predict, but the severely affected cases and those with very chronic symptoms appear to do worse. Many patients with mild to moderate symptoms do show some degree of improvement over time. A proportion of cases show a fluctuating course, with periods of relative remission, followed by relapse. Of the severe cases, a proportion will remain significantly disabled.

Factitious disorder (Munchausen's syndrome)

In factitious disorder, patients intentionally falsify their symptoms and past history and fabricate signs of physical or mental disorder, with the primary aim of obtaining medical attention and treatment. In ICD-10, it is classified in 'Disorders of adult personality and behaviour' [intentional production or feigning of symptoms or disabilities, either physical or psychological (factitious disorder)], whereas ICD-11 introduces a new separate section for 'Factitious disorders', differentiating those imposed on self from those imposed on others (see further text). DSM-5 has similar subdivisions but includes factitious disorders within 'Somatic symptoms and related disorders'. The diagnostic features are the intentional and conscious production of signs, falsification or exaggeration of the history, and the lack of gain beyond medical attention and treatment. Three distinct subgroups are seen:

- *Wandering*—mostly ♂ who move from hospital to hospital, job to job, place to place, producing dramatic and fantastic stories. There may be aggressive personality or dissocial personality disorder and comorbid alcohol or drug problems.
- *Non-wandering*—mostly ♀ ; more stable lifestyles and less dramatic presentations. Often in paramedical professions; overlap with chronic somatization disorder. Association with borderline personality disorder.
- *By proxy*—mostly ♀. Mothers, carers, or paramedical and nursing staff who simulate or prolong illness in their dependants—here the clinical focus must be on the prevention of further harm to the dependant (ICD-11/DSM-5 'Factitious disorder imposed on another').

The behaviours can mimic any psychical and psychiatric illness. Behaviours include: self-induced infections, simulated illnesses, interference with existing lesions, self-medication, altering records, and reporting false physical or psychiatric symptomatology. Early diagnosis reduces iatrogenic morbidity and is facilitated by: awareness of the possibility; a neutral interviewing style using open, rather than closed questions; alertness to insistencies and abnormalities in presentation; use of other available information sources; and careful medical record-keeping.

Differential diagnosis Any genuine medical or psychiatric disorder. Somatization disorder (no conscious production of symptoms and no fabrication of history), malingering (secondary gain for the patient, e.g. compensation, avoiding army service), substance misuse (also gain, i.e. the prescription of the drug), hypochondriasis, psychotic and depressive illness (associated features of the primary mental illness).

Aetiology Unknown; there may be a background of CSA or childhood emotional neglect. Probably more common in men and those with a nursing or paramedical background. Association with personality disorder. Production of psychiatric symptoms associated with borderline personality disorder, CSA, or emotional abuse.

Management

There are no validated treatments. Patients are often reluctant to consider psychiatric assessment and may leave once their story is questioned. Management in these cases is directed towards reducing iatrogenic harm caused by inappropriate treatments and medications.

- *Direct challenge*—easier if there is direct evidence of feigned illness; the patient is informed that staff is aware of the intent to feign illness and the evidence is produced. This should be in a non-punitive manner, with offer of ongoing support.
- *Indirect challenge*—here the aim is to allow the patient a face-saving 'way out', while preventing further inappropriate investigation and intervention. One example is the 'double bind' 'if this doesn't work, then the illness is factitious'.
- *Systemic change*—here the understanding is that there is no possibility of change in the individual, and the focus is on changing the approach of the healthcare system to assessing them in order to minimize harm. These strategies can include dissemination of the patient's usual presentation and distinguishing marks to regional hospitals, 'blacklisting', 'Munchausen's registers', etc. As these strategies potentially break confidentiality and can decrease the risk of detecting genuine illness, they should be drawn up in a multidisciplinary fashion, involving senior staff.

Assessment prior to organ transplantation

For patients with end-stage organ disease (e.g. kidney, liver, heart, lung, bowel, or pancreas), a transplant offers the prospect of

significant improvement in their mortality and quality of life. Unfortunately, the supply of donor organs is less than the number of potential recipients. Because of this, patients requiring transplantation will suffer declining health while on the waiting list, and a proportion of listed patients will die while awaiting transplant. This places a responsibility on the assessing team to consider carefully each potential candidate for listing for transplantation, in order to ensure the best use of the donor organs. Psychiatric assessment of patients prior to listing for organ transplantation may be requested in the following situations:

- In some patients being considered for liver transplantation:
  - Fulminant liver failure following OD (usually paracetamol).
  - Liver disease secondary to ALD.
- Patients with a history of mental illness.
- Patients with previous or current drug misuse.
- Patients with a history of non-compliance.
- Living related donors.

The involvement of the psychiatrist in the assessment prior to listing for transplantation should, in no sense, be a moral judgement as to the patient's suitability. The issues are whether there are psychiatric factors which would jeopardize the survival of the donor organ. The psychiatric opinion may have the most profound implications for the patient, and so assessment should be as thorough as time allows. In addition to taking a psychiatric history and an MSE, family members, the GP, and hospital case records should be consulted.

Fulminant liver failure This will often follow on from a late-presenting paracetamol OD. At the point patients are seen, it is often unclear whether they are going to recover or deteriorate to the point of requiring a transplant. They should be seen as soon as possible after presentation, as encephalopathy may develop as their condition worsens. The issue is whether there is: an ongoing intent to die or a refusal of transplant (which would normally preclude transplantation); or whether there is a history of repeated ODs in the past, significant psychiatric disorder, or ongoing drug or alcohol misuse (which would be relative contraindications).

Liver disease secondary to ALD Suitably selected patients transplanted for ALD have similar outcomes in terms of survival and quality of life to patients transplanted for other indications. Units will have individual policies regarding these patients, which should be consulted, if available. The issue is whether the patient, who has already damaged one liver, will damage a second. There is a wider issue of maintaining public confidence in the appropriate use of donated organs. Consider:

- How long they have been abstinent (is there independent verification of this?).
- Whether they accept alcohol as the cause of liver failure.
- Whether they undertake to remain abstinent post-transplant.
- Whether they have a history of dependence or harmful use.
- What their history of involvement is in alcohol treatment services and, in the past, how they have responded to relapse.

- When they were told that their drinking was causing liver damage and what their response was.

Given these findings and your routine psychiatric assessment, the transplant team will seek your opinion as to:

- The patient's psychiatric diagnosis.
- Their risk of relapse.
- Their risk of re-establishing harmful/dependent drinking.
- The potential for successful intervention, should this occur.

History of mental illness/drug misuse Generally speaking, a diagnosis of mental disorder (other than progressive dementia) will not preclude transplantation. The important issues are whether the mental disorder will affect compliance or longer-term mortality in its own right. Close liaison with the patient's normal psychiatrist is clearly crucial here. Ongoing substance dependence is generally a contraindication to transplantation and should be addressed before listing.

History of non-compliance with treatment Non-compliance with treatment may be the reason for a patient's need for transplant or place the patient at risk for future morbidity or mortality and the loss of a donated organ if not recognized early in assessment. Past medical records and discussions with past treatment teams will provide information regarding this area of risk for a given patient or family. In addition, pre-transplant evaluation by multiple team members, including behavioural health, should identify psychosocial factors that place a patient or family at risk for non-adherence and provide the team an opportunity to be proactive to increase the likelihood of future adherence and transplant success.

Living related donors This type of transplant uses organs or tissues from a matched, and usually biologically related, donor. Examples include bone marrow, single kidney, or portion of the liver. In this case, the donor is an additional focus of evaluation, with the goal of establishing that there is valid consent and absence of coercion.

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1 The subspecialty is generally known as 'liaison psychiatry' within the UK but is also referred to as 'psychosomatic medicine', 'consultation–liaison psychiatry', and 'psychological medicine'.

2 Masterton G (2003) Liaison psychiatry and general hospital management. *Br J Psychiatry* **183**:366.

3 National Institute for Health and Care Excellence (2004) *Self-harm: the short-term physical and psychological management and secondary prevention of self-harm in primary and secondary care*. Clinical guideline [CG16]. London: National Institute for Health and Care Excellence.

4 This page should be read in conjunction with those pages in  Chapter 20 describing consent ( Consent to treatment, p. 936), treatment without consent ( Treatment without consent, p. 938), common law ( Common law, p. 940), and incapacity legislation ( Mental Capacity Act:

England and Wales, p. 942; Incapacity Act, Scotland, p. 944; Incapacity Act: Northern Ireland, p. 946; Incapacity Act: Republic of Ireland, p. 948).

Chapter 19

Psychotherapy

Introduction

The psychotherapies are a collection of treatments for mental disorders, which employ language and communication, and the relationship with a skilled therapist, as their means of producing change. Psychotherapeutic methods are used both to conceptualize abnormal mental states (to understand why symptoms have developed in this patient at this particular time) and to treat symptoms and disorders.

Generally, the aim of therapy is to enable patients to improve their relationships with themselves and others, as well as to manage and treat symptoms. The core components of psychotherapy, regardless of the underlying theoretical basis, are an *empathetic and non-judgemental* stance towards the patient, an awareness of the importance of the *setting* in which therapy takes place, and the use of the *therapeutic relationship* between the therapist and the patient as both a diagnostic and a therapeutic agent.

Types of psychotherapy

Supportive psychotherapy

This form of psychotherapy aims to offer practical and emotional support, an opportunity for ventilation of emotions, and guided problem-solving discussion. There is no explicit attempt to alter underlying cognitions or to dismantle adaptive defence mechanisms. Supportive psychotherapy is sometimes preferred where fundamental behavioural change is not aimed for or where patient factors (e.g. learning difficulty, psychotic illness) preclude exploratory therapies. Examples include counselling and general psychiatric follow-up.

Psychodynamic psychotherapy

This form of therapy aims to produce changes in the individual's thinking and behaviour by exploring childhood experience, the unconscious mind, including *transference* (Basic psychoanalytical theory, p. 890), and the quality and nature of relationships in the past, the present, and the here-and-now with the therapist. The latter receives particularly close analysis, as it allows for understandings to come directly, rather than via a third-party report by the patient. Ideally, patients should be highly motivated, able to tolerate frustration and anxiety, have good impulse control, be able to form meaningful relationships, and be capable of insight and abstract thought. These traits, however, could be regarded as being markers of health, rather than signs that somebody needs treatment and, as such, a balance needs to be struck between a triad of factors—does the patient *want* therapy, do they *need* therapy, and can they *use* therapy?

Cognitive and/or behavioural therapies

These are based on learning and cognitive theories, with the rationale that a patient's thoughts, feelings, and actions are interdependent on one another. Attention in these therapies is directed towards the patient's *current* thoughts and behaviours, which are closely examined and challenged, with a view to modification to improve symptoms. Unconscious processes, childhood experience, and the specific nature of the therapist–patient relationship receive less attention. Cognitive and behavioural therapy sessions are generally more structured than in other psychotherapies and often take place over a relatively brief and predetermined period of time. These therapies are useful in a wide range of disorders, including depression, anxiety disorders (including OCD), and eating disorders, and more recently, they have been applied to psychotic disorders.

Psychotherapeutic training

As a psychiatric trainee, you are required to gain competency in five areas of psychotherapy—supportive psychotherapy, psychodynamic psychotherapy, brief psychotherapies, CBT, and combined psychopharmacology/psychotherapy. Training generally consists of formal teaching, experience working with a range of patients, and regular supervision with experienced therapists. It is

only through the process of conducting therapy under supervision that you will really understand psychotherapeutic techniques. These notes on general concepts and specific psychotherapies aim to familiarize you with theories, guide your referrals, and assist you in explaining the process to patients.

Further reading

Dewan M, Steenbarger B, Greenburg R (2004) *The Art and Science of Brief Psychotherapies*. Arlington, VA: American Psychiatric Publishing.

Gabbard GO (2000) *Psychodynamic Psychiatry in Clinical Practice*, 3rd edn. Washington, DC: American Psychiatric Press.

Malan D (1995) *Individual Psychotherapy and The Science of Psychodynamics*. London: Hodder Arnold Publications.

Padesky CA, Greenberger D (1995) *Mind Over Mood: Change How You Feel By Changing The Way You Think*. New York, NY: Guilford Publications.

Winston A, Rosenthal R, Pinsker H (2004) *Introduction to Supportive Psychotherapy*. Arlington, VA: American Psychiatric Publishing.

Assessment for psychotherapy

Indications and contraindications

- Psychotherapeutic methods can be useful in the treatment of many psychiatric illnesses, including mild to moderate depressive illness, neurotic illnesses, eating disorders, and personality disorders.
- Specific therapies also have a place in the management of patients with learning disabilities and those with psychosexual problems, substance misuse disorders, and chronic psychotic symptoms.
- They are generally *contraindicated* in:
  - *Acute psychosis* (due to increasing expressed emotion and the inherent neuropsychological deficits associated with this mental state).
  - *Severe depressive illness* (because of psychomotor retardation).
  - *Dementia/delirium* (where treatment of organic pathology is first line).
  - Some individuals where there is *acute suicide risk*.

Goals of assessment

The assessment of a patient for psychotherapy has three major goals:

- What does the patient expect (or *want* from therapy)?
- Obtaining a careful history/narrative of the problem from the patient (do they *need* therapy?).
- Establishing whether the patient can form a therapeutic relationship and make *use* of the type of therapy being potentially offered.

Different therapies will have a varying focus in the initial assessment, e.g. psychodynamic assessments will often focus more on relational aspects of the patient's life, whereas cognitive behavioural therapists may concentrate more on the (A)ntecedents,

(B)ehaviours/(B)eliefs, and (C)onsequences of the patient's behaviours or beliefs.

Psychological factors in assessment for psychotherapy

'Psychological mindedness'

Refers to the capacity for insight and to understand problems in psychological terms—'can the patient think about their thoughts?' If this is lacking, a supportive method may be preferred over a cognitive or exploratory method.

Motivation for insight and change

Many patients (and trainees!) do not want to 'get better' or change. Often we are more comfortable playing by the rules of the game we know, even if this means we find ourselves caught in difficult situations, rather than learning a new game. An important part of assessment is to establish whether the potential patient is willing to take responsibility for their situation and use therapy as a means of changing it.

Adequate ego strength and reality testing

Important when considering exploratory psychotherapies, especially those based on exploring *transference* dynamics. Includes the ability to sustain feelings and fantasies without impulsively acting upon them, being overwhelmed by anxiety, losing the capacity to continue the dialogue, or treating 'as if' situations as though they 'actually are' real.

Ability to form and sustain relationships

Where there is inability to enter into trusting relationships (e.g. in paranoid personality disorder) or where there is inability to maintain relationship boundaries (e.g. in borderline personality disorder), this may preclude exploratory methods.

Ability to tolerate change and frustration

As with any potentially powerful treatment, psychotherapy has the potential to exacerbate symptoms, particularly when maladaptive coping mechanisms are examined and changed.

Selection of psychotherapeutic method

Local availability

In practice, often the main determinant of therapy choice is local availability, and practical availability determined by the length of the waiting list. The waiting times associated with most forms of therapy should encourage all practitioners to exercise care in patient referral.

Practitioner experience and view of modality

Where the treating psychiatrist also provides psychotherapy, their area of expertise may determine the choice of psychotherapeutic method.

Illness factors

Varying illnesses and states of mind have been shown, within the evidence base, to respond differentially to different treatments.

Patient choice

Patients may express a preference for a particular therapeutic model because of previous positive experience or having read or been told about the approach. A method which 'makes sense' to the patient, given their understanding of their symptoms, is often preferred.

A brief history of Sigmund Freud

Freud remains, far and away, the world's best known psychiatrist, and his image of a scholarly bearded man sitting behind a distressed patient lying on a couch is many lay people's archetype for our profession. He made a huge contribution to our understanding of the mind, but many of his ideas are now so much a part of our general view of the world that it is easy to overlook the breakthroughs they originally were.

He was born in 1856 in Moravia (now part of the Czech Republic, but then part of the Austro-Hungarian Empire). He moved to Vienna when he was a child and lived there until his last year. On entering medical training, he was influenced by scientific empiricism—the belief that, through careful observation, the un-understandable could be understood. On qualification, he began laboratory work on the physiology of the nervous system under Brücke, later entering clinical medical practice after his marriage in 1882. He chose neurology as his specialty and received a grant to study at the Salpêtrière in Paris where he was exposed to the ideas of Charcot, who interested Freud in the study of hysteria and the use of hypnosis. In Paris with Charcot, and later in Nancy with Liébault, he studied the behaviour of hysterical patients under hypnosis and developed his ideas of the unconscious mind and its role in normal and disordered behaviour.

Returning to Vienna, Freud began collaboration with Josef Breuer on the study of hysteria. The subsequent development of psychoanalysis was prompted by the case of Anna O, treated by Breuer between 1880 and 1882. This patient, a 21-yr-old woman (real name Bertha Pappenheim), presented with a range of hysterical symptoms, including paralysis, visual loss, cough, and abrupt personality change. These symptoms had developed while her father was terminally ill. Breuer observed that her symptoms resolved during hypnotic trances. Breuer also noted that not only did the symptoms recur after the sessions ended, but that after he terminated the treatment relationship, she also suffered a full-blown relapse. Breuer wrote up the case after discussing it with his younger colleague. Later they published *Studies in Hysteria*, detailing their ideas on the aetiology and treatment of hysterical symptoms. This book postulated that trauma is unacceptable to the patient and hence was repressed from conscious memory. This repression produces an increase in 'nervous excitation'—which is expressed eventually as hysteria—with a conscious remnant, often

in a disguised form, which can be accessed and resolved during hypnosis.

Freud explored these ideas during his clinical practice in the 1890s, using a variety of methods to uncover the repressed memories. Later he developed the technique of *free association* where the patient is encouraged to say whatever comes to mind. Experience in the 1890s led Freud to develop the ideas of *repression* of unacceptable memories and their expression as hysterical symptoms. The initial memory was generally of a sexual nature. At first, Freud thought this was a real, remembered assault but later realized that, in the majority of cases, the patients were describing a sexualized fantasy towards parental figures. Freud described these ideas in his most famous book *The Interpretation of Dreams*, published in 1900. It described the basis of his psychoanalytic technique, including analysis of the content of dreams, descriptions of defence mechanisms, and his *topographical model* of the mind. Freud's early insights tended to come directly from clinical experience, particularly from patients with hysteria. His later ideas were more theoretical and aimed to develop a model of the normal and abnormal development of the mind through psychoanalytical ideas. His drive theory postulated the existence of basic drives, which included the *libido*, the sexual drive, and the *eros* and *thanatos* (the drives towards life and death). He described the *pleasure principle*, the drive to avoid pain and experience pleasure, and its modification through the *reality principle*.

In 1905, he published *Three Essays on the Theory of Sexuality*, describing his theories regarding childhood development, including the ideas of developmental phases and the Oedipal and Electra complexes and their relationship with the development of adult neuroses. *The Ego and the Id*, published in 1923, saw the replacement of the topographical model with the structural model of the mind. He described his theories of ego psychology and the production of anxiety symptoms in *Inhibitions, Symptoms and Anxiety* in 1926. Although he recognized the importance of unconscious defences in response to anxiety, the first systematic account of these mechanisms was written by Freud's daughter Anna in *The Ego and the Mechanisms of Defence* in 1936. Freud's repeated revision of his own theories was mirrored by repeated disagreements and splits in the psychotherapeutic movement and the formation of separate psychotherapeutic 'schools', usually strongly associated with one charismatic individual. Freud died from cancer in England in 1939 after fleeing Vienna, following the rise to power of the Nazis. His daughter Anna continued to refine and publicize her father's work, which has recently been retranslated and reprinted in full.

Other pioneers of psychoanalysis

Anna Freud (1895–1982) Although Freud recognized the importance of unconscious defences, the first systematic account of

these mechanisms was written by his daughter Anna in *The Ego and the Mechanisms of Defence* in 1936. She also helped to develop child psychoanalysis and play therapy.

Carl Jung (1865–1961) Associated with Freud until their views over the sexual aetiology of the causes of neuroses differed, and he founded his own school of analytic psychology. Key concepts include the 'collective unconscious', in which humanity's shared mythological and symbolic past is represented in the unconscious mind of an individual by symbols called 'archetypes'. He also described 16 personality types, including the differentiation between 'introverted' and 'extroverted' types.

Erik Erikson (1902–1994) Expanded Freud's developmental theory by explaining that there were not only sexual conflicts at each phase, but also a conflict related to how individuals adapt to their social environment. Described eight stages of psychosocial development of the identity throughout the lifespan, characterized by the following conflicts: trust vs mistrust (infancy), autonomy vs shame and doubt (early childhood), initiative vs guilt (play age), industry vs inferiority (school age), identity vs role confusion (adolescence), intimacy vs isolation (early adulthood), generativity vs stagnation (middle adulthood), and integrity vs despair (old age).

Alfred Adler (1870–1937) Theorized that all people are born with an 'inferiority complex', an unconscious sense of inadequacy, which may lead them to over-compensate. Disagreed with Freud's emphasis on sexuality in the development of both normal personality and the neuroses.

Melanie Klein (1882–1960) A controversial figure and one of the founders of the object relations school. She demonstrated that a child's unconscious development can be understood by observing the child at play—felt to be analogous to free association. While her resulting developmental theories are not widely accepted by contemporary psychologists, play therapy is still commonly practised. She emphasized primitive defence mechanisms such as projection/projective identification, introjection, and splitting, as well as the emotions of love, hate, anger, and envy.

Donald W Winnicott (1897–1971) Another object relations theorist who studied the infant's growth of a sense of self. He described the 'transitional object', which was an item such as a teddy or blanket that aided the infant's transition to independence by standing in for the mother–infant object relationship. He described the 'good-enough mother' to refer to the environment needed for normal psychological development. He also developed the concept of true and false selves—the true self responds instinctively and spontaneously, but when parenting is not 'good enough', a false self-persona may develop to maintain relatedness with the parents while protecting the more vulnerable true self.

Wilfred R Bion (1897–1979) A pioneer in thinking about groups whose 'basic assumptions' describe three ways in which groups may function: dependency, fight–flight, or pairing. He moved away from emphasizing the content of patients' narratives to thinking

about how we structure the world around us through our thinking and how this, in turn, allows our internal worlds to develop.

Carl Rogers (1902–1987) Worked on the therapeutic technique. He conceived 'client-centred therapy'. He felt that the therapeutic attributes of genuineness, unconditional positive regard, and accurate empathy could help patients achieve what he called 'self-actualization', a complete sense of self, which was beneficial to their recovery.

John Bowlby (1907–1990) Worked on the *attachment theory*, which has been developed from ethological studies and empirical research in humans such as observing infants' behaviours when separated from, and then reunited with, their mothers. Attachment theory stresses the importance of the feelings of closeness and security an infant develops with the caregiver, as well as the role the caregiver plays in helping the infant to form these feelings. The child can, if such feelings have developed, then use the mother as a 'secure base' from which to explore and then return to when their anxiety increases. Bowlby delineated four different attachment styles, which have been found to be transmitted from parent to child with reasonable reliability: secure, ambivalent, avoidant, and disorganized.

Basic psychoanalytical theory

Topographical model of the mind In *The Interpretation of Dreams*, Freud theorized that the mind consisted of the unconscious, the preconscious, and the conscious. Only those ideas and memories in the conscious mind are within awareness. The preconscious contains those ideas and memories capable of entering the conscious mind. The preconscious performs a 'censorship' function by examining these ideas and memories and sending those which are unacceptable back to the unconscious ('repression'). The unconscious mind acts according to the 'pleasure principle'—the avoidance of pain and the seeking of gratification. This is modified by the 'reality principle' of the conscious mind—that gratification often must be postponed in order to obtain other forms of pleasure. Freud's psychoanalytic techniques would attempt to interpret unconscious content based on access to preconscious content such as free associations, the content of dreams, transference, jokes, and 'parapraxes' (
Examination of parapraxes, p. 899).

Structural model of the mind Freud reconfigured the *topographical model* in light of his clinical experience. In the *structural model*, an infant's mind comprised the id ('the it', which wishes to pursue its own desires, regardless of the constraints of morality or external reality) which is entirely unconscious. As time goes on and development occurs, the mind further differentiates into the ego and then the superego. The ego ('the me') is mostly conscious, emerges during infancy, and is the part of the personality which negotiates between the 'three harsh masters': the desires of the id, the hold of reality, and the superego. The

superego (the 'conscience') is the conscious and unconscious internalization of the morals and strictures of parents and society, which provides judgements on which behaviours are acceptable and which are not. When the ego is unable to successfully moderate between the id and superego, it may defend the individual's sense of self by repressing the impulse to the unconscious where its presence may produce disturbance. Alternatively, the ego may be tormented by an over-harsh superego.

Drive theory Freud postulated the existence of basic drives, which included the 'libido', the sexual drive (Psychosexual development, p. 894), which made up part of 'eros', the life drive, in opposition to 'thanatos', and the drive towards death. He described the pleasure principle and the drive to avoid pain (or unpleasure) and experience pleasure, as well as its modification through the reality principle. Additionally, he described the *repetition compulsion*—the tendency of people to compulsively repeat their early experiences throughout their lives.

Transference reactions

Transference—the unconscious development, in the patient, of feelings, thoughts, attitudes, and patterns of behaviour towards the therapist, which recapitulate earlier life relationships, most usually the patient's relationships with their parents. Transference is viewed as a defence against the reality of relationships with others. The analysis of the transference is a prime feature of psychoanalysis.

Countertransference—describes the equivalent reaction in the therapist towards the patient, although this concept has now been extended by some schools to encompass all thoughts, feelings, imagery, etc. that patients evoke and engender in therapists. The examination of transference and countertransference is a central part of dynamic psychotherapies and guides diagnostic formulation and the exploration of the patient's pathology.

Thought processes

Dreams were felt by Freud to be the product of the unconscious mind as they occur when the internal censor is relaxed by sleep. They allow insight into the unconscious thought process, which is described as *primary process thinking*. In this form of thought, there is no negation (yes and no can mean the same thing), there is no sense of time, ideas can be condensed into single symbols, and it is primarily symbolic and non-linear. *Secondary process thinking*, in contrast, is found within preconscious and conscious parts of the mind and is orientated to time, operates in a linear fashion, and is predominantly word-orientated, and negation applies (i.e. yes is not no).

Psychoanalytical techniques

Free association—the *fundamental rule* within psychoanalysis is for the patient to say whatever comes into their mind and then associate from this.

Resistance—blocks to free association, e.g. forgetting or changing the subject, demonstrate where resistance, and hence psychological problems, is present, i.e. the mind says 'don't even go there!' These points of resistance are to be analysed, thus making the unconscious conscious, or more famously 'where it is, let ego be'.

Evenly suspended attention—as a corollary to the patient's free association, the analyst is asked to maintain themselves in a state of 'evenly suspended' attention to allow themselves to hear both what the patient is saying and what they are not.

Defence mechanisms

Freud conceived the idea of *repression* acting as a *defence* to prevent unacceptable thoughts from reaching conscious awareness. Subsequently, other *defence mechanisms* were described, viewed as developing to prevent conflict between the conscious mind and unconscious desires and developing in the course of normal maturation. Mental disorder can be characterized by the persistence of primitive defence mechanisms, with immature defences seen in early childhood, and mental illness and personality disturbances and neurotic defences seen in older children or adults experiencing stress or anxiety. Mature defences are seen in functioning adults. A full list of defence mechanisms is given in  Defence mechanisms, p. 892.

Defence mechanisms

Primitive defence mechanisms

Denial—remaining unaware of difficult events or subjective truths which are too hard to accept by pushing them into the unconscious.

Introjection—our perceptions of significant figures in our lives are internalized where they form the part of the structure of the personality (e.g. someone who was raised by a hostile and critical father may themselves feel persecuted by the introjection of this object but also may 'become like' this object at other times). Freud's theory on depression suggests that it is caused by introjection of the aspects of others that make the depressed patient feel anger, leading to 'anger turned inwards'.

Projection—attributing one's own internal unacceptable ideas and impulses to an external target, such as another individual, and reacting accordingly to them (e.g. an angry child looks at his dog and accuses it of being angry).

Projective identification—behaving towards another in a manner that causes them to take on one's own internal unacceptable ideas and impulses. Not to be confused with projection. Whereas during projection, an individual with a certain emotion might perceive someone else as feeling the same way, in projective identification, the individual causes the other to feel that emotion (e.g. an angry child behaves in such a way that his mother becomes angry with him).

Idealization and denigration—perceiving others as ideal in order to avoid conflicting feelings about them. Humans find it less anxiety-provoking to avoid ambivalence and grey areas within people. The converse of idealization is denigration where only bad is seen within others.

Splitting—separating polarized and contradicting perceptions of self or others in order to disregard awareness of both simultaneously (e.g. a patient believing that a doctor is 'the best doctor they have ever had' at one point, and 'the worst doctor they have ever had' at another). This utilizes both idealization and denigration. Splitting can also happen intrasubjectively where patients split off parts of themselves that they find unacceptable and project these parts onto another person.

Acting out—literally acting out in ways that may reveal unconscious desires (e.g. a patient self-harming to express disgust at themselves).

Regression—responding to stress by reverting to a level of functioning of a previous maturational point (e.g. a teenager sucking their thumb around exam time).

Neurotic defence mechanisms

Repression—preventing unacceptable aspects of internal reality from coming to conscious attention. (A victim of childhood abuse may not have conscious awareness of the abuse as an adult.) The associated emotional reaction may remain in the conscious mind, but divorced from its accompanying memory.

Identification—taking on the characteristics, feelings, and/or behaviours of someone else as one's own. Differs from introjection in a similar manner to the way projective identification differs from projection. Whereas in introjection, one may perceive themselves as being like someone else, in identification, one may actually feel the way someone else does and become more like the other person. An extension of this is found in the defence of identification with the aggressor wherein those who have been victims of aggression become aggressive themselves, as this feels to the person like a less vulnerable position (e.g. a young man who was physically abused may grow up to be violent to others, rather than remain in the vulnerable position of victim).

Intellectualization—focusing on abstract concepts, logic, and other forms of intellectual reasoning to avoid facing painful emotions (e.g. a victim of a traumatic abuse experience may discuss the statistics of abuse, instead of talking about the particular experience).

Isolation of affect—separating an experience from the painful emotions associated with it (e.g. a victim describing a traumatic abuse experience without displaying any of the affect the experience has evoked).

Rationalization—justifying feelings or behaviours with a more acceptable explanation, rather than examining the unacceptable explanation known to the unconscious mind (e.g. a mourner stating

that the deceased person is 'in a better place now' in order to ease feelings of guilt associated with the death).

Reaction formation—externally expressing attitudes and behaviours which are the opposite of the unacceptable internal impulses (e.g. being extra polite to a person to avoid expressing anger towards them).

Undoing and magical thinking—the former is found when performing an action which has the effect of unconsciously 'cancelling out' an unacceptable internal impulse or previous experience. The action symbolizes the opposite outcome of the impulse or experience. Magical thinking is found when one attributes magical properties to thoughts or behaviours, e.g. 'if I throw this piece of paper in the bin five times in a row, then I'll pass my exams'. Both these defences are associated with OCD.

Displacement—transferring the emotional response to a person to someone else that, in some way, resembles the original but is not associated with as much conflict or risk (e.g. a boy feeling anger towards a man who reminds him of his father, rather than towards his father).

Mature defence mechanisms

Humour—finding aspects of an unpleasant experience funny or ironic in order to manage the experience without the associated painful emotions.

Altruism—attending to the needs of others above one's own needs.

Compensation—developing abilities in one area in response to a deficit in another.

Sublimation—expressing unacceptable internal impulses in socially acceptable ways.

Psychosexual development

Freud theorized that everyone is born with an instinctive sex drive called the libido, a primary source of tension if unsatisfied. He developed a theory that attempted to explain the development of the personality during infancy and childhood. His five phases were characterized by particular satisfactions and conflicts. Infants progressed from a state of primary narcissism, finding gratification in their own body processes, to 'object love', more clearly separating themselves from other 'objects' or people. Inability to resolve the conflicts of a particular stage could lead to a lack of psychosexual development, while regression to an earlier state could result in the development of neurotic symptoms (see Table 19.1 and Box 19.1).

Table 19.1 Phases of psychosexual development

Phase	Source of pleasure	Conflicts
Oral phase Birth to 15–18mths	Suckling and investigation of objects by placing them in the mouth	Love for breast of nursing mother vs 'aggressive' urge to bite or spit
Anal phase 15–18 to 30–36mths	Anal sensations, production of faeces, and later, ability to withhold faeces	Need to control the sphincter enough to avoid shame of making a mess (related to pleasing authority and keeping orderly), but not so much that there is faecal retention
Phallic phase 30–48mths to around the end of the fifth year	Manipulation of the penis	Boys: move through the Oedipal phase (see Box 19.1) Girls: 'penis envy', leading to feelings of inferiority (*note:* this theory has been rejected or modified by many modern dynamic theorists), and pass through the Electra complex (the inverse of the Oedipal complex)
Oedipal phase 48mths–6yrs	Fantasies of sexual intercourse with the opposite-sex parent, with a corresponding wish to kill the same-sex parent	Boys: love for mother vs fear of castration by father, leads to 'castration anxiety'—unconscious desires characterized by 'Oedipus complex' Girls: desire for a baby leads to attachment to father as someone who potentially can give her one. Called the 'Electra complex'
Latency phase 6yrs until puberty	Period of relative quiescence of sexual thoughts	The anxieties from the previous phase are repressed. The sexual drive remains latent through this period
Genital phase Adult sexuality, beginning at puberty	The sexual drive returns with greater strength than before	Improper resolution of previous phases may be manifest in symbolic ways

Box 19.1 The Oedipus story (Sophocles ~430 BC)

The oracle at Delphi tells King Laius of Thebes that his son will kill him and marry his wife. When his wife Jocasta gives birth to a boy—Oedipus, he orders a slave to abandon the child on a mountain. The slave takes pity on the child and, instead of leaving him to die, gives him to a shepherd, who brings him to the King of Corinth who is childless. Oedipus grows up, thinking that Polibus, King of Corinth, is his father.

As a youth, Oedipus visits the oracle at Delphi and is told that he will grow up to kill his father and marry his mother. At this, Oedipus vows never to return to Corinth and sets out for Thebes instead. On a narrow part of the road, he meets an old man in a chariot who angrily orders him aside and strikes him with a spear. Oedipus seizes the spear to defend himself and strikes the old man on the head, killing him. The man is Laius, King of Thebes, his real father.

Approaching Thebes, Oedipus meets the Sphinx, which is terrorizing the city. The monster is stopping passers-by and challenging them with its riddle; all who fail to answer the riddle are devoured. Oedipus solves the riddle of the Sphinx, and the monster jumps to its death. He enters the city as a hero. He is told that the king has been murdered and is offered the throne, along with the hand of Jocasta in marriage.

Oedipus is a wise and successful king, and Jocasta bears him two sons and two daughters. Many years later, Thebes is afflicted by a terrible plague. The people appeal to Oedipus to save them, and he sends his brother-in-law to the oracle at Delphi for advice. The oracle states that the plague will abate when the murderer of Laius is banished. Oedipus promises to bring the murderer to justice and forbids the people of Thebes from offering him any shelter.

Oedipus asks the prophet Teiresias to help him discover the killer's identity. Teiresias tries to dissuade him from pursuing the matter, but he persists, eventually accusing the prophet of being a fraud. Teiresias angrily tells him that before nightfall, he will find himself 'both a brother and a father to his children'. The king is bewildered, and Jocasta tries to comfort him by telling him about the prophecy given to Laius—that he would be killed by his son, when, in fact, his son had died as an infant and he had been killed by bandits—hence, prophecies could not be trusted. The story only increases Oedipus's worry, as he suspects that he murdered Laius but does not yet realize that Laius was his father.

When a messenger arrives to inform him of the death of the King of Corinth, Oedipus also discovers that he was adopted and begins to suspect that he is Laius's son. He ignores the pleas of Jocasta, who has already realized the whole truth, and when he eventually finds the shepherd who took him to the household of the King of Corinth, the full truth is revealed. At this point, he hears anguished cries coming from the palace and rushes to his apartments. Breaking down the door of the royal bedchamber, he

finds the queen, his wife and mother, has hanged herself. He seizes her dress pin and gouges out his eyes, so as not to have to look at the atrocity he has unwittingly committed. He enters into exile, having failed to avoid the fate laid out for him.

Object relations theory

In the mid-twentieth century, Winnicott, Klein, Fairbairn, and others developed the object relations theory, which emphasized the importance of relationships, rather than drives such as sexuality and aggression, in affecting the mind. This theory describes a model of infant psychological development, links abnormal early experiences to symptoms in later life, and uses this as a basis for interpretation in therapy. Object relations theory remains significant in modern psychoanalytical practice.

Essence Our 'sense of self' and our adult personality are developed as a result of the relationships we form in our lives. The earliest, and hence the most important, relationship is that between mother and child. Our early relationships form a template for future relationships, with abnormal early experiences being associated with psychological symptoms and abnormal relationships later in life.

Theory The mind is viewed as blank at birth, with the newborn unable to distinguish between 'myself' and 'everything else'. Then the infant begins to view the external world as a series of (initially unconnected) 'objects'. These objects may be things (e.g. a toy, a blanket), people (e.g. mother, father), or parts of people or things (e.g. the mother's breast, the mother's face). The infant creates an internal representation of each object and has relationships with, and feelings towards, the internal, as well as the external, objects.

There are three primitive emotions (or 'affects') which an infant can display towards each object: attachment, frustration, and rejection. There is a tendency for a single affect to become associated with one object. Inevitably, even a caring mother will create some feelings of frustration and rejection—mothers comfort their children and provide food and love, but also scold, punish and are sometimes simply unable to meet their child's needs. Consequently, the child will view the mother as comprising a number of objects, some of which he views positively and some with hostility.

The child will initially deal with this by keeping the 'good objects' (associated with attachment) separate from the 'bad objects' (those causing frustration and rejection)—a phenomenon known as 'splitting'. This is the initial primitive defence mechanism—the 'paranoid–schizoid position'. As the child develops, this defence becomes increasingly untenable, and in normal development, the child will unify the good and bad maternal objects to a single 'mother object' containing both good and bad—the so-called 'depressive position'.

The relationships we form later in life have a strong tendency to echo relationships from earlier in our development. Interestingly, we

can take on either role in these recapitulated relationships. Hence, a child, one of whose parental relationships was with an aggressive/abusive father, can take on a 'victim' posture in some later relationships but may instead take on the role of the aggressor in others.

In therapy The therapist's neutral stance provides an ideal environment for the recapitulation of previous relationships. Most relationships are moulded by both parties, but in therapy, the therapist aims to allow the relationship model to be developed by the patient. Subsequent examination of the role and relationship forced onto the therapist (the transference) is a key part of therapy. Most therapies incorporating the object relations theory help the patient resolve the pathological qualities of the transference through the experience of the real relationship between the therapist and the patient. Once these relationships are identified, they can begin to explore with the patient how the relationship in the consulting room reflects the patient's experience growing up, as well as their current life situations.

Psychoanalysis 1

Dynamic therapies, including psychoanalysis or psychodynamic psychotherapy and group analysis, are derived from the psychoanalytic principles and practice of Sigmund Freud and those who have subsequently developed his ideas. Most therapies which conceptualize an unconscious mind affecting our perceptions and actions can be considered part of the school of dynamic psychotherapies.

Rationale

Traumatic experiences, particularly those in early life, give rise to psychological conflict. The greater part of mental activity is unconscious, and the conscious mind is protected from the experience of this conflict by inbuilt defences, designed to decrease 'unpleasure' and to diminish anxiety. These defences are developmentally appropriate, but their continuation into adult life results either in psychological symptoms or in a diminished ability for personal growth and fulfilment. Conflict can be examined with regard to the anxiety itself, the defence, or the underlying wish or memory. The individual's previous family and personal relationships will have symbolic meaning and be charged with powerful emotions. Representations of these relationships will emerge during therapy and provide a route towards understanding and change.

How illness is viewed

Both mental illness and normal psychological development can be understood using psychoanalytic theories. In psychoanalysis, overt symptoms are viewed as merely the external expression of an underlying psychic abnormality. Symptoms continue, despite the suffering they cause to the individual, because of what Freud called primary gain. This is the benefit to the individual of not having

unacceptable ideas in the conscious mind. While a typical descriptive assessment of a patient by a psychiatrist may categorize patients into groups using diagnostic criteria, a dynamic assessment of a patient uses the psychoanalytic theory to explore the unique layout of the individual patient's conscious and unconscious mind.

Techniques

Psychoanalysis is an intense therapy that usually involves 1–5 50-min sessions per week, possibly for a number of years. Psychoanalysis typically features traditional techniques to attempt to interpret the unconscious content, including the 'fundamental rule' of free association, analysis of the transference/countertransference, the interpretation of dreams and 'parapraxes', and the symbolism of neurotic symptoms. Therapists of different schools will utilize these techniques in slightly different ways, e.g. by choosing what to interpret and why. The three mainstays of analyst–analysand interaction are enquiry, clarification, and interpretation.

Free association—the patient agrees to reveal everything which comes to mind, no matter how embarrassing or socially unacceptable (i.e. 'speaking without selfcensorship'). Traditionally, the patient is speaking in a reclining position, with minimal eye contact with the therapist, i.e. 'on the couch'. The therapist assumes a position of neutrality, in which reassurance and directive advice are withheld. Areas where free association 'breaks down' and areas of resistance to pursue associative thought may represent difficulties which are important to explore.

Exploration of transference/countertransference

( Basic psychoanalytical theory, p. 890)

The intense and frequent nature of psychoanalysis often results in a patient forming powerful feelings towards a therapist, who adopts a stance of neutrality—a blank screen on which the patient can project their internal world. Important repressed aspects of past relationships and defence mechanisms used by the patient in current relationships find expression in the transference relationship. Through adopting a mindset called 'rêverie' (similar to evenly suspended attention), psychoanalysts, through monitoring their own countertransference, attempt to avoid fulfilling the patient's unconscious expectations that they will act like the people from their past, as well as using thoughts that enter consciousness as information about the patient's inner world.

Examination of dreams

Dreams are traditionally viewed as being formed by a mix of daytime memories, nocturnal stimuli, and representations of unconscious desires, which are then distorted by the ego to protect us from conscious knowledge of the content. The actual or 'latent' dream is eventually reconstructed from the 'manifest' dream, the portions of the dream that patients remember in therapy, by a

process of symbolization and elaboration which can potentially expose the hidden unconscious meanings.

Examination of parapraxes

A parapraxis is a slip of the tongue, which today is often referred to as a 'Freudian slip'. They may reveal unconscious desires, thoughts, and feelings.

Examination of symbolism

In individual patients, neurotic symptoms may have symbolic meaning which can be usefully explored. Symbolism may also be analysed in child psychotherapy when observing play and drawings.

Interpretation

Expression of the therapist's understanding of the meaning of what is occurring in therapy. Interpretations commonly include descriptions of defence mechanisms, explanations for current anxiety in the context of underlying desires, and making links between what is happening in the here-and-now of the transference relationship between patient and therapist and how that connects to their earlier experiences.

Psychoanalysis 2

Phases of treatment

Assessment and early sessions

The analyst will typically explain the methods of therapy, establish boundaries (e.g. about times of sessions), and begin to produce a psychodynamic formulation of the case. The therapist will assess patient suitability and motivation, while exploring potential risk factors.

Middle sessions

As the patient progresses in psychoanalysis, the therapist, who will typically work with a supervisor (providing a valuable third-position view of the case outwith the close relationship between analyst and analysand), identifies unconscious defence mechanisms, key conflicts, personality structure, patterns of object relations, and transference/countertransference.

Later sessions

The therapist may use more interpretive techniques, which may increase anxiety. Towards the end of therapy, which is in the main mutually negotiated, increasing focus will be placed on the patient's thoughts, feelings, and attitudes to termination of therapy, as loss and abandonment are often key areas in patients' pathology.

Indications and contraindications

(See also Assessment for psychotherapy, p. 884.)

- Commonly chosen by the patient, rather than prescribed, although this may be due to its lack of availability through the

public sector.

- Not reserved only for specific mental illnesses—those with relatively sound mental health may find it improves the quality of their lives.
- Commonly sought by patients where there are anxious or emotional symptoms such as mild to moderate depressive symptoms, somatic symptoms, and dissociative or other neurotic symptoms.
- Patients with substantial personality difficulties are increasingly seen.
- May be a good choice for patients who are looking for change, motivated to explore past experiences, and are emotionally stable and willing to re-experience some emotional challenges in doing so.
- Psychoanalysis is not absolutely contraindicated for drug or alcohol dependence, suicidal thoughts or harmful/violent behaviours, psychotic illness, severe depressive features, and limited cognitive ability, but most practitioners would be aware of the potential pitfalls present in each of these classes of patient.

Efficacy and limitations of dynamic therapies

Evidence base?

Studies have demonstrated benefits in ↓ symptoms, ↓ need for medication, as well as long-term and enduring improvements in personality-disordered individuals. The volume, validity, and reliability of the evidence, however, is limited. Some clinicians criticize all dynamic therapies because they have arisen primarily from theory and clinical observations, instead of evidence-based medicine. This may not reflect on the inefficacy of psychodynamic therapies as much as it reflects the inherent difficulties in designing research studies. There are a lack of standardization in diagnosis and the method of therapy delivery (as by its very nature, it is delivered by individuals to other individuals, both of whom are bewilderingly complex), and problems with gaining sufficient numbers of patients and controls for statistical analyses to be viable and determining how improvement is measured, as even Freud regarded the task as converting 'neurotic misery into ordinary unhappiness'. Psychodynamic researchers also stress the point that much of psychoanalysis is process-, and not outcome-, orientated. Nonetheless, the future may bring more of an evidence base to support dynamic therapies, both alone and in combination with psychotropic medications. Studies may also show more support for the theories behind psychodynamic therapies. There is already experimental psychological research to support that mental activity can be unconscious such as studies that show initiation of action by the prefrontal cortex begins before 'consciousness' in the frontal areas is involved.

Possible harm?

While dynamic therapies do not have the biological side effects of psychiatric medications, they are not free of risk. These therapies aid in increasing the insight of the patient, which may involve the removal of defence mechanisms that play a protective role, and therefore must be done with caution, especially with patients whose 'psychic scaffolding' is integral to their managing day-to-day life. The risks and benefits of such phenomena are a subject of study and controversy, although most dynamic therapists would agree that patient readiness determines when to explore painful experiences in therapy.

Training

Involves education in psychoanalytic history, theory, and practice, extensive supervised case work, and personal psychoanalysis for the therapists themselves. Many major British and Irish cities have a local psychoanalytic institute that may offer formal psychoanalytic training to those with doctoral or master's degrees in mental health and 2yrs of clinical experience. Training usually consists of a 5-yr postgraduate curriculum specifically in psychoanalysis. For doctors, this training would typically be completed after completion of a basic specialist psychiatric training. Most institutes also offer supervision and classes for therapists who are interested in dynamic psychotherapy but have not chosen the 5-yr psychoanalytic programme.

Psychodynamic psychotherapy

Psychodynamic psychotherapy is an intervention where the concepts of symptom development are based on those of psychoanalysis, but the methods of therapy are adjusted for a reduced frequency of sessions and ↓ number of total sessions. Supporters of this type of therapy state that some of the insights and opportunity for change and growth available from long-term psychoanalysis can be achieved in a shorter time and that introducing directive elements and focus on particular topics does not reduce overall effectiveness.

Rationale and how illness is viewed

As for psychoanalysis (→ Psychoanalysis 1, p. 898).

Techniques

- Psychodynamic psychotherapy is modified from psychoanalysis in that it often involves active therapy where the therapist may say more, in an attempt to allow therapy to be more structured. It can vary in length, depending on both the therapist and the needs of the patient. It may be significantly more brief than psychoanalysis, often lasting 6mths or 1yr, with the termination date decided at the outset. Shorter treatments (of around 16 sessions) may be placed under the heading of 'brief psychodynamic psychotherapy'. The frequency may be 1–2 sessions a week.

- The therapist usually develops a working psychodynamic formulation early on, which is then referred to throughout the therapy.
- Methods employed are similar to those of psychoanalysis (Psychoanalysis 1, p. 898), but with therapist–patient eye contact (i.e. both sitting on chairs, rather than the patient lying on a couch) and more verbal interaction from the therapist.
- Both transference and countertransference give the therapist valuable information about the nature of past relationships (Exploration of transference/countertransference, p. 899).
- The therapist will help the patient to explore symptom precipitants and associated early trauma and avoidance.
- The therapist may guide therapy by use of interpretation at an earlier point than in psychoanalysis.
- In the case of patients with more severe mental illness, such as psychosis, or in acute crisis or decompensation, these techniques are sometimes further modified to be less focused on improving insight, and instead the emphasis is more supportive, particularly focusing on encouraging the expression of emotions. This can be combined with drug treatment.

Phases of treatment

Initial assessment

Diagnosis, including consideration of appropriateness of this method of therapy in this patient. Consideration of appropriate use of medication.

Early sessions

Identification of main problems, goals, and issues. Limited comments from the therapist. Usually there is positive transference due to expectation of 'magical' change. Identification of main defences, coping styles, and ability to accept and work with interpretations.

Middle sessions

Exploring present emotions and emotions evoked by past experiences. Exploration of transference, countertransference, and resistance in discussion with the supervisor.

Closing sessions

Exploring anticipation of termination. Arrangements for aftercare.

Indications and contraindications

(See Assessment for psychotherapy, p. 884 and Efficacy and limitations of dynamic therapies, p. 900.)

- Indications and contraindications are similar to those of psychoanalysis (Psychoanalysis 2, p. 900).
- Particular emphasis on the ability and motivation to form a collaborative relationship with the therapist.

Training

Similar to training for psychoanalysis, including education in psychoanalytic history, theory, and practice, supervised case work, and personal psychoanalysis. Local psychoanalytic institutes may offer courses varying in length and required time commitment.

Group psychotherapy

Group psychotherapy is a form of treatment in which selected individuals are brought together under the guidance of a therapist, with the goals of reducing distress and symptoms, increasing coping, or improving relationships. Group methods were first developed in the early twentieth century, following observations of beneficial group effects with TB patients. Like individual psychotherapy, the term group psychotherapy encompasses a range of modalities, settings, and techniques.

Groups may be homogenous or heterogenous (e.g. in terms of diagnosis, age, gender) and may vary as to the frequency and duration of meetings, the degree of therapist involvement, and whether they are time-limited or ongoing. The basic tasks of the therapist include making decisions about these factors, preparing and assessing patients for the therapy, formulating goals for therapy, and building and maintaining a therapeutic environment that promotes group interaction.

Yalom[1] described a set of therapeutic factors common to many types of group: instillation of hope, universality, imparting information, altruism, corrective recapitulation of the primary family group, development of socializing techniques, imitation of adaptive behaviour, interpersonal learning, group cohesion, catharsis, and existential factors.

Indications and contraindications

Group therapy generally requires that members:

- Are able to tolerate the task of interacting in a group.
- Have problem areas that are compatible with the goals of the group.
- Are consciously motivated for change.

While most patients may benefit from some form of group therapy, exclusion criteria include:

- Inability to comply with the group norms for acceptable behaviour (e.g. assaults on other patients or the therapist).
- Inability to tolerate a group setting (e.g. paranoid ideas).
- Severe incompatibility with one or more group members (which may only be discernible after members have joined the group).

Types of group therapy

Supportive groups

Features

- Focus on promoting and strengthening adaptive defences, giving advice, and providing encouragement.

- Goals include re-establishing and/or maintaining function, and improving coping.

Indications

May be useful in psychotic disorders and anxiety disorders, and in a self-help context.

Problem-focused cognitive–behavioural groups

Features

- Useful where the goal is modification of dysfunctional thoughts, feelings, and behaviours such as in anxiety and depressive, and eating disorders.
- Focus is on psychoeducation, mutual support, and group examination of strategies for change within a CBT framework, rather than on the nature of interpersonal interactions between members.
- The therapist takes on an active and central role.
- Peers may be experts at identifying resistance and rationalization for avoiding change in other group members.

Indications

Can include anxiety or anger management, assertiveness training, acute or chronic depression, alcohol or drug dependence.

Psychodynamic groups, including group analysis

Features

- The individual is viewed as embedded in a social network or 'matrix'.
- Members' interactions with each other and the therapist reflect their interactions with others outside the group (i.e. the interpersonal difficulties which have brought them to therapy). An individual's range of relationship styles derives from early experience (e.g. the position they tended to take up within the family, at school, etc.). Examination of interactions between group members and with the therapist aims to increase patients' understanding of this repeating repertoire of contact with people and to change dysfunctional patterns.
- Techniques include close examination of transference, countertransference, resistance, and unconscious conflict.
- Goal is lasting change through modification of personality factors.

Indications

(See Psychoanalysis 2, p. 900.)

Activity groups

Generally helpful for patients with intellectual impairment, or severe and persistent mental illness. Examples include art, music, computing, exercise, and social activity groups. Can foster social skills and adaptive behaviours. Helpful for psychosocial and vocational rehabilitation.

Self-help groups

Strictly speaking, not a form of group therapy, although may have beneficial therapeutic effects. Groups tend to be organized around a specific problem, have strong peer support and group cohesion, and be led from within the group. Examples include AA, Narcotics Anonymous, Gamblers Anonymous, Overeaters Anonymous, and Sex Addicts Anonymous.

Basic learning theory

Behavioural psychology is a method for understanding the development of knowledge and behaviours in organisms. In an individual organism, these are shaped by environmental influences and can change as a result of experience. Learning theory concerns the testing of methods to produce behavioural adaptation through changing environmental influences. The two basic learning processes are *classical (Pavlovian) conditioning*—involuntary behaviours, which become associated with stimuli, and *operant (Skinnerian) conditioning*—learning to obtain reward and avoid punishment related to voluntary behaviours. Although most abnormal mental processes and mental illnesses are not amenable to understanding purely in terms of conditioning, understanding of learning theory is helpful in conceptualizing the development and maintenance of abnormal mental processes and provides a rationale for behavioural and cognitive–behavioural treatment approaches.

Classical conditioning

In his initial experiment, Pavlov presented a dog with food, which produced the response of salivation. The food is the unconditioned stimulus (US), and salivation is the unconditioned response (UR). A neutral stimulus, such as a bell ringing, is not associated with any UR. However, if a bell is rung immediately before the food is presented, after a number of repetitions, the dog will salivate in response to the bell alone. Now the bell is a conditioned stimulus (CS), producing a conditioned response (CR)—salivation.

Acquisition

The development of the association between the UR and the US producing a CR. In animal experiments, this can take between three and 15 pairings. Where there is sufficient emotional involvement, acquisition can occur with as few as one pairing.

- *Extinction*—loss of the association between the CR and the CS. Occurs when the CS is repeatedly *not* followed by the US.
- *Generalization*—when stimuli similar to the initial CS produce the same response. The subject demonstrates the CR to these similar stimuli (e.g. to a buzzer, as well as a bell).

Higher-order conditioning

Process in which conditioned trials cause the subject to demonstrate the CR to new stimuli by pairing them with the CS (e.g. where the dog has been conditioned to salivate to a bell, pairing the bell with a light stimulus so the dog becomes conditioned to salivate to the light).

- *Spontaneous recovery*—during extinction trials, following a rest period, the CR often briefly reappears.
- *Habituation*—the subject becomes accustomed and less responsive to a stimulus after repeated exposure.

Note: for emotional disorders, the response is usually an emotion, rather than a behaviour. For example, an initial encounter with a large, barking dog which bites the individual can produce the CR of fear to the generalized CS of seeing a dog. The affected individual may then avoid all contact with dogs and so avoid the unpleasant CR. However, because there is no occasion when the CS of seeing a dog is not paired with the CR of fear, there is no opportunity for extinction to take place.

Techniques based on classical conditioning concepts

- *Systematic desensitization* (Behaviour therapy, p. 908)—presentation of situations more similar to the CS is paired with relaxation techniques, in order to eventually break the association between the CS and the CR. Frequently used in the treatment of phobic anxiety disorders.
- *Flooding* (Behaviour therapy, p. 908)—presentation of full CS without the possibility of withdrawal from the situation. The initial unpleasant experience of the CR gradually diminishes, and the patient learns that they can survive exposure to the feared situation without coming to harm.

Operant conditioning

The experimental techniques and rules of operant conditioning were developed by Thorndike and Skinner. The basic principles of operant conditioning are that if a response to a stimulus produces positive consequences for the individual, it will tend to be repeated, while if it is followed by negative consequences, it will not. In the original experiments, rats were placed in a box containing a lever which, when pressed, delivered a pellet of food. Eventually, the rat would press the lever and be rewarded. The rat would then press the lever with increasing frequency. (*Note:* operant conditioning does not rely on the rat having insight.)

Acquisition

The linkage of the response (pressing the lever) with the reinforcer (receiving the food).

- *Reinforcement*—can be positive (behaviour is followed by a desirable outcome) or negative (behaviour is followed by removal of an aversive stimulus). Can occur after every response (continuous reinforcement) or only after some responses (partial reinforcement). Behaviours conditioned by partial reinforcement extinguish at a much slower rate than those conditioned by continuous reinforcement.
- *Punishment*—in positive punishment, an operant response is followed by the presentation of an aversive stimulus to decrease the likelihood of a behaviour occurring in the future. In negative

punishment, an operant response is followed by the removal of an aversive stimulus.
- *Shaping* Used to produce a complex behaviour, which is not in the organism's initial repertoire. Initially, component parts of the desired behaviour are rewarded, then reward is limited to behaviour which approximates the desired result. As appropriate behaviour appears, it is only rewarded if it is 'in the right direction', and further reward is contingent upon continued advancement until the organism is only rewarded once the entire behaviour is performed.
- *Extinction*—occurs over time when the response is no longer followed by the reinforcer.

Techniques based on operant conditioning concepts

( Behaviour therapy, p. 908.)
- *Behaviour modification*.
- *Aversion therapy*.

Behaviour therapy

Techniques based on learning theory are used in order to extinguish maladaptive behaviours and substitute more adaptive ones.

Systematic desensitization

Holds as a central tenet the principle of reciprocal inhibition (i.e. anxiety and relaxation cannot coexist). Systematic graded exposure to the source of anxiety is coupled with the use of relaxation techniques (the 'desensitization' component). Effective for simple phobias, but less so for other phobic/anxiety disorders (e.g. agoraphobia). The process in a typical case is as follows:
- Patient identifies the specific fear (e.g. cats).
- Patient and therapist develop a hierarchy of situations, listing the most anxiety-provoking situation at the top (e.g. stroking a cat on one's knee > touching a cat > having a cat in the room > looking at pictures of cats > thinking about cats).
- Patient is instructed in the relaxation technique.
- Patient experiences the lowest item on the hierarchy, while practising the relaxation technique, and remains exposed to the item until the anxiety has diminished.
- The process is repeated until the item no longer produces anxiety.
- The next item in the hierarchy is tackled in a similar fashion.

Flooding/implosive therapy

High levels of anxiety cannot be maintained for long periods, and a process of 'exhaustion' occurs. By exposing the patient to the phobic object and preventing the usual escape or avoidance, there is extinction of the usual (maladaptive) anxiety response. This may be done *in vivo* (flooding) or in imagination (implosion).

Behaviour modification

Based on operant conditioning. Behaviour may be shaped towards the desired final modification through the rewarding of small, achievable intermediate steps. This can be utilized in behavioural disturbance in children and patients with learning disability. Other forms of behavioural modification include the more explicit use of secondary reinforcement, such as 'token economy', in which socially desirable/acceptable behaviours are rewarded with tokens that can be exchanged for other material items or privileges, or 'star charts' where children's good behaviour is rewarded when a certain level is achieved. May also be used for less voluntary actions such as childhood nocturnal enuresis.

Aversion therapy and covert sensitization

Use of negative reinforcement (the unpleasant consequence of a particular behaviour) to inhibit the usual maladaptive behavioural response (extinction). True 'aversion' therapy (e.g. previously used to treat sexual deviancy) is not used today; however, covert techniques (e.g. use of Antabuse® in alcohol dependency) can be (at least partially) effective.

Cognitive behavioural therapy 1

The theory and method of CBT were developed by Aaron Beck and outlined in a series of papers published in the 1960s.[2] CBT development was prompted by the observation that patients referred for psychotherapy often held ingrained, negatively skewed assumptions of themselves, their future, and their environment. Treatment is based on the idea that disorder is caused not by life events, but by the view the patient takes of events. It is a short-term, collaborative therapy, focused on current problems, the goals of which are symptom relief and the development of new skills to sustain recovery.

Rationale

A person's emotions, thoughts, behaviours, physiological sensations, and their external environment all exist together in equilibrium. Altering any component of this system will bring about change in the others. While pathological emotions may not be directly amenable to change, the unhelpful cognitions and behaviours associated with these emotions may be examined and modified, leading to a change in the underlying emotion. CBT aims to 'change how you feel by changing the way you think'.[3] The cognitive model is a guide for therapy, not a comprehensive model of illness causation, and precludes neither neurochemical or other factors as important in symptom development nor the use of pharmacological treatments.

How illness is viewed

In some personality types and in mental illness, there are errors in the evaluation and processing of information (i.e. cognitive distortions). These distortions relate to the self, the world, and the future (Beck's cognitive triad) and originate from the child's early

learning and experience of the world around him. Cognitive errors are associated with unpleasant emotions and maladaptive behaviour.

An example of this vicious circle is: an event (friend does not call when she said she would) → negative automatic thought ('friend doesn't like me because she thinks I'm a loser') → emotional response (sadness) → maladaptive behaviour → (avoiding friend → self-isolation → worsening of low mood) = pathology (depression). In CBT with this patient, the therapist would facilitate their recognition of the faulty cognitive appraisal (cognitive error) and then teach skills to address it (see Boxes 19.2 and 19.3).

Modes of delivery

CBT can be delivered on an individual basis, in groups, or as self-help via books or computer programs (including online). As such, it is a cost-effective treatment, with evidence of good efficacy. It is worth stressing that CBT is at its most effective when delivered 'by the book', following established protocols. Sessions by trainees are therefore often taped to ensure adherence to a standard regimen.

Box 19.2 Cognitions

Cognitions are appraisals of events. They may be elicited by asking the patient about thoughts, ideas, or images in their head. CBT describes three types of thoughts or beliefs:

- *Automatic thoughts*—are the most superficial and accessible. They are involuntary and appear plausible, but may be distorted, e.g. 'My friend phoned to cancel meeting me tomorrow—she must not like me any more.'
- *Underlying assumptions*—are a person's 'rules' for behaving, based on fundamental beliefs and shaped by experience, e.g. 'I can't enjoy myself unless I'm with other people.'
- *Schemas or core beliefs*—are a person's most fundamental beliefs about themselves and the world around them, e.g. a neglected child believing 'I am unlovable.'

Box 19.3 Common types of cognitive error

- *Selective abstraction*—drawing a conclusion based only on part of the information, e.g. 'My whole dinner party was a failure because my dessert didn't turn out as I'd hoped.'
- *Arbitrary inference*—drawing an unjustified conclusion, e.g. 'My partner appears stressed, s/he must be about to leave me.'
- *All-or-nothing thinking*—seeing things only as extremes of black or white, with no shades of grey, e.g. 'I must win, or else I'm a failure.'
- *Magnification/minimization*—emphasizing negatives and playing down positives, e.g. 'My career hasn't been successful, even my few achievements weren't all that impressive.'
- *Disqualifying the positive*—e.g. 'I only came first by chance.'

- *Personalization*—assuming responsibility for all negative events, e.g. 'My sister is in a bad mood, she must be angry with me.'
- *Catastrophic thinking*—e.g. 'I embarrassed myself in front of my colleagues—I'll never be able to face them again.'
- *Over-generalization*—viewing a single negative event as the norm, e.g. 'I made a mistake, therefore I'm incompetent to do my job.'
- *Emotional reasoning*—using emotions as evidence, e.g. 'I feel very anxious, therefore that spider must be really dangerous.'
- *Jumping to conclusions*—mindreading or fortune-telling, e.g. 'I know the exam will ask about topics I haven't had time to study.'

Cognitive behavioural therapy 2

Techniques

The CBT therapist works together with the patient in a spirit of scientific inquiry to explore the problem and possible solutions. Through a process of psychoeducation and guided discovery, the therapist assists the patient in monitoring cognitions and their associated emotions and behaviours; identifying and challenging cognitive distortions; and exploring alternative strategies for approaching distressing situations. Progress is measured against objective rating scales (e.g. the BDI),[4] as well as the patient's own goals for therapy.

Phases of treatment

Initial assessment is usually followed by 6- to 20-hr-long sessions. There may be a review after six sessions to share a formulation, take stock of progress so far, and refocus goals if therapy is to continue. Attention is primarily focused on events in the 'here and now'. Each session generally proceeds as follows: deal with emergencies; jointly set an agenda; review the homework task; focus on specific items guided by current problems; suggestion of cognitive or behavioural techniques (see Box 19.4); and jointly agree on the homework task.

Indications and contraindications

CBT is an active treatment requiring patient understanding and collaboration (see Box 19.4). Patients should be motivated and be able to recognize, articulate, and link their thoughts and emotions (i.e. be psychologically minded). The general contraindications to psychotherapy (Assessment for psychotherapy, p. 884) apply. It is indicated for:

- Mild to moderate depressive illness.
- Eating disorders.
- Anxiety disorders.
- Bipolar disorder (reduce the risk of relapse).
- Substance abuse disorders.

- Schizophrenia and other chronic psychotic disorders as an adjunct to pharmacotherapy, for both positive and negative symptoms.
- Chronic medical conditions, such as fibromyalgia, chronic fatigue, or chronic pain, where there may be a psychological component and misinterpretation of physiological phenomena.

Efficacy

There is good evidence for effectiveness in depressive illness, eating disorders, and anxiety disorders. CBT is at least as effective as pharmacotherapy in mild to moderate depression and may be more effective in long-term follow-up (e.g. in preventing relapse).

Box 19.4 CBT techniques for depression and anxiety

Depression

- Psychoeducation, including reading material about depression and introducing the cognitive model—a useful first homework.
- Activity diary: over a week, ask the patient to record what they did in the morning, afternoon, and evening of each day. The patient may rate the sense of pleasure associated on a scale of 0–10, and assign a score of 0–10 for their mood each day.
- Activity and pleasant event scheduling: make plans for the week in advance to increase general physical activity and enjoyable events, both of which are often reduced and contribute to the vicious cycle of depression. Goals should be small and achievable.
- Thoughts diary: ask the patient to make a record at the times when they feel particularly distressed, noting the trigger situation, their mood rating, and the thoughts which they experience.
- Teach the patient to identify cognitive errors in automatic thoughts.
- Socratic questioning to elicit further thoughts ('If that were true, what would it mean? … and what would that mean? … etc.').
- Examine the evidence for and against the patient's faulty beliefs, and generate rational alternatives.
- Behavioural experiments: designed collaboratively to test the hypothesis that the patient's beliefs are true, e.g. inviting a friend for coffee to test the thought 'My friends don't want to know me'.

Anxiety

- Psychoeducation, introducing the cognitive model of anxiety.
- Diary keeping: to record and monitor episodes of anxiety, their triggers, the intensity of anxiety on a scale of 0–10, and the associated thoughts and physical symptoms.
- Relaxation techniques, e.g. through breathing or progressive muscular relaxation.
- Distraction to divert the cognitive focus elsewhere.
- Challenge negative thoughts by examining the evidence for and against them, generating rational alternatives, and

identifying cognitive errors.
- Construct a hierarchy of the patient's most anxiety-provoking situations, consisting of many small steps.
- Graded exposure: starting with the least threatening step of the hierarchy, coupled with relaxation techniques. Role play/rehearsal or attempting an activity together with the therapist (e.g. going into a shop) may be helpful.
- Behavioural experiments, e.g. recording anxiety repeatedly during exposure to a stressful situation, to challenge the patient's assumption that, unless they escape, their anxiety will continue to rise.

Interpersonal psychotherapy

IPT was developed in the 1970s by Klerman and Weissman as a treatment for depressive illness and later developed for use in other disorders. Its development followed the observation that depression is frequently associated with impaired interpersonal functioning. IPT aims, by improving interpersonal functioning, to improve emotional symptoms. It is a practical, short-term psychotherapy, which may be offered in conjunction with medication and is suitable for delivery by a variety of healthcare professionals. It is described in a manual for practitioners[5] and a guide for patients.[6]

Rationale

Emotional disturbance (e.g. depression) tends to be associated with 'here and now' deficits in interpersonal functioning. Emotional problems are best understood by studying the interpersonal context in which they arise. Life events related to illness development include: grief, interpersonal disputes, change of role, and interpersonal deficits. These events are not viewed as directly causing the episode of illness, but helping the patient to understand their role in the evolution of illness, and resolving the interpersonal problem is seen as a route to recovery.

How illness is viewed

Illnesses are viewed as medical disorders, diagnosed according to standard criteria (e.g. ICD-10) and rated in severity by rating scales (e.g. BDI). Depressive symptoms, regardless of aetiology (biological or psychosocial), are viewed as modifiable through the application of IPT techniques. In fact, psychoeducation about both is key, and the use of antidepressant medication is encouraged when indicated.

Techniques

After a thorough assessment, patient and therapist contract to meet weekly for 12- to 16-hr-long individual sessions. A key feature of IPT involves 'giving the sick role' to the patient—this entails educating them about the depressive illness, ascribing their symptoms to the current episode of depression, offering appropriate treatment, and giving the patient responsibility for change. Depending on the focus, specific techniques are applied,

as outlined in the IPT manual. The relationship between symptoms, interpersonal functioning, and personality factors is common to all four foci. Depressive symptom reduction is reviewed weekly and linked to changes in attitude or behaviour in the interpersonal arena.

A focus in one of the following four areas is mutually agreed upon:

- Role transitions (difficulty with life changes, e.g. graduating from school, marriage, job change, childbearing, or retirement).
- Interpersonal disputes (differing opinions and expectations about relationship roles between the patient and another person, e.g. a partner, a family member, or in the workplace).
- Grief (abnormal reactions to bereavement).
- Interpersonal deficits (long-standing difficulties with impoverished social environment and unfulfilling relationships).

The IPT therapist is an active advocate and facilitator to encourage the patient to see their problems from different perspectives, to make attempts at change, and to return to discuss their successes or failures at subsequent weekly sessions. Transference interpretations are avoided in order to keep the patient focused on how to negotiate better with people in their current life outside of therapy.

Phases of treatment

- *Phase I* (sessions 1–2): standard psychiatric history; risk assessment; communication of diagnosis to the patient; assessment of need for psychotropic medication; establishment of the 'sick role'; completion of interpersonal inventory (description of current relationships); setting of the patient's depression within their interpersonal context; identification of focus for therapy; explanation of rationale for treatment and its aims and processes; agreement of therapeutic contract.
- *Phase II* (sessions 3–12): commence work on the focus, utilizing specific techniques outlined in the IPT manual. These include: facilitation of the grieving process; mourning the loss of the old role and learning to embrace the challenges of the new role in the role transition focus; teaching of specific communication, problem-solving, or conflict resolution skills; and role play. Review progress in depressive symptom reduction weekly. Review overall progress at the 'halfway point', which encourages sustained effort before 'time runs out'.
- *Phase III* (final 3–4 sessions): anticipate termination as scheduled from the outset in the contract, with encouragement to continue to apply what the patient has learnt from therapy in their real-life interpersonal sphere. The IPT therapist points out that progress towards better coping (leading to reduced depressive symptoms) has been 'earned' by the patient who did the work of changing. The therapist also reminds the patient that the therapist's own role was merely to facilitate that, which the patient now knows they can do for themselves.

Indications

Non-psychotic depressive disorders. Adaptations of IPT have been applied to various subgroups such as adolescents, geriatric patients, primary care clinic patients, and patients with HIV, bulimia, panic disorder, bipolar disorder, dysthymic disorder, bereavement, post-partum depression, social phobia, and insomnia. Modifications of IPT for groups, couples therapy, maintenance therapy, and via telephone have been developed. IPT is not indicated for treating substance abuse or personality disorders.

Efficacy

Several RCTs in adults, adolescents, elders, and primary care patients have demonstrated efficacy for IPT, either alone or in combination with antidepressant medication.

Dialectical behaviour therapy

DBT[7] was introduced in 1991 by Linehan[8,9] and colleagues as a treatment for BPD. Patients with BPD are supported in understanding their own emotional experiences and are taught new skills for dealing with their distress through a combination of group and individual therapy sessions. By learning more adaptive responses to distress and more effective problem-solving techniques, patients' quality of life and functioning may be improved, and their morbidity and mortality reduced.

Rationale

Patients with BPD suffer from significant psychiatric morbidity and mortality related to completed suicide. They are a difficult group of patients to treat, as their characteristic patterns of behaviour tend to challenge therapeutic progress and exhaust therapist resources ('burnout'). Such individuals can, however, learn more adaptive responses later in life, with subsequent improvement in functioning and quality of life and reduction in morbidity and mortality.

How illness is viewed

BPD occurs as a product of emotional vulnerability (which may have a biological basis) and childhood experience of an 'invalidating environment'. The child's experiences and emotions are repeatedly disqualified or invalidated by others, and their difficulties with self-control or problem-solving are not acknowledged. As a consequence, the child grows up with difficulty in recognizing, understanding, and trusting their emotions, and in order to have feelings acknowledged and needs for care met, they may display extremes of emotion and behaviour. As certain skills (e.g. tolerating emotional distress, problem-solving) have not been taught, the individual tends to set unrealistic goals and respond with shame and self-loathing when they cannot be met. These patterns are reinforced as the child grows and develops, with self-harming behaviour frequently emerging as a way to cope with the intense extremes of emotion experienced.

Techniques

DBT is a complex treatment combining CBT interventions with Eastern meditative practice, notably mindfulness (in which a person intentionally becomes aware of their thoughts and actions in the 'here and now').

- *Individual therapy*—where the therapist validates the patient's responses (recognizing their distress and behaviours as legitimate and understandable, but ultimately harmful), reinforces adaptive behaviours, and facilitates analysis of maladaptive behaviours and their triggers.
- *Group skills training*—where the following modules are taught in a group context:
  - Mindfulness skills.
  - Interpersonal effectiveness skills (e.g. problem-solving, assertiveness training, communication skills).
  - Emotion modulation skills (to change distressing emotional states).
  - Distress tolerance skills (e.g. distraction, self-soothing strategies).
- *Telephone contact*—according to the contract agreed between the patient and therapist, to support the patient in applying DBT skills in real-life situations between sessions and find alternatives to self-harming.
- *Therapist consultation groups*—where therapists support each other, according to the DBT model, to prevent 'burnout'.

Phases of treatment

Each stage of treatment has specific targets, arranged hierarchically by importance. Within each session, targets should also be attended to in this order, e.g. addressing episodes of self-harm first. Each stage of therapy must be completed, with the targeted behaviours for that stage modified, before progressing to the next stage. DBT takes a hierarchical view of treatment aspirations, with the focus first on reducing behaviours which cause self-harm, then on reducing those behaviours which interfere with therapy, and finally aiming to reduce behaviours which diminish the quality of life and personal relationships.

- *Pre-treatment:* assessment, orientation to therapy, commitment to therapeutic contract.
- *Stage 1:* focuses on reducing life-threatening behaviour (episodes of deliberate self-harm with or without suicidal intent), behaviour which may interfere with the progress of therapy (e.g. inappropriate use of telephone contact, unreliable attendance for therapy), and behaviour which interferes with the quality of life (e.g. substance misuse, interpersonal conflicts). In individual therapy sessions, exploration of internal and external antecedents to these behaviours, and generation of possible solutions. Weekly DBT skills group introduces basic skills.
- *Stage 2:* focuses on emotional processing of previous traumatic experiences, to target post-traumatic stress-related symptoms such as flashbacks. Examines underlying historical causes of

dysfunction, including exposure to memories of abuse or trauma, in combination with distress tolerance techniques.
- *Stage 3:* aims to develop self-esteem and establish future goals —individual targets negotiated with the patient.

Indications and contraindications

DBT methods are described specifically for patients with BPD.

Efficacy

The original DBT group produced RCT evidence of reduced rates of deliberate self-harm and admission to hospital, and improved retention in therapy, compared with 'treatment as usual'. Subsequent RCTs have supported the efficacy of DBT, including studies in other patient populations (e.g. substance abusers) for whom it has been adapted.

Cognitive analytic therapy

Cognitive analytic therapy (CAT) is a therapy method introduced by Anthony Ryle in 1990. It aims to bring together ideas from dynamic cognitive and behavioural therapies by attempting to explain psychoanalytic ideas in cognitive terms.

Rationale

Problems such as depression, anxiety disorders, and interpersonal difficulties cause emotional suffering and also hinder the ability of the individual to make positive change. These problems can often be understood in the context of an individual's history and early experiences and can be prolonged by habitual coping mechanisms. Through collaborative therapy, these mechanisms can be identified, understood, and changed.

How illness is viewed

Traumatic childhood and adolescent experiences can give rise to coping mechanisms to protect the individual from conscious distress. These maladaptive mechanisms can be inappropriately maintained into adult life when they give rise to emotional symptoms such as anxiety and depression and destructive behaviours such as self-harm. Although harmful, these behaviours are maintained by 'neurotic repetition'. Neurotic repetition has three essential patterns:
- *'Traps':* negative assumptions generate acts that produce consequences, which, in turn, reinforce assumptions.
- *'Dilemmas':* a person acts as if available actions or possible roles are limited and polarized (called 'false dichotomy') and so resists change.
- *'Snags':* appropriate goals or roles are abandoned either because others would oppose them or they are thought to be 'forbidden' or 'dangerous' in light of personal beliefs.

Techniques

The 'three Rs' of CAT are *recognition* of maladaptive behaviour and beliefs, *reformulation* of these (the main 'work' of therapy), and *revision*. The reformulation is agreed between the therapist and

patient and documented in a 'psychotherapy file'. This reformulation is expressed in narrative and diagrammatic forms and considers both the past history and current problems. It is used throughout therapy to guide the active focus, to set homework, and to enable recognition of transference/countertransference.

Phases of treatment

Therapy involves active participation from both parties.

- *Assessment*—explanation of rationale of method of therapy. Planning of number and timing of sessions (8–24 sessions, normally 12).
- *Early sessions (1–3)*—patient asked to begin 'psychotherapy file', exploring common traps, dilemmas, and snags. Diary keeping to monitor moods and behaviours. Recapitulation of early experiences and narrative of current relationships.
- *Middle sessions (4–8)*—agreement on reformulation of problems, with written and diagrammatic descriptions of 'target problem procedures'. Exploration of methods of change (called 'exits') via work in sessions and in homework.
- *Ending sessions (9–12)*—identification and recapitulation of key themes which emerged during therapy. Both therapist and patient write 'goodbye' letters summarizing progress and formally closing the relationship. There may be a planned 3-mth review appointment.

Indications and contraindications

As for other cognitive therapies.

Efficacy

Ongoing RCTs examining effectiveness in personality disorders and comparing CAT with other methods.

Solution-focused therapy

This therapy, developed by de Shazer,[10] aims to empower patients to recognize and make use of their own strengths. It is a brief intervention which may be delivered in a single session.

Rationale

The patient is more than the sum of their problems and already has a range of skills for coping with adversity. The best way for the patient to achieve their goals is for them to discover and harness those capabilities and resources which are already helpful and to make even better use of them. The solution-focused therapist facilitates this process.

How illness is viewed

Solution-focused therapy avoids viewing problems or symptoms as goals for therapy. Rather, it prompts the patient to visualize a future without the problem and to plan the stages necessary to achieve this. In-depth consideration of the development of current difficulties is avoided, as this may imply that the problems are inevitable and unchangeable.

Techniques

(See Box 19.5.)

- *Problem-free talk*—discussion of other areas of the patient's life—this helps the therapist to understand the 'patient behind the problems' and may elicit areas of strength or competence. If the patient discusses their problems, the therapist listens actively, reflects on the coping strategies described by the patient, and highlights the possibility of change.
- *Preferred future*—the patient identifies future goals, shifting focus away from the current complaints.
- *Exception finding*—the patient identifies situations when the preferred future seemed more attainable. Rather than seeing them as 'the exception which proves the rule', these situations are examined to determine which skills the patient used to help bring about a favourable outcome.
- *Scales*—rating their preferred future as 10, the patient rates their current position numerically between 0 and 10. They are invited to discuss the difference between 0 and where they are now, and the resources responsible for this, and to identify the steps or signs of progress between points on the scale.

Phases of treatment

First session—establishes the patient's goals or best hopes from therapy, recognizes what the patient already does or has done which helps them to cope or moves them towards this preferred future, and identifies what the next signs of progress may be.

Subsequent sessions—explore what the patient has done since the previous session which has been helpful, place this in the context of the patient's goals for therapy, and identify what may be further evidence of progress.

Indications

Depression, substance misuse, interpersonal relationship difficulties, presentation in crisis or after self-harm. May be used with children and adolescents and people with learning disability.

Efficacy

Few controlled trials, but some evidence of effectiveness for adults with depression and for children and adolescents with emotional and behavioural problems.

Box 19.5 Solution-focused questions*

Problem-free talk

How do you spend your time? What do you enjoy? What are you good at? How would your friends describe you?

Preferred future (the miracle question)

Imagine that tonight, while you are asleep, a miracle happens and your hopes from coming here are realized (or the problems that bring you here are resolved), but because you are asleep, you don't realize this miracle has happened. What are you going

to notice different about your life when you wake up that begins to tell you that this miracle has happened?

Exceptions
When doesn't the problem happen? When doesn't it last as long? When does it feel less intense? When do you feel less upset by it? When do you manage to resist the urge to … ? What are the signs that the miracle has already started to happen?

Scales
On a scale of 0–10, where 0 is the worst things have ever been and 10 represents your best hopes, where are you today? Where on that scale would be good enough, the point that you would settle for? What are you doing that means you are at 2, and not at 0? If you are at 2 now, what will you be doing that will tell us that you have reached 3?

Locating resources
It sounds as if things are very stressful; how do you cope? What helps you to keep going? How did you manage to get here? What have you been doing that has stopped things from getting even worse? When you've faced this sort of problem before, how did you resolve it?

* Source: data from BRIEF (2007) *BRIEFER: A solution-focused manual*. London: BRIEF.

Counselling methods

Counselling may be thought of as a method of relieving distress undertaken by means of a dialogue between two people. The aim is to help the client or patient find their own solutions to problems, while being supported to do so and being guided by appropriate advice. In Western countries, over the last 50yrs, counselling has emerged as a profession in its own right, and individual forms of specific counselling have been developed. In its more general sense—helping others by the provision of advice, non-judgemental reflection, and emotional support—counselling takes place all over the world in the guise of family members, priests, tutors, teachers, etc.

Counselling skills are integral to the practice of medicine, particularly in primary care and psychiatry, where counselling techniques are useful in history-taking, assessing and ensuring compliance, etc. Counselling should not be thought of as 'cut-down' or 'half-price' psychotherapy. There is clearly an overlap in the methods and skills of a psychotherapist and a counsellor. However, the decision to use counselling as a specific treatment (e.g. for postnatal depression) should be made after considering both the disorder and the patient. There are a variety of counselling services in the voluntary and private sectors, some directed towards specific problems and some more general.

Rationale

Behaviour and emotional life are shaped by previous experience, the current environment, and the relationships the individual has. Many life problems can be viewed as arising from resolvable difficulties in one of these three areas, rather than as an 'illness'. People have a tendency towards positive change and fulfilment, which can be retarded by 'life problems'. A collaborative relationship with a counsellor (however defined) is one method of addressing these issues. This relationship will proceed according to agreed rules, towards a goal, and will be based on developing the client's strengths.

Techniques

- *Information giving*—key to all psychiatric treatment and psychotherapeutic work. Information should be provided in a form the patient can understand, and information giving should not be a 'one-off' but should continue throughout counselling.
- *Client-focused discussion*—the client should 'lead' the sessions, particularly beyond the early information-gathering sessions. Time constraints may hinder this.
- *Problem-solving*—a variety of techniques, particularly those borrowed from CBT, are employed here. The basic goal is to use the session time to explore current and potential future problems and to help the client consider the optimum solution.

Different types of counselling

- *Information sharing/discussion*—in some contexts, is also called psychoeducation. The aim is to properly inform a client prior to them making their own decision. Techniques of guided learning, providing verbal and written information, collaborative enquiry (compare with CBT).
- *Crisis management*—views crisis as a stressor, providing both risk and opportunity to change/learn/develop. Short-term, immediately follows trauma (first few weeks). Facilitates adaptive and normal emotional responses, discourages maladaptive responses. Focus on end point of intervention. Alternative to hospital admission in some cases. Should have access to alternative treatments, if necessary.
- *Problem-based counselling*—directed towards a specific primary problem (e.g. drug misuse, CSA). Counsellor may or may not have had similar experiences themselves.
- *Risk counselling*—used to guide an informed decision (e.g. prenatal interventions, genetic counselling). Differentiated from other forms of counselling by the fact that the counsellor is clearly 'the expert' and has access to specialist information. Nonetheless, the basic goal of enabling the patient to come to their own decision, with appropriate information and support, remains the same.

Indications

Absolute advice limited by lack of comparative trials and tendency for local availability of services to be the main factor in the decision to use counselling methods. Clinical usefulness in:

- Adjustment disorder.
- Mild depressive illness.
- Normal and pathological grief.
- Sequelae of CSA.
- After other forms of trauma (e.g. rape, accidents).
- Postnatal depression.
- Pregnancy loss and stillbirth.
- Drug and alcohol problems.
- Reaction to chronic medical conditions.
- Prior to decision such as undergoing genetic testing or HIV testing.

Other therapeutic approaches 1

Mindfulness-based cognitive therapy

Mindfulness-based cognitive therapy (MBCT) has been specifically designed as a manualized group skills training programme to address vulnerability between episodes of recurrent major depression[11] and, as such, is recommended by NICE (CG90)[12] for people who are currently well but have a history of three or more depressive episodes (as a group-based 8-wk course, with four follow-up sessions over the year). MBCT combines cognitive therapy principles with mindfulness meditation where attention is paid to the present moment, allowing thoughts, feelings, and body sensations to be noted with an attitude of curiosity and non-judgement. This creates a situation in which emotions, such as a sense of loss, sadness, fear, and worry, can be worked with to help prevent future depressive episodes.

Acceptance and commitment therapy

Arising from 'comprehensive distancing', in the early 1980s, acceptance and commitment therapy (ACT) developed into its modern form through the late 1980s and 1990s. It is based on functional contextualism and is derived as a clinical application of the relational frame rheory (RFT), a behavioural account of the development of human thought and cognition. Therapists aim to transform the relationship between the experience of symptoms and difficult thoughts/feelings, so that symptoms no longer need to be avoided and become just uncomfortable transient psychological events. In this way, symptom reduction becomes a by-product of treatment.[13] ACT uses six core principles to help clients develop psychological flexibility—outlined by Steven C Hayes in 1999:[14] (1) *cognitive defusion* (perceiving thoughts, images, emotions, and memories as what they are, rather than what they appear to be); (2) *acceptance* (allowing these to come and go without struggling with them); (3) *contact with the present moment* (awareness of, and receptiveness to, the here and now); (4) *use of the observing self* (accessing a transcendent sense of self); (5) *personal values* (discovering what is most important to one's true self); and (6) *committed action* (setting goals according to values and carrying them out responsibly). In terms of committed action, ACT utilizes

similar methods to traditional behaviour therapy such as exposure, skills acquisition, and goal setting. Provisional low-quality evidence has found that ACT may be at least as effective in treating anxiety disorders, depression, addiction, and somatic health problems as established psychological interventions.[15] However, further methodologically robust trials are required.

Compassion-focused therapy/compassionate mind training

Compassion-focused therapy (CFT) is described as '*an integrated and multimodal approach that draws from evolutionary, social, developmental and Buddhist psychology, and neuroscience*.'[16] Compassionate mind training (CMT) refers to specific activities designed to develop compassionate attributes and skills, particularly those that influence affect regulation, with postulated positive neuroimmunological and prosocial benefits. Through compassion/self-compassion meditation and imagery, clients develop and work with experiences of inner warmth, safeness, and self-soothing, become more sensitive to their own needs and distress, and learn to extend warmth and understanding towards themselves and other people. Currently, there are limited data on the value of this approach.

Schema therapy

Developed by Jeffrey E Young[17] for the treatment of personality disorders, schema therapy (ST) combines theory and techniques from existing approaches, including CBT, object relations, attachment theory, Gestalt therapy, and psychodrama. It substantially elaborates the concept of schemata (early self-defeating patterns of perception, emotion, and behaviour), maladaptive coping styles (e.g. over-compensation, avoidance, or surrender), and modes (clusters of schemata and coping styles, e.g. child modes, dysfunctional coping modes, dysfunctional parent modes, and healthy adult mode), which are thought to arise when basic emotional needs are not met in childhood (e.g. connection, mutuality, reciprocity, flow, and autonomy). In therapy, the goal is to recognize dysfunctional modes of functioning and to have behaviour guided by the healthy adult mode. This is done through the use of a variety of methods, including standard cognitive techniques, schema diaries, flash cards, use of guided imagery, and 'chair work' (to enact dialogues between modes of behaviour, to reach closure with imagined 'significant others' through monologue, and to practice normal assertiveness). Although the evidence base is far from robust, ST appears to be a cost-effective way of improving remission rates in BPD.

Metacognitive therapy

Adrian Wells' metacognitive therapy (MCT) for depression[18] takes the view that depression is maintained by problematic thinking patterns that are predominantly ruminative, along with excessively self-focused attention on thoughts and feelings. MCT uses attention training technique (ATT), a set of daily exercises that involve active

listening and focused attention, as a means to increasing awareness of thinking and regaining flexible control of it. MCT also attempts to reduce rumination and other unhelpful coping behaviours through modification of metacognitive beliefs.

Other therapeutic approaches 2

Behavioural activation

Originally manualized by Jacobson *et al*. in 1996,[19] BA includes teaching relaxation skills, increasing pleasant events, and providing social and problem-solving skills training. The 'extended BA model' in 2001[20] added a contextual approach to depression regarding avoidant coping patterns, such as withdrawal from situations and people, as the means by which depressed mood is maintained. Intervention involves functional analysis, in which a detailed assessment of how an individual maintains depressive behaviour is carried out; the individual is taught to formulate and accomplish behavioural goals and is encouraged to move attention away from prevailing negative thoughts towards direct, immediate experience. A variation called behavioural activation treatment for depression (BATD) proposes that depression is maintained through the use of positive reinforcers such as ↑ social attention and escape from aversive tasks. Depression is targeted by weakening reinforcements, such as sympathy and escape from responsibility, and systematically activating healthy behaviour through the use of goal setting and ↑ activity.[21]

Functional analytic psychotherapy

Conceptualized in the 1980s by the psychologists Robert Kohlenberg and Mavis Tsai,[22] functional analytic psychotherapy (FAP) is a form of radical behaviourism that utilizes behavioural principles, such as reinforcement and generalization, with a focus on the client–therapist relationship as a means of evoking problematic clinically relevant behaviours (CRB1s) and shaping improved behavioural responses (CRB2s) that can be generalized to everyday situations.[23] FAP therapists focus on the function of a client's behaviour, instead of the form with cognition (thinking, planning, believing, and organizing) regarded as a form of covert behaviour. Together, the client and therapist work to form a unique clinical formulation of the client's therapeutic goals, rather than addressing a single therapeutic target.

Cognitive–behavioural analysis system of psychotherapy

Cognitive–behavioural analysis system of psychotherapy (CBASP) was specifically developed for the treatment of patients with chronic depression. It is a synthesis of interpersonal and cognitive and behavioural therapies developed (and patented) by James P McCullough Jr of Virginia Commonwealth University.[24] It assumes that skills deficits in the area of operational thinking, arising from traumatic experiences or other adverse interpersonal experiences,

lead to a generalized fear of others and a lifetime history of failure of interpersonal behaviour (especially by avoidance) and subsequent depression. There is some evidence that pre-operational thinking (the inability to use logic or transform, combine, or separate ideas) is more common in those with chronic depression (McCullough). By utilizing situational analysis, interpersonal discrimination exercises, and consequating strategies, the aim is to teach operational thinking and interpersonal behaviour that are informed by empathy and personal values.

Integrative behavioural couple therapy

Integrative behavioural couple therapy (IBCT) was developed by Neil S Jacobson and Andrew Christensen[25] and incorporates additional intervention strategies, to promote acceptance and tolerance, into already well-established behavioural couples therapy techniques (e.g. behaviour exchange, communication training, and couple problem-solving). By using the concepts of functionality, rule-governed/contingency-shaped behaviour and acceptance IBCT may be better in dealing with particularly difficult problems in couples, such as infidelity and substance misuse, than other approaches.

Third-wave therapies

(See Box 19.6.)

Box 19.6 Third-wave therapies—revolution or evolution?

'Third -wave therapies' is a term used to describe a heterogenous mixture of psychological interventions that have developed following behavioural approaches ( Behaviour therapy, p. 908) and cognitive approaches ( Cognitive behaviour therapy 1, p. 910). They are characterized by themes such as metacognition, mindfulness, acceptance, and dialectics. Whether they should be seen as entirely novel or revolutionary is debatable, as many of the techniques used either have their routes in Eastern mysticism or hark back to fundamental behaviourism. Indeed it is reported that Marsha Linehan does not consider DBT ( Dialectical behaviour therapy, p. 916) to be part of this 'third wave' but views DBT as a form of CBT that includes acceptance strategies. Similarly, Adrian Wells views MCT as an extension of CBT with a clear a priori scientific basis, disorder-specific empirically tested models, formulation-driven treatment, lack of any meditation techniques, and the aim to change psychological events directly.[1] Perhaps it is better to view these approaches as additional weapons in the psychological armamentarium that offer alternative emotional regulation strategies and help identify maintaining factors of chronic problems.

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Chapter 20

Legal issues

Introduction

Practising psychiatrists must be familiar with the laws in their country relating to mental health. There are five broad areas of law of interest to psychiatrists: (1) common law as it relates to medical treatment decisions; (2) the law relating to incapable adults; (3) the law regulating the treatment of patients with mental disorder; (4) laws and regulations relating to confidentiality; and (5) the criminal law in relation to mentally disordered offenders.

In this book, the subjects of criminal law and mentally disordered offenders are dealt with in  Chapter 16. The remaining topics are covered within this chapter. As has been noted in the chapter on forensic issues, law is both parochial and dynamic. The last two decades have seen significant changes in the laws relating to psychiatric practice, and further changes are likely over the decade to come. The current mental health and incapacity legislation covering the four legal jurisdictions within the British Isles is summarized in Box 20.1.

Although it is useful to have access to the relevant statute law, it is impossible to get a good understanding of how the law works in

practice through reading the texts of the legislation. This develops through training, experience, and discussion with colleagues. The trainee psychiatrist should be aware of the current laws in their jurisdiction which affect their current area of practice. They should aim to have detailed knowledge of the parts of the legislation used day-to-day, and particularly in emergency situations.

Alongside the Acts themselves, codes of practice and guidance notes are available that give practical advice on the use of the Acts. Beyond these, the trainee should know where to go for further information and advice (e.g. senior colleagues, hospital legal office, commissions). They should be wary of mental health 'lore'. Much misinformation about legislation is promulgated without reference to what is actually correct. For example, some believe that UK legislation does not permit the detention of someone who is drunk, even if they are also depressed or acutely psychotic.

It is important to remember that the law often cannot resolve clinical dilemmas. For example, if a detained patient takes an OD, mental health legislation cannot be used to impose physical treatment. This does not mean that you can do nothing, knowing that you are acting (or not acting) legally. In this situation, common law may allow, and medical ethics may dictate, that physical treatment be imposed.

Box 20.1 Legislation across the British Isles

England and Wales

Care and treatment of patients with mental disorder is regulated by the Mental Health Act 1983. Following failed attempts to produce a completely updated Act, the Westminster Parliament passed the Mental Health Act 2007 in July 2007. This amends the 1983 Act in several important areas. The majority of its provisions will be enacted between October 2007 and October 2008. The Mental Capacity Act 2005, which regulates decision-making on behalf of incapable adults, was implemented in 2007.

Scotland

The Mental Health (Care and Treatment) (Scotland) Act 2003 replaced the previous Mental Health (Scotland) Act 1984 in October 2005. It was later amended by provisions in the Mental Health (Scotland) Act 2015. The Adults with Incapacity Act 2000 consolidated and clarified the law relating to incapable adults, replacing a number of outdated legal instruments which had previously been used for the role.

Northern Ireland

Care and treatment of patients with mental disorder are currently regulated by the Mental Health (Northern Ireland) Order 1986, amended by the Mental Health (Amendment) (Northern Ireland) Order 2004. An independent and wide-ranging review of mental health law was initiated in 2002 under the chairmanship of Professor David Bamford. The resulting report was the basis for the Mental Capacity Act (Northern Ireland) 2016, which combines

mental health and incapacity provisions in one statute. This Act was enacted in May 2016 but awaits implementation at the time of writing.

Republic of Ireland

The Mental Health Act 2001 replaced the Mental Treatment Act 1945 and various modifying Acts passed in 1953, 1961, and 1981. The Assisted Decision-Making (Capacity) Act 2015 was enacted in December 2016 and is being gradually implemented at the time of writing.

The development of mental health law

Mental health legislation in the UK has its origins in the eighteenth century, which saw the passing of both the Vagrancy Law, allowing local magistrates to order the confinement of the 'furiously mad and dangerous', and the Act for the Regulation of Private Madhouses which allowed for licensing and inspection of private asylums and required a medical certificate of insanity before the confinement of 'non-pauper' patients. The former law primarily arose out of concerns about the risk posed to the general public by the mentally ill—the latter from concern to protect the interests of vulnerable patients.

The Lunacy Act of 1890 gave magistrates authority to detain 'lunatics, idiots, and persons of unsound mind' within private asylums. The Mental Deficiency Act 1913 expanded and clarified these powers but also expanded the role of the state in the regulation and supervision of the care of the mentally disordered by reorganizing the Victorian Lunacy Commission as the Board of Control for Asylums. This was established as a department of central government with powers to inspect asylums, review compulsory detention, investigate complaints about treatment of patients, and monitor the working of compulsory measures.

In 1926, the Royal Commission on Lunacy and Mental Disorders produced a report which led to the Mental Treatment Act 1930. This Act was based on a view of mental disorders as similar to medical illness and envisaged treatment and rehabilitation, rather than preventative detention, as the goal of admission to hospital. It allowed for outpatient work by medical staff in mental hospitals and, for the first time, provided for voluntary treatment in hospital.

In 1957, the report of the Royal Commission on the Law Relating to Mental Illness and Mental Deficiency (the Percy Report) was published. The Commission recommended that: 'the law should be altered so that whenever possible suitable care may be provided for mentally disordered patients with no more restriction of liberty or legal formality than is applied to people who need care because of other types of illness' and noted that: 'the majority of mentally ill patients do not need to be admitted to hospital as inpatients'. The subsequent Mental Health Act (1959) allowed most psychiatric admissions to occur voluntarily and changed the procedure for compulsory detention in hospital from a judicial to an administrative

process. The Percy Report marked the turning point in official policy, from hospital-based to community-based systems of care.

In England and Wales, the Mental Health Act 1983 narrowed the definitions of categories of mental disorder, excluding certain categories of patients from compulsory treatment. It also established regulations and safeguards governing treatment without consent. Similar Acts were passed for Scotland in 1984 and for Northern Ireland in 1986.

At the end of the twentieth century, the UK government established the Richardson Committee to again review mental health legislation in England and Wales, and a draft bill followed in 2002. This attracted widespread criticism for a perceived overemphasis on public protection and under-emphasis on the rights of individuals with mental disorder, seeming to reverse progress made over the previous century. An Act amending, rather than replacing, the 1983 Act was finally passed in 2007. In Scotland meanwhile, in 1999, the newly re-established Scottish Parliament tasked the Millan Committee with a wide-ranging review of Scotland's mental health laws. Its report was the basis for the complete replacement of the 1984 Act with the Mental Health (Care and Treatment) (Scotland) Act 2003. In NI, the Mental Capacity Act (Northern Ireland) 2016 will, when fully enacted, replace the Mental Health (Northern Ireland) Order 1986, as well as provide a legislative basis for incapacity law in the province.

Since the turn of the century, a further innovation in mental health law has been the passage of Acts specifically covering the care and treatment of incapable patients—in Scotland in 2000, in England and Wales in 2005, the RoI in 2015, and NI in 2016. A future challenge for lawmakers across the British Isles is the implementation of the rights specified in the European Convention of Human Rights and the United Nations Convention on the Rights of Persons with Disabilities into UK and Irish mental health law and incapacity law.

Consent to treatment

A fundamental principle of medical care is that treatment of a patient should be with their consent. A patient has a right to decide for themselves which treatments to undergo and which treatments to refuse. This right is retained, even where refusal of treatment could result in death or significant deterioration in health. In the majority of cases, doctors should treat their patients according to this principle; treatment without consent (Treatment without consent, p. 938) is possible only in certain circumstances, constrained by appropriate laws.

Validity of consent

For consent to be valid, the patient must have capacity to make medical treatment decisions, the consent must be informed (i.e. the patient has fully understood the details and implications of what is proposed), and it must be given freely (i.e. not given under duress).

Capacity to make treatment decisions

Capacity is a legal concept, meaning the ability to enter into valid contracts. It is gained on adulthood and is presumed to be present throughout the lifespan, unless permanently or temporarily lost. Under common law, there is a presumption of capacity in adults, i.e. it is to be assumed that an adult retains full capacity unless there is evidence that it has been lost. Assessments of capacity are made on the balance of probabilities.

Capacity is not an 'all-or-nothing' quality, i.e. one may have capacity for some decisions, but not others. Within incapacity law (Mental Capacity Act: England and Wales, p. 942; Incapacity Act: Scotland, p. 944), capacity is divided into two broad categories: capacity for financial decisions and capacity for personal welfare decisions. A patient's capacity or incapacity should be judged in relation to the required decision, rather than being inferred from the presence of any mental illness or disability.

In order to have capacity to make medical treatment decisions, the patient must understand the decision, understand the alternative possible courses of action, assess the merits and risks of these choices, retain memory of the decisions and the reasons for them, and be able to communicate their intent.

Informing consent

Doctors have a duty to provide to the patient sufficient information about any proposed treatment to enable them to make an informed treatment decision. The amount and type of information provided will depend on the nature of the condition, the complexity and risks of the proposed treatment, the clinical situation, and the patient's own wishes. The aim should be to provide the patient with a balanced and accurate view of their diagnosis and prognosis, the nature and purpose of the proposed treatment, any alternative treatment options, and the likely risks and side effects, answering any questions honestly and only withholding information if its disclosure would cause the patient serious harm.

Forms of consent

Consent may be implied (i.e. the patient does not object to, and cooperates with, the procedure) or may be express (i.e. oral or written permission is explicitly asked for and recorded, often on a detailed consent form). Generally, express consent is obtained for non-trivial or invasive procedures, and for some interventions (e.g. operations), it is mandatory.

Advance statements

Sometimes, in cases where a patient has a progressive disease, although they currently lack capacity to consent or refuse treatment, they may have indicated, when greater capacity existed, their treatment preferences in an advance statement ('advance directive' or 'living will'). These wishes should be given due regard provided:

- The decision in the advance statement is clearly applicable to the present circumstances.
- There is no reason to believe that the patient has changed their mind.
- If you act against an advance statement, then you should be able to justify this. Where such a statement is not available, the patient's known wishes should be taken into account using the common law principle of 'best interests' (Common law, p. 940).

The Montgomery case

A significant recent change to the rules guiding consent in the UK resulted from the Montgomery *v* Lanarkshire case of 2015. This was an obstetric case where there was an alleged failure by the obstetrician to disclose risks associated with vaginal delivery. The ruling in the patient's favour refined the UK standards for informed consent. In future, doctors must make patients aware of any 'material risks' of a proposed treatment and of any reasonable alternatives. In the words of the Supreme Court: 'The test of materiality is whether, in the circumstances of the particular case, a reasonable person in the patient's position would be likely to attach significance to the risk, or the doctor is or should reasonably be aware that the particular patient would be likely to attach significance to it'.

> 'You must be satisfied that you have consent or other valid authority before you carry out any examination or investigation, provide treatment or involve patients or volunteers in teaching or research.'
>
> General Medical Council (2013) *Good medical practice*, paragraph 17 https://www.gmc-uk.org/-/media/documents/Good_medical_practice___English_1215.pdf_51527435.pdf [accessed 13 July 2018]

Treatment without consent

In general, treatment of a patient can, and should, only proceed with their valid consent. There are, however, situations where treatment can take place without consent, and these situations (appropriately) have legal safeguards. There are four broad areas where treatment may take place despite lack of consent: (1) treatment undertaken under common law; (2) treatment under the provisions of an Incapacity Act; (3) treatment under the provisions of a Mental Health Act; and (4) treatment authorized by a court.

For psychiatrists, the majority of treatment decisions involving consideration of non-consensual treatment will relate to psychiatric patients. However, in other fields of medicine, situations may arise where decisions must be made regarding treatment without consent. Often a psychiatrist's opinion will be sought because, by the nature of their work, most psychiatrists will have greater knowledge of, and familiarity with, legal issues than their medical

counterparts. Also, a patient's reasons for withholding consent may be thought to be due to a (possibly undiagnosed) mental disorder. Where this is the case, other professionals may not feel they have the clinical skills to make this diagnosis.

Treatment undertaken under common law

As noted in Common law, p. 940, common law 'necessity' may provide a doctor with a defence against assault where non-consensual treatment is given. There may be situations, e.g. the use of sedation in a patient with acute behavioural disturbance where there is a suspected physical or psychiatric cause, when the doctor has to act against a patient's wishes, in order to adequately carry out their duty of care. Treatment in these situations is given under common law, even if the patient fulfils the criteria for emergency detention under mental health legislation.

Treatment under the provisions of an Incapacity Act

The Mental Capacity Act 2005 and the Adults with Incapacity (Scotland) Act 2000 provide the legal framework guiding the care of incapable adults in England and Wales and in Scotland, respectively. The recently passed Assisted Decision-Making (Capacity) Act 2015 and the Mental Capacity Act (Northern Ireland) 2016 provide similar frameworks for the RoI and NI, respectively. These Acts define incapacity and establish processes and safeguards regulating decision-making on behalf of incapable adults.

Treatment under the provisions of a Mental Health Act

The majority of patients with a mental disorder receive treatment informally and with their consent. For a proportion, however, treatment is authorized by a Mental Health Act. Four Mental Health Acts cover the four legal jurisdictions within the British Isles. These vary, but all allow for detention in hospital and for compulsory treatment of mental disorder. They all specify restrictions on the use of certain treatments (psychosurgery, ECT, and compulsory prescription of medication beyond a certain period) and describe processes of appeal and oversight of the treatment of detained patients. In general, treatment of unrelated medical disorders cannot be authorized by a Mental Health Act.

Treatment authorized by a court

In a small number of cases, doctors will ask for a court's decision regarding a decision to treat a patient without their consent. In general, these will be non-urgent, but potentially controversial, cases where statute law has no clear role and where there does not appear to be any relevant legal precedent. Often the judgements in these test cases become important subsequently in guiding the approach to similar cases.

Common law

Common law is that body of law which is derived from previous decisions of the courts, in contrast with statute law—which is law created by legislative bodies (e.g. regional, national, and supranational parliaments). Common law can arise from:

- Long-established custom and practice.
- Clarification of the meaning and extent of statute by the courts.
- Statements of law by judges ruling on cases where no applicable law exists or fits precisely.

The common law is dynamic and changes and expands as cases are heard and judgements are handed down. For this reason, it is impossible to be aware of all potentially applicable judgements. Doctors should make every effort to be up-to-date with current debates and decisions within their own specialty. They should also seek clarification from senior colleagues, their hospital legal advisors, or their professional bodies in potentially contentious cases.

Common law principles for medical treatment decisions

- *Act in accordance with the patient's wishes:* a fundamental principle of the doctor–patient relationship. Doctors should, in general, respect the patient's autonomy in decision-making, only acting against the patient's wishes in very limited circumstances.
- *Presume capacity in adults:* a patient over the age of 16 is presumed to have capacity to make treatment decisions, unless there is evidence to the contrary (assessed on the balance of probabilities).
- *Apply 'reasonableness' test:* a frequently used consideration in law is the test of what a hypothetical 'reasonable man' would do in the circumstances. For medical treatment decisions, the test is what the 'reasonable doctor' would have done in those circumstances.
- *Act in the patient's 'best interests':* in emergency situations, it may not be possible to obtain consent (e.g. in an unconscious RTA victim requiring drainage of an extradural haematoma); here, it is accepted that the doctor's overriding duty is to preserve life.
- *Doctrine of necessity:* 'necessity' provides a defence against a potential criminal charge that you have assaulted a patient by giving non-consensual treatment. A doctor may therefore give emergency treatment to preserve life and prevent significant deterioration in health.
- *Act in accordance with a recognized body of opinion:* it is accepted in law that medicine is not an exact science—that in any situation, multiple courses of action may be potentially reasonable. However, there is an expectation that any treatment decision is considered suitable by a body of professional opinion (the 'Bolam test').
- *Act in a logically defensible manner:* the Bolitho case (see Box 20.2) added consideration to the Bolam test by stating that medical decisions made, in addition to being in accordance with a recognized body of opinion, must be logically defensible in the circumstances.

- *Consider use of applicable law:* the treating doctor should consider whether the provisions of any statute law provide guidance and additional protection for the patient. However, they should not delay urgent treatment to enact the provisions of statute law.
- *Consider request for court judgement:* in difficult situations, consult more experienced colleagues; where appropriate, seek legal advice on whether it is appropriate to apply to the court for a ruling.

Box 20.2 Significant rulings

The Gillick case[1] Victoria Gillick, a mother of five daughters, challenged the right of her Local Health Authority to advise doctors that contraceptives could be prescribed for under 16s without parental consent. The House of Lords ruled that, in relation to medical treatment, 'the parental right to determine whether or not their minor child below the age of 16 will have medical treatment terminates if and when the child achieves sufficient understanding and intelligence to understand fully what is proposed'. This ruling established the concept of 'Gillick competence', which applies to treatment decisions made by minors in England and Wales. Section 2(4) of the Age of Legal Capacity (Scotland) Act 1991 establishes the same principle within Scottish statute law.

The Bolitho case[2] Prior to this case, the standard of care expected in medical negligence cases had been judged according to the 'Bolam test'.[3] This established the principle that a doctor is not guilty of negligence if he has acted in accordance with a responsible body of professional opinion. This case centred on an individual who, as a child, had suffered brain damage as a result of a cardiac arrest induced by respiratory failure. The court's finding was that, even if a body of professional opinion existed which held that the action was reasonable, the defendant could still be judged negligent if the judge held the opinion that no logical basis for the opinion had been shown to the court.

The Ms B case[4] As a result of a serious illness, a Ms B had been rendered paralysed and dependent on artificial ventilation for survival. She refused consent for continued ventilation, but in view of the inevitable fatal outcome, the hospital refused to accept her refusal. She was assessed by several consultant psychiatrists whose opinion was that she retained full capacity. She applied for a court decision where the ruling was that once her capacity had been established, any further treatment without consent was unlawful. The court also gave the opinion that should doctors treating her feel unable to treat her in accordance with her wishes, they had a duty to transfer her care to other doctors. Ms B was subsequently transferred to another hospital where, following withdrawal of artificial ventilation, she died.

1 Gillick *v* West Norfolk and Wisbech AHA All ER [1985], 3 All ER 402.
2 Bolitho *v* City and Hackney HA [1997] 3 WLR.
3 Bolam *v* Friern Hospital Management Committee [1957] 2 All ER 118.
4 Re B (Adult: Refusal of Treatment) [2002] 2 FCR1; [2002] 2 All ER 449.

Mental Capacity Act: England and Wales

The Mental Capacity Act 2005 provides the legal framework guiding decision-making on behalf of those who lack capacity to make decisions for themselves. The Act applies to individuals over the age of 16 in England and Wales.

Principles

The Act is underpinned by a set of five key principles set out in Section 1:

- *Presumption of capacity*—a person is assumed to have capacity unless it is established that they lack capacity.
- *All practical steps taken to allow autonomy*—a person is not to be treated as unable to make a decision unless all practicable steps to help him to do so have been taken without success.
- *Allow unwise decisions*—a person is not incapable merely because they make an unwise decision.
- *Best interests*—an intervention under the Act on behalf of a person who lacks capacity must be in their best interests.
- *Least restrictive option*—any intervention under the Act should restrict as little as possible their basic rights and freedoms.

Assessment of incapacity

Sections 2 and 3 set out a two-stage test for assessing incapacity:

- A person lacks capacity if they are unable to make a decision for themselves in relation to any matter because of a permanent or temporary impairment in the functioning of the mind.
- A person is unable to make a decision for themselves if they are unable:
  - To understand the information relevant to the decision.
  - To retain that information for a sufficient period to make a decision.
  - To use or weigh that information in making the decision.
  - To communicate their decision.

Judgements about incapacity are to be made on the balance of probabilities. Lack of capacity is not to be presumed, based on a person's age or appearance, on any aspect of their behaviour, or on any condition or disorder from which they suffer. The Act specifies certain decisions that cannot be made by one person on behalf of another. These are: agreeing to marriage, civil partnership or divorce, consent to a sexual relationship, and casting a ballot in an election.

Techniques covered by the Act

Lasting powers of attorney (LPA) A person may appoint an attorney to act on their behalf if they should lose capacity in the future. This is like the current enduring power of attorney (EPA) in relation to

property and affairs, but the Act also allows people to empower an attorney to make health and welfare decisions. Before it can be used, an LPA must be registered with the Office of the Public Guardian.

Court-appointed deputies The Act provides for a system of court-appointed deputies. Deputies will be able to be appointed to take decisions on welfare, healthcare, and financial matters, as authorized by the new Court of Protection, but will not be able to refuse consent to life-sustaining treatment. They will only be appointed if the court cannot make a one-off decision to resolve the issues.

Advance decisions The Act allows patients to make an advance decision to refuse treatment if they should lack capacity in the future. The Act sets out safeguards of validity and applicability in relation to advance decisions. An advance decision concerning life-sustaining treatment must be in writing, signed, and witnessed, and there must be an express statement that the decision stands 'even if life is at risk'.

Protection from liability when providing care and treatment to an incapable adult Section 5 of the Act authorizes healthcare staff to carry out personal care, healthcare, and medical treatment in an incapable adult, without fear of liability. The care provider must establish that the patient lacks capacity and that the proposed treatment is in their best interest. If this is the case, then the care provider does not incur any liability in relation to the Act that they would not have incurred if the adult had had capacity to consent in relation to the matter and had consented to the treatment.

Bodies with powers under the Act

Court of Protection This Court has jurisdiction relating to the whole Act. It has its own procedures and nominated judges. It is able to make declarations, decisions, and orders affecting people who lack capacity and make decisions for, or appoint, deputies to make decisions on behalf of people lacking capacity. It deals with decisions concerning both property and affairs, as well as health and welfare decisions.

The Public Guardian The Public Guardian has several duties under the Act and is supported in carrying these out by an Office of the Public Guardian (OPG). The Public Guardian and his staff will be the registering authority for LPAs and deputies. They supervise deputies appointed by the Court and provide information to help the Court make decisions.

Deprivation of Liberty Safeguards

The Deprivation of Liberty Safeguards (DoLS) are contained in an amendment to the original Act and provide additional protections where an individual is: 'under continuous supervision and control and is not free to leave'. They can be applied to individuals in a hospital or care home only; deprivation of liberty elsewhere must be authorized by the Court of Protection. An application for authorization is made to the Local Authority that will appoint two trained assessors—one mental health assessor (a doctor approved

under Section 12) and one 'best interests' assessor (often a social worker). They will confirm that six tests are satisfied: the person is over 18yrs, they have a mental disorder, they lack capacity, deprivation of liberty is in their best interests, MHA detention is not current or preferable, and deprivation of liberty is not in conflict with other decision-making authority (e.g. a valid advance decision). DoLS allows for legal representation, access to Independent Mental Capacity Advocates (IMCAs), and the right of appeal to the Court of Protection.

Incapacity Act: Scotland

The Adults with Incapacity (Scotland) Act 2000 provides the legal framework regulating those who make decisions on behalf of adults with impaired capacity in Scotland. It covers financial and personal welfare decisions (which include decisions about medical treatment). The Act applies to individuals over the age of 16yrs.

Principles

Those making decisions on behalf of another are required to take account of the following fundamental principles, as in Section 1:

- *Benefit*—any intervention in the affairs of an incapable adult must benefit the adult concerned, and this benefit must not be reasonably achievable without the intervention.
- *Least restrictive option*—any intervention must restrict the freedom of the adult as little as possible.
- *Consider the adult's wishes*—decisions made on behalf of an incapable adult must take account of their currently and previously expressed wishes on the subject.
- *Consultation with relevant others*—anyone making decisions on behalf of an incapable adult must take account of the views of the adult's nearest relative or primary carer, and of the adult's guardian, welfare attorney, or continuing attorney (if they exist).
- *Encourage residual capacity*—the adult should be encouraged to exercise whatever capacity is still present.

Assessment of capacity

Under the Act, incapacity means to be incapable of:

- Acting; or
- Making decisions; or
- Communicating decisions; or
- Understanding decisions; or
- Retaining the memory of decisions.

Capacity is task-specific and must be judged in relation to the decision under consideration. In assessing capacity under the Act, the practitioner should consider for this particular decision whether the individual:

- Understands what is being asked and why.
- Understands that the information is personally relevant to them.
- Is aware of the alternative choices available.
- Can weigh up the risks and benefits associated with the alternative choices.

- Has sufficient memory ability to retain the relevant information.

Additionally, the practitioner should consider whether the decision is consistent with the patient's background, beliefs, and previously expressed wishes when greater capacity existed. It is important to note that a person is not incapable simply because they have a mental or physical illness or a learning disability.

Techniques covered by the Act

Powers of attorney A capable adult can provide for eventual incapacity by granting power of attorney to another person. A continuing power of attorney relates to financial decisions; a welfare power of attorney relates to personal welfare decisions. The latter becomes active only when the adult loses capacity in relation to the welfare decision in question.

Intromission with funds An individual can apply to the Public Guardian for authority to gain access to the adult's finances, in order to fund the adult's living expenses.

Management of residents' finances Following review by a medical practitioner certifying incapacity in relation to financial affairs, registered establishments (e.g. nursing homes) can manage the financial affairs of residents with impaired capacity up to a prescribed limit.

Guardianship and intervention orders Following application, supported by at least two medical recommendations, the Sheriff Court can grant an individual ongoing authority to make financial or personal welfare decisions on behalf of an adult. The former is financial guardianship, and the latter welfare guardianship. For decisions which require a 'one-off' intervention, the Sheriff can grant a financial or welfare intervention order covering the proposed intervention.

Medical treatment Under Part 5 of the Act, if a medical practitioner responsible for the medical treatment of an adult is of the opinion that the adult is incapable in relation to a decision about the medical treatment in question, he may issue a certificate of incapacity authorizing the treatment. The certificate must state the nature and likely duration of the incapacity and the proposed treatment.

Bodies with powers under the Act

The Office of the Public Guardian Supervises individuals authorized under the Act to make decisions on behalf of another. It maintains a register of continuing and welfare powers of attorney, guardianships, and intervention orders; authorizes access to funds; has powers to investigate complaints on matters related to the financial affairs of an incapable adult.

The Mental Welfare Commission for Scotland (MWC) In addition to its duties under the MHA, the MWC guides and supervises the actions of those appointed to make welfare decisions on behalf of an incapable adult.

The Sheriff Court Applications for guardianships or intervention orders are made to the Sheriff Court. This court is also the forum for appeals against medical treatment decisions.

Local authorities The local authority has a duty to investigate circumstances where the personal welfare of an adult in the community may be at risk due to incapacity, to supervise appointed attorneys and guardians, and to investigate complaints in relation to those exercising welfare powers. Additionally, they have a duty to apply for intervention or guardianship orders and to subsequently act as welfare guardian where necessary and no-one else is applying to do so.

Incapacity Act: Northern Ireland

The Mental Capacity Act (Northern Ireland) 2016 received Royal assent in May 2016 but, at the time of writing, has not yet come into force. It is a combined incapacity and mental health law, unique in this respect in the British Isles, and will introduce incapacity law to NI and eventually replace the Mental Health (Northern Ireland) Order 1986 for those over 16yrs.

Principles

The principles are detailed in Sections 1 and 2 of the Act and must be applied where determinations under the Act are made on behalf of those who lack capacity.

- *Decision specific:* a person should not be treated as lacking capacity, unless it is established that they lack capacity in relation to the decision in question.
- *All possible support:* patients are not considered as lacking capacity, unless all possible assistance has been given to enable independent decision-making.
- *Presumption of capacity:* patients are not considered as lacking capacity on the basis of age, any physical or mental health condition, or personal characteristics.
- *Allow unwise decisions:* patients are not considered as lacking capacity simply because they make unwise decisions.
- *Best interests:* substitute decisions must meet the best interests principle.

The Act follows the English and Welsh approach, rather than the Scottish approach, to incapacity powers, in that rather than specifying legal powers to act, it provides protection for criminal or civil liability, provided its principles and procedures are followed.

Test of incapacity

A person over 16yrs lacks capacity if they are ‘unable to make a decision’ for themselves ‘because of an impairment of, or a disturbance in the functioning of, the mind or brain’. ‘Unable to make a decision’ means they are unable to:

- Understand the relevant information.
- Retain in memory the relevant information.
- Appreciate the personal relevance of the information and weigh it in the decision-making process.
- Communicate the decision (by verbal or other means).

Powers under the Act

Advance decisions Individuals with capacity can make an advance decision to refuse specified treatments. There is then no protection from liability for medical practitioners if they carry out or continue treatment which conflicts with an effective advance decision.

Lasting Power of Attorney (LPA) Individuals with capacity can appoint another person as an LPA holder. This can delegate decisions on property and affairs to the LPA holders and authorize them to make decisions on care and treatment and personal welfare after the point at which the individual loses capacity.

Court Appointed Deputy The High Court is given powers to make decisions as to the presence of capacity and to appoint court-appointed deputies with similar powers to an LPA.

Criminal Offences The Act creates a number of offences, including ill treatment or neglect, and unlawful detention of incapable patients.

Short-term detention The Act will allow for detention in hospital for up to 28 days after application by an 'appropriate healthcare professional' (usually an approved social worker) with a medical report.

Bodies with powers under the Act

The Act creates a Public Guardian who maintains a register of LPAs and court-appointed deputies and will supervise their activities via court visitors. It also places a requirement on Health and Social Care Trusts to establish Independent Advocacy services for their patients.

Incapacity Act: Republic of Ireland

The future legal framework for decision-making with, or on behalf of, those who lack capacity in the RoI is the Assisted Decision-Making (Capacity) Act 2015. This Act has replaced the previous nineteenth-century legislation [Marriage of Lunatics Act 1811 and Lunacy Regulation (Ireland) Act 1871] and the former system of Wards of Court. It is intended to provide modern incapacity legislation, in line with the United Nations Convention of the Rights of Persons with Disabilities.

The Act uses a functional definition of incapacity—capacity is assessed in relation to the decision in question and is no longer viewed as an 'all-or-nothing' phenomenon. There is a presumption of capacity in adults and a graded approach to assistance in those with impaired capacity.

Supported decision-making

The Act adopts a graded approach to supported decision-making and envisages three forms of assistance. Former 'wards of court' are to be discharged from wardship and instead directed towards the most appropriate support option under the new Act.

Assisted decision-making Here the person appoints a 'decision-making assistant' via a formal 'assistance agreement' to aid them in gathering and understanding information and to assist them in

expressing their decision. They retain decision-making responsibility.

Co-decision-making Here the person appoints a 'co-decision-maker', again via a formal 'assistance agreement' to aid and share their decision-making. The responsibility for decisions is shared jointly.

Decision-making representative Where the person is unable to make supported decisions, the Act allows the Circuit Court to appoint a 'decision-making representative'. They must make decisions on the person's behalf, in line with their expressed wishes, where possible, and according to the principles of the Act.

Powers under the Act

At the time of writing, the Act has received Presidential assent and a phased commencement is planned over the coming years—therefore, as yet, there has been no clinical experience of its use.

Enduring Powers of Attorney (EPA) Previously, EPAs could be granted under the Powers of Attorney Act 1996. The new Act extends their role to potentially include health decisions, as well as financial and welfare decisions. They do not operate until the person lacks capacity in relation to the specified decision. They must be in writing and registered with the Director of the Decision Support Service.

Advance healthcare directives The Act allows capable adults to make advance healthcare directives, which will then come into effect after a future loss of capacity. These directives can stipulate future healthcare preferences and can specify refusal of life-sustaining treatment. They are not legally binding on medical practitioners, but the practitioner must be prepared to justify non-compliance with their stipulations.

Criminal offences The Act introduces a number of criminal offences in relation to incapable adults, including using fraud or coercion in relation to supported or proxy decision-making, making a false statement in relation to an intervention under the Act, and ill treatment or wilful neglect of an incapable adult.

Bodies with powers under the Act

The Act sets up a *Decision Support Service*, headed by a *Director*, within the *Mental Health Commission*. This body is tasked with overseeing assistants, co-decision makers, decision-making representatives, and EPAs and has the power to investigate complaints. Additionally, it is tasked with promoting the legislation and the future preparation of a code of practice.

Mental Health Act: England and Wales 1

Introduction

The MHA 1983 governs the care and treatment of patients with mental disorder within England and Wales. The Act was amended in several significant areas by the MHA 2007 (see Box 20.3).

Principles

The 1983 Act did not contain a statement of principles. Section 8 of the 2007 Act directed the Secretary of State to include a statement of principles in a future revision of the code of practice. The five 'overarching principles', as stated in the 2015 revision of the code, are:

- *Least restrictive option and maximizing independence*—informal treatment is the preferred option. Where a patient is detained, their ongoing independence should be supported as far as possible.
- *Empowerment and involvement*—patients and their relatives and carers should be fully involved in decisions about their care.
- *Respect and dignity*—professionals should treat patients and their relatives and carers with respect and dignity.
- *Purpose and effectiveness*—care should be patient-centred, recovery-focused, and in line with current best practice.
- *Efficiency and equity*—the provision of services for patients with mental health needs should be equitable with that for physical disorders.

Definition of mental disorder

The 2007 Act defines mental disorder as 'any disorder or disability of the mind', replacing four subdivisions of mental disorder in the 1983 Act. The code of practice gives a non-exhaustive list of conditions: affective disorders, schizophrenia and delusional disorders, neurotic, stress-related, and somatoform disorders, organic mental disorders (dementia, delirium, or brain injury or damage), personality disorders, disorders caused by psychoactive substance use, eating disorders, learning disabilities, and behavioural and emotional disorders of children and young people.

Other definitions

Approved doctor—under Section 12(2), the Secretary of State may approve a registered medical practitioner as having special experience in the diagnosis and treatment of mental disorder. This is done in practice through the regional health authority.

Responsible clinician—the practitioner in charge of the patient's treatment, usually a consultant psychiatrist [previously referred to as the responsible medical officer (RMO)].

Approved mental health professional (AMHP)—a professional (usually a social worker) who has undergone specific training and assessment and is appointed for the purposes of the Act as having competence in dealing with individuals with mental disorder [previously referred to as the approved social worker (ASW)].

Nearest relative—determined by who is first on the following list: spouse or civil partner, child, parent, sibling, grandparent, grandchild, uncle or aunt, nephew or niece. If two relatives are of equal standing, then the elder prevails. If a patient lives with a relative or has lived with a non-relative as a spouse for 6mths, then that person is the nearest relative.

Mental Health Review Tribunal (MHRT)—legal forum to which a patient or a nearest relative can appeal against detention. The MHRT has three members: a legally qualified chair, a medical

practitioner, and a lay member. It must discharge a patient if the criteria for detention no longer apply.

Mental Health Act Commission (MHAC)—the MHAC monitors the use of the MHA and the care of patients subject to it. It also investigates certain complaints, appoints second opinion doctors, and maintains the code of practice. It produces a biennial report.

Second opinion appointed doctor (SOAD)—an independent doctor appointed by the Secretary of State (in practice by the MHAC), who gives a second opinion regarding treatment which can be given without the patient's consent under Section 57 or section 58.

Box 20.3 Changes to the 1983 Act in the 2007 Act

- **Definition of mental disorder** A single definition of mental disorder applies throughout the Act, which abolishes the previous four subcategories of disorder.
- **Criteria for detention** The previous 'treatability' and 'care' tests are abolished and replaced by a new 'appropriate medical treatment' test applying to the longer-term powers of detention. This does not allow continued compulsory detention, unless medical treatment which is appropriate to the patient's mental disorder and all other circumstances of the case is available to that patient.
- **Broadened professional roles** Approved social workers (ASWs) are replaced by approved mental health professionals (AMHPs), and non-social workers can enter this role, subject to appropriate training. The responsible medical officer (RMO)'s role is replaced by that of the responsible clinician, allowing non-medical staff, such as psychologists, social workers, and nurses, to undertake this role.
- **Nearest relative (NR)** Patients are given the right to make an application to change their NR, and courts are enabled to displace an NR where there are reasonable grounds for doing so. The list of NRs is amended to include civil partners.
- **Supervised community treatment** The 2007 Act introduces supervised community treatment (SCT) which is described in Supervised community treatment, p. 955.
- **Mental Health Review Tribunal (MHRT)** The Act introduces a single tribunal for England, alongside one in Wales, and introduces order-making power to reduce the time before a case has to be referred to the MHRT by hospital managers.
- **Age-appropriate services** Hospital managers must ensure that patients aged under 18yrs admitted to hospital for mental disorder are accommodated in an environment that is suitable for their age.
- **Advocacy** There is a right to independent mental health advocacy.
- **Use of ECT** New safeguards are introduced.

Mental Health Act: England and Wales 2

Compulsory measures

The main procedures allowing compulsory detention in hospital are Section 2 (admission for assessment), Section 3 (admission for treatment), Section 4 (emergency admission), and Section 5(2) (emergency detention of informal inpatient). Compulsory admission should usually be under Section 2 or 3; Section 4 is only used rarely, in a genuine emergency where an approved doctor is not available soon enough.

Emergency detention—Section 4 allows the emergency detention of patients who have not yet been admitted to hospital (this includes those in A&E, outpatient departments, and day hospitals); Section 5(2) is similar but applies to patients who have already been admitted to hospital (whether in a psychiatric or non-psychiatric ward).

- For Section 4, the application is made by the nearest relative or AMHP and requires recommendation from one registered medical practitioner.
- For Section 5(2), the medical recommendation must be by the responsible clinician or his nominated deputy; this will usually be the duty psychiatrist, but the nomination should be made before the relevant period of duty. Involvement of the nearest relative or AMHP is not required for Section 5(2).
- The duration of detention is 72hrs, during which an assessment must be undertaken to determine if detention under Section 2 or 3 is warranted.
- Section 5(4) allows nurses (of the prescribed class) to hold an informal inpatient in hospital for up to 6hrs to allow for a medical assessment.

Admission for assessment—an application for detention under Section 2 may be made by the nearest relative or AMHP and requires two medical recommendations, one of which must be by an approved doctor. Duration of detention is 28 days. Following Section 2, an application may be made for detention under Section 3. Alternatively, the patient may remain in hospital informally or be discharged.

Admission for treatment—an application for detention under Section 3 is made in a similar manner to Section 2. Duration of detention is initially 6mths, which may be renewed for a further 6mths, and then 12-monthly thereafter.

Treatment of patients subject to compulsion

- A patient detained in hospital (except under emergency provisions) may be given medication for mental disorder for up to 3mths, whether they consent and/or have capacity or not.
- Under Section 58, medication for over 3mths or ECT requires the patient's consent (the responsible clinician completes Form 38) or, if the person refuses or is incapable of consenting, agreement of a SOAD (who issues Form 39).

- Under Section 62, treatment that is urgently necessary may be authorized by the responsible clinician without consent or a second opinion; this is usually used for giving ECT to severely ill and at-risk patients, while awaiting a second opinion.
- Under Section 57, the patient's consent and agreement of a SOAD are required if any patient (whether detained or informal) is to receive neurosurgery for mental disorder or surgical implantation of hormones to reduce ♂ sex drive.

Leave, absconding, and transfer

Procedures allow for patients to be granted leave of absence with the authorization of the responsible clinician (Section 17); for patients to be taken into custody and returned to hospital if they abscond (Section 18); and for patients to be transferred between hospitals (Section 19).

Review

Patients subject to emergency detention have no right of appeal. Patients detained under Section 2 or 3, or subject to guardianship under Section 7, may appeal to an MHRT. The nearest relative may also appeal against Section 3 or 7. One appeal is allowed during each period of compulsion. The responsible clinician may terminate a patient's detention at any point.

Mental Health Act: England and Wales 3

Aftercare following detention

Care programme approach and Section 117 aftercare

Section 117 places a statutory duty on health and social services to provide aftercare for patients who have been discharged from detention under Sections 3, 37, 47, or 48 (the last three are sections used for mentally disordered offenders; Chapter 16). The framework within which this aftercare is planned and implemented is the CPA, which was introduced in 1991 but has since been significantly modified. The CPA should be used for all patients where appropriate, even if they have not been detained in hospital. For patients in hospital, the CPA process should start well before discharge.

The key aspects of the CPA are:

- A coordinated assessment of the patient's health and social care needs.
- The development of a care plan addressing the identified needs, which will be agreed by the patient and any carers who are involved.
- An identified care coordinator (e.g. CPN, social worker, psychiatrist) who will be the main contact and will monitor the care plan.
- Regular reviews of the care plan, with changes as necessary (at a minimum, there must be an annual review).
- The CPA should be integrated with care management (the process of care coordination used by social services).

There are two levels of CPA—standard and enhanced:

- *Standard CPA*—may be appropriate for patients who: require the support or intervention of one agency or discipline; require only low-key support from >1 agency or discipline; are more able to self-manage their mental health problems; have an active informal support network; pose little danger to themselves or others; and are more likely to maintain appropriate contact with services.
- *Enhanced CPA*—may be appropriate for patients who: have multiple care needs requiring inter-agency coordination; are only willing to cooperate with one professional or agency but have multiple care needs; may be in contact with a number of agencies (including the criminal justice system); are likely to require more frequent and intensive interventions; are more likely to have mental health problems coexisting with other problems such as substance misuse; are more likely to be at risk of harming themselves or others; and are more likely to disengage with services.

Supervision registers, which identify patients particularly at risk to themselves or others, have been abolished, with the introduction of enhanced CPA.

A patient may not be compelled to accept or participate in any aspect of aftercare under Section 117. When aftercare services are no longer required, Section 117 duty ends.

Supervised community treatment

The 2007 Act introduces supervised community treatment (SCT) as an option for patients following a period of detention in hospital. The stated aim is to address the mental health needs of that group of patients who recover following a period of compulsory hospital treatment but repeatedly leave hospital, discontinue treatment, and relapse, requiring further compulsory treatment (so-called 'revolving door' patients).

Community Treatment Order—Section 32 of the 2007 Act introduces the Community Treatment Order (CTO), a new power to discharge a patient detained under Section 3 from hospital, subject to them being liable to recall. A CTO is authorized by the responsible clinician, with the agreement of an AMHP. To be valid, a CTO must be in writing and the relevant criteria must be met:

- The patient is suffering from mental disorder of a nature or degree which makes it appropriate for them to receive medical treatment.
- It is necessary for their health or safety, or for the protection of other persons that the patient should receive such treatment.
- Subject to the patient being liable to be recalled, such treatment can be provided without them continuing to be detained in a hospital.
- It is necessary that the responsible clinician should be able to exercise the power under Section 17E(1) to recall the patient to hospital.
- Appropriate medical treatment is available for the patient.

A CTO may specify conditions to which the patient is subject, and a patient can be recalled to hospital if the conditions are not met or if there is a risk of harm to the patient or to other persons if the patient were not recalled. The conditions must be for the purpose of ensuring that the patient receives medical treatment or of preventing risk of harm to the patient or to other people, and should be kept to a minimum number consistent with achieving their purpose. The responsible clinician can vary and suspend conditions. A CTO lasts for 6mths and can be renewed for a further 6-mth period and yearly thereafter.

Mental Health Act: Scotland 1

Introduction

The Mental Health (Care and Treatment) (Scotland) Act 2003 replaced the Mental Health (Scotland) Act 1984 in 2005. The 2003 Act emphasizes the protection of the rights of mentally disordered patients and shifts the emphasis from detention in hospital to treatment for mental disorder, whether in hospital or in the community. The 2003 Act was amended in several areas by the Mental Health (Scotland) Act 2015; the following text reflects these amendments.

Principles

Anyone using the Act must take account of the ten guiding principles:

- *Non-discrimination*—patients with mental disorder should retain, wherever possible, the same rights as those with other health needs.
- *Equality*—powers should be exercised without any direct or non-direct discrimination on any grounds.
- *Respect for diversity*—patients should receive care and treatment sensitive to their individual backgrounds and needs.
- *Reciprocity*—where an obligation is placed on a patient through the Act, there is a parallel obligation on the health service to provide an appropriate service for the patient, including ongoing care following discharge from detention.
- *Informal care*—wherever possible, care and treatment should be provided without use of compulsory powers.
- *Participation*—patients should, as far as they are able to, be involved in planning all aspects of their care and support.
- *Respect for carers*—those who provide informal support to patients should receive appropriate support and advice and have their views taken into account.
- *Least restrictive alternative*—patients should receive care in the least restrictive manner, which is compatible with safe and effective care, taking appropriate account of the safety of others.
- *Benefit*—any intervention under the Act should be likely to produce a benefit for the patient, not achievable without use of the Act.
- *Child welfare*—the welfare of any child with mental disorder is paramount in any interventions imposed on a child by the Act.

Definition of mental disorder

Section 328 defines 'mental disorder' as 'any mental illness, personality disorder or learning disability' however caused or manifest. None of these terms is further defined.

A person is not mentally disordered solely by reason of sexual orientation; sexual deviancy; transsexualism or transvestism; dependence on, or use of, alcohol or drugs, 'exhibiting behaviour that causes or is likely to cause, harassment, alarm, or distress to any other person', or 'acting as no prudent person would act'.

Other definitions

Approved medical practitioner (AMP)—under Section 22, these are doctors with the necessary qualifications and experience, who have undertaken training, and are approved by a Health Board as having special experience in the diagnosis and treatment of mental disorder.

Responsible medical officer (RMO)—the registered medical practitioner in charge of the patient's treatment, usually the consultant.

Mental health officer (MHO)—a social worker, with the necessary registration, experience, education, training, and competence in dealing with individuals with mental disorder; appointed under Section 32 of the Act.

Designated medical practitioner (DMP)—a medical practitioner appointed by the MWC to give second opinions regarding the medical treatment of patients subject to compulsion.

Named person—someone nominated by a person to support them and protect their interests. Entitled to be informed about certain decisions and to act on the patient's behalf in certain circumstances. There is no 'default' named person—individuals must give written agreement to take on the role—and the patient can decline to appoint one.

Advance statement—these must be made in writing, with a witness, at a time when the person has capacity. Those carrying out duties under the Act must 'have regard to the wishes specified in the advance statement'. If acting against these wishes, this must be recorded in writing, with reasons, and a copy of this record must be sent to the patient, named person, welfare attorney, guardian, and MWC. There is a duty on Health Boards to file advance statements with the patient's other health records.

Advocacy—under Section 259, every person with mental disorder has the right of access to independent advocacy, and it is the duty of the Local Authority and Health Board to ensure availability of this.

Mental Health Tribunal for Scotland (MHTS)—the legal forum for making decisions regarding applications for certain compulsory orders and proposals to amend or appeal compulsory orders. Consists of three members: one legal, one medical, and one general.

Mental Welfare Commission (MWC)—a body with the statutory duty to protect individuals with mental disorder, whether they are

liable to detention or not. It has a responsibility to visit and inspect services and the power to conduct enquiries into deficiencies in care, as well as duties to monitor the operation of the Acts and promote best practice.

Mental Health Act: Scotland 2

Compulsory measures

Nurses' holding powers (Section 299)—allows a registered mental health nurse (RMN) or a registered nurse in learning disability (RNLD) to detain an informal current inpatient for a period of up to 3hrs to allow for medical assessment.

Emergency detention—under Part 5, Section 36, a fully registered medical practitioner may grant an Emergency Detention Certificate (EDC), authorizing the detention of a person in hospital for 72hrs. Consent from an MHO is necessary (unless impracticable); the situation must be urgent, such that making arrangements for short-term detention under Part 6 would involve 'undesirable delay'. As soon as practicable, the patient should be assessed by an AMP to determine if detention under Part 6 should be applied or if the patient should be dealt with informally.

Short-term detention—under Part 6, Section 44, any AMP may grant a Short-Term Detention Order (STDO), authorizing the detention of a person in hospital for 28 days. Consent from an MHO is necessary in all cases. At the end of the order, the patient may be discharged, remain as an informal patient, or may be placed on a CTO.

Compulsory Treatment Order (CTO)—under Part 7, an application may be made to the MHTS for a patient to be made subject to a CTO, authorizing compulsory treatment in hospital or in the community for 6mths. The application is made by an MHO and has three components: two medical reports (one by an AMP and the other by the patient's GP or another AMP), a report prepared by the MHO, and a proposed care plan (prepared by the MHO in consultation with the RMO and others who will be involved in the care and treatment of the patient).

The MHTS must be satisfied that criteria for a CTO are met; if there are issues that require clarification, the MHTS may grant an interim CTO instead. A CTO in the community may make requirements as to residence, attendance for treatment and other services, access of staff to the patient's home, and acceptance of medication. A CTO may be renewed for 6mths, then annually thereafter, without further application to the MHTS unless variation to the order is proposed.

If a patient on a community CTO refuses medication, then they may be taken to hospital and detained for up to 6hrs to receive this. If the patient is non-compliant with other aspects of the order, then detention in hospital for up to 72hrs can be authorized by the RMO; this may be extended to 28 days, with approval of the RMO and MHO, to allow assessment as to whether to apply for the CTO to be varied.

Criteria for compulsory intervention

The criteria for compulsion under a CTO are:

- The person has a mental disorder.
- Medical treatment is available, which would be likely to prevent that disorder fro worsening or be likely to alleviate the effects of the disorder.
- There would be significant risk to the patient's health, safety, or welfare, or the safety of another person, if treatment were not provided.
- The patient's ability to make decisions about the provision of medical treatment is significantly impaired because of their mental disorder.
- The making of the order is necessary.

These criteria are less stringent for emergency and short-term measures than they are for longer-term measures. For short-term or emergency detention, it only has to be *likely* that the criteria apply, and the second criterion above regarding treatability does not need to be considered.

Treatment of patients subject to compulsion (Part 16)

- A patient subject to compulsion (except under emergency provisions) may be given medication for a mental disorder for up to 8wks, whether they consent and/or have capacity or not. Patients in the community cannot be given medication using physical force.
- Medication for over 2mths requires the patient's consent or, if the person refuses or is incapable of consenting, authorization by a DMP.
- ECT may only be given if a patient can and does consent, or—if incapable of consenting—with the authorization of a DMP. ECT cannot be given, even in an emergency, to a patient with capacity who refuses.
- Treatment that is urgently necessary may be authorized by the RMO without consent or a second opinion, e.g. giving ECT to severely ill and at-risk patients lacking capacity while awaiting a second opinion, giving medication to acutely disturbed patients on emergency detention.
- To receive neurosurgery for a mental disorder, there must be an independent opinion from a DMP that the treatment will be beneficial, two opinions from lay people appointed by the MWC that the person has capacity and consents or, if they do not have capacity, that they do not object. If the person is incapable but is not objecting, the treatment must be authorized by the Court of Session.

Leave, absconding, and transfer

Procedures allow for 'suspension of detention' of patients detained in hospital—CTOs or compulsion orders can be suspended for a maximum of 200 days in any 12-mth period. There are provisions covering the taking into custody and return of patients who abscond

from hospital or the residence specified in a community-based CTO, and for patients to be transferred to other hospitals.

Review

A patient or their named person may appeal to the MHTS against being subject to a CTO or short-term detention (but not emergency detention), against transfer to another hospital, and, for patients in the State Hospital and in medium-security units, against being held in conditions of excessive security. An RMO must refer a case to the MHTS if a variation is proposed in an order. If the MHTS has not reviewed a case for 2yrs, then it must do so without a specific referral being made. The MHTS must cancel an order if the criteria for compulsion are no longer met. The RMO and MWC also have the power to cancel an order at any point if these criteria are no longer met.

Mental Health Act: Northern Ireland 1

Introduction

At the time of writing, the current mental health law for NI remains the Mental Health (Northern Ireland) Order 1986, described in this section. The Mental Capacity Act (Northern Ireland) 2016 will provide the future legal framework for incapacity law and mental health law in NI. The provisions of this joint Act will come into force over the coming years and will eventually replace the former Order.

Definition of mental disorder

Article 3 defines 'mental disorder' as meaning 'mental illness, mental handicap and any other disorder or disability of mind'. There are further definitions of the types of mental disorder:

- *Mental illness*—defined as 'a state of mind which affects a person's thinking, perceiving, emotion or judgement to the extent that he requires care or medical treatment in his own interests or the interests of other persons'.
- *Mental handicap*—defined as 'a state of arrested or incomplete development of mind which includes significant impairment of intelligence and social functioning'.
- *Severe mental handicap*—defined as 'a state of arrested or incomplete development of mind which includes severe impairment of intelligence and social functioning'.
- *Severe mental impairment*—defined as 'a state of arrested or incomplete development of mind which includes severe impairment of intelligence and social functioning and is associated with abnormally aggressive or seriously irresponsible conduct on the part of the person concerned'.

The following are excluded if they are the only 'conditions' present: personality disorder, promiscuity or other immoral conduct, sexual deviancy, or dependence on alcohol or drugs.

Other definitions

Mental Health Review Tribunal for Northern Ireland (MHRTNI)—legal forum to which a patient or a nearest relative can appeal

against detention. The MHRTNI has three members: a legally qualified chairperson, a medical practitioner, and a lay member. It must discharge a patient if the criteria for detention no longer apply.

Mental Health Commission for Northern Ireland (MHCNI)—like the MWC in Scotland, it has a broader remit than the MHAC in England and Wales.

Appointed doctor—the MHCNI appoints medical practitioners for the purposes of Part II (compulsory admission to hospital and guardianship). These doctors are analogous to approved doctors in England and Wales. Doctors may also be appointed for the purposes of Part IV (consent to treatment). The term 'appointed doctor' on these pages is used to refer to Part II.

Responsible medical officer (RMO)—the registered medical practitioner in charge of the patient's treatment, usually the consultant.

Approved social worker (ASW)—a social worker who has undergone specific training and assessment and is appointed for the purposes of the Order as having competence in dealing with individuals with mental disorder.

Nearest relative—the person caring for the patient who is first on the following list (Article 32): spouse, child, parent, brother or sister, grandparent, grandchild, uncle or aunt, nephew or niece. If there was no carer, then the first person on the list is the nearest relative. If two relatives are of equal standing, then the elder prevails.

Criteria for compulsory intervention

The criteria for compulsory intervention are less stringent for emergency and shorter-term measures (i.e. Articles 4 and 7(2)) than they are for longer-term measures (i.e. Article 12). The criteria for compulsion under Article 12 are:

- The patient is suffering from mental illness or severe mental impairment of a nature or degree which warrants his detention in hospital for medical treatment.
- Failure to so detain the patient would create a substantial likelihood of serious physical harm to themselves or other persons.
- Consideration has been given to whether other methods of dealing with the patient are available and to why they are not appropriate.

For Article 4, the type of mental disorder does not need to be specified, and for Article 7(1), it must appear that the Article 4 criteria are met.

Mental Health Act: Northern Ireland 2

Compulsory measures

Article 4 allows detention in hospital for assessment, which may be followed by detention for treatment under Article 12. Article 7(2) allows for the detention of a patient already in hospital.

Admission for assessment—an application for detention under Article 4 may be made by the nearest relative or ASW and requires one medical recommendation. This should be by the patient's GP

or a doctor who knows the patient, if this is practicable, and should not be, except in urgent cases, by a doctor on the staff of the admitting hospital. Immediately on admission to hospital, the patient must be examined by the RMO, an appointed doctor, or another doctor, who must submit a report to the responsible authority. They may then be detained for 7 days from the point of admission (this is limited to 2 days where the examination is not by the RMO or an appointed doctor, during which the RMO should examine the patient). Detention may be extended by a further 7 days on one occasion, following a further report from the RMO. Following detention under Article 4, a patient may be detained under Article 12, remain informally, or be discharged.

Assessment of patient already in hospital—under Article 7(2), where a person is a voluntary inpatient, if it appears to a doctor on the staff of the hospital that an application for assessment ought to be made, then a report may be furnished to the responsible authority, allowing detention for 48hrs. This may be followed by detention under Article 4.

Detention for treatment—where a patient has been detained under Article 4, they may be further detained for 6mths under Article 12. This requires a recommendation from an appointed doctor (not the doctor who made the assessment recommendation). This may be renewed for a further 6mths and annually thereafter.

Guardianship—Article 18 allows for guardianship. The application is made by the nearest relative or ASW, and there must be two medical recommendations and an ASW recommendation. The patient must be suffering from mental illness or mental handicap, and guardianship should be necessary in the interest of the patient's welfare. Renewal is as for Article 12.

Nurses' holding powers—Article 7(3) allows nurses (of the prescribed class) to detain an inpatient in hospital for up to 6hrs, to allow for a medical assessment regarding detention. Detention under Article 7(3) ends when the doctor arrives.

Treatment of patients subject to compulsion—Articles 62–69 set out very similar provisions regarding consent to treatment to those set out for England and Wales by the 1983 Act (Mental Health Act: England and Wales 1, p. 950).

Leave, absconding, and transfer—procedures allow for patients to be granted leave of absence with the authorization of the RMO (Article 15); for patients to be taken into custody and returned to hospital if they abscond (Article 29); and for patients to be transferred between hospitals (Article 28).

Review

The MHRTNI operates in a very similar way to England and Wales but must review a detained patient if they have not been reviewed for 2yrs. After reviewing a case, the MHCNI may refer a patient to the MHRTNI or may recommend that the patient be discharged.

The RMO may discharge a patient at any point. The nearest relative may also discharge a patient if not opposed by the RMO.

Mental Health Commission for Northern Ireland

The functions of the MHCNI are very similar to those of the MWC in Scotland—the duty to protect individuals with mental disorder whether they are liable to detention or not; the power to recommend discharge of patients subject to compulsion; the responsibility to visit and inspect services; and the power to conduct enquiries into deficiencies in care.

Mental Health Act: Republic of Ireland 1

Introduction

The Mental Health Act 2001 replaced the Mental Treatment Act 1945 and various modifying Acts passed in 1953, 1961, and 1981. The new Act was implemented in November 2006.

Principles

Section 4 sets out some principles to be considered in operating the Act. The best interests of the person should be the principal consideration, with due regard being given to the interests of others who may be at risk of serious harm; the person should be notified of proposals and should be allowed to make representations regarding these, which should be given due consideration; any decision should give due regard to the right of a person to dignity, bodily integrity, privacy, and autonomy.

Definition of mental disorder and criteria for compulsion

Section 3 sets out the definition of mental disorder, which also includes the criteria for compulsory detention.

'Mental disorder' is defined as 'mental illness, severe dementia, or significant intellectual impairment where:

(a) because of the illness, disability or dementia, there is a serious likelihood of the person concerned causing immediate and serious harm to himself or herself or to other persons, or

(b)

(i) because of the severity of the illness, disability or dementia, the judgement of the person concerned is so impaired that failure to admit the person to an approved centre would be likely to lead to a serious deterioration in his or her condition or would prevent the administration of appropriate treatment that could be given only by such admission, and

(ii) the reception, detention and treatment of the person concerned in an approved centre would be likely to benefit or alleviate the condition of that person to a material extent.'

'Mental illness' means a state of mind of a person which affects the person's thinking, perceiving, emotion, or judgement and which seriously impairs the mental function of the person to the extent that he or she requires care or medical treatment in his or her own interest or in the interest of other persons.

'Severe dementia' means a deterioration of the brain of a person, which significantly impairs the intellectual function of the person, thereby affecting thought, comprehension, and memory and which includes severe psychiatric or behavioural symptoms such as physical aggression.

'Significant intellectual disability' means a state of arrested or incomplete development of the mind of a person, which includes significant impairment of intelligence and social functioning and abnormally aggressive or seriously irresponsible conduct on the part of the person.

Under Section 8, the following are excluded if they are the only conditions present: personality disorder, being 'socially deviant', and being addicted to drugs or intoxicants.

Other definitions

Approved centre—hospitals or other inpatient facilities for the care and treatment of people suffering from mental illness or mental disorder. Must be registered with the Mental Health Commission (MHC).

Review tribunal—the legal forum which reviews the making of every admission and renewal order. Has three members: a legally qualified chairperson, a consultant psychiatrist, and another member.

Mental Health Commission (MHC)—the body responsible for monitoring the standards of mental health services and protecting detained patients. Has a more direct role in the latter than similar bodies in the UK.

Inspector of Mental Health Services—consultant psychiatrist appointed by the MHC to visit and inspect approved centres and to review mental health services. Will also review individual cases when visiting centres.

Mental Health Commission

The MHC was established in April 2002. Its main purpose is to promote, encourage, and foster the establishment and maintenance of high standards and good practices in the delivery of mental health services and to protect the interests of detained patients. It is notified of every episode of detention and renewal, appoints tribunals, maintains a panel of consultants to undertake independent examinations, appoints an Inspector of Mental Health Services, maintains a register of approved centres, makes regulations as to the use of seclusion and restraint, and prepares codes of practice and other documents.

Mental Health Act: Republic of Ireland 2

Compulsory measures

Application for involuntary admission (Section 9)

An application for admission may be made under Section 9 by a spouse or relative, an authorized officer (of the Health Board), a

garda, or any other person (with certain exclusions applying). The applicant must have seen the person within the last 48hrs.

Medical assessment (Section 10)

Within 24hrs of the application being made, a medical practitioner (who does not work at the approved centre where the person may be admitted) should examine the person. The doctor should inform the person about the purpose of the examination, unless this would be detrimental to the person. If the doctor considers the person to be mentally disordered, then a recommendation may be made, allowing involuntary admission to an approved centre. This remains in force for 7 days.

Power of the garda to detain and apply for involuntary admission (Section 12)

The garda may take a person into custody if they have reasonable grounds to believe that the person is mentally disordered and, because of this, there is a serious likelihood of the person harming themselves or others. They may forcibly enter premises, if necessary. The garda would then follow the usual application for an involuntary admission procedure (Section 9). If this application is granted, the garda must take the person to an approved centre.

Removal to an approved centre (Section 13)

The applicant is responsible for getting the person to an approved centre. If not possible, then the doctor making the recommendation may request that staff from the centre do this. The garda may be asked for assistance.

Admission to an approved centre (Sections 14 and 15)

When the person is admitted to an approved centre, a consultant psychiatrist must examine them as soon as is practicable (Section 14). They may be held for 24hrs to allow this examination. If this psychiatrist is satisfied that the person is suffering from mental disorder, then an 'admission order' is made.

Under Section 15, an admission order authorizes the detention and treatment of the patient in the centre for 21 days. This may be renewed (as a 'renewal order') for 3mths initially, then 6mths, and then annually thereafter. The consultant responsible for the patient must make the renewal, following an examination in the week, before making the renewal order. When an order (admission or renewal) is made, the consultant must send a copy to the MHC and a written notice to the patient (Section 16).

Voluntary patients wishing to leave an approved centre

Previously, a voluntary patient had to give 3 days' notice of intention to leave. Under Section 23, a voluntary patient may leave hospital at any point, unless a consultant psychiatrist or doctor or nurse on the staff considers that they suffer from a mental disorder. If this is the case, they may be detained for up to 24hrs. During this period, the responsible consultant must either discharge the patient or arrange an examination by another consultant. If this consultant is of the opinion that the patient is mentally disordered, then they

issue a certificate and the patient is detained as they would be under an admission order (Section 14).

Treatment of patients subject to compulsion (Part 4)

- The consent of a patient to treatment is required, except where the consultant psychiatrist considers that the treatment is necessary to safeguard the life of the patient, to restore their health, to alleviate their condition, or to relieve their suffering, and the patient is incapable of giving such consent because of mental disorder.
- Neurosurgery for mental disorder may not be performed, unless the patient consents and it is authorized by a tribunal.
- ECT may not be given, unless the patient gives consent in writing or where the patient is unable or unwilling to give consent, the therapy is authorized by the responsible consultant psychiatrist and another consultant psychiatrist.
- Medication for amelioration of the mental disorder for >3mths cannot be given, unless the patient consents in writing, or, where the patient is unable or unwilling to give consent, the continued medication is authorized by the consultant psychiatrist responsible for the patient and by another consultant psychiatrist. This must be renewed every 3mths.

Review

When the MHC receives a copy of an order, it must refer the case to a tribunal, assign a legal representative to the patient if they do not have one, and direct that a member of the panel of consultant psychiatrists appointed by the MHC reviews the case (Section 17).

Within 21 days of the making of the order, the tribunal must review the detention. The tribunal may affirm or revoke the order, depending on whether the criteria for detention are met (Section 18). An appeal against a tribunal's decision may be made to the Circuit Court (Section 19).

Leave, absconding, and transfers

Procedures allow for patients to be allowed to be absent from the approved centre, with the authorization of the consultant responsible for their care (Section 26); for patients to be taken into custody and returned to an approved centre if they abscond (Section 27); and for patients to be transferred to other approved centres and hospitals (Sections 20, 21, and 22).

Issues of confidentiality

> 'Whatever … I may see or hear in the lives of men which ought not to be spoken abroad I will not divulge, as reckoning that all such should be kept secret.'
>
> Hippocratic Oath

Patients' right to confidentiality

Patients have a right to expect that information about them will be held in confidence by their doctors. Confidentiality is central to trust between doctors and patients. Without assurances about confidentiality, patients may be reluctant to give doctors the information they need in order to provide good care. If you are asked to provide information about patients, you should:

- Seek patients' consent to disclosure, wherever possible, whether or not you judge that patients can be identified from the disclosure.
- Anonymize data where this will serve the intended purpose.
- Keep disclosures to the minimum necessary.
- Always document and be prepared to justify your decisions.

Protecting information

- Doctors have a professional responsibility to ensure patient information is effectively protected against improper disclosure at all times.
- Many improper disclosures are unintentional—do not discuss patients where you can be overheard or leave patients' records, either on paper or on screen, where they can be seen by other patients, unauthorized healthcare staff, or the public ( Confidentiality expectations: the reality, see opposite).
- Allowing for issues of personal safety, ensure that, as far as possible, your consultations with patients are private.

Sharing information with others providing care

- Ensure that patients are aware that personal information about them will be shared within the healthcare team and of the reasons for this.
- Respect the wishes of any patient who does not wish specific information to be shared in this way, unless to do so would put others at risk of death or serious harm.
- Where patients have consented to treatment, express consent is not usually needed before relevant personal information is shared, to enable the treatment to be provided safely and ensure continuity of care (e.g. medical secretaries typing letters to GPs, referrals for further investigations, referrals to other specialists).

Medical reports

This includes both specific requests for a particular report on current medical problems and disclosure of information from existing medical records for a third party (e.g. court report, insurance claim, benefits claim). In these circumstances:

- Satisfy yourself that the patient has been told about the purpose of the examination and/or disclosure, the extent of the information to be disclosed, and the fact that relevant information cannot be concealed or withheld. (Showing the form or letter of request to the patient may assist in ensuring they understand the scope of information requested.)
- Obtain evidence of written consent to the disclosure from the patient or a person properly authorized to act on the patient's

behalf.
- Disclose only information relevant to the request made.
- Include only unbiased, factual information that you can substantiate.
- Always check whether the patient wishes to see their report (the Access to Medical Reports Act 1988 entitles patients to see reports written about them before they are disclosed, in most circumstances).

Disclosures without consent to employers, insurance companies, or any other third party can be justified only in exceptional circumstances (e.g. to protect others from risk of death or serious harm; Breaking confidentiality, p. 970).

Recent developments

In 1997, the Caldicott Committee Report made a number of recommendations aimed at improving how the NHS handles and protects patient information. A key recommendation was the establishment of organizational guardians to oversee access to patient-identifiable information. These 'Caldicott Guardians' have been established and are responsible for internal protocols and policies on the use of such information and on its disclosure. A key principle is that of 'the need to know'.

Confidentiality expectations: the reality

Despite confidentiality being one of the main foundations of the 'privileged' doctor–patient relationship, expectations about where personal information may be reasonably disclosed varies among patients and medical professionals at different stages of their training. According to a *JAMA* study,[1] only 23% of patients believed they should be identified by name to other physicians, compared to 60% of house staff and 55% of medical students. Seventy per cent of medical students and 51% of house staff accepted talking about patient information with a spouse or friend, compared to only 17% of patients.

Breaking confidentiality

Personal information should not be disclosed to a third party (e.g. relative, partner, solicitor, police officer, or officer of a court) without the patient's express consent, except in the circumstances described in this section. If you decide to disclose confidential information against a patient's wishes, you must document this decision in the patient's notes and be prepared to explain/justify your decision (and communicate this decision to the patient).

Disclosures to protect the patient or others

- In some cases, the risk to third parties is so serious that it outweighs the patient's privacy interest, and the appropriate person or authority should be informed without undue delay. Examples of such circumstances include:
  - To assist in the prevention or detection of a serious crime (i.e. where someone may be at risk of death or serious harm) (e.g.

threats of violence; see Box 20.4) or suspected child abuse (Child maltreatment 1: general issues, p. 712).

- Where a colleague, who is also a patient, is placing patients at risk as a result of illness or other medical condition. (If you are in doubt about whether disclosure is justified, consult an experienced colleague or seek advice from a professional organization. The safety of patients must come first.)
- Where a patient continues to drive, against medical advice, when unfit to do so. In such circumstances, you should disclose relevant information to the medical adviser of the DVLA without delay. Fuller guidance is given in Fitness to drive, p. 972.

Box 20.4 The Tarasoff case

On 27 October 1969, Prosenjit Poddar killed his ex-girlfriend Tatiana Tarasoff. Two months earlier, Poddar had declared his intentions during an outpatient appointment with his psychotherapist Dr Lawrence Moore at the University of California at Berkeley's Cowell Memorial Hospital. Dr Moore tried to have Poddar confined to a mental institution for observation (including asking the university police for assistance). When law enforcement agents decided that Poddar was harmless and released him, Moore's director Dr Harvey Powelson requested that all evidence of contact between Moore and the police department be destroyed. No one pursued the case further.

After the murder, Tatiana's parents became aware of this prior knowledge and sued the university regents, hospital, and police department, claiming that, at least, a warning should have been issued to her. On 1 July 1976 (>6.5yrs after the murder), the Supreme Court of California found that the defendants had breached their duty to exercise reasonable care. In other words, physicians and therapists have a duty to warn third parties of threatened danger arising from a patient's violent intentions. As a final statement, the Court stated that 'protective privilege ends where public peril begins'.

Note: although often quoted when discussing issues of confidentiality, this case has no legal bearing in the UK. Even in the USA, the impact of the Tarasoff case has been less dramatic and intrusive than one might expect.

Disclosure in connection with judicial or other statutory proceedings

Under certain circumstances, disclosure of information is required by law:

- Notification of a known or suspected communicable disease.
- If ordered to do so by a judge or presiding officer of a court (unless the information appears to be irrelevant, e.g. details of relatives or partners of the patient not party to the proceedings).
- To assist a coroner, procurator fiscal, or other similar officer in connection with an inquest or fatal accident inquiry (only relevant

information should be provided).
- An official request from a statutory regulatory body for any of the healthcare professions, where disclosure is necessary in the interests of justice and for the safety of other patients.

Difficult situations

- Children and other patients who may lack competence to give consent (Consent to treatment, p. 936).
  - Always try to persuade them to allow an appropriate person (e.g. individual with parental responsibility) to be involved in the consultation.
  - Always inform the patient (and their relative or carer) prior to passing on information to another responsible person or statutory agency (e.g. social services).
  - Document in the patient's records the steps you have taken to obtain consent and the reasons for deciding to disclose information.
  - Where a person lacks capacity, disclosure should be in that person's best interests and follow the other basic principles regarding confidentiality.
- Situations of dual responsibilities (i.e. contractual obligations to third parties such as companies or organizations, e.g. occupational health services, insurance companies, benefits agencies, police forensic medical advisors, armed forces, prison services), as well as obligations to patients. Always ensure patients are aware of the purpose of the consultation and to whom you are contractually obliged to release information.
- If in doubt, consult (in the UK):
  - GMC: guidance may be found online (https://www.gmc-uk.org/ethical-guidance/ethical-guidance-for-doctors/confidentiality [accessed 13 July 2018].
  - Royal College of Psychiatrists: guidance may be found at https://www.rcpsych.ac.uk/usefulresources/publications/collegereports/cr/cr209.aspx [accessed 13 July 2018].
  - Consider seeking the advice of your medical defence body.

Fitness to drive

Principles and legal definitions

The DVLA in the UK sets out minimum medical standards of fitness to drive and the requirements for mental health in broad terms.

A clear distinction is made between the standards needed for Group 1 (cars and motorcycles) and Group 2 (lorries and buses) licences, the latter being more stringent due to the size of vehicle and the greater time spent at the wheel.

'Severe mental disorder' is defined by Section 92 of the Road Traffic Act 1988 as 'mental illness, arrested or incomplete development of the mind, psychopathic disorder or severe impairment of intelligence or social functioning'.

The standards set reflect not only the need for an improvement in the mental state, but also a period of stability, such that the risk of relapse can be assessed, should the patient fail to recognize any deterioration.

The standards for patients with misuse of, or dependency on, alcohol or drugs are detailed in Legal issues related to drug and alcohol misuse, p. 642.

Notes on medication

Section 4 of the Road Traffic Act 1988 states that 'any person who is driving or attempting to drive on the public highway, or other public place whilst unfit due to any drug, is liable to prosecution'.

All drugs acting on the CNS can impair alertness, concentration, and driving performance. This is particularly so at initiation of treatment or soon after and when dosage is being ↑. Driving must cease if adversely affected.

When planning the treatment of any patient (particularly professional drivers, e.g. of taxis, lorries, buses, or construction vehicles), always consider adverse side effect profiles which may impair driving ability:

- *Antidepressants*—anticholinergic/antihistaminic effects (sedation).
- *Antipsychotics*—both sedation and EPSEs (assess regularly).
- *BDZs*—the most likely psychotropic medication to impair driving performance; avoid long-acting compounds.
- *For all psychotropics*—consider the epileptogenic potential.

Duties and other considerations

Duty of care—doctors have a duty to advise their patients of the potential dangers of adverse effects from medication and interactions with other substances, especially alcohol.

Confidentiality—when a patient has a condition which makes driving unsafe and the patient is either unable to appreciate this or refuses to cease driving, GMC guidelines advise breaking confidentiality and informing the DVLA (see Box 20.5).

Patients detained under the MHA—similar rules as for informal patients (i.e. drivers must be able to satisfy the standards of fitness for their respective conditions and be free from any effects of medication which will affect driving adversely).

Further advice on fitness to drive

- Doctors may write to the DVLA or may speak to one of the medical advisors during office hours to seek advice about a particular driver (identified by an M number) or about fitness to drive in general.
- All DVLA advice is available online at http://www.dvla.gov.uk (including an email facility for use by medical professionals only) [accessed 13 July 2018].

Box 20.5 GMC guidance for informing the DVLA*

- The DVLA is legally responsible for deciding if a person is medically unfit to drive. They need to know when driving licence holders have a condition which may, now or in the future, affect their safety as a driver.
- Therefore, where patients have such conditions, you should:
  - Make sure that the patients understand that the condition may impair their ability to drive. If a patient is incapable of understanding this advice (e.g. because of dementia), you should inform the DVLA immediately.
  - Explain to patients that they have a legal duty to inform the DVLA about the condition.
- If the patient refuses to accept the diagnosis or the effect of the condition on their ability to drive, you can suggest that the patient seeks a second opinion and make appropriate arrangements for the patient to do so. You should advise patients not to drive until the second opinion has been obtained.
- If patients continue to drive when they are not fit to do so, you should make every reasonable effort to persuade them to stop. This may include telling their next of kin.
- If you do not manage to persuade patients to stop driving or you are given or find evidence that a patient is continuing to drive, contrary to advice, you should disclose relevant medical information immediately, in confidence, to the medical advisor at the DVLA.
- Before giving information to the DVLA, you should inform the patient of your decision to do so. Once the DVLA has been informed, you should also write to the patient to confirm that a disclosure has been made.

* Source: data from the GMC https://www.gmc-uk.org/ethical-guidance/ethical-guidance-for-doctors/confidentiality---patients-fitness-to-drive-and-reporting-concerns-to-the-dvla-or-dva/patients-fitness-to-drive-and-reporting-concerns-to-the-dvla-or-dva [accessed 13 July 2018].

DVLA requirements for specific psychiatric conditions

Anxiety or depression without significant memory or concentration problems, agitation, behavioural disturbance, or suicidal thoughts

- *Group 1 drivers*—DVLA need not be notified, and driving may continue.
- *Group 2 drivers*—very minor short-lived illnesses need not be notified.

Severe anxiety or depression with significant memory or concentration problems, agitation, behavioural disturbance, or suicidal thoughts

- *Group 1 drivers*—driving should cease, pending the outcome of medical enquiry. A period of stability, depending upon the circumstances, will be required before driving can be resumed.

Particularly dangerous are those who may attempt suicide at the wheel.

- *Group 2 drivers*—driving may be permitted when the person is well and stable for a period of 6mths. Medication must not cause side effects which would interfere with alertness or concentration. Driving is usually permitted if the anxiety or depression is long-standing but maintained symptom-free on doses of psychotropic medication which do not impair. DVLA may require psychiatric reports.

Acute psychosis (any cause)

- *Group 1 drivers*—driving must cease during the acute illness. Relicensing can be considered when all of the following conditions can be satisfied:
  - Has remained well and stable for at least 3mths.
  - Is compliant with treatment.
  - Is free from adverse effects of medication which would impair driving.
  - Subject to a favourable specialist report.

  Note: drivers who have a history of instability and/or poor compliance will require a longer period off driving.
- *Group 2 drivers*—driving should cease, pending the outcome of medical enquiry. The person must be well and stable for a minimum of 3yrs, with insight into their condition, before driving can be resumed. At that time, the DVLA will usually require a consultant examination. Any psychotropic medication should be of minimum effective dosage and not interfere with alertness and concentration, or in any other way impair driving performance. There should be no significant likelihood of recurrence.

Hypomania/mania

- *Group 1 drivers*—driving must cease during the acute illness. Following an isolated episode, relicensing can be reconsidered when all the following conditions can be satisfied:
  - Well and stable for at least 3mths.
  - Compliant with treatment.
  - Insight has been regained.
  - Free from adverse effects of medication which would impair driving.
  - Subject to a favourable specialist report.

  Note: hypomania or mania are particularly dangerous to driving when there are repeated changes of mood. Therefore, when there have been four or more episodes of mood swing within the previous 12mths, at least 6mths' stability will be required, with evidence of treatment compliance and a favourable specialist report.
- *Group 2 drivers*—driving must cease, pending the outcome of medical enquiry. The person must be well and stable for a minimum of 3yrs, with insight into their condition, before driving can be resumed. At that time, the DVLA will usually require a consultant examination. Any psychotropic medication should be of minimum effective dosage and not interfere with alertness and

concentration, or in any other way impair driving performance. There should be no significant likelihood of recurrence.

Schizophrenia or other chronic psychoses

- *Group 1 drivers*—the driver must satisfy all the following conditions:
  - Stable behaviour for at least 3mths.
  - Adequately compliant with treatment.
  - Free from adverse effects of medication which would impair driving.
  - Subject to a favourable specialist report.

  Note: for patients with continuing symptoms, even with limited insight, these do not necessarily preclude licensing. Symptoms should be unlikely to cause significant concentration problems, memory impairment, or distraction while driving. Particularly dangerous are those drivers whose psychotic symptoms relate to other road users.
- *Group 2 drivers*—driving must cease, pending the outcome of medical enquiry. The person must be well and stable for a minimum of 3yrs, with insight into their condition, before driving can be resumed. At that time, the DVLA will usually require a consultant examination. Any psychotropic medication should be of minimum effective dosage and not interfere with alertness and concentration, or in any other way impair driving performance. There should be no significant likelihood of recurrence.

Dementia or any organic brain syndrome

It is extremely difficult to assess driving ability in those with dementia. Those who have poor STM, disorientation, and lack of insight and judgement are almost certainly not fit to drive. The variable presentations and rates of progression are acknowledged. Disorders of attention will also cause impairment. A decision regarding fitness to drive is usually based on medical reports.

- *Group 1 drivers*—in early dementia, when sufficient skills are retained and progression is slow, a licence may be issued, subject to annual review. A formal driving assessment may be necessary.
- *Group 2 drivers*—refuse or revoke licence.

Intellectual disability

- *Group 1 drivers*—severe learning disability is not compatible with driving, and the licence application must be refused. In milder forms, provided there are no other relevant problems, it may be possible to hold a licence, but it will be necessary to demonstrate adequate functional ability at the wheel.
- *Group 2 drivers*—recommended permanent refusal or revocation if severe. Minor degrees of learning disability when the condition is stable, with no medical or psychiatric complications, may be compatible with the holding of a licence.

Persistent behaviour disorder

Includes post-head injury syndrome, psychopathic disorders, and non-epileptic seizure disorder.

- *Group 1 drivers*—if seriously disturbed (e.g. violent behaviour or alcohol abuse) and likely to be a source of danger at the wheel, the licence should be revoked or the application refused. Licence will be issued after medical reports confirm that behavioural disturbances have been satisfactorily controlled.
- *Group 2 drivers*—recommended refusal or revocation if associated with serious behaviour disturbance likely to make the individual a source of danger at the wheel. If the person matures and psychiatric reports confirm stability, consideration would be given to restoration of the licence, but a confirmatory psychiatrist report would be required.

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1 Weiss B (1982) Confidentiality expectations of patients, physicians, and medical students. *JAMA* **247**:2695.

Chapter 21

Transcultural psychiatry

A brief history of transcultural psychiatry

The joint publication by the Departments of Psychiatry and Anthropology at McGill University, Canada of *Transcultural Research in Mental Health Problems* in 1956 marked a new movement in psychiatry at a time when a number of prominent psychiatrists working in the UK and Canada had developed similar and complementary theories about the origin of mental disorder based on their experiences during World War II. Eric Wittkower, of German-Jewish and British descent, emigrated from Germany to the UK prior to the war. His experience of migration and subsequent alienation in both Germany and the UK made him interested in the effect of culture on mental disorder. While serving in the British Army, he studied the impact of stress, particularly related to personality type. 'JR' Rees, a military psychiatrist at the Tavistock, believed conflict to be a key aetiological factor in mental disorder, evidenced by 'battle neurosis' in frontline troops in World War II. In Canada, Ewan Cameron observed that societal stress from the widespread effects of war resulted in mental distress in susceptible individuals. All three psychiatrists were heavily influenced by Freud and used his psychodynamic approach as framework to underpin their theories. If conflict could cause a mental disorder, is this the factor that underpins all mental illness? And could addressing these conflicts result in a universal cure? So psychiatry became both a medical and a social science, hoping to address post-World War II problems: mass migration, rapid socio-economic change, and tension between neighbouring nations.

In the early twentieth century, there were two dominant theories of 'culture'—defined as 'the temperament, ideas, and beliefs of peoples'. Darwin's theories had been extended to 'cultural Darwinism', which deemed culture to be universal, with the development stage varying globally and the dominant western culture being the 'most advanced'. The anthropologist Frank Boas disagreed and took a more relativist view. He believed culture varied due to the range of experiences and environments to which cultural groups were exposed. A logical extension of the Boasian theory postulated that if personality and behaviours were affected

by culture, could culture cause mental illness? Using the Freudian theory, culture may lead to intrapsychic conflict, altering thought and behaviour through primitive defence mechanisms, with resulting psychological disturbance or mental illness. Since the focus of anthropology and psychiatry seemed increasingly aligned, it was felt that an alliance could be mutually beneficial. After the personal and societal trauma of war, a mood of collaboration to heal societies' wounds prevailed, prompting Wittkower to move to Canada to join Cameron—transcultural psychiatry was born.

From the start, tensions existed. Some believed mental illness was universal, with culture only impacting on presentation. To others, this was a thoughtless over-simplification. Maybe psychiatry and anthropology were not so similar? Psychiatry viewed culture as a potential cause of mental illness that could be diagnosed and treated in a relatively short time frame of months to years, whereas anthropology viewed culture as nurturing of individuals over much longer time frames. The advent of effective medications to treat mental illness and the subsequent decline in Freud's theory caused a seismic shift in psychiatric thinking. Neo-Kraeplinism and the medical model became the popular paradigm. New diagnostic classification systems (ICD-9 in 1975 and DSM-III in 1980) became atheoretical and were developed to facilitate research on these new medications.

Psychiatry was divided, with the rise of the anti-psychiatry movement, with which anthropology was aligned. Anthropologists deemed psychiatry 'too hasty', dismissing local illness categories and preferring DSM criteria without acknowledging that DSM was culturally derived, based on studies in western cultures. This resulted in 'culture-bound syndromes' ( Culture-bound syndromes?, p. 988), viewed by some as culturally influenced variants of universal disorders and by others as culturally specific behaviours with varying underlying causative factors (which could include mental illness). Illnesses such as CFS and anorexia nervosa were suggested as Western culture-bound syndromes. A dividing line grew between the increasingly dominant biological psychiatrists and the cultural/anthropological psychiatrists and anthropologists.

In the midst of this came the American Civil Rights Movement and a new focus on race/racism in psychiatry. How had years of oppression and disadvantage impacted on the psyche of the African-American population? The mainstream view that it had impacted negatively was used to justify ongoing segregation and oppression. African-American psychiatrists (Griers and Cobbs) asserted a generally positive adaptation had occurred, strengthening the personality. At the same time, the anti-colonization movement was spreading through Asia and Africa. Post-colonial practitioners rejected the universal application of Western psychiatric principles, particularly if applied in the manner of ongoing colonial dominance. The writings of 'transcultural

psychiatry experts' were criticized as maintaining colonialist and racist attitudes.

In the UK, with migration from former colonies, transcultural psychiatry became the domain of practitioners from minority ethnic groups or those working with ethnic minorities. It included anthropologists and psychiatrists who took a firm anti-racism position, advocating for equality of mental health, irrespective of race, gender, or culture. It produced evidence demonstrating that racism existed within psychiatry. People from ethnic minorities were more likely to be diagnosed with mental illness (especially schizophrenia) and to be admitted involuntarily to more restrictive secure units. They were less able to access beneficial treatment due to language barriers and lack of cultural understanding. Transcultural psychiatrists advocated for the commission of specialist units with 'culturally competent' practitioners and the development of culturally appropriate assessment tools. By 2005, the movement had come full circle—the broad categories or forms of mental disorder (psychotic disorder, affective disorder) regarded as universal; experiences and culture of the individual influencing the content of the presentation; consideration of *both* being necessary for meaningful diagnostic formulation and development of an appropriate treatment plan.

Further reading

Bains F (2005) Race, culture and psychiatry: a history of transcultural psychiatry. *Hist Psychiatry* **16**:139–54.

Recent developments in global mental health

The Global Burden of Disease (GBD) Study 1990 was undertaken by the Harvard School of Public Health, with funding from the World Bank, to evaluate the attribution of disease and injury from leading medical causes, exposures, and risk factors, to aid with control and prevention. This introduced a new metric in standardizing the measurement of health outcomes to allow comparison across disorders and populations and reflect not just mortality, but also mortality and disability in combination. Disability-adjusted life years (DALYs) were calculated, combining years of expected life lost (YLL) plus years of life lived with a disability, weighted for the impact of the disability on those years. The results of this study, published in 1992, were surprising. It provided clear epidemiological data on mental neurological substance misuse disorders (MNS) from all world regions, and they accounted for a higher proportion of burden of disease than expected. Previous studies using mortality outcomes had significantly underestimated the impact of MNS due to misclassification of deaths related to mental disorder to the underlying physical cause and the fact suicide was not always recorded due to uncertainty or being re-categorized as injury. Now that disability was included, the picture had changed. Unipolar depression was among the ten leading

causes of disability worldwide, more in high-income countries, but also in low-income countries, matching cardiovascular disease.

Subsequently, the WHO World Health Report in 2001[1] focused on mental health. *Mental Health: New Understanding, New Hope* highlighted the need to address mental disorders and their human, social, and economic impact. It measured the gap between those requiring care and those receiving effective evidence-based healthcare, both in high- and low-income settings. The shortfall was shocking: 75% in high-income countries and up to 95% in low-income countries. The WHO conceptualized a framework with ten recommendations for action: treatment in primary care; availability of psychotropic medication; care in the community; education of the public to address stigma and discrimination; user and carer involvement; national mental health policies, plans, and legislation; human resources; multi-sector approach (social care, welfare, legal, education); monitoring systems for mental health and mental health outcomes; and research. However, lack of resources and leadership from the WHO meant the report had little impact. International development organizations and funders of research consistently ignored the increasing evidence on the burden and impact of mental disorders.

In 2007, the Lancet Mental Health Group published the polemical *Series on Global Mental Health*—ten papers on the areas in the WHO World Report which highlighted the parlous current situation, cited the existing body of high-quality evidence to address the unmet need, and stated the requirements for future action. The papers were written collaboratively by researchers and advocates from the international research world, based in institutions in both high- and low-income countries. The series ended with a call for urgent action by governments, development organizations, funding bodies, and researchers: ' … for political leadership and priority setting, for increasing financial support, for decentralising mental health services, for integrating mental health into primary care, for increasing health workers trained in mental health, and for strengthening public health perspectives in mental health … (with) a clear set of indicators to measure progress at country level.'

In 2008, the WHO launched the Mental Health Gap Action Programme (mhGAP)—'Scaling up care for mental neurological and substance misuse disorders', with the core objectives being: 'To reinforce the commitment of governments, international organizations, and other stakeholders to increase the allocation of financial and human resources for care of MNS disorders. To achieve much higher coverage with key interventions in the countries with low and lower middle incomes that have a large proportion of the global burden of MNS disorders.'

In 2010, the mhGAP treatment guide for assessment and management of MNS in non-specialist health settings was published. This was developed by a consortium of experts in the field and provided an evidence-based guide for primary care workers to start to address the unmet need. It was designed to be contextualized for local use and has accompanying skills-based

training material to develop capacity in non-specialist healthcare workers.

To track progress over the proceeding 4yrs since the first global mental health (GMH) series, *The Lancet* published the second series on GMH in 2011. The results were encouraging; however, there were still significant challenges faced by the GMH community, researchers, clinicians, policy developers, and most importantly the service users, with poverty and human rights abuses remaining the norm, rather than the exception.

Results from the GBD Study 2010 were published in 2015 and showed a further increase of 38% in the proportion of disability attributed to MNS. The reduction in under 5-yr mortality was the main reason attributed. This led to an epidemiological transition in population age structure of the populations studied, with a greater proportion of the population surviving to the age range when the majority of MNS develop.

On 25 September 2015, the 194 countries of the United Nations General Assembly adopted the 2030 Development Agenda titled *Transforming Our World: The 2030 Agenda for Sustainable Development*. This agenda outlined 17 Sustainable Development Goals (SDGs) to replace the Millennium Development Goals. The SDGs include mental health in goal number 3: 'ensuring healthy lives and promoting well-being for all at all ages', with a reduction in suicide rate as a proposed outcome indicator. This is a significant advance, raising the profile of mental health on the international health agenda, and attributable directly to the significant efforts of the GMH community in the last 25yrs.

Cultural formulation in DSM-IV and DSM-5

DSM-IV, published in 1990, included the first section to address cultural influence on the presentation of mental disorders. This was the outline for cultural formulation (OCF), which was derived through literature review by the National Institute of Mental Health (NIMH) to 'identify cultural and contextual factors relevant to diagnosis and management … to supplement the multiaxial diagnostic assessment and to address difficulties that may be encountered in applying DSM-IV criteria in a multicultural environment.'[2] The purpose of this was to produce a more holistic and tailored management plan.

While it was generally agreed that the OCF was a valuable addition to DSM-IV, there were problems with its clinical implementation due to little formal training being offered and a lack of implementation instructions, leading to confusion over whether it was a separate assessment from the diagnostic interview or it ought to be integrated into the standard interview through specific questions. There was even uncertainty about what service settings (inpatient or outpatient) and with which types of patients were appropriate for it to be used.

As a result, the DSM-5 Cultural Issues Subgroup met in 2010 and 2011 and devised a standard, manualized Cultural Formulation

Interview (CFI) for use at the start of any diagnostic evaluation. The CFI was tested in 2011 and 2012 in an international field trial, examining its feasibility, acceptability, and clinical utility among clinicians and patients. There were 11 collaborating sites in the USA, Canada, India, Peru, Kenya, and the Netherlands. On the basis of these results, the CFI was revised into the final version, which was published in DSM-5 in 2013.

DSM-5 Cultural Formulation Interview

The interview comes in a service user and an informant version. It designed to supplement formal psychiatric assessment to enhance clinical understanding and decision; it is not a diagnostic tool. Additional use of a cultural facilitator ± translator should be available, if required.

It consists of 16 items, covering four broad concepts:[3]

1. Cultural definition of the problem

- Why are you here? What do you think the problem is?
- How would others in your community describe this problem?
- What worries you most about what is happening?

2. Cultural perception of cause, context, and support

Cause

- What is the cause of the problem? Why is it happening?
- What would others in your community think was causing the problem?

Stressors and support

- Are there kinds of support that make your problem better?
- Are there kinds of stresses that make your problem worse?

Context—role of cultural identity

- What are the most important aspects to you of your background/culture/identity?
- Do any aspects of this have an impact on your problem?
- Identify whether there are other aspects of their background/culture/identity that are causing concerns/difficulties.

3. Cultural factors affecting self-coping and past help seeking

- What have you done on your own to cope with the problem?
- In the past, what kinds of treatment, help, advice, or healing have you sought? Was this helpful or not?
- Has anything prevented you from getting the help you need? Family commitments, stigma, lack of services?

4. Cultural factors affecting current help seeking

- What do you think would be most helpful for you?
- Have others in your community made suggestions about what would be helpful?
- Sometimes misunderstandings occur between doctors and patients because they are from different backgrounds. Have you been worried about this? How can we make sure we provide the care you need?

Cultural context and the presentation of psychiatric disorders

Schizophrenia

Some apparently psychotic experiences may be normal when viewed within a cultural context. This applies to delusions (e.g. belief in magic, spirits, or demons) and hallucinations (e.g. seeing 'auras', the appearance of divine entities, hearing God's voice). Other evidence of apparent psychosis (e.g. disorganized speech) may actually reflect local variations in language syntax or a lack of fluency in the language used by the interviewer. Differences in non-verbal communication (e.g. eye contact, facial expression, body language) may also be misinterpreted. In the UK and USA, schizophrenia is more readily diagnosed in certain cultural groups (e.g. Afro-Caribbeans). This may reflect actual higher rates of psychotic disorder in first- and second-generation migrants, with meta-analyses finding a tripling of rates of psychotic disorders in this population.[4] Some symptoms of schizophrenia (e.g. catatonia) are more common in non-Western countries, and even between Western countries, the diagnosis of brief psychoses (e.g. bouffée délirante) varies. The view that schizophrenia is more acute and has a better long-term outcome in developing countries has been challenged, with systematic reviews of the evidence finding outcome measures were inconsistently applied and lack of access to care associated with worse outcomes. Subjects in earlier studies were recruited from academic institutions and may not truly represent the general population of the included country.[5]

Depression

Cultural expressions of depressive symptoms vary across populations. In some cultures, there is greater emphasis on somatic terms, e.g. 'nerves' or 'headaches' (Mediterranean cultures); 'problems of the heart' (Middle East); 'imbalance', 'weakness', or 'tiredness' (China and Asia). This often makes use of Western diagnostic classifications difficult, as symptoms may cross diagnostic boundaries (e.g. mood, anxiety, somatoform disorders). Equally difficult may be the interpretation of culturally normal explanations for symptom causation—which may appear delusional (e.g. spirit possession) or associated with somatic symptoms (Somatization disorder, p. 985)—that need to be distinguished from actual hallucinations.

Anxiety and stress-related disorders

OCD—religious and cultural beliefs strongly influence the content of obsessions and nature of compulsions. It may be difficult to assess the significance of ritualistic behaviours, which could be consistent with usual religious practice, unless the clinician has a knowledge of local customs.

PTSD—immigrants may have emigrated to escape military conflict or particularly harsh regimes. They may have had experience of significant traumatic events but may be unwilling (or

unable) to discuss them because of language problems or fears of being sent back.

Somatization disorder

Common types of somatic symptoms vary across cultures (and genders within cultures). These reflect the principal concerns of a population (or individual), e.g. worms/insects in the scalp/under the skin in South East Asia and Africa; concern about semen loss in India (see *Dhat* in Examples of the most common cultural concepts of distress, p. 990) and China (see *Shenk-k'ui* in Examples of the most common cultural concepts of distress, p. 990).

Conversion and dissociative disorders

More common in rural populations and isolated societies; may be culturally normal. Certain religious rituals involve alteration in consciousness (including trance states), beliefs in spirit possession, and varieties of socially sanctioned behaviours that could be viewed as conversion or dissociative disorders (e.g. *spell* or *zar* in Box 21.1 Subtypes of culture-bound syndromes, p. 989). Similiarly, 'running' subtypes of culture-bound syndromes have symptoms that would meet criteria for dissociative fugue (Dissociative (conversion) disorders, p. 868).

Anorexia nervosa

Considered more prevalent in some Western societies where food is in abundance and cultural influences promote thinness as the ideal body shape. Immigrants may assimilate this ideal or may present with primary symptoms other than a disturbed body image and fear of weight gain (e.g. stomach pains, lack of enjoyment of food). Evidence from non-Western cultures suggests that food restriction does exist as a disorder, but with fasting viewed as a positive behaviour within a religious context.

Alcohol and substance misuse

Cultural factors heavily influence the availability, patterns of use, and attitudes about, and even the physiological or behavioural effects of, alcohol and other substances.

Alcohol—social, family, and religious attitudes towards the use of alcohol may all influence patterns of use and the likelihood of developing alcohol-related problems. Low levels of education, unemployment, and low social status are all associated with misuse of alcohol. In some populations (e.g. Japanese and Chinese), up to 50% may have a deficiency of aldehyde dehydrogenase (complete absence in 10%), with low rates of alcohol problems in these populations because the physiological effects of consuming alcohol may be extremely unpleasant (e.g. flushing and palpitations due to accumulation of acetylaldehyde).

Russia, after the collapse of the USSR, experienced a reduction in life expectancy from all-cause mortality in men aged between 25 and 54yrs in 1990s, due to acute and chronic effects of prolonged and extreme binge drinking of non-regulated alcohol/alcohol proxies.[6]

Other substances—use of hallucinogens and other drugs may be culturally acceptable when part of religious rituals (e.g. peyote in the Native American Church, cannabis in Rastafarianism). Equally, secular movements, typified by the hippie movements of the 1960s and 1970s, or more recently the 'dance culture' provide a context in which psychedelic experiences (e.g. induced by LSD or MDMA) may be experienced without any adverse social sanctions.

Culture-bound syndromes?

Culture-bound or culture-specific syndromes comprise a wide range of disorders occurring in particular localities or ethnic groups, which are geographically isolated and culturally diverse. The term was first coined by Yap in his 1951 paper *Mental diseases peculiar to certain cultures: a survey of comparative psychiatry*.[7] The main focus of this paper was '*amok*', a condition first described in the eighteenth century by Captain Cook on witnessing individuals behaving in a frenzied and violent fashion, without apparent cause, with indiscriminate killing of individuals or animals, first in the Malay islands and then throughout South East Asia. Local mythology attributed this apparently involuntary behaviour to an individual being possessed by '*hantu belian*' (the evil tiger spirit), and it was tolerated by the communities in which the behaviour occurred. Yap delineated the phenomenology of *amok*—a preceding period of brooding, low mood, or personal loss; subsequent extreme, apparently motiveless violent attacks, with the individual either being killed during the process or collapsing in exhaustion and having amnesia for the event. This underlying pathogenesis was suggested to be a psychotic depression or dissociative disorder.

Subsequent critique of this paper in particular and the concept of '*culture-bound syndromes*' in general suggested that for a syndrome to be truly culture-bound, it should only be found in a discrete society; however, by the twentieth century, this type of behaviour had been described in many other countries. When researchers attempted to categorize culture-bound syndromes according to primary phenomenology, a number of subtypes appeared to emerge (see Box 21.1). Many commentators questioned whether it was possible to understand and conceptualize culture-bound syndromes within the sphere of diagnosable mental disorders. This reflected concerns—that continue to the present day—about the dominating impact of western classification systems and the medical model resulting in an undervaluing of local wisdom and an understanding of role of these behaviours within a society being lost.

DSM-5 (2013) attempts to address this issue by acknowledging that '*all forms of distress are locally shaped, including DSM*

diagnoses' and by modifying culturally determined criteria to make them more equivalent across different cultures, e.g. including the fear of '*offending others*' in the criteria for social anxiety to reflect the Japanese concept in which avoiding harm to others is emphasized, rather than harm to oneself. DSM-5 considers the term '*culture-bound syndrome*' to be insufficient to encompass the broad range of both presentations and variation in severity. Similarly, '*idioms of distress*', '*popular category of distress*', '*cultural syndrome*', and '*explanatory model*' are also regarded as inadequate. The agreed term '*cultural concept of distress*' (CCD) attempts to bring together these concepts without implying cultural exclusivity.

GMH research has now started to apply epidemiological methodology more systematically to the available evidence. For example, a multinational group of researchers, led by Duke Global Health Institute has compared CCDs with diagnostic criteria and epidemiological/aetiological determinants of psychiatric disorders through a literature review and meta-analysis that included 45 studies of sufficient quality, comprising 18,782 unique participants.[8]

The most common CCDs were identified (Examples of the most common cultural concepts of distress, p. 990), and there were associations between CCD and mental disorder, with an increase in odds of 7.5 of having depression, five times the odds of having GAD, and ten times the odds of having PTSD. While the authors acknowledged that CCDs are not inherently unamenable to epidemiological study, the poor quality of the evidence base has impeded conceptual advancement and service application. It is hoped that through the use of culturally contextual rating scales [e.g. the Systematic Assessment of Quality in Observational Research (SAQOR) adapted for use in cultural psychiatric epidemiology (SAQOR-CPE)], CCD research could lead to enhanced detection of mental health problems by identifying vulnerable populations (i.e. CCD may be regarded as prodromal or as a vulnerability marker), reduced cultural biases in diagnostic criteria, and ↑ cultural salience of interventions—both service delivery and effective treatment.

As we move further into the twenty-first century, we are moving away from ever increasingly long lists of unvalidated *culture-bound syndromes* towards a more culturally sensitive, global conceptualization of mental health problems that is person-centered.[9]

Box 21.1 'Subtypes' of culture-bound syndromes

- Startle reaction, e.g. latah, amurakh, irkunii, ikota, olan miryachit, menkeiti, bah-tschi, bah-tsi, baah-ji, imu, mali-mali, silok.
- Genital retraction, e.g. koro, kattao, suo yang, jinjinia bemar, rok-joo.

- Sudden assault, e.g. amok, cafard/cathard, mal de pelea, fighting sickness, juramentado, Puerto Rican syndrome, iich 'aa, going postal.
- Running, e.g. pibloktoq/arctic hysteria, grisi siknis.
- Semen loss, e.g. dhat, jiryan, sukra prameha, shenkui.
- Food restriction, e.g. anorexia nervosa, bulimia nervosa, anorexia mirabilis/holy anorexia.
- Spirit possession, e.g. bebainan, spell, zar.
- Obsession with the deceased, e.g. ghost sickness, hsieh-ping, shin-byung.
- Exhaustion, e.g. neuraesthenia, CFS/ME, brain fag/brain fog, shenjian shuairuo, nervios.
- Suppressed rage, e.g. hwa-byung/wool-hwa-bung, bilis, colera.

Examples of the most common cultural concepts of distress

Nervios-related conditions In the Americas, nervios ('nerves')-related conditions among Latino populations are the most commonly described CCD. Nervios is described as starting with a persistent idea that 'is stuck to one's mind' ('*idea pegada a la mente*') and that comes to preoccupy the individual affected. Feelings of humiliation may lead to slow deterioration of the mind, nerves, and spirit, and sufferers are worried that this may even cause death if adequate help is not received in time. The spectrum of nervios begins with socially acceptable nervousness—'*ser una persona nerviosa*' (being a nervous person). '*Padecer de los nervios*' (suffering from nerves) is more serious. '*Ataques de nervios*' (attacks of nerves) are more severe and characterized by social stressors triggering the loss of behavioural control, with dissociation, violent acts towards oneself or others, anger, and somatic distress. Severe cases can progress to '*loco*' (madness). '*Ataques de nervios*' share similarities with symptoms of panic attacks and panic disorder. However, the centrality of interpersonal disputes in triggering episodes, the marked dissociative features, and the evident relief experienced by some individuals after an attack distinguish them from panic attacks. These nervios-related conditions are associated with MUS, including neurological complaints, physical health problems, and functional impairment, independent of their association with psychiatric disorders.

Dhat Dhat syndrome has been studied in South Asia, including India, rural areas of Nepal, Sri Lanka, and Bangladesh and is rooted in Ayurvedic traditions about bodily production of semen as representing an end-product of energy-demanding metabolism. Dhat is recognized by a whitish discharge in the urine assumed to be semen. This 'loss of semen' is associated with somatic symptoms (weakness, exhaustion), severe anxiety, hypochondriasis, and sexual dysfunction. Although STIs may be a source of such white discharge, dhat sufferers do not appear to have a greater frequency of STIs. Traditional remedies consist of herbal tonics to restore semen/humoral balance. Similar syndromes

include jiryan (India), sukra prameha (Sri Lanka), shenkui/shenk-k'ui (China), and Western ideas of weakness, physical illness, and mental illness being related to the loss of semen (or attributed to masturbation).

Koro Malay: 'to shrink' or referring to a 'tortoise' (a popular word for penis). A form of 'genital retraction syndrome'—the fear or delusion that the genitals are retracting into the abdomen and that death will occur once this has happened. Prodromal depersonalization usually occurs, and elaborate measures may be taken to prevent the penis from retracting (e.g. grasping of the genitals, splints or other devices, herbal remedies, or fellatio). Occurs predominantly in young, single ♂ in Asia and the Middle East, with epidemics described in the Malay Archipelago, Thailand, China, India, Singapore, and Israel. Sporadic cases have been reported in Africa, Europe, and North America. The ♀ equivalent (fear or delusion that the labia or nipples are retracting) occurs rarely, and most reported cases have been during epidemics. Cases have been associated with other psychiatric disorders, including phobic anxiety disorders, depression, schizophrenia, and depersonalization syndromes. Other names for this syndrome include: suk-yeong/suo yang (Chinese: 'shrunken penis'), kattao (Indian: 'cut off'), jinjinia bemar (Assam), and rok-joo (Thailand).

Brain fag Described particularly in Western African students and characterized by distress from 'thinking too much', reduced concentration, poor memory, blurred vision, and head/neck pain (often described as tightness, pressure, heat, or burning). Symptoms closely resemble anxiety, depressive, or somatoform disorders. There are similarities with the Nigerian cultural concept of distress—*ode ori* ('hunter in the head'), in which the brain under the anterior fontanelle is affected [this area is thought to be where the *iye* ('senses') control mental functions through *okun* ('strings') that project throughout the body and provide direct links between the brain, eyes, ears, and heart]. *Kufungisisa* ('thinking too much') is regarded as both a cause and a consequence of other physical and psychological problems in Zimbabwe, with symptoms including pain and feelings of physical pressure on the heart.

Khyal attacks and 'wind'-related illnesses The substance qi (or chi, chi'i, khı, khii, rlung, khyal) is associated with wind flow and wind balance. Wind-related illnesses are commonly described in East Asian populations, including Tibetans, Cambodians, Vietnamese, Chinese, and Mongolians. Examples include Shenjing shuairuo (Chinese), studied by Kleinman in the 1970s and 1980s and associated with weakness, fatigue, and social distress (thought to be mediated by an alteration in qi), and Yadargaa (Mongolian)—a form of nervous fatigue (attributed to alteration in khii flow and balance). In the Vietnamese CCD, 'hit by wind' describes shifts in ambient temperature, especially gusts of cold air, causing physical complaints, traumatic memories, thinking too much, epilepsy, and stroke. In China, the cold is thought to worsen nerve weakness, and among Cambodians, the wind-like substance khyal is thought

to precipitate attacks associated with palpitations, asphyxia, and dizziness.

Hwa-byung Heat and fire are important elements in East Asian ethnopsychology. Hwa-byung ('fire illness due to chronic accumulated anger') in Korea occurs when haan (a mixture of sorrow, regret, hatred, revenge, and perseverance) builds up to create a pushing sensation in the chest, resulting in the inability to appropriately control one's anger, as well as other physical symptoms, e.g. tiredness, muscular aches and pains, breathlessness, palpitations, insomnia, dysphoria, panic, loss of appetite, and GI problems (indigestion, anorexia). Hwa-byung affects middle-aged women in Korea who have experienced years of interpersonal conflict, typically in the context of an abusive marital relationship. Similar CCDs include bilis and colera (Latin America), in which physical or mental illness is explained as due to extreme emotion (anger) that upsets the humours (described in terms of hot and cold).

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1 Lovell AM (2014) The World Health Organization and the contested beginnings of psychiatric epidemiology as an international discipline: one rope, many strands. *Int J Epidemiol* **43**(Suppl 1):i6–18.

2 Aggarwal NK, Glass A, Tirado A, *et al*. (2014) The development of the DSM-5 Cultural Formulation Interview-Fidelity Instrument (CFI-FI): a pilot study. *J Health Care Poor Underserved* **25**:1397–417.

3 American Psychiatric Association (2013) Cultural formulation. In: *Diagnostic and Statistical Manual of Mental Disorders*, 5th edn, pp. 749–59. Washington, DC: American Psychiatric Association.

4 Cantor-Graae E, Selten JP (2005) Schizophrenia and migration: a meta-analysis and review. *Am J Psychiatry* **162**:12–24.

5 Cohen A, Patel V, *et al*. (2008) Questioning an axiom: better prognosis for schizophrenia in the developing world? *Schizophrenia Bulletin* **34**:229–44.

6 Leon DA, Saburova L, Tomkins S, *et al*. (2007) Hazardous alcohol drinking and premature mortality in Russia: a population based case-control study. *Lancet* **369**:2001–9.

7 Yap PM (1951) Mental diseases peculiar to certain cultures: a survey of comparative psychiatry. *J Ment Sci* **97**:313–27.

8 Kohrt BA, Rasmussen A, Kaiser BN, *et al*. (2014) Cultural concepts of distress and psychiatric disorders: literature review and research recommendations for global mental health epidemiology. *Int J Epidemiol* **43**:365–406.

9 For this reason, we have abandoned the glossary of culture-bound syndromes in this fourth edition of the handbook. Lists can still be found easily on Wikipedia for die-hard fans of psychiatric trivia. However, a good clinician should always familiarize themselves with local idioms of disease when working with individuals from a culture with which they are unfamiliar.

Chapter 22

Therapeutic issues

Medication adherence

Is adherence important?

- It has been estimated that only one-third of patients prescribed medication actually adhere to the treatment plan (this applies to *all* medical specialties, not just psychiatry) and that ~80% of psychiatric admissions relate to medication non-adherence. Adherence is a particular problem when the illness runs a chronic course and requires the patient to be on medication *for life* (e.g. diabetes, IHD, pulmonary disease, schizophrenia).
- Patients with schizophrenia who comply with a sufficient dosage of antipsychotic medication have only about one-fifth the risk of relapse, compared to patients who do not take their medication.[1]
- There is good evidence that prophylactic lithium treatment of bipolar disorder reduces the likelihood of relapse (particularly manic relapse), as well as the risk of suicide.[2]
- Continuation of antidepressant treatment for *at least* 6mths after symptom resolution significantly reduces the risk of further

depressive episodes.[3]

Reasons for non-adherence

It is important to realize that the patient may have understandable reasons for being reluctant to take prescribed medication. Uncovering these reasons may help in negotiation and developing strategies to improve the situation.

- Continued symptoms of the underlying disorder (e.g. delusions, lack of motivation, impaired insight, and disorganization) or comorbid disorders (e.g. substance misuse, personality disorder).
- Negative attitude towards medication in general (vs other forms of treatment) or stigma associated with being 'on medication', particularly where there are external stigmata of treatment such as Parkinsonism ('looking like a zombie').
- Unacceptable (or unexpected) side effects (e.g. weight gain,  Weight gain with psychiatric medication, p. 1000; sedation; EPSEs,  Antipsychotic-induced Parkinsonism, p. 1010; sexual dysfunction,  Sexual dysfunction and psychiatric medication, p. 1006; perceived loss of 'good' symptoms, e.g. hypomania).
- Forgetting (genuine oversight, disorganization, cognitive impairment).
- Lack of communication (reasons for medication not fully explained or understood).
- Failure to obtain (or renew) prescription (through non-attendance, poor communication or poor relationship with responsible prescriber, e.g. GP).
- Belief that the medication is 'not working'.
- Feeling well and no longer seeing the need for medication. The 'reward' of freedom from side effects may be immediate, while the 'punishment' of relapse may be more distant, not taken seriously or not directly associated with stopping treatment.

Strategies to improve adherence

Education

- Promote insight/understanding of the illness and benefits of treatment.
- Provide information about the medication, how to take it, possible side effects, the length of time needed to see benefits, and the potential problems of suddenly stopping.
- Discuss the reasons for prophylactic or continued treatment, especially when the patient feels well (e.g. to reduce the risk of relapse and improve long-term outcome).
- Encourage discussion of pros and cons of suggested treatment plan.
- Encourage openness about potentially embarrassing issues that may lead to non-adherence (e.g. sexual side effects).
- Regularly ask about, and document, side effects at each review.

Sensible prescribing

- Simplify drug regime—use single dose where possible (most psychotropic medications have long half-lives and can be given once daily or are available in slow-release preparations).
- Minimize side effects through choice of a medication with the lowest potential for side effects and using the lowest therapeutic dose.
- If side effects are problematic, consider change to an alternative preparation or (where an alternative would be less effective) co-prescribing agents to counter significant problems.
- Rationalize medication choice, based on individual acceptability of side effects (e.g. *any* weight gain may be unacceptable to a young ♀ patient).
- Clear communication of any changes in regime both to the patient and primary care team (including written instructions for the patient and direct communication with the GP), especially if the primary care physician is the main prescriber.
- Consider use of depot antipsychotic preparations—this may sometimes be requested by the patient but is more often necessary when the patient lacks insight or has had significant serious relapses related to non-adherence.
- Regularly review the need for continued medication.

Practical/behavioural measures

- Written information to the patient, particularly where the regime is complex or where a change of dose/medication is planned.
- Establish a regular daily routine for taking medication.
- Use of a multicompartment compliance aid (e.g. Dosette® box).
- Supervised administration (e.g. by relative/carer, at pharmacy, in day hospital, by CPN).
- Active monitoring (e.g. tablet count; blood levels,  Plasma level monitoring, p. 998).

Off-label prescribing

Essence

In the UK, licensed medicines are granted a Marketing Authorization (previously called a product licence) by the Medicines and Healthcare Products Regulatory Agency under the Human Medicines Regulations 2012. For each drug, the *British National Formulary* (*BNF*) specifies the doses, indications, cautions, and adverse effects, which reflect those in the manufacturer's Summary of Product Characteristics. However, in spite of various licensed treatments, patients will often remain symptomatic and psychiatrists will consider prescribing medications outside the narrow terms of their licence.[4] Unlicensed prescribing does not imply lack of evidence in support of the proposed intervention and can still be safe and beneficial to the patient. In fact, it has also been argued that the product licence for a drug does not necessarily represent the best use of that compound.

General points

- The real extent of unlicensed prescribing in the UK is largely unknown; however, a systematic review of antipsychotic prescribing in children, adults, and the elderly found that off-label prescribing can be found in up to 75% of prescriptions.
- Drug companies do not usually test their medicines on children; hence, they cannot apply to license their medicines for use in the treatment of children. Nonetheless, BAP[5] has stated that healthcare professionals have a responsibility to prescribe the most effective and safe treatments for the benefit of their patients, and practitioners should use their professional judgement to determine these uses.
- No psychotropic medication is currently licensed for use in pregnancy or in breastfeeding mothers.
- It has been argued that the final prescribing decision should rest with the clinician, based on the availability of other therapeutic options and careful assessment of the potential risks and benefits (see Box 22.1 for legal considerations).

Types of unlicensed prescribing

- The prescription of a medication for an indication that is not covered within the terms of the Market Authorization.
- The prescription of a medication to a patient who lies outside the age range specified within the Summary of Product Characteristics.
- The prescription of a medication at doses above the maximum recommended dosage (Box 5.7 Guidelines for use of high-dose antipsychotics, p. 216).
- The use of a licensed medication for longer periods than those specified within the Marketing Authorization.

Recommendations for unlicensed prescribing

- Unlicensed prescribing should only occur when licensed treatments have been used or considered but excluded on clinical grounds (e.g. contraindications, risk of interactions).
- The prescriber should be familiar with any possible benefits and risks of the proposed treatment (ask specialist pharmacist for further guidance).
- Particular consideration is needed with children, older patients, and patients lacking capacity (Consent to treatment, p. 936).
- Whenever possible, a full explanation of the treatment should be given to the patient (and/or their relative, when relevant) and documented in the notes.
- Whenever possible, agreement of the patient (and/or their relative, when relevant) should be obtained, but if not possible, this should be noted.
- Prescription should be started cautiously, and the patient's progress monitored closely, with full documentation of treatment effectiveness and tolerance.

- If unsuccessful, treatment should be withdrawn carefully.

Box 22.1 Legal principles applying to unlicensed prescribing

- Legally unlicensed prescribing would not be held as a breach of the duty of care, as long as the prescriber had informed the patient of the risks that the patient would deem significant (Montgomery v Lanarkshire Health Board, 2015; The Montgomery case, p. 937)
- According to the case of Bolitho v City and Hackney Health Authority (1997), medical opinion should also be capable of withstanding logical analysis. In unlicensed prescribing, this implies that doctors consider the risks and benefits of varying treatment options, with due regard to the available evidence.

Plasma level monitoring

There are a limited number of drugs with well-established plasma levels that equate with efficacy. Plasma monitoring is a regular procedure only for lithium therapy. However, there may be a number of other reasons for requesting plasma levels (bear in mind that assays for *specific* drugs may not be locally available and may need special arrangements). Many psychiatric drugs have marked variations in metabolism or large numbers of active metabolites, making plasma levels difficult to interpret.

Reasons for monitoring

- Established therapeutic plasma levels (see Table 22.1).
- Monitoring of any changes in plasma level that might affect efficacy (e.g. due to drug interactions, physical illness, pregnancy, or altered pharmacokinetics over time).
- Clinical evidence of toxicity (e.g. lithium, anticonvulsants).
- Where there is doubt about patient compliance (e.g. lack of effect despite adequate or even high-dose treatment).
- In cases where the patient may be unable to report adverse effects (e.g. children, severe ID, dementia).
- After OD, to confirm it is safe to restart medication.

Plasma level monitoring of other psychotropics [aripiprazole (and dehydroaripiprazole), olanzapine, risperidone (and 9-hydroxy-risperidone), quetiapine, amisulpride, lamotrigine, sulpiride] is available in the UK[6] and could be used in assessing adherence, dose optimization, and if acute poisoning is suspected. However, it is not advised in routine practice and other ways of establishing treatment adherence are preferred [e.g. measurement of serum prolactin (PRL) if the patient is on risperidone; Hyperprolactinaemia with antipsychotics, p. 1004].

Table 22.1 Reference ranges for selected drugs

Lithium (Lithium, p. 350)	0.4–1mmol/L
Valproate (Valproate/valproic acid, p. 354)	50–100mg/L
Carbamazepine (Carbamazepine, p. 356)	4–12mg/L (>7mg/L may be more efficacious in bipolar disorder)
Clozapine (Clozapine 1: general guidelines, p. 218)	350–500mcg/L (0.35–0.5mg/L)

Paradoxical reactions to benzodiazepines

Essence

Paradoxical or 'disinhibitory' reactions to BDZs occur in a minority of patients (<1% of general population) and are characterized by acute excitement and altered mental state:[7]

- ↑ anxiety.
- Vivid dreams.
- Hyperactivity.
- Sexual disinhibition.
- Hostility and rage ('aggressive dyscontrol').

Recognition is important, as behavioural disturbance may be exacerbated by inappropriate use of higher doses of BDZs. *Note*: similar types of reaction are described for most CNS depressants (e.g. alcohol, barbiturates).

Aetiology

Not fully understood. Theories include: 'release behaviour' due to loss of frontal lobe inhibition through $GABA_A$ mechanism; BDZ-related reduction in 5-HT neurotransmission; BDZ-related reduction in ACh neurotransmission.

Risk factors

Children, learning disability, history of brain injury, dementia, BPD, antisocial personality disorder, history of aggression/poor impulse control, alcoholism, family/personal history of paradoxical reaction, use of high-dose/high-potency BDZs (e.g. alprazolam, clonazepam, flunitrazepam, triazolam), IV/intranasal administration.

Management

- Primary management is supportive. Nurse in a safe environment, with constant supervision.
- Can use sedative antipsychotic to treat acute behavioural disturbance, if necessary.
- In extreme cases, consider use of IV flumazenil (may require repeated doses).
- Clearly record occurrence of paradoxical reaction, so future episodes of acute behavioural disturbance can be managed

appropriately.

Weight gain with psychiatric medication

General points

Weight gain is a significant cause of non-compliance with psychiatric medication, and patients often complain about increases in weight, even when clinicians may regard it as 'clinically insignificant'. Effects on general health, self-esteem, and social embarrassment should not be overlooked.

Antipsychotics

Proposed mechanisms

Sedation (reduced activity), thirst (anticholinergic side effects), reduced metabolism, fluid retention, endocrine effects (↑ PRL, altered cortisol, altered insulin secretion), increases in leptin levels (changes in 'set-point' weight), and altered neurotransmitters (e.g. 5-HT_{2C} blockade, H1 histamine receptor blockade), genetic risk factors (e.g. *HTR2C, MC4R* genes) have all been proposed.[8]

Increased risk

♀, previous pattern of overeating, narcissistic traits, family or personal history of obesity.

Effects of specific agents

(See Table 22.2.)

Management

- Inform the patient about the risk of weight gain, and involve them in the choice of antipsychotic, if feasible.
- Regular monitoring of weight.
- Encourage a 'healthy diet', moderate physical exercise, and avoidance of high-calorie fluids. Involve a dietitian, if necessary.
- Use the lowest therapeutic dose; introduce medication increases slowly; consider intermittent dosing.
- Consider adjunctive prescribing (e.g. clozapine *plus* aripiprazole, to allow lowering of clozapine dose, augmenting with metformin, augmenting with betahistine ± reboxetine).

Antidepressants

Proposed mechanisms

Reduced metabolism, carbohydrate craving (*Note:* may be a symptom of depression itself), central serotonin mechanisms in regulating food intake (appetite/satiety), H1 histamine receptor blockade (e.g. TCAs, mirtazapine).

Effects of specific agents

All antidepressants can cause weight changes (mostly gain); below are some of the more well-known associations.

Weight gain

Mirtazapine, mianserin, MAOIs, TCAs, citalopram, paroxetine.

Weight loss

Bupropion, fluoxetine.

Management

- General advice about diet and exercise. Involve a dietitian, if necessary.
- Use the lowest therapeutic dose.
- Consider switching to an alternative antidepressant with a lower propensity for weight gain.
- Adjunctive prescribing, e.g. naltrexone, ranitidine at night—may reduce 'midnight snacks', but rarely used clinically.

Lithium[9]

Proposed mechanisms

↑ intake of high-calorie drinks, hypothyroidism, ↑ insulin secretion, oedema.

Management

Counselling and advice about diet and exercise, use of low-calorie drinks, low-salt diet.

Other mood stabilizers

- *Carbamazepine*—weight gain due to ↑ appetite.
- *Valproate*—weight gain which may be due to ↑ serum leptin and insulin.
- *Gabapentin*—marked weight gain in some cases (up to 10% above baseline weight).
- *Lamotrigine*—not associated with weight gain, making it the 'drug of choice' for those who have experienced marked weight gain with other mood stabilizers.

Table 22.2 Weight gain with antipsychotics*

High risk	Moderate risk	Low risk	Little association
Clozapine	Fluphenazine	Haloperidol	Aripiprazole
Olanzapine	Risperidone	Amisulpride	
Chlorpromazine	Paliperidone	Sulpiride	
	Quetiapine	Trifluoperazine	
		Ziprasidone	
		Asenapine	

* Source: data from Fenton WS (2000) Review: most antipsychotic drugs are associated with weight gain. *Evidence Based Ment Hlth* **3**: 58.

Antipsychotics and diabetes

There is a general consensus that SGAs have a greater incidence in causing abnormalities in insulin sensitivity and diabetes (type 2), in comparison to FGAs. It is worth noting:

- The aetiology of diabetes in a patient receiving antipsychotics may not be wholly attributable to the drug—many risk factors are shared with metabolic syndrome (see Box 22.2).
- Patients with schizophrenia have a 2- to 3-fold higher risk of developing diabetes than the general population, even when drug use is controlled.
- Psychiatrists ought not to initiate treatment of diabetes themselves without consulting the patient's primary care physician and/or considering referral to a diabetes specialist.
- Younger patients treated with antipsychotics may be at higher risk of developing diabetes than older adults.

Pathophysiology

Not fully understood. Proposed mechanisms are: ↑ visceral adiposity through histaminergic H_1 antagonism, leptin resistance, ↑ tumour necrosis factor (TNF)-α levels; inhibition of insulin secretion in pancreatic β-cells through antagonism of muscarinic M3 receptors; ↓ glucose sensitivity through antagonism of serotonergic 5-HT_{1A} receptors; ↑ insulin release through antagonism of adrenergic α2 receptors; inhibition of GLUT glucose transporter.

Management

- *Prior to initiating antipsychotic treatment*—determine baseline measures such as fasting glucose and HbA1c.
- *When a patient gains 5% or more of their initial weight*—at any time during therapy, consideration should be given to switching to an antipsychotic with less weight gain liability (Weight gain with psychiatric medication, p. 1000). However, it should be noted that weight gain can occur with all antipsychotics and considerable variability exists among patients receiving the same drug regarding the risk of metabolic effects.
- *For patients at risk of diabetes*—changing to an antipsychotic less likely to cause metabolic effects should be balanced against the risks and benefits from continuing treatment with the same drug. Adjunctive treatments include oral hypoglycaemics (e.g. metformin) or insulin, and any metabolic abnormalities should be treated according to accepted national guidelines.
- *Lifestyle modifications*—can be used successfully for weight control in highly motivated subjects and may be complementary to medication (i.e. calorie-controlled diet/regular physical exercise).

Box 22.2 Metabolic syndrome [syndrome X, insulin resistance syndrome, Reaven's syndrome, or CHAOS (Australia)]

Essence

Characterized by insulin resistance and abnormal adipose deposition and function. Associated with ↑ risk of developing atherosclerotic disease (IHD and stroke), type 2 diabetes, fatty liver, and cancer. Affects a large number of people (up to 25% in some studies), and prevalence increases with age. Current guidelines allow diagnosis when at least three out of the following five criteria are present:

- Fasting glucose: ≥100mg/dL (or receiving drug treatment for hyperglycaemia).
- BP: ≥130/85mmHg (or receiving drug treatment for hypertension).
- Triglycerides (TG): ≥150mg/dL (or receiving drug treatment for hypertriglyceridaemia).
- High-density lipoprotein cholesterol (HDL-C): <40mg/dL in men or <50mg/dL in women (or receiving drugs for reduced HDL-C).
- Waist circumference: ≥102cm in men or ≥88cm in women. If *Asian* ethnic group: ≥90cm in men or ≥80cm in women.

Aetiology

The cause of the metabolic syndrome is unknown. Debate surrounds whether obesity or insulin resistance is the cause of the metabolic syndrome or if they are consequences of a more far-reaching metabolic derangement. A number of markers of systemic inflammation are often i, e.g. CRP, fibrinogen, interleukin-6, TNF-α.

Proposed pathophysiology

Development of visceral fat → ↑ plasma levels of TNF-α (as well as adiponectin, resistin, PAI-1) → production of inflammatory cytokines and/or altered cell signalling → insulin resistance.

Prevention

Various strategies have been proposed. Usually include ↑ physical activity (e.g. walking 30min every day) and a healthy, reduced-calorie diet.

Treatment

The first-line treatment is change of lifestyle (i.e. calorie restriction and physical activity). If drug treatment is required, the individual disorders that comprise the metabolic syndrome are treated separately: diuretics and ACE inhibitors for hypertension; and cholesterol-lowering drugs to lower low-density lipoprotein (LDL) cholesterol and TG levels and to raise HDL levels. Use of drugs that decrease insulin resistance, e.g. metformin and thiazolidinediones, is controversial and local guidelines will apply.

Note: the term 'metabolic syndrome' dates back to at least the late 1950s but came into common usage in the late 1970s to describe various associations of risk factors with diabetes that had been noted as early as the 1920s. Confusion arose because the term was used by different authors to describe different, albeit related, syndromes, e.g. Haller (1997), Singer (1977), Phillips (1977, 1978). It was the eponymous Gerald M Reaven who coined the term 'syndrome X' in his 1988 Banting lecture. He proposed insulin resistance as the underlying factor and did not include abdominal obesity as part of the condition. See: Reaven GM (1988) *Diabetes* **37**:1595–607.

Hyperprolactinaemia with antipsychotics

Essence

(See also Box 22.3.)

Secretion of PRL by the pituitary is under inhibitory control via DA from the hypothalamus. Blockade of DA D2 receptors on the pituitary lactotroph cells by antipsychotics can raise PRL levels within minutes to hours of starting treatment. It occurs frequently with FGAs and some SGAs (risperidone, amisulpride) but is rare with other SGAs (olanzapine > quetiapine, clozapine, ziprasidone, aripiprazole).

Clinical features

Often asymptomatic but can include gynaecomastia, galactorrhoea, erectile dysfunction, loss of libido, and hypogonadism in men and oligo-/amenorrhoea, galactorrhoea, infertility, loss of libido, acne, hirsutism, and ↑ risk of osteoporosis.

Epidemiology

Prevalence of hyperprolactinaemia with 'PRL-raising' antipsychotics is estimated to be up to 50%, with greater prevalence in women.

Risk factors

♀ sex (women of reproductive age are more at risk than post-menopausal women), postnatal period, children, and adolescents.

Differential diagnosis

Diseases of the pituitary (e.g. PRL-secreting pituitary adenomas) or hypothalamus, severe primary hypothyroidism, liver cirrhosis, end-stage renal disease, acromegaly, stress, pregnancy, post-partum period, chronic cocaine/marijuana use, opiates.

Investigations

- Measure PRL serum level:
  - When PRL-raising antipsychotics are used, it is helpful to obtain a pretreatment PRL level.
  - Secretion of PRL is pulsatile and may be raised in response to stress, meals, or post-ictally; hence, a blood sample must be taken 1hr after eating or waking.
  - Antipsychotics usually produce PRL elevation of up to six times the upper limit of the reference range.

- Mild to moderate elevations should be checked with a second sample to exclude physiological surges.
- Look out for signs of chest wall irritation (which can promote galactorrhoea and raise PRL) and signs of a sellar mass (e.g. headache, visual field defects).
- Check TFTs (exclude hypothyroidism), creatinine/U&Es (exclude renal failure), and IGF-1 (exclude acromegaly).
- If history of chronic alcohol misuse, check LFTs and perform abdominal examination to rule out hepatic cirrhosis.
- If clinically suspected, do a pregnancy test.
- If the patient is on oral antipsychotics and the aetiology remains uncertain, consider diagnostic short-term cessation of medication (72hrs usually suffices for serum PRL levels to fall to near-normal levels).
- Consider CT/MRI and/or a referral to endocrinology.

Box 22.3 Other drugs reported to cause hyperprolactinaemia

- *Antidepressants:* modest elevation with serotonergic antidepressants, e.g. SSRIs, MAOIs, and some TCAs.
- *Dopamine-depleting agents:* e.g. reserpine, tetrabenazine, methyldopa.
- *Other agents:* e.g. metoclopramide, cimetidine, ranitidine, cyproheptadine, verapamil, atenolol, oestrogens, antiandrogens.

Management

- Exclude other possible aetiologies.
- Consider a change of medication to a PRL-sparing antipsychotic (e.g. clozapine, olanzapine, quetiapine, aripiprazole) or a reduction in dose if the patient's mental state is stable (monitor closely).
- Another option is augmentation with low-dose aripiprazole.
- If problems persist or medication changes are precluded (or not tolerated), refer to endocrinology for consideration of other treatments: combined oral contraceptive (♀ only), DA agonists (amantadine, cabergoline, bromocriptine).
- If the patient has been amenorrhoeic for ≥1yr, request bone mineral density (BMD) measurement in order to screen for osteoporosis.
- Pre-menopausal women should be advised about resumption of normal menstrual cycle (and return of fertility) when changing antipsychotics, and use of contraception should be discussed.

Note: asymptomatic hyperprolactinaemia does not necessarily warrant (in itself) changes to medication.

Sexual dysfunction and psychiatric medication

The degree of sexual dysfunction experienced by patients taking psychiatric medication may be a major source of distress and a significant reason for non-adherence. Clinicians are notoriously

poor at enquiring about these problems, despite reports that patients regard sexual side effects as the most troublesome of all medication-related problems.

Pathophysiology

Not fully understood, but the proposed pharmacological mechanisms of psychotropic-induced sexual dysfunction are as follows:

- *Libido*—reduced by DA blockage and increase in PRL.
- *Arousal (erection or vaginal lubrication)*—reduced by cholinergic blockade, DA blockage, α_1-adrenergic blockade, and nitric oxide (NO) decrease.
- *Orgasm and ejaculation*—inhibited by DA blockade, serotonin increase, α_1-adrenergic blockade, and possibly PRL elevation.

General points

- Educate patients about possible sexual side effects, and routinely screen for any impairment of sexual performance.
- Be able to distinguish between psychotropic-induced sexual dysfunction and those related to underlying psychiatric or medical conditions, other concurrent drugs, alcohol/substance misuse, environmental factors, and relationship difficulties.
- Optimal treatment for sexual dysfunction requires a combination of pharmacological and psychological interventions.
- Complaints of sexual dysfunction may suggest inadequate treatment of underlying mental illness.

Antidepressants

Sexual dysfunction is a possible adverse effect of all antidepressants, and all dimensions of sexual functioning can be affected. Clomipramine, SSRIs (paroxetine, sertraline, citalopram, fluoxetine), and venlafaxine appear to be most likely to cause sexual problems. Other TCAs show intermediate risk of dysfunction. Bupropion, moclobemide, and mirtazapine seem to have the lowest rates of sexual side effects.

- Spontaneous remission occurs in 10% of patients, and partial remission in 11% of cases.
- Dysfunction may be related to ↑ serotonergic transmission, peripheral α_1-adrenergic blockade, histaminergic antagonism, inhibition of NO, adrenergic/cholinergic imbalance.
- Sexual side effects are likely to be dose-related.
- Paroxetine is more likely to cause disorders of arousal and ejaculatory delay than other SSRIs.
- Serotonergic antidepressants can also be employed in the treatment of premature ejaculation and paraphilias.

Management

- Watchful waiting to see if symptoms subside (less likely with SSRIs).
- Reduce antidepressant to minimal effective dose.
- Delay drug intake until after sexual activity.

- Switch to another agent known to have fewer adverse sexual effects (e.g. mirtazapine, bupropion, nefazodone, moclobemide).
- Adjunctive therapy (e.g. mirtazapine, buspirone, bupropion, sildenafil, cyproheptadine, amantadine).

Antipsychotics

The prevalence of sexual dysfunction associated with antipsychotics is ~50%, with reports of problems in all groups of antipsychotic medication (usually reduced libido, impaired sexual arousal, orgasm difficulties, and ejaculation problems).

- Dysfunction may be related to DA blockade, histaminergic antagonism, anticholinergic effects, hyperprolactinaemia (and a decrease in oestrogen and testosterone levels).
- Sexual side effects appear to be dose-dependent.
- 5-HT_{2A}-blocking property of SGAs may reduce risk.
- FGAs (especially thioridazine) and risperidone can affect all phases of sexual response.
- Clozapine, quetiapine, and aripiprazole seem to have the lowest risk of sexual side effects.

Management

- Spontaneous remission may occasionally occur.
- Dose reduction where possible.
- Consider switching to a compound with fewer α_1-blocking properties for ejaculatory/erectile disturbances or to a less anticholinergic drug for disorders of arousal.
- Switching to a PRL-sparing antipsychotic (e.g. quetiapine, clozapine, aripiprazole) may improve several sexual side effects.
- Adjunctive treatment with DA agonists (e.g. amantadine, bromocriptine) may be tried, but evidence base is poor.
- Consider use of phosphodiesterase inhibitor (e.g. sildenafil) for erectile dysfunction.

Mood stabilizers

- *Lithium therapy*—may impair desire and arousal but does not appear to have a major impact on patient self-satisfaction or subjective sense of pleasure during sexual activity. Although the occurrence of sexual dysfunction can be present in up to one-third of those taking lithium, it is usually mild and not a source of distress, and does not lead to non-compliance.
- *Carbamazepine and phenytoin*—both increase PRL and decrease dehydroepiandrosterone and other adrenal androgen levels, making sexual dysfunction likely. *Valproate* is also associated with sexual dysfunction.
- *Lamotrigine*—does not cause these changes and is associated with low likelihood of sexual dysfunction.

Priapism

Priapism[10,11] is defined as a sustained, painful, involuntary erection that cannot be relieved by sexual intercourse or masturbation and that is unrelated to sexual desire. It can be classified into ischaemic

('low flow'), arterial ('high flow'), and stuttering, with the ischaemic variant being associated with >95% of cases. This most common variant is secondary to rigidity of the corpora cavernosa, with little or no arterial flow. Left untreated, erectile dysfunction is inevitable. As such, ischaemic priapism is a urological emergency requiring immediate intervention. The single biggest predictor of outcome is time to treatment. Clitoral priapism has also been reported and may be associated with either pain and discomfort or ↑ libido and orgasmic response.[12]

Pathophysiology

Ischaemic priapism is mostly idiopathic. However, proposed mechanisms include α_1-adrenergic blockade and imbalance with cholinergic activity, resulting in NO deficiency.

Epidemiology

Drug-induced priapism accounts for around a third of all cases of priapism.

Differential diagnosis

Haemotological disease (e.g. sickle-cell, thalassaemia, leukaemia), toxin-mediated infections (e.g. scorpion venom, spider bite, rabies, malaria), metabolic (e.g. amyloidosis), neurological (e.g. syphilis, CVA), malignancy (metastatic or regional infiltration), and medications (see Box 22.4).

Investigations

FBC, coagulation screen, penile blood gas analysis.

Box 22.4 Drugs reported to cause priapism

- *Antidepressants:* trazodone, bupropion, fluoxetine, sertraline.
- *Antipsychotics:* clozapine, risperidone, olanzapine, chlorpromazine, thioridazine, quetiapine, ziprasidone, aripiprazole, zuclopenthixol, haloperidol.
- *Other medications:* sildenafil, antihypertensives (hydralazine, calcium channel blockers, propranolol), anticoagulants (heparin, warfarin), adrenergic α-blockers (prazosin, tamsulosin, terazosin), hormones (testosterone, GnRH, tamoxifen), metoclopramide, omeprazole, intraca-vernosal injection of vasoactive drugs.
- *Recreational drugs:* alcohol, marijuana, cocaine.

Management

- Always enquire about sexual side effects and history of prolonged erections (50% of patients presenting with priapism have a previous history of painless erections lasting for <1hr).
- Counsel patients about the possibility of developing priapism, and educate them about the risks of leaving episodes of priapism untreated and the importance of seeking earlier treatment.

- Avoid psychotropics with high α_1-adrenergic antagonism (e.g. trazodone, sertraline, chlorpromazine, risperidone, ziprasidone) and polypharmacy with anticholinergic agents.
- Immediate intervention should involve conservative measures such as pain control, vigorous hydration, and cold compresses.
- First step in management is normally decompression by penile aspiration, followed by intracavernous injection of a sympathomimetic drug (phenylephrine).
- If medical interventions fail or for priapism events lasting >72hrs, surgical care is warranted. This is in the form of shunt surgery. However, this surgery is generally not effective in preserving erectile function after 36hrs, so implantation of a penile prosthesis is recommended in such cases.
- Recurrent 'stuttering' priapism can be managed with a trial of antiandrogens (only in patients who are fully sexually mature), oral β-agonists such as terbutaline, and a combination of prednisone and ketoconazole.

Antipsychotic-induced Parkinsonism

Essence

A frequent adverse effect found in full form in at least 20% of patients treated with antipsychotic medication. Characterized by tremor, rigidity, and bradykinesia; the presentation is similar to that of idiopathic Parkinson's disease (Parkinson's disease and related syndromes, p. 142); symptoms are always bilateral; tremor is more pronounced in action and posture, and there are other extra-pyramidal features such as akathisia. It is more common in elderly ♀ and in those with pre-existing brain damage. Generally occurs within 4wks of treatment, is dose-dependent and a major cause of non-compliance.

Assessment

Routine enquiry and clinical examination are generally sufficient to detect the onset of symptoms and should be carried out frequently in the first 3mths of treatment. Monitoring may help establish the minimally effective dose of antipsychotic needed by individual patients, reducing discomfort and improving compliance.

Pathophysiology

D_2 receptor blockade in the nigrostriatal pathway.

Differential diagnosis

Many drugs have been associated with Parkinsonism (see Box 22.5), and some may increase the likelihood of problems (e.g. prednisolone). Other differentials include: idiopathic Parkinson's disease, dementia (e.g. DLB), negative symptoms of schizophrenia, and psychomotor retardation (e.g. in depression).

Box 22.5 Other drugs reported to cause Parkinsonism

- Antidepressants (e.g. SSRIs, MAOIs, TCAs).
- Lithium.
- Anticonvulsants (e.g. carbamazepine, valproate).
- Analgesics (e.g. NSAIDs, opiates).
- Drugs of abuse (e.g. cocaine, PCP).
- Cardiovascular drugs (e.g. amiodarone, diazoxide, diltiazem, methyldopa, metirosine, nifedipine, tocainide).
- GI drugs (e.g. cimetidine, domperidone, metoclopramide, prochlorperazine).
- Anti-infection drugs (e.g. aciclovir, chloroquine).
- Respiratory drugs (e.g. antihistamines, salbutamol, terbutaline).
- Hormones (e.g. medroxyprogesterone).
- Cytotoxics (e.g. ciclosporin, interferons).
- Others (e.g. cyclizine, ondansetron, levodopa, tetrabenazine).

Treatment

Several strategies may be used, including:

- Dose reduction.
- Switching to another antipsychotic agent, most commonly second-generation, e.g. clozapine/quetiapine < olanzapine/aripiprazole < risperidone (<8mg/day).
- Use of anticholinergic agents (e.g. procyclidine, orphenadrine, trihexyphenidyl) or amantadine (a DA agonist, so beware of potential worsening of psychosis). Of note, symptoms are usually absent during sleep, so night-time dose may not be required.

Note: anticholinergic agents are often used in younger patients. However, older patients may not be able to tolerate the side effects of blurred vision, dry mouth, constipation, urinary retention, and particularly cognitive impairment. This has led to the use of amantadine, which is better tolerated, or more frequent use of the SGAs, especially when patients already have early signs of Parkinson's disease.

Follow-up

If anticholinergics are prescribed, the need for their continued use ought to be kept under review. Their slow withdrawal should be attempted after the acute phase of treatment or following any lowering of antipsychotic dose, as drug-induced Parkinsonism tends to resolve over time and additional medication may no longer be needed.

Akathisia

Essence

Akathisia derives from the Greek meaning 'not to sit still' and describes an unpleasant, distressing side effect of antipsychotic treatment. Characteristically manifests with a subjective component —a feeling of inner restlessness (with the drive to engage in motor activity, especially involving the lower limbs and trunk) and an objective component—movements: such as pacing constantly; inability to stand, sit, or lie still; rocking; and crossing/uncrossing

legs. Subjective distress may dominate in the absence of any prominent motor phenomena.

Clinical presentations

- *Acute akathisia*—occurs within hours to weeks of commencing an antipsychotic or increasing its dose.
- *Acute persistent akathisia*—is the chronic form of primary akathisia.
- *Tardive akathisia*—usually develops after >3 months of treatment and can persist or worsen when antipsychotic medication is discontinued or reduced. Can be associated with less intense subjective restlessness and dyskinetic movements. Poorly responsive to anticholinergics.
- *Pseudoakathisia*—may occur in older, ♂, schizophrenic patients with prominent negative symptoms and presents with overt motor restlessness without subjective distress.

Pathophysiology

Not yet fully understood, most likely due to imbalance of dopaminergic, noradrenergic and serotonergic mechanisms

Risk factors

(See Box 22.6.)

Use of high-dose and/or high-potency antipsychotics, chronic use of antipsychotics, rapid increase/sudden withdrawal of antipsychotics, use of intramuscular depot preparations, history of organic brain disease (e.g. dementia, alcoholism, HIV), history of previous akathisia, concomitant use of predisposing drugs (e.g. lithium, SSRIs).

Box 22.6 Drugs reported to cause akathisia

- *Antipsychotics* (usually high-potency): chlorpromazine (less likely), haloperidol, pipothiazine, prochlorperazine, promazine, thioridazine (less likely), trifluoperazine, zuclopenthixol, SGAs (risperidone/ziprasidone/aripiprazole > olanzapine > quetiapine/clozapine).
- *Antidepressants:* SSRIs duloxetine, venlafaxine, imipramine (and other TCAs).
- *Anxiolytics:* alprazolam, buspirone, lorazepam.
- *Others:* diltiazem, interferon alfa, levodopa, lithium, melatonin (withdrawal), metoclopramide, ondansetron, verapamil.

Differential diagnosis

Anxiety/agitation (primary or secondary to other psychiatric disorders), drug withdrawal/discontinuation syndromes, acute confusional states, encephalitis/meningitis, Parkinsonism/dystonia/TD, serotonergic syndrome (early symptoms), toxicity due to other drugs (e.g. recreational drugs—amphetamine, MDMA, cocaine; antidepressants; antihistamines; sympathomimetics; salicylate), RLS, iron deficiency anaemia,

endocrine disorders (e.g. thyrotoxicosis, hypo-/hyperglycaemia, phaeochromocytoma).

Investigations

FBC, LFTs, U&Es, glucose, TFTs, and urine drug screen.

Management

- Review history/medication to identify possible causative agent(s) and rule out any organic aetiology.
-  Beware of akathisia possibly leading to increase/worsening of sucidality, violent behaviour, non-adherence to treatment, substance misuse, and long-term risk of TD.
- *If antipsychotic-related*—treatment strategies are as follows.

Change antipsychotic drug regimen

- Reduce the dose of antipsychotic medication.
- Try a low-potency FGA (e.g. chlorpromazine).
- Switch to an SGA with low akathisia potential (e.g. quetiapine).
- Consider use of clozapine in cases of intractable akathisia.

Add an anti-akathisia agent

- Try β-blocker (propranolol 40–80mg/day) or low-dose mirtazapine (5-HT_{2A} receptor antagonist) 15mg/day as first line.
- Alternative option is mianserin (15mg/day) or cyproheptadine (8–16mg/day) (both 5-HT_{2A} receptor antagonists).
- If the patient has concurrent Parkinsonism, consider use of anticholinergics (e.g. benzatropine, orphenadrine, procyclidine, trihexyphenidyl).
- Consider BDZs (e.g. clonazepam, diazepam, lorazepam) alone or with propranolol, especially in chronic akathisia.
- Amantadine (100mg/day) or clonidine (up to 150 mcg/day) may be tried if these treatments are ineffective.

Course/prognosis

Most cases will respond to treatment, usually after a few days. Chronic or tardive cases may be more difficult to treat, and therapeutic benefit (e.g. of propranolol) can take up to 3mths.

Follow-up

- Once akathisia has settled, keep any specific treatment under review.
- Slow withdrawal of any additional agent should be attempted after a few weeks (in the case of BDZs) or after several months (for other agents).
- If akathisia recurs, long-term therapy may be necessary.
- The need for continued use of high-dose, high-potency antipsychotics should be reviewed in the light of any change in the clinical presentation of the primary psychiatric disorder.

Tardive dyskinesia

Essence

Late onset (mean 7yrs), involuntary, repetitive, purposeless movements, occurring with long-term antipsychotic treatment (also reported in up to 10% of *untreated* schizophrenic patients). Patients are often unaware of the movements, which are first detected by friends and family members. Operational diagnostic criteria: ≥1 movement of moderate intensity or ≥2 movements of mild intensity after ≥3mths (1mth if >60yrs) of antipsychotic treatment or within 4wks (8wks for depot) of discontinuation.

Symptoms/signs

Peri-oral movements are the most common (e.g. tongue, lips, jaw), hence the alternative terms oral–lingual, orofacial, oro–bucco–facial, or buccal–lingual–masticatory dyskinesia. Other movements may include: axial—trunk twisting, torticollis, retrocollis, shoulder shrugging, pelvic thrusting; and limbs—rapid movements of the fingers or legs, hand clenching (and sometimes choreoathetoid movements). Symptoms can be consciously suppressed, worsen with distraction, are exacerbated by stress and anti-Parkinsonian agents, and disappear during sleep. Peripheral TD is more frequently associated with comorbid acute movement disorders (akathisia, tremor, Parkinsonism) than orofacial TD.

Pathophysiology

Not yet fully understood. Theories: striatal dopaminergic/cholinergic imbalance, upregulation/supersensitivity of post-synaptic DA D_2 receptors in the basal ganglia following chronic blockade, imbalance of D_1/D_2 receptors leading to striatal disinhibition of the thalamocortical pathway, and striatal GABA hypofunction leading to enhanced DA transmission.

Epidemiology

Prevalence is 15–30% of chronically treated patients but may be as high as 70% in 'high-risk' population, with 5% of patients per year of antipsychotic exposure developing TD. ~50% of cases are reversible.

Risk factors

(See Box 22.7.) Chronic use of antipsychotics (especially in high dose), change/cessation of chronic treatment (especially intermittent treatment), concomitant anticholinergic treatment, elderly (>60yrs), ♀, organic disorder (e.g. dementia, ID, epilepsy), previous head injury, alcoholism, comorbid mood disorder, negative symptoms of schizophrenia, diabetes mellitus, history of previous drug-induced akathisia/Parkinsonism/dystonias, concomitant use of predisposing drugs (e.g. lithium, antidepressants, stimulants).

Differential diagnosis

Stereotypies, tic disorders, other causes of dyskinesia (e.g. Parkinson's disease or use of anti-Parkinsonian agents), hyperthyroidism (choreiform movements of the limbs), other causes of chorea/athetoid movements (e.g. Sydenham's/Huntington's chorea, WD), epilepsy.

Investigations

FBC, LFTs, U&Es, TFTs, Ca^{2+}, serum copper, serum caeruloplasmin, anti-nuclear antibody (ANA), antineutrophil cytoplasmic antibodies (ANCA).

Management

- Review history/medication to identify possible causative agent(s).
- Reduce the dose of such agent(s) to the minimum effective antipsychotic dose. *Note:* withdrawal of the offending antipsychotic may initially worsen TD.
- Anticholinergic agents will exacerbate the problem and should also be slowly reduced and stopped, if possible.
- If residual symptoms are tolerable, it is best to 'wait and see' before considering additional treatment, as TD tends to improve with time.
- If residual symptoms are severe, interfere significantly with functional abilities, or may be life-threatening, consider an alternative antipsychotic—clozapine (reportedly effective in up to 43% of refractory cases), then quetiapine > olanzapine > risperidone.
- Otherwise temporarily raising the dose of antipsychotic may give immediate relief, while addition of a specific treatment may be commenced (dose of antipsychotic should then be reduced again).

Adjuvant agents

- First line: tetrabenazine 25–200mg/day (beware its depressogenic effect).
- DA agonists (e.g. low-dose bromocriptine 0.75–7.5mg/day, levodopa, amantadine).
- BDZs (e.g. clonazepam), but evidence base is poor.
- Calcium channel blockers.
- Anticonvulsants (e.g. gabapentin, levetiracetam).
- Antioxidants (e.g. vitamin E, though efficacy disputed).
- Other (e.g. botulinum toxin, donepezil, amino acids, ondansetron, melatonin, pyridoxine, baclofen).
- There is case report evidence for use of transcranial magnetic stimulation (TMS) (Other physical treatments, p. 312).

Course/prognosis

Prevention is the best strategy, e.g. antipsychotic choice and close monitoring. Prognosis appears related to how soon the offending medication is discontinued. A balance needs to be struck between reduction in dyskinesia vs control of psychotic symptoms.

Follow-up

Closely monitor residual symptoms. Regularly review the need for continued antipsychotic treatment. Clearly record TD symptoms and the management plan in case notes.

Box 22.7 Drugs reported to cause TD

- *Antipsychotics:* phenothiazines, haloperidol, pimozide, rarely SGAs (quetiapine, olanzapine, amisulpride, risperidone, aripiprazole).
- *Other medications:* anticholinergics, antidepressants (phenelzine, sertraline, fluoxetine, trazodone, amitriptyline, imipramine), anti-emetics (metoclopramide, prochlorperazine), antiepileptics (carbamazepine, phenytoin), antihistamines, lithium, amphetamines, methylphenidate, anti-Parkinson agents (bromocriptine, levodopa).

Dystonic reactions

Essence

Syndrome of sustained, often painful muscular spasms, producing repetitive, twisting movements, or abnormal postures that develop following exposure to antipsychotic medication.

Aetiology

Remains unclear. Various mechanisms have been proposed such as alteration in dopaminergic–cholinergic balance in the basal ganglia or, paradoxically, ↑ nigrostriatal dopaminergic activity as a compensatory response to DAdopamine receptor blockade.

Risk factors

Previous/family history of dystonia, younger age group[13] (rare in patients >45yrs), ♂ > ♀, liver failure, clinically severe schizophrenia (especially with marked negative symptoms), use of high-potency antipsychotics, hypocalcaemia, recent cocaine misuse.

Acute dystonia

Usually occurs within 1wk of commencing or rapidly increasing the dose of the antipsychotic medication or of reducing the anticholinergic medication prescribed to treat it; 50% of cases occur within 48hrs, rising to 90% within 5 days of exposure.

Incidence—~10% of patients exposed to all antipsychotics (up to 30% with high-potency drugs).

Symptoms/signs—muscles of the head and neck are most commonly affected with torticollis, trismus, jaw opening, forceful protrusion of the tongue, blepharospasm, grimacing, oculogyric spasm, and opisthotonus. The trunk and limbs are less commonly affected, and involvement of pharyngeal and laryngeal muscles can cause serious symptoms such as dysphagia and laryngospasm. Usually more generalized in younger patients (may be confused with fits, especially in children) and more localized (head and neck) in older patients.

Course—may fluctuate over hours, but most last minutes to hours without treatment.

Tardive dystonia

Develops days to months following exposure to DA receptor-blocking agents and does not improve rapidly with anticholinergic

treatment.

Incidence—1.5–4%.

Symptoms/signs—similar to those seen in acute dystonia. It may present with a unique syndrome of retrocollis, opisthotonus, internal arm rotation, and elbow extension with wrist flexion.

Course—tends to be chronic and symptoms can persist, even when offending medication is removed.

Differential diagnosis—may resemble catatonia, tetany, TLE, malingering, conversion disorder, and hypocalcaemia.

Management

- If severe, discontinue suspected agent.
- Emergency treatment with IM anticholinergic agents (e.g. procyclidine 5mg, benzatropine 2mg). IV administration is necessary only if dystonic reaction is life-threatening.
- Continue use of anticholinergic prophylactically for 5–7 days, in addition to antipsychotic medication, and taper it off over 2–3wks (long-term treatment may predispose to TD).
- Consider switching to antipsychotic with low propensity to cause EPSEs (see Box 22.8).
- Alternative treatment includes use of amantadine (fewer side effects than other agents).
- Oculogyric crisis that is unresponsive to anticholinergic drugs may benefit from treatment with clonazepam.
- If treatment is unsuccessful, check serum Ca^{2+} concentrations in order to exclude hypocalcaemia.
- Routine prophylaxis should be considered for patients with a history of previous drug-induced dystonic reaction.
- TD may respond to botulinum toxin, ECT, and DBS (Deep brain stimulation (DBS), p. 313).

Box 22.8 Agents reported to cause dystonias

- *Antipsychotics:* aripiprazole, clozapine (rare/abrupt withdrawal), flupentixol decanoate, haloperidol, olanzapine (rare), prochlorperazine, quetiapine, sulpiride, risperidone (rare), alimemazine, zuclopethixol.
- *Other psychotropics:* benzatropine (rare), bupropion, buspirone, gabapentin, carbamazepine, cocaine (+ withdrawal), disulfiram (rare), mirtazapine, fluoxetine, midazolam, paroxetine, phenelzine, sertraline, TCAs.
- *Other (mostly rare/isolated cases):* amiodarone, azapropazone, diphenhydramine, domperidone, ergotamine, indometacin, metoclopramide, nifedipine, penicillamine, prochlorperazine, promethazine, propranolol, sumatriptan.

Neuroleptic malignant syndrome

Essence

A rare, life-threatening idiosyncratic reaction to antipsychotic (and other) medication (see Box 22.9), characterized by: fever, muscular rigidity, altered mental status, and autonomic dysfunction. Patients require acute medical services where intensive monitoring and treatment are available.

Pathophysiology

Theories: secondary to DA activity in the CNS, i.e. striatum (rigidity) and hypothalamus (thermoregulation)—by blockade of D_2 receptors or ↓ DA availability; impaired Ca^{2+} mobilization in muscle cells, leading to rigidity (like malignant hyperthermia);[14] sympathetic activation or dysfunction.

Epidemiology

Incidence 0.07–0.2% (pooled data); ♀:♂ = 2:1.

Mortality

~10%—deaths usually due to respiratory failure, cardiovascular collapse, myoglobinuric renal failure, sepsis, arrhythmias, thromboembolism, or disseminated intravascular coagulation (DIC).

Morbidity

Rhabdomyolysis, aspiration pneumonia, renal failure, seizures, arrhythmias, DIC, respiratory failure, worsening of primary psychiatric disorder (due to withdrawal of antipsychotics).

Symptoms/signs

Hyperthermia (>38°C), muscular rigidity, confusion/agitation/altered level of consciousness, tachycardia, tachypnoea, hyper-/hypotension, diaphoresis/sialorrhoea, tremor, incontinence/retention/obstruction, creatinine kinase (CK)/urinary myoglobin, leucocytosis, metabolic acidosis.

Box 22.9 Drugs reported to cause symptoms characteristic of NMS

- *Antipsychotics:* aripiprazole, chlorpromazine, clozapine (rarely), flupentixol, fluphenazine, haloperidol, olanzapine, promazine, quetiapine (rarely), risperidone, thioridazine.
- *Anti-Parkinsonian agents:* amantadine (+ withdrawal), anticholinergics (withdrawal), levodopa (+ withdrawal).
- *Antidepressants:* amoxapine, clomipramine, desipramine, phenelzine, trimipramine, venlafaxine.
- *Other:* carbamazepine (+ withdrawal), ganciclovir, ferrous sulfate, lithium, methylphenidate, metoclopramide, oral contraceptives.

Risk factors

↑ Ambient temperature; dehydration; patient agitation or catatonia; rapid antipsychotic initiation/dose escalation; withdrawal of anti-Parkinsonian medication; use of high-potency agents/depot IM preparations; history of organic brain disease (e.g. dementia, alcoholism), affective disorder, previous NMS; predisposing drugs (e.g. lithium, anticholinergic agents).

Differential diagnosis

Catatonia (→ The catatonic patient, p. 1054); malignant hyperthermia;[15] encephalitis/meningitis; heat exhaustion; Parkinsonism/acute dystonia; serotonergic syndrome; toxicity due to other drugs (e.g. amphetamine, MDMA, cocaine, antidepressants, antihistamines, sympathomimetics, salicylates); DT; rhabdomyolysis; septic shock; haemorrhagic stroke; tetanus; phaeochromocytoma; strychnine poisoning.

Investigations

FBC, blood cultures, LFTs, U&Es, Ca^{2+} and phosphate levels, serum CK, urine myoglobin, ABGs, coagulation studies, serum/urine toxicology, CXR (if aspiration suspected), ECG; consider head CT (intracranial cause) and LP (to exclude meningitis).

Management

- Prompt diagnosis is vital.
- *Stop any agents thought to be causative* (especially antipsychotics), or restart anti-Parkinsonian agents.
- Consider appropriate care setting, e.g. ICU.
- *Supportive measures*—oxygen, IV fluids, cooling (e.g. cooling blankets, antipyretics, cooled IV fluids, ice packs, evaporative cooling, ice water enema). To reduce the risk of rhabdomyolysis, also consider urinary alkalinization with IV sodium bicarbonate.
- *BDZs for acute behavioural disturbance or catatonia* (→ Severe behavioural disturbance, p. 1048). (*Note:* use of restraint and IM injection may complicate interpretation of serum CK.)
- In cases not amenable to these measures, the following are often used, albeit with limited evidence base: dantrolene (IV 0.8–2.5mg/kg qds; PO 50–100mg bd), bromocriptine (PO 2.5–10mg tds, increase to max 60mg/day), amantidine (PO 100–200mg bd); nifedipine; consider ECT. (*Note:* ↑ risk of fatal arrhythmias.)

Course

May last 5–7 days after stopping oral antipsychotics, and up to 21 days after depot antipsychotics (e.g. fluphenazine).

Prognosis

In the absence of rhabdomyolysis, renal failure, or aspiration pneumonia, and with good supportive care, prognosis is good.

Follow-up

Monitor closely for residual symptoms. Once symptoms have settled, allow 1–2wks (if possible) before restarting medication (use low-dose, low-potency, or atypical agents—avoid depot). Monitor patient, e.g. physical and biochemical parameters. Consider prophylaxis (bromocriptine). Inform the patient about the risk of recurrence if given antipsychotic medication. Ensure this is recorded prominently in their medical notes.

Serotonin syndrome

Essence

A rare, but potentially fatal, syndrome occurring in the context of initiation or dose increase of a serotonergic agent (other potential causes excluded, e.g. infection, metabolic, substance abuse, withdrawal, concurrent antipsychotic dose changes prior to symptom onset), characterized by altered mental state, agitation, tremor, shivering, diarrhoea, hyperreflexia, myoclonus, ataxia, and hyperthermia.[16] Although SSRIs are commonly linked to SS, many other drugs (e.g. amphetaminess, MAOIs, TCAs, lithium) have the potential of causing hyperserotonergic symptoms. SS can occur as a result of OD, drug combinations (including OTC medications), and rarely with therapeutic doses.

Pathophysiology

Increase in circulating serotonin (5-HT) in the CNS. A variety of mechanisms can potentially increase the quantity or activity of serotonin: ↑ production of serotonin due to ↑ availability of precursors (L-tryptophan-containing substances); ↓ metabolism of serotonin (MAOIs, selegiline); ↑ release of stored serotonin (amphetamine, cocaine, fenfluramine, MDMA, meperidine); reuptake inhibition [SSRIs, TCAs, SNRIs, noradrenaline and specific serotonin antagonists (NaSSAs), MDMA, dextromethorphan, meperidine, St John's wort]; direct stimulation of serotonin receptors (buspirone, LSD); unknown mechanisms (lithium).

Epidemiology

Incidence is difficult to quantify, as mild cases probably go unreported. Mortality <1 in 1000 cases.

Symptoms/signs

- *Psychiatric/neurological*—confusion, nystagmus, agitation, seizures, coma.
- *Neuromuscular*—myoclonus, rigidity, tremors (including shivering), hyperreflexia (usually lower, rather than upper, limbs), ataxia.
- *Autonomic*—hyperthermia (may be secondary to prolonged seizure activity, rigidity, or muscular hyperactivity), GI upset (nausea, diarrhoea), mydriasis, tachycardia, hyper-/hypotension.

Differential diagnosis

NMS (see Table 22.3), malignant hyperthermia, infections (encephalitis/meningitis, sepsis), metabolic disturbances, substance abuse (cocaine)/withdrawal/OD (LSD, PCP).

Table 22.3 Distinguishing SS from NMS

Although the clinical presentation of these two syndromes is very similar (i.e. autonomic dysfunction, alteration of mental status, rigidity, and hyperthermia), differentiation is very important as management may differ (e.g. use of chlorpromazine in SS, which may worsen NMS).

Feature	NMS	SS
Associated Rx	Antipsychotics (idiosyncratic/normal dose)	Serotonergic agents (OD/drug combination)
Onset	Slow (days to weeks)	Rapid
Progression	Slow (24–72hrs)	Rapid
Muscle rigidity	Severe ('lead pipe')	Less severe
Activity	Bradykinesia	Hyperkinesia/clonus

Investigations

FBC, U&Es, LFTs, glucose, pH, biochemistry (including Ca^{2+}, Mg^{2+}, PO_4, anion gap), CK, drug toxicology screen, CXR (if evidence of respiratory distress/possible aspiration), ECG monitoring (arrhythmia/conduction problems—prolonged QRS or QTc interval).

Treatment

- Prevention with careful prescribing (Table 6.3, p. 277) and patient education (e.g. with MAOIs, OTC medication) is pivotal
- If severe, requires immediate transfer to the Emergency Department for supportive treatment and active management.
- IV access—to allow volume correction (dehydration—insensible fluid loss due to hyperthermia) and reduce the risk of rhabdomyolysis.
- *Rhabdomyolysis*—should be dealt with quickly, with emphasis on maintaining a high urine output, combined with alkalinization using sodium bicarbonate. If necessary, reduce the temperature (e.g. cooling blankets, antipyretics, cooled IV fluids, ice packs, evaporative cooling, ice-water enema).
- *Pharmacotherapy*—agitation, seizures, and muscular rigidity/myoclonus best managed using a *BDZ* [e.g. lorazepam IV (slow) 1–2mg every 30min; clonazepam]. *Serotonin receptor antagonists* may be considered in selected cases [e.g. cyproheptadine PO 4–8mg every 2–4hr (max 0.5mg/kg/day), chlorpromazine (risk of reduced seizure threshold), mirtazapine,

methysergide, propranolol (mild 5-HT antagonist)]. *Antihypertensives* are usually unnecessary, unless hypertension is persistent and clinically significant (e.g. GTN IV 2mg/kg/min).

Course and prognosis

Onset is usually acute; however, recurrent mild symptoms may occur for weeks before the appearance of severe symptoms. Most cases resolve without sequelae within 24–36hrs with adequate supportive measures. Following an SSRI OD, a patient who remains asymptomatic for several hours is unlikely to need further medical management.

Antidepressant discontinuation syndrome

Discontinuation symptoms can occur with *all* antidepressants[17] and differ between antidepressant classes. However, they usually share three common features: abrupt onset within days of stopping the antidepressant, a short duration when untreated, and quick resolution when the original antidepressant is reintroduced. It is estimated at least a third of patients experience discontinuation symptoms. They are usually mild and self-limiting, but in a minority of cases, they can be severe and prolonged.

Clinical features

SSRIs and related discontinuation syndrome

- *Sensory symptoms*—paraesthesiae, visual disturbance, shock-like sensations, and numbness.
- *Disequilibrium symptoms*—most common: dizziness, vertigo, and light-headedness.
- *General somatic complaints*—flu-like symptoms, fatigue, headache, sweating, and tremor.
- *GI symptoms*—diarrhoea, vomiting, and nausea/vomiting.
- *Affective symptoms*—irritability, anxiety/agitation, low mood, and tearfulness.
- *Sleep disturbance*—nightmares, vivid dreams, and insomnia.[18]

TCA discontinuation syndrome

Similar to SSRIs, but sensory and disequilibrium symptoms are less common with TCAs.

MAOI discontinuation syndrome

More severe than with other antidepressants and includes worsening of depressive symptoms, acute confusion, hallucinations, paranoid delusions, and anxiety symptoms with depersonalization.

Uncommon clinical presentations

Rare syndromes, such as mania/hypomania (Box 7.2, p. 320), and Parkinsonian symptoms (see Box 22.5) may occur with all antidepressants.

Course and duration

Usually develops after 1mth of treatment, within 2–5 days after antidepressant discontinuation or dose reduction. Onset of symptoms is unusual after >1wk. If untreated, duration is variable (1 day to 3wks). Resolution of symptoms usually occurs within 24hrs if antidepressant is reinstated.

Aetiology

Not completely understood. Various underlying mechanisms have been postulated such as acute decrease in synaptic serotonin in the face of downregulated or desensitized serotonin receptors, loss of inhibitory 5-HT tone on NA neurons, and cholinergic rebound.

Risk factors

Short half-life drugs (e.g. venlafaxine, paroxetine), duration of treatment ≤8wks (plateau in incidence afterwards), high dose stopped, anxiety symptoms at the start of treatment, previous history of discontinuation symptoms, young age.

Differential diagnosis

The diagnosis is generally a clinical one, but the Discontinuation-Emergent Signs and Symptoms (DESS) inventory can be used for evaluating SSRI discontinuation syndrome.

Discontinuation symptoms can be misdiagnosed for:

- Recurrence of depressive/anxiety symptoms.
- Treatment ineffectiveness due to covert non-adherence.
- Adverse reaction to new drug when switching across antidepressant classes.

Other possibilities to be excluded are:

- Underlying physical disorder.
- Withdrawal from drugs of abuse/alcohol.
- Mania/hypomania (timing of onset and symptoms such as dizziness and paraesthesiae strongly suggest 'discontinuation mania').

Management

- Tapering antidepressant is recommended to reduce the risk of developing discontinuation syndrome (use of liquid preparations may be helpful in allowing greater flexibility). However, guidelines on the optimum rates of dose reduction are at best *empirical* (Table 6.3, p. 277), and a cautious approach is advised (over a 4-wk period if duration of treatment ≥8wks).
- If mild to moderate and short-lived, symptoms can generally be tolerated by the patient, allowing successful discontinuation of antidepressant.
- If severe, reintroduction of the original antidepressant rapidly resolves the symptoms. However, the syndrome may recur in up to 75% of patients when the same antidepressant is later discontinued.
- Awareness of risk factors and symptoms of discontinuation syndrome and education of patients prior to stopping or tapering an antidepressant, should prevent unnecessary medical investigations.

- Some symptoms of moderate severity can be treated symptomatically (e.g. hypnotic for insomnia, antimuscarinic agents for cholinergic rebound following TCA discontinuation).
- For SSRI and SNRI discontinuation symptoms, another option is to switch to fluoxetine (due to its long elimination half-life).
- If previous history of severe discontinuation symptoms and poor adherence to treatment, choice of antidepressant with low propensity to cause discontinuation symptoms (e.g. fluoxetine) should be considered.

Hyponatraemia and antidepressants

Essence

Low serum Na^+ (<135mmol/L) is a rare idiosyncratic side effect of all antidepressants, which may have serious consequences if undiagnosed. It is probably not dose-related, and its onset usually occurs within the first month of treatment.

Aetiology

Incompletely understood, but probably due to the syndrome of inappropriate secretion of antidiuretic hormone (SIADH), with resultant euvolaemic hypotonic hyponatraemia, possibly mediated by stimulation of serotonin and α_1-adrenergic receptors.

Risk factors

Previous SIADH, history of hyponatraemia; low BMI, ♀ gender, age >80yrs; physical co-morbidity: diabetes mellitus, hypertension, head injury, hypothyroidism, renal impairment, heart disease, hepatic impairment, COPD, alcoholism; other medications (e.g. thiazides > loop diuretics, calcium channel blockers, chemotherapy, NSAIDs, carbamazepine).

Antidepressants

- Current use of any antidepressant is associated with an ↑ risk of hyponatraemia.[19,20]
- SSRIs are associated with the highest risk.
- The association with TCAs and SNRIs is slightly lower.
- NaSSAs carry the lowest risk, with mianserin the only antidepressant not to carry such a risk.

Clinical features

Depend upon the severity, duration, and rate of change in serum Na^+. May be asymptomatic or display symptoms and signs ranging from nausea, muscle cramps/weakness, and malaise to hypertension, lethargy, confusion, and, if severe, seizures and coma.

Investigations

Check renal, hepatic, cardiac, thyroid, and adrenal function; volume status; serum lipids and protein (to exclude pseudohyponatraemia); serum glucose (raised in hypertonic hyponatraemia); urine osmolality (>100mOsm/L indicates impaired free water excretion);

serum osmolality; urinary Na^+ concentration (usually >20–40mmol/L with SIADH).

Differential diagnosis

- Psychogenic polydipsia.
- Severe malnutrition.
- Antipsychotic-induced (water intoxication, SIADH, severe hyperlipidaemia/hyperglycaemia).
- Cirrhosis; alcoholism.
- Nephrotic syndrome; heart failure.
- *Malignancy*, e.g. lung (small-cell), pancreas, prostate, lymphoma.
- *CNS disorders*, e.g. meningoencephalitis, abscess, stroke, subarachnoid/subdural haemorrhage, head injury, Guillain–Barré, vasculitis.
- *Respiratory disorders,* e.g. TB, pneumonia, abscess, aspergillosis.
- *Endocrine/metabolic disease*, e.g. severe hypothyroidism, hypoadrenalism, pituitary insufficiency, porphyria.
- *Drugs*, e.g. opiates, chlorpropamide, cytotoxic agents, diuretics, carbamazepine, NSAIDs, MDMA.

Management

Prevention—baseline U&Es prior to commencing antidepressant, with monitoring for those at high risk (at 2 and 4wks, then every 3mths).

Treatment

- If serum Na^+ is <125mmol/L: refer to specialist medical care, and withdraw offending agent immediately.
- If serum Na^+ is >125mmol/L: continue to monitor U&Es daily until >135mmol/L.
- Consider a lower-risk antidepressant (e.g. mirtazapine) or, if treatment urgent, ECT may be an option.
- Consider fluid restriction and/or careful use of demeclocycline under specialist advice.
- If necessary, rechallenge may be possible without recurrence (low dose, gradual increase, close monitoring).

Prescribing in pregnancy

Data are limited (and often conflicting) regarding the safety of psychotropic drugs in pregnancy. Some have been associated with risks of birth defects or neonatal adverse events. Untreated mental illness during pregnancy is also an independent risk factor for major congenital malformations (MCMs) or obstetric complications (see Box 22.10). *The most up-to-date summary of evidence is on the UK Teratology Information Service website* (http://www.uktis.org/) [accessed 11 July 2018].

Antipsychotics

- Based on the available evidence, no definitive association has been found between *in utero* antipsychotic exposure and an ↑ rate of MCMs and abnormal postnatal development.
- FGAs are usually considered to have minimal teratogenic potential.
- For SGAs, most evidence is with olanzapine, clozapine (↑ rate of gestational diabetes, but no ↑ risk of MCMs), and quetiapine (lowest placental passage, no evidence of an ↑ rate of MCMs.)
- Depot formulations and anticholinergic drugs should be avoided.

Box 22.10 Guiding principles

For all women of childbearing age
- Always consider (and ask about) the possibility of pregnancy.
- Pregnancy test recommended before starting any teratogenic drug.
- Counsel the patient about the necessity of adequate contraception.
- Advise further consultation if pregnancy is planned.

For a planned conception
- Discuss risks/benefits of discontinuation/continuation of medication (relapse vs teratogenicity, time to conceive, no decision risk-free).
- Avoidance of all drugs during the first trimester (maximum teratogenic potential is between wks 2 and 9) is ideal, but often not achievable.

In pregnancy
- Theoretically, drugs that cross the blood–brain barrier can cross the placental barrier.
- Consider switching to a lower-risk drug, if possible, use the lowest viable dose, avoid polypharmacy, and monitor closely.
- Pregnancy may alter the pharmacokinetics of drugs, hence dosages may need to be adjusted (e.g. lithium).
- Gradual withdrawal of some drugs (e.g. BDZs, TCAs, SSRIs) prior to delivery may help avoid 'withdrawal' effects in the newborn baby.

Unexpected pregnancy
- If >9wks, no urgent decision needed as major risk period has passed.
- Consider reducing dose, if possible, and prescribe nutritional supplements (e.g. folic acid).
- Do not stop lithium abruptly, and use caution with some SSRIs.
- Valproate and carbamazepine should be avoided.

Antidepressants

- Untreated affective illness in pregnant women may be associated with an ↑ risk of pre-term delivery, low birthweight, and poorer long-term developmental outcomes.
- TCAs and SSRIs do not seem to be major teratogens but can cause neonatal withdrawals (agitation, irritability) if used in the third trimester.
- Among TCAs, nortriptyline is recommended since it is less anticholinergic and hypotensive than amitriptyline and imipramine.
- SSRIs (most experience with fluoxetine; less safe is paroxetine) may be associated with low birthweight, spontaneous abortion, and, if used in the third trimester, neonatal pulmonary hypertension. Sertraline appears to have the lowest placental passage.
- MAOIs and other antidepressants should be avoided.

Anxiolytics

- Neonatal respiratory depression, hypothermia, hypotonia ('floppy baby syndrome'), and withdrawal syndromes may occur when BDZs are used close to delivery.
- High doses and use in the first trimester increase the teratogenic risk.
- There may be an association between first-trimester exposure to BDZs (especially diazepam) and an ↑ risk of facial clefts.
- Short-term use and minimum effective dose are recommended if BDZs are necessary. Promethazine is often preferred but should be avoided in the last 2wks of pregnancy.
- Low-dose chlorpromazine or amitriptyline can be used, if necessary.

Mood stabilizers

- All commonly used mood stabilizers are teratogenic and contraindicated in women of childbearing age. Mood-stabilizing antipsychotic therapy is a preferable alternative.

- *Lithium* (→ Lithium, p. 350) has been associated with a 1:1000 risk of Ebstein's anomaly of the tricuspid valve, and detailed ultrasound/echocardiography is indicated at 16–18wks. Relapse rates on discontinuation (50% within 2–10wks) usually preclude stopping lithium therapy in pregnancy. Serum monitoring, dose adjustment, and adequate hydration are essential (particularly after delivery). NICE guidelines state that lithium levels should be monitored every 4wks until 36wks, and weekly until delivery. Delivery in hospital is advised, and lithium should be stopped during labour. Neonatal problems include 'floppy baby syndrome', non-toxic goitre, hypothyroidism, nephrogenic diabetes insipidus, and cardiac arrhythmias. All neonates exposed to lithium *in utero* should have their serum lithium levels measured shortly after delivery.

- *Valproate* and, to a lesser extent, *carbamazepine* are associated with neural tube defects (hence folic acid supplementation is recommended, although evidence for benefit is inconclusive). Valproate has been associated with ↑ risk of long-term cognitive deficits and craniofacial, cardiac, or limb defects.
- *Lamotrigine* is associated with ↑ rate of cleft palate.

Prescribing in lactation

Absolute contraindications

Psychotropic drugs should be avoided if the infant is premature or suffers from renal, hepatic, cardiac, or neurological disorders.

General points

- All psychotropic medications should be regarded as passing into breast milk (to a greater or lesser degree). A review of up-to-date evidence should be undertaken by clinicians prior to prescribing.[21,22]
- The benefits of breastfeeding to the mother and infant must be carefully weighed against the risks of neonatal exposure to drugs.
- Of the limited studies examining this problem, the general findings are that levels of most psychotropic drugs in breast milk are relatively low and infant serum levels (ILs) may be *undetectable*.
- Although infant exposure may be relatively low from breast milk (much lower than *in utero* exposure if the mother was taking medication during pregnancy), there is a risk of both withdrawal symptoms and adverse effects on development.
- Evidence may be lacking for *specific* risks; nonetheless, caution should be exercised.
- Monitoring of the infant should include biochemical (renal and liver function tests) and behavioural measures, with the involvement of a paediatrician to ensure development is within normal parameters.

Choice of medication in nursing mothers

- Where possible, consider non-pharmacological treatments.
- If medication is necessary, the lowest effective therapeutic dose should be used and polypharmacy should be avoided.
- Unless otherwise contraindicated, consider continuing with the psychotropic used during pregnancy in order to minimize any withdrawal effects in the newborn.
- Avoid the use of drugs which are sedating and with long half-lives.

Antipsychotics

- Limited data preclude any conclusive prediction on the long-term safety of the available antipsychotics in lactation.
- Among FGAs, most evidence is with haloperidol and chlorpromazine and has not shown any clear adverse infant

effects.
- A few case reports indicate low breast milk levels with risperidone, quetiapine, and olanzapine.
- There is one case report of cardiomegaly, jaundice, and sedation with olanzapine, but this finding may be spurious.
- Clozapine should not be used, as there is a risk of agranulocytosis and seizures in the infant.

Antidepressants

- Available evidence is reassuring with regard to the safety of SSRI use in lactating women, with few reports of adverse effects on exposed infants.
- Low ILs have been found with all SSRIs, but higher concentrations have been reported with fluoxetine and citalopram, which should therefore be used with caution.
- Sertraline should be considered first line. Paroxetine may also be used. Low ILs and no adverse effects in the nursing infant are also reported with TCAs, with imipramine and nortriptyline being recommended as drugs of choice.
- Limited data are available on other antidepressants.

Anxiolytics

- BDZs are excreted in breast milk and have lower infant milk/plasma ratios than other psychotropic medications.
- Adverse effects such as sedation, lethargy, and weight loss have been reported with the use of BDZs.
- BDZs with a short half-life, such as lorazepam, are preferable to longer-acting ones (e.g. diazepam).

Mood stabilizers

- Valproate and carbamazepine are regarded as compatible with breastfeeding. However, some adverse effects have been noted; hence, close monitoring of the infant is advised. Moreover, they should be avoided in women of childbearing age.
- Previous case reports found high ILs and adverse infant effects (such as cyanosis, hypotonia, heart murmur, lethargy) being associated with lithium.
- However, recent data have shown no serious adverse event and relatively low ILs.
- Infants may be more susceptible to dehydration and lithium toxicity, owing to immature renal function. It is not recommended.
- Lamotrigine is not recommended due to theoretical risk of life-threatening Stevens–Johnson syndrome.

Strategies to minimize infant exposure

- Breastfeeding should be avoided at the time when serum levels in the mother are likely to be at their peak (check drug information for these values).
- If possible, medication should be given as a single dose before the infant's longest sleep period.
- Breastfeeding should occur immediately *before* taking the next due dose.

- Alternatively, breast milk may be expressed when serum levels are at their lowest. Moreover, the first few millilitres can be expressed and discarded prior to breastfeeding.

Prescribing for patients with cardiovascular disease

General points

In considering a suitable psychotropic drug, the main issues revolve around the propensity of that drug to interact with other medications the patient may be taking to affect BP or lead to cardiac conduction problems (see Box 22.11). Due to the unpredictability of drug interactions, polypharmacy is best avoided.

Box 22.11 The QTc question

Awareness of QT prolongation, as measured by the corrected QT interval (QTc), has been heightened because of the potential (but relatively rare) risk of fatal arrhythmias (e.g. torsades de pointes).

QTc is derived by dividing the QT interval by the square root of the cycle length, i.e.:

$$QTc = \frac{QT}{\sqrt{(R - R)}}$$

Normal QTc is 380–420ms; >440ms for men and >470ms for women—some concern; if >500ms—'at risk'.

Causes of prolonged QT interval

Acute myocardial ischaemia, myocarditis, bradycardia (e.g. atrioventricular block), head injury, hypothermia, electrolyte imbalance (K^+ ↓, Ca^{2+} ↓, Mg^{2+} ↓), congenital, sotalol, antihistamines, macrolides (e.g. erythromycin), amiodarone, antipsychotics (especially phenothiazines), antidepressants (especially TCAs).

General advice

Good practice dictates use of routine ECG prior to commencement of antipsychotic medication (especially pimozide, thioridazine, and other phenothiazines) or other psychotropics with known cardiac side effects (e.g. fluvoxamine, citalopram/escitalopram), and regular monitoring.

Management

QTc 440–500ms (men), 470–500ms (women):

- Repeat ECG.
- Review current medications and any potentially offending agents.
- Consider dose reduction of any agents suspected of prolonging QTc.

QTc >500ms:

- Stop potential offending drug.
- Switch to an alternative with lower effect, e.g. aripiprazole if an antipsychotic is needed; sertraline if SSRI is required.
- Refer to a cardiologist.

Specific contraindications

BDZs and clomethiazole in pulmonary insufficiency; disulfiram and lithium in heart failure or sick sinus syndrome; lofexidine in post-MI patients. Pimozide is best avoided in most conditions.

Myocardial infarction

- *Antidepressants*—best avoided in the first 2mths; if clinically indicated, SSRIs (sertraline is the drug of choice), rather than TCAs (but avoiding fluvoxamine and citalopram/escitalopram). If sedation is required, consider use of mirtazapine or a small dose of trazodone at night.
- *Antipsychotics*—high doses should be avoided; phenothiazines are generally more hypotensive than butyrophenones; clozapine should be used with caution in the first year post-MI; of the newer antipsychotics, olanzapine may offer the best risk–benefit balance.

Heart failure

Where possible, hypotensive agents (β-blockers, clozapine, risperidone, TCAs) and drugs causing fluid retention (carbamazepine, lithium) should be avoided.

Angina/ischaemic heart disease

Avoid hypotensive agents and those known to cause tachycardia (phenothiazines, clozapine, risperidone).

Hypertension

Avoid agents that may raise BP (MAOIs, low-dose TCAs, phenothiazines, clozapine, high-dose venlafaxine).

Arrhythmias

(See Box 22.11.)

- *Antidepressants*—SSRIs should be first choice (but not fluvoxamine or citalopram/escitalopram).
- *Antipsychotics*—high doses should be avoided; if essential, options with little to no effect on QTc include aripiprazole, olanzapine, sulpiride, and risperidone.

Prescribing for patients with liver disease

General points

- Almost all psychotropic drugs are metabolized by the liver.
- Exceptions to this rule include lithium, gabapentin, sulpiride, and amisulpride, which have minimal (or no) liver metabolism.
- Most drugs are highly protein-bound (with the exception of citalopram, escitalopram, sulpiride, and amisulpride), and plasma levels may be ↑ in liver disease.

- In liver disease, when using drugs with high first-pass clearance (e.g. imipramine, amitriptyline, desipramine, doxepin, haloperidol), initial doses should be low.
- Where possible, phenothiazines (e.g. chlorpromazine), hydrazine, and MAOIs (may be hepatotoxic) should be avoided.
- Avoid drugs that are very sedative and constipating (anticholinergic) due to ↑ risk of precipitating hepatic encephalopathy.
- LFTs can be a poor marker of hepatic metabolic impairment; hence, always consider the clinical presentation too.

Risk factors

For drug-induced hepatotoxicity, risk factors include: older age, alcohol intake, ♀ sex, obesity, genetic vulnerability, and concomitant prescription of enzyme-inducing drugs.

Antidepressants

- Always start with the lowest possible dose, and titrate slowly.
- *TCAs*—best evidence for use of imipramine; avoid amitriptyline, dothiepin, and lofepramine (most hepatotoxic).
- *SSRIs*—some evidence for paroxetine and citalopram; avoid sertraline. Also ↑ risk of bleeding with all SSRIs.
- *MAOIs*—best avoided.
- *Others*—venlafaxine (use 50% of usual dose), mirtazapine (cautious use), reboxetine (extensively metabolized, very low starting dose), trazodone (highly protein-bound, so low starting dose; avoid in severe impairment). Agomelatine (avoid).

Antipsychotics

- Best evidence for low-dose haloperidol (considered 'drug of choice'), followed by sulpiride or amisulpride.
- Clozapine dose should be kept low (some evidence of hepatotoxicity). Avoid in symptomatic or progressive liver disease.
- Aripiprazole should be used cautiously, especially in severe disease.
- Olanzapine (up to 7.5mg) may be safe (but does induce transaminases).
- Risperidone doses should be kept low (half doses)
- Quetiapine is extensively metabolized (hence, start low—25mg).

Mood stabilizers

- Lithium is the 'drug of choice', with gabapentin as second choice.
- Valproate is *contraindicated* in severe liver disease but may be used with caution in mild to moderate impairment.
- Caution should also be exercised with carbamazepine and lamotrigine, with metabolism impaired in severe disease.

Anxiolytics

- Where necessary, use low doses of short-acting BDZs (e.g. lorazepam, oxazepam, temazepam).

- A low dose of zopiclone 3.75mg can be used with care in moderate hepatic impairment.

Prescribing for patients with renal impairment

General points

- Renal impairment generally leads to accumulation of drugs (or active metabolites) that are predominantly cleared by the kidney. This will lead to higher serum levels and ↑ risk of dose-related side effects (e.g. postural hypotension, sedation, EPSEs).
- Hence, all psychotropics should be started at a low (or divided) dose, ↓ slowly, and carefully monitored (for efficacy and tolerability).
- When patients are receiving dialysis, seek specific advice from the manufacturer—dosages should usually be reduced by at least 50% and dosing separated in time from dialysis itself.

Classification of chronic kidney disease

See Box 22.12 for estimation of glomerular filtration rate (GFR). CKD may be classified as *mild* (GFR 60–89mL/min), *moderate* (GFR 30–59mL/min), *severe* (GFR 15–29mL/min), or *end-stage* (GFR <15mL/min).

Box 22.12 Estimating glomerular filtration rate (GFR)

GFR

Normal value ~125mL/min; it is the volume of fluid filtered by the glomeruli per minute (mL/min) and can be directly measured by collection of urine over 24hr or estimated in adults in two ways:

- *Creatinine clearance (CrCl)*—using the Cockcroft–Gault equation:

$$\text{CrCl}(\text{mL/min}) = \text{F}[140 - \text{age (in yrs)} \times \text{ideal body weight (kg)}] / \text{serum creatinine } (\mu\text{mol/L})$$

$$\text{F} = 1.23 \text{ (men) and } 1.04 \text{ (women)}$$

CrCl is not accurate in conditions where plasma creatinine is unstable (pregnancy, children, diseases raising creatinine plasma level) and in severe renal failure.

- *Estimated GFR (eGFR)*—using the Modification of Diet in Renal Disease (MDRD) formula. It gives an eGFR for a 1.73m^2 body surface area (if the body surface area is more or less than 1.73m^2, then eGFR is less accurate).

$$\text{eGFR (mL/min/1.73m}^2) = 175 \times \{[\text{serum creatinine } (\mu\text{mol/L})/84.4]^{-1.154}\} \times \text{age (yrs)}^{-0.203} \times 0.742 \text{ if } ♀ \times 1.21 \text{ if African-American or African-Caribbean}$$

Online calculator is available at: http://www.renal.org/eGFRcalc/GFR

Note: most current drug dose recommendations are based on the CrCl estimations from Cockcroft and Gault. However, the most widely used method for estimating GFR is the MDRD equation, as this has proved the most robust and accurate.

Antidepressants

- In severe renal failure, avoid duloxetine, fluoxetine, venlafaxine, and lofepramine (unless the patient is on dialysis).
- Otherwise cautious use, beginning low and gradually increasing the dose is advised.
- No specific therapeutic dose adjustments are necessary for MAOIs (except for isocarboxazid), RIMAs, mianserin, tryptophan, trazodone, or TCAs.

Antipsychotics

- Lower doses are recommended to avoid dose-related side effects (particularly with phenothiazines, which may be best avoided).
- Highly anticholinergic agents should be avoided due to risk of urinary retention.
- Clozapine is contraindicated in severe renal impairment.
- Avoid amisulpride/sulpiride (primarily renally excreted), and use caution with risperidone.
- Some authorities recommend haloperidol, but accumulation is possible, so careful monitoring is still necessary.

Mood stabilizers

- Lithium should be used with caution in mild to moderate impairment, with regular serum lithium monitoring. Avoid in severe impairment. No specific problems are reported for valproate or carbamazepine, although in severe renal failure, serum levels should be monitored.
- Gabapentin requires specific dose adjustments, and manufacturer's recommendations should be sought.
- Lamotrigine should be used cautiously, particularly in severe renal impairment.

Anxiolytics/hypnotics

- BDZs tend to accumulate, with increasing CNS side effects (particularly sedation)—hence use low doses and those with a shorter half-life, e.g. lorazepam.
- Buspirone is contraindicated in moderate to severe renal failure.
- β-blockers should be started at low dose, as they may complicate renal failure by reducing renal blood flow.
- Zopiclone and zaleplon require no dosage adjustment. However, the half-life of zolpidem may be doubled in renal failure, so it should be avoided.

Others

- *Anticholinergics, disulfiram*—use cautiously.
- *Acamprosate*—contraindicated if serum creatinine >120μmol/L.

- *Anticholinesterases*—no reported problems. Avoid galantamine in severe renal impairment.

Prescribing for patients with epilepsy

General points

(See also Psychiatric aspects of epilepsy 1, p. 138.)

In considering a suitable psychotropic, there are two related considerations:

- The propensity of that drug to interact with other medications the patient may be taking (justifying serum monitoring where possible).
- Risk of lowering the seizure threshold and exacerbating the condition.

As these effects appear dose-related, daily dose of any drug should be kept as low as possible. Greater caution is necessary when:

- Other psychotropics are also being given (e.g. regular *plus* 'as required' antipsychotics).
- Patients may be withdrawing from CNS depressants (e.g. BDZs, barbiturates, or alcohol).

Risk factors

Risk factors for psychotropic-induced seizures include: history of epilepsy, old age, polypharmacy, reduced drug clearance, pre-existing EEG abnormalities, cerebral arteriosclerosis, neurological impairment.

Antidepressants

- All TCAs appear to lower the seizure threshold, although there appears to be greater risk with amitriptyline, clomipramine, and dothiepin.
- Tetracyclics (maprotiline and amoxapine) also appear pro-convulsant, as does bupropion.
- The other antidepressants appear less likely to cause problems, and a usual first choice is often an SSRI (may be anticonvulsant at therapeutic doses).

Antipsychotics

- The greatest risk of seizures is associated with the use of phenothiazines (especially chlorpromazine) and particularly clozapine. Because of this risk, it is quite common to cover high doses of clozapine with concomitant use of valproate. Hence, greater caution is needed when clozapine is used in individuals with epilepsy.
- Olanzapine has been associated with seizure activity.
- Avoid depot antipsychotics.
- The lowest risk is associated with haloperidol (best choice), sulpiride, trifluoperazine, zuclopenthixol, amisulpiride, pimozide, quetiapine, risperidone, and aripiprazole.

Mood stabilizers

- Lithium does cause seizures in OD. However, a therapeutic dose has a low pro-convulsive effect.
- If in doubt, anticonvulsants provide useful alternatives. However, clinical efficacy must be weighed against any potential risks of using lithium.

Anxiolytics/hypnotics

- Generally these drugs are *anticonvulsant*.
- Exceptions include buspirone, zolpidem, and β-blockers, although there is no evidence that they are epileptogenic.

Others

- *Anticholinergics, acamprosate*—no problems reported.
- *Disulfiram*—caution is recommended.
- *Anticholinesterases*—care is needed with donepezil and rivastigmine; however, galantamine appears safe.

Physical health monitoring and antipsychotics

General points

All patients prescribed antipsychotics should have their physical health, as well as mental health, regularly monitored. This is not only due to the fact that some antipsychotic medications can have cardiometabolic adverse effects as previously outlined, but also that patients with schizophrenia have a significantly lower life expectancy and can be less prone to seek medical help. Below is an amalgamation of current physical health monitoring guidelines suggested by SIGN[23] and NICE.[24]

Baseline

- *Essential*—weight and waist circumference, pulse, BP, fasting blood glucose, HbA1c, blood lipids, nutritional status, smoking status, diet and physical activity levels, ECG.
- *If clinically indicated*—serum PRL.

1 month

- *Essential*—weight and waist circumference.
- *If clinically indicated*—pulse, BP, fasting blood glucose, HbA1c, blood lipids, serum PRL, ECG (particularly if physical examination identifies cardiovascular risk factors, there is a personal history of cardiovascular disease, or the patient is being admitted as an inpatient).

3 months

- *Essential*—weight and waist circumference, pulse, BP, fasting blood glucose, HbA1c, blood lipids, smoking status.
- *If clinically indicated*—serum PRL, ECG.

1 year

- *Essential*—weight and waist circumference, pulse, BP, fasting blood glucose, HbA1c, blood lipids, nutritional status, smoking status, diet, and physical activity levels.
- *If clinically indicated*—serum PRL, ECG.

This monitoring should continue annually thereafter, unless there is a change in antipsychotic prescription or physical health status. If any abnormalities are found, they should be treated in line with current guidelines (e.g. dietitian input, smoking cessation, treatment of diabetes, hypercholesterolaemia, etc.).

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11 Priapus, the son of Zeus and Aphrodite, was a god with an enormous penis who symbolized the earth's fertility.
12 Patel AG, Mukherji K, Lee A (1996) Priapism associated with psychotropic drugs. *Br J Hosp Med* **55**:315–19.
13 *Note:* in contrast with most medication side effects, acute dystonias are more common in the young than the elderly. This may be related to asymptomatic loss of dopaminergic neurons in later life.
14 A rare disorder associated with exposure to inhaled aesthetics and suxamethonium. Genetic linkage found to chromosome 19. Possibly due to a muscle membrane defect, leading to ↓ intracellular Ca^{2+} and intense muscle contractions. Temperature rises rapidly (up to 1°C/5min).
15 A rare disorder associated with exposure to inhaled aesthetics and suxamethonium. Genetic linkage found to chromosome 19. Possibly due to a

muscle membrane defect, leading to ↓ intracellular Ca^{2+} and intense muscle contractions. Temperature rises rapidly (up to 1°C/5min).

16 These are Sternbach's diagnostic criteria; (Sternbach H (1991) The serotonin syndrome. *Am J Psychiatry* **148**:705–13)—see also Dunkley EJC, Isbister GK, Sibbritt D, Dawson AH, Whyte IM (2003) The Hunter Serotonin Toxicity Criteria: simple and accurate diagnostic decision rules for serotonin toxicity. *QJM* **96**:635–42.

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Chapter 23

Difficult and urgent situations

Dealing with psychiatric emergencies

It is a common misconception that there are no *real* emergencies in psychiatry. However, a psychiatrist in training is expected first and foremost to be a competent physician and needs to be up-to-date with basic resuscitation procedures and be familiar with the procedures in place for the management of medical emergencies in the hospital they are working, as the level of on-site facilities will vary. Dealing with acute situations can feel like a lonely business, and doubts about the best management of given situations may get in the way of that much needed rest period. There is no substitute for experience, but hopefully some of the guidance in the following section will allow a rational approach to a number of common (and not so common) difficult and urgent situations in a psychiatric setting.

Keep the following principles in mind.

'Primum non nocere': above all, do no harm

- Always ensure your own and other staff's safety.
- If necessary facilities or expertise are not available, make appropriate arrangements to get the patient to them as soon as possible.
- Always suspect (and as far as possible exclude) potential organic causes for psychiatric presentations.
- Remember—patient confidentiality does not override issues of threatened harm to themselves or other individuals.

Assess

- Always make the fullest assessment possible—do not fail to ask about important issues just because you feel a person may not

wish to talk about them.
- Ensure that you have the best-quality information available. If other sources of information are available (e.g. previous notes, third-party information), use them!
- Do not dawdle—if a situation requires immediate action, act.

Consult

- Do not *assume* anything. If in doubt, consult a senior colleague.
- If it is possible to make a joint assessment, this can really help for difficult cases—both as someone to help make the decision and also to fetch more help or make calls if needed.
- Remember you are part of a team, and if there is a difficult decision to make, do not make it alone.

Keep contemporaneous records

- Clearly record your assessment, decisions made (*and* reasons), and the names of any other colleagues involved or consulted. Legally, if it has not been recorded, it has not been done.

Dealing with crisis situations

First principles

- Speak to the staff who originated the call.
- Obtain as much information in advance as possible about the situation, including accessing any electronic records. Forewarned is forearmed!
- If the patient is from out of area, a quick call to that area can provide vital information about the background, risk, and current service involvement.
- Establish what your expected role is.
- Keep your own safety uppermost in your mind (no heroics).

General aims

- Attempt to put the patient at their ease; explain who you are and why you have been asked to speak to them.
- Be clear in any questions you need to ask, and elicit useful information.
- Achieve a safe, dignified resolution of the situation.

Important communication principles

- Be conscious of both verbal and non-verbal language.
- Listen actively—assimilate and understand what is actually being said and interpret the various underlying meanings and messages.
- Feedback—go back over what the patient has said with them to assure them that you understand what they are saying.
- Empathy—appreciate the sharing of thoughts, feelings, and motives.
- Content and feeling—note any difference between what is said verbally and what message is really being given.
- Use checkpoint summaries—brief reviews of the main points discussed about issues and any demands.

Important suggestions

- Use open questions to give the patient an opportunity to ventilate what is on their mind (to help relieve tension, keep the patient talking, and allow you to assess the mental state).
- Closed questions can be used later in the interview to clarify symptoms and to establish an accurate assessment of risk.
- Listen carefully to what the patient is saying. This may provide further clues as to their actions. It also demonstrates concern for the patient's problem. This is much harder to do well than it sounds!
- Be honest, upfront, and sincere—develop a trusting relationship.
- Be neutral—avoid approval or disapproval unless necessary.
- Orientate the patient to looking for alternative solutions together, without telling them how to act (unless asked).
- Try to divert any negative train of thought.
- Check with other team members before making any commitments.
- If the police have been called, present the reason for their presence realistically, but neutrally.
- Do not involve family members in negotiations. Ideally, speak to the patient on their own, and then speak to their family member (with permission) for a collateral history.

Suggestions for dealing with particular patients

The patient responding to paranoid ideas/delusions

- Avoid prolonged eye contact, and do not get too close.
- The patient's need to explain may allow you to establish a degree of rapport. Allow them to talk, but try to stay with concrete topics.
- Do not try to argue against delusions—ally yourself reflectively with their perspective (e.g. 'What you are saying is that you believe … x … ').
- Avoid using family members who may be part of the delusional system.
- Try to distance yourself from what may have happened in the past (e.g. 'I'm sorry that was your experience before … maybe this time we could manage things better … ').
- Be aware that your offer of help may well be rejected.

The patient with antisocial traits

- A degree of flattery may facilitate discussion of alternative solutions (show you understand their need to communicate, how important their opinions are, and your desire to work together to resolve things).
- Encourage them to talk about what has led up to this situation.
- Try to convince them that other ways of achieving their aims will be to their advantage—keep any negotiation reality-oriented.
- Focus their attention on you as the means to achieve their aims.

The patient with borderline traits

- Provide 'understanding' and 'uncritical acceptance'.

- Try to build self-esteem (e.g. 'You have done well coping with everything up to now … ').
- Once trust is gained, you may be able to be more directive using their desire to be accepted (e.g. 'I really think it would be best if we … ').
- Bear in mind that often the behaviour will be attention-seeking, and it may be worth asking: 'What is it you feel you need just now?'
- Do not be surprised if the patient acts impulsively.
- Try to keep an empathetic attitude towards the patient. Explain your decisions in a way that makes clear you are not 'abandoning' them.

The depressed patient

- Psychomotor retardation may slow response time—be patient.
- The presence of friends or relatives may worsen their feelings of worthlessness and guilt.
- Focus on the 'here and now'—avoid talking abstractly.
- Acknowledge that they probably cannot imagine a positive future.
- Be honest and straightforward—once rapport has been established, it may be appropriate to be explicitly directive.
- Try to postpone the patient's plans, rather than dismiss them (e.g. 'Let's try this … and see how you feel in the morning … ').
- Be prepared to repeat reassurances.

The patient experiencing acute stress

- Allow ventilation of feelings.
- Try to get them to describe events as objectively as possible.
- Have them go back over the options they have ruled out.
- Review the description of events, and present a more objective, rational perspective.

Managing suicide attempts in hospital

Attempted overdose

On psychiatric wards, the most likely means of attempted self-poisoning involves building up a stock of prescribed medication or bringing into the ward tablets to be taken at a later date (e.g. while out on pass). Often patients will volunteer to trusted nursing staff that they have taken an OD, or staff will notice the patient appears overtly drowsy and when challenged, the patient admits to OD.

- Try to ascertain the type and quantity of tablets taken (look for empty bottles, medication strips, etc.).
- Establish the likely time frame.
- If the patient is unconscious or significantly drowsy, arrange immediate transfer to emergency medical services. Inform the medical team of the patient's diagnosis, the current mental state, the current status (informal/formal), and any other regular medications.
- If the patient is asymptomatic, but a significant OD is suspected, arrange immediate transfer to emergency services:
  - Do not try to induce vomiting.

- If available, consider giving activated charcoal (single dose of 50g with water) to reduce absorption (especially if NSAIDs or paracetamol).

- If the patient is asymptomatic and a significant OD is unlikely:
  - Monitor closely (general observations, level of consciousness, evidence of nausea/vomiting, other possible signs of poisoning).
  - If paracetamol or salicylate (aspirin) suspected: perform routine bloods [FBC, U&Es, LFTs, HCO_3, international normalized ratio (INR)] and request specific blood levels (4hr post-ingestion level for paracetamol).
  - If other psychiatric medications may have been taken, consider urgent blood levels (e.g. lithium, anticonvulsants;  Plasma level monitoring, p. 998).
  - Be aware that LFTs may be abnormal in patients on antipsychotic or antidepressant medication.
  - If in doubt, get advice or arrange for medical assessment.

Deliberate self-harm

Most episodes of deliberate self-harm involve superficial self-inflicted injury (e.g. scratching, cutting, burning, scalding) to the body or limbs. These may be easily treated on the ward, with little fuss (to avoid secondary reinforcement of behaviour).

- Any more significant injuries (e.g. stabbing, deep lacerations) should be referred to emergency medical services, with the patient returning to the psychiatric ward as soon as medically fit.
- Medical advice should also be sought if:
  - You do not feel sufficiently competent to suture minor lacerations.
  - Lacerations are to the face/other vulnerable areas (e.g. genitals) or where you cannot confirm the absence of damage to deeper structures (e.g. nerves, blood vessels, tendons).
  - The patient has swallowed/inserted sharp objects into their body (e.g. vagina, anus).
  - The patient has ingested potentially harmful chemicals.

Attempted hanging

Most victims of attempted hangings in hospitals do not use a strong enough noose or sufficient drop height to cause death through spinal cord injury ('judicial hanging'). Cerebral hypoxia through asphyxiation is the probable cause of death and should be the primary concern in treatment of this patient population.

On being summoned to the scene

- Support the patient's weight (if possible, enlist help).
- Loosen/cut off the ligature.
- Lower the patient to a flat surface, ensuring external stabilization of the neck, and begin the usual basic resuscitation [airway/breathing/circulation (ABC), IV access, etc.].
- Emergency airway management is a priority—where available, administer 100% O_2; if competent and indicated, use nasal or

oral endotracheal intubation.
- Assess conscious level, full neurological examination, and the degree of injury to soft tissues of the neck.
- Arrange transfer to emergency medical services as soon as possible.

Points to note

- Aggressive resuscitation and treatment of post-anoxic brain injury are indicated, even in patients without evident neurological signs.
- Cervical spine fractures should be considered if there is a possibility of a severe foot drop or evidence of focal neurological deficit.
- Injury to the anterior soft tissues of the neck may cause respiratory obstruction. Close attention to the development of pulmonary complications is required.

Attempted asphyxiation

- Remove the source (ligature, polythene bag, etc.).
- Give 100% O_2.
- If prolonged period of anoxia or impaired conscious level, arrange immediate transfer to emergency medical services.

After the event

Patient

- Once the patient is fit for interview, formally assess the mental state and conduct an assessment of further suicide risk (Assessment after self-harm, p. 848).
- Establish the level of observation necessary to ensure the patient's safety, clearly communicate your decision to staff, and make a record in the patient's notes. (*Note:* hospital policy may vary, but levels of observation will range from timed checks, e.g. every 15mins, to having a member of staff within arm's length of the patient 24hrs/day).

Staff

For particularly traumatic events, it may be necessary to arrange a 'critical incident review' (at a later date) where all staff involved participate in a confidential debriefing session. This is not to apportion blame, but rather to review policy and to consider what measures (if any) might be taken to prevent similar events from occurring in the future.

Severe behavioural disturbance

This covers a vast range of presentations but will usually represent a qualitative acute change in a person's normal behaviour that manifests primarily as antisocial behaviour, e.g. shouting, screaming, ↑ (often disruptive/intrusive) activity, aggressive outbursts, threatening violence (to others or self).

In extreme circumstances [e.g. person threatening to commit suicide by jumping from a height (out of a window, off a roof), where

the person has an offensive weapon, or a hostage situation], this is a *police* matter and your responsibility does not extend to risking your own or other people's lives in trying to deal with the situation (although you have an ethical responsibility to raise the alarm/dial '999'/contact the appropriate authorities if you are first at the scene).

Common causes

- Acute confusional states (Acute confusional state (delirium), p. 854).
- Drug/alcohol intoxication.
- Acute symptoms of psychiatric disorder (anxiety/panic, Panic disorder 1: clinical features, p. 368; mania, Mania/manic episode, p. 320; schizophrenia/other psychotic disorders, Examination of the patient with psychotic symptoms, p. 192).
- 'Challenging behaviour' in brain-injured or ID patients (Behavioural disorders and 'challenging' behaviour, p. 828).
- Behaviour unrelated to a primary psychiatric disorder—this may reflect personality disorder, abnormal personality traits, or situational stressors (e.g. frustration).

General approach

- Sources of information will vary, depending on the setting (e.g. on the ward, in outpatients, emergency assessment of a new patient). Try to establish the context in which the behaviour has arisen.
- Follow the guidelines outlined in Dealing with psychiatric emergencies, p. 1042.
- Look for evidence of a possible psychiatric disorder.
- Look for evidence of a possible physical disorder.
- Try to establish any possible triggers for the behaviour—environmental/interpersonal stressors, use of drugs/alcohol, etc.

Management

This will depend upon the assessment made:

- If physical cause suspected:
  - Follow the management of delirium (Acute confusional state (delirium), p. 854).
  - Consider use of PRN sedative medication (Notes on PRN medication, p. 1051) to allow proper examination, to facilitate transfer to medical care (if indicated), or to allow active (urgent) medical management.
- If psychiatric cause suspected:

- Consider pharmacological management of acute behavioural disturbance, including rapid tranquillization (RT), if indicated (Additional notes, p. 1049 and Rapid tranquillization 1—guidelines and use of PRNs, p. 1050).
- Consider issues of consent (Additional notes, p. 1049) and the need for compulsory detention.
- Review current management plan, including observation level.

- If no physical or psychiatric cause suspected, and behaviour is dangerous or seriously irresponsible, inform security or the police to have the person removed from the premises (and possibly charged if a criminal offence has been committed, e.g. assault, damage to property).

Additional notes

- There are often local protocols for RT (Rapid tranquillization 2—options and monitoring, p. 1052) and for control and restraint/use of other restrictive measures, and these should be followed where available. It is advisable to familiarize yourself with these guidelines before an emergency situation arises.
- It is always good practice to discuss management with a senior colleague as soon as possible.

Potential risks of pharmacological management

- Over-sedation causing LOC, alertness, and compromise of airway.
- Cardiovascular or respiratory collapse (raised risk where there is stress or extreme emotion or extreme physical exertion).
- Interaction with prescribed or illicit medication.
- Damage to therapeutic relationship.
- Other (related or coincidental) physical disorders (e.g. congenital prolonged QTc syndromes, patient on medication lengthening QTc).

Issues of consent

Giving emergency treatment for acute behavioural disturbance is essentially treatment under common law (Common law, p. 940). The justification rests on the judgement that no other management options are likely to be effective and that use of restraint, other restrictive practices, or tranquillization will prevent the patient from harming themselves or others. Harm may include behaviour that is likely to endanger the physical health of the patient (e.g. not consenting to urgent treatment or investigations that are likely to be lifesaving) when capacity to give consent is judged to be impaired (Treatment without consent, p. 938).

Rapid tranquillization 1—guidelines and use of PRNs

RT (or 'urgent sedation') is the use of *injectable* medication to calm and *lightly* sedate a patient who is in a highly distressed, agitated, aggressive, or behaviourally disturbed state in order to: (1) reduce the risk to self and/or others; and (2) allow psychiatric evaluation to take place (which will necessitate spoken communication). It is not 'PRN' medication (see Table 23.1) and should not be *routinely* prescribed (or prescribed as 'PO/IM'). RT is also not the induction of 'deep sedation' with reduced consciousness and motor and sensory activity, and ultimately loss of airway control and protective reflexes (requiring supportive measures), although this may be the result of repeated RT—hence the need for close physical monitoring (Rapid tranquillization 2—options and monitoring, p. 1052). When deep sedation is required—to allow urgently necessary treatment or investigations when a patient is actively resisting (usually in A&E)—this should be achieved with the help of an anaesthetist, use of IV agents (e.g. BDZs, anaesthetics), resuscitation equipment, and additional trained personnel under common law (Common law, p. 940). Hospitals should have their own local guidelines—the following pages outline the general principles common to many current protocols (see also Severe behavioural disturbance, p. 1048).

Table 23.1 Typical PRN oral medications for acute behavioural disturbance

Drug	Usual dose[b]	Max/24hrs	Pharmacokinetics		
			Onset	Peak	t1/2
Chlorpromazine	25/50mg 4-hourly	1g	30–60mins	1–4hrs	24–36hrs
Diazepam	2/5mg 4-hourly	30mg	15mins	1hr	24–48hrs
Haloperidol	1.5–5mg 4-hourly	30mg	1–2hrs	2–6hrs	21hrs
Lorazepam	0.5/1mg 4-hourly	4mg	15–30mins	2hrs	12–15hrs
Olanzapine[a]	5mg 6-hourly	20mg	72hrs	5–8hrs	30–50hrs
Promethazine	25/50mg 6-hourly	100mg	15–30mins	1.5–3hrs	7–15hrs
Quetiapine[a]	25/50mg 4-hourly	750mg	30–60mins	1.5–1.8hrs	6–7hrs
Risperidone[a]	500mcg 4-hourly	16mg	30–60mins	2hrs	18hrs

[a] Not approved for the treatment of dementia-related psychosis or behavioural disturbance.

[b] As a general rule, doses in adults aged >65yrs, those with ID, and other groups sensitive to side effects of medication will be half the usual adult dose—always check the *BNF* for guidelines.

Best practice

- Consideration of the need for RT should be part of developing an individualized care plan, based on up-to-date risk assessments, discussed at an MDT/ward review, and documented as soon as possible after admission, with at least weekly review.[1,2]
- De-escalation and calming techniques should be utilized before RT, including: recognition of early signs of problems; use of distraction and relaxation techniques; ensuring adequate personal space; avoiding provocation with an appropriate and measured response; and utilization of PRN medication.
- If this is unsuccessful and RT is necessary, then an incident form should be completed with a clear record of the rationale, target symptoms, timescales, triggers, total daily doses, response, side effects, and use of other restrictive measures such as restraint by trained staff.
- Immediately arrange a debrief for the treating team and later for the service user, together with a medical review and risk assessment.

- Consider the need for adjustments to the care plan and prescription, including use of an advance directive, and ensure appropriate paperwork is completed for those who are subject to the MHA (e.g. adjusting the formalized treatment plan or notification of use of emergency treatment).

Notes on PRN medication

'As required', or PRN, medication is additional *oral* medication that is given in hospital only when circumstances require it. PRNs may be utilized in outpatient settings for breakthrough symptoms, situational anxiety, or insomnia to limit the total regular medication load. In hospital settings, the following guidance should be followed:

- Do not prescribe routinely or automatically on admission.
- Tailor medication to individual needs, if possible following an open discussion with the patient, and record the rationale in a care plan.
- Prescriptions should specify the indication, dose/24hrs, and the time interval between doses. This should not exceed the *BNF* limits or be outwith product licences (including regular doses and other formulations), unless a senior doctor agrees this in advance with the completion of appropriate off-licence documentation and high-dose monitoring forms.
- Continued need for PRN medication should be reviewed at least weekly at an MDT/ward review. If not utilized, it should be discontinued. If used regularly, consider prescribing regularly or increasing regular medication.

Rapid tranquillization 2—options and monitoring

Prior to rapid tranquillization

- Ensure patient safety at all times—including appropriate environment.
- Consider physical causes (Common causes, p. 1048), especially intoxication and/or acute infection and known conditions (e.g. renal, liver, cardiac, respiratory, diabetes, pregnancy).
- Review medicines administered in the last 24hrs, and if greater than the *BNF* max, discuss plans with a senior doctor.
- Ensure oral medication has been offered prior to RT.
- Utilize RT checklist and recording sheets (i.e. local protocols).

Rapid tranquillization options

(See Table 23.2.)

If de-escalation methods and oral medications have been unsuccessful or cannot be implemented, or in cases of urgent necessity:

Non-psychotic context

- IM lorazepam 1–2mg (or IM promethazine 50mg in those with compromised respiratory function or known to be

sensitive/tolerant to BDZs), and wait 30mins to assess response.

Psychotic context

- IM lorazepam 1–2mg (or IM promethazine 50mg), and wait 30mins to assess response.
- If insufficient, add IM haloperidol 5mg (wait 1hr to assess response) or IM olanzapine 5–10mg (do not give IM lorazepam within 1hr of IM olanzapine) or IM aripiprazole 9.75mg (wait 2hrs to assess response).

Note: haloperidol is usually reserved for those with previous antipsychotic use and a normal ECG; SGAs are less likely to cause significant side effects in the antipsychotic-naive or those with evidence of cardiovascular disease, prolonged QTc, no ECG, on drugs that can affect QTc (Box 22.11 The QTc question, p. 1034), or alcohol or illicit drug intoxication.

Repeat, if necessary, up to the maximum *BNF* dose limits, monitoring closely.

If no response, arrange an urgent team review or consult a more senior colleague.

Alternative approaches (in consultation with senior colleague)

- If lorazepam is not available, unlicensed IM clonazepam 0.5–2mg/hr may be used (max 4mg/24hrs)—onset 15–30mins, peak 3hrs, t1/2 20–60hrs.
- If other measures have been ineffective, or if patient likely to be tolerant to BDZs, consider IM chlorpromazine 25–100mg every 30–60mins. (*Note:* danger of postural hypotension, and even fatality, if given inadvertently by IV injection—monitoring essential and nurse lying down.)
- If repeated RT has been needed, consider IM depot zuclopenthixol acetate (Clopixol Acuphase®) 50–150mg—repeat every 2–3 days, if necessary, up to a maximum total dose of 400mg. (*Note:* this is not RT; it is a rapidly acting, sedating depot antipsychotic treatment, which is best avoided in antipsychotic-naive patients because of its long half-life—onset 2–8hrs; peak 24–36hrs; t1/2 60hrs.)

Table 23.2 Pharmacokinetics of RT injectables

Drug	Usual dose[a]	Max/24hrs	Pharmacokinetics		
			Onset	Peak	t1/2
Lorazepam	1/2mg 30mins	4mg	15–30mins	60–90mins	12–15 hrs
Haloperidol	5mg hourly	18mg[b]	15–30mins	20–45mins	21hrs
Olanzapine[c]	5/10mg 2-hourly	20mg	15–30mins	15–45mins	30–50hrs
Aripiprazole[c]	9.75mg 2-hourly	Three doses/30mg	30mins	1–3hrs	75–146hrs
Promethazine	50mg 30mins	100mg	1–2hrs	2–6hrs	7–15hrs

[a] As a general rule, doses in adults aged >65yrs, those with ID, and other groups sensitive to side effects of medication will be 25–50% of the usual adult dose—always check the *BNF* for guidelines.

[b] The bioavailability of PO and IM haloperidol is different—when considering the total dose per 24hrs, 5mg PO = 3mg IM. IV use has a high risk of arrhythmias and is not recommended.

[c] Not approved for the treatment of dementia-related psychosis or behavioural disturbance.

Physical health monitoring during and after rapid tranquillization

- Temperature, pulse, BP, O_2 saturation, and respiratory rate (RR) should be recorded every 15mins for the first hour, then hourly for 4hrs, then, depending on clinical need, every 4hrs for the next 12hrs. Local paperwork may be available.
- If the patient is asleep, they should be woken, unless there is a good reason not to. At the very minimum, respiratory and pulse rates should be recorded and the reason for not doing more noted clearly.

Common and serious side effects

- *EPSEs* (especially acute dystonia following haloperidol) (Dystonic reactions, p. 1016)—utilize IM procyclidine 5–10mg.
- *NMS* (Neuroleptic malignant syndrome, p. 1018)—will need immediate medical transfer.
- *Hypotension*—lie the patient flat, and raise legs; monitor closely.
- *Respiratory depression*—give O_2, raise legs, if necessary ventilate mechanically. If RR drops below 10 breaths/min after BDZ administration, call for advanced emergency care: IV flumazenil 200mcg over 15s; if consciousness is not resumed within 60s, give 100mcg over 10s; repeat at 60s intervals;

maximum dose 1mg/24hrs; continue close monitoring after RR returns to normal. (*Note:* as flumazenil has a short duration of action, further doses may be required and on waking, agitation and anxiety may be worse. Consider medical transfer.)

 Remember: fatalities do occur during RT.

The catatonic patient

Catatonia is certainly less common in current clinical practice, thanks to the advent of effective treatments for many psychiatric disorders and earlier interventions. Nonetheless, the clinical presentation may be a cause for concern, particularly when a previously alert and orientated patient becomes mute and immobile. The bizarre motor presentations (e.g. posturing) may also raise concerns about a serious acute neurological problem (hence, these patients may be encountered in a medical/liaison setting), and it is important that signs of catatonia are recognized. Equally, the 'excited' forms may be associated with sudden death ('lethal' or 'malignant' catatonia), which may be preventable with timely interventions.

Clinical presentation

Characteristic signs

- Mutism.
- Posturing.
- Negativism.
- Staring.
- Rigidity.
- Echopraxia/echolalia.

Typical forms

- Stuporous/retarded.
- Excited/delirious.

Common causes

- *Mood disorder*—more commonly associated with mania (accounts for up to 50% of cases) than depression. Often referred to as manic (or depressive) stupor (or excitement).
- *General medical disorder*—often associated with delirium:
  - Metabolic disturbances.
  - Endocrine disorders.
  - Viral infections (including HIV).
  - Typhoid fever.
  - Heat stroke.
  - Autoimmune disorders.
  - Drug-related (antipsychotics, dopaminergic drugs, recreational drugs, BDZ withdrawal, opiate intoxication).
- *Neurological disorders*:
  - Post-encephalitic states.
  - Parkinsonism.
  - Seizure disorder (e.g. non-convulsive status epilepticus).

- Bilateral globus pallidus disease.
- Lesions of the thalamus or parietal lobes.
- Frontal lobe disease.
- General paresis.

- *Schizophrenia* (10–15% of cases)—classically catalepsy, mannerisms, posturing, and mutism (see catatonic schizophrenia in The diagnosis of schizophrenia, p. 184).

Differential diagnosis

- *Elective mutism*—usually associated with pre-existing personality disorder, clear stressor, no other catatonic features, unresponsive to lorazepam.
- *Stroke*—mutism associated with focal neurological signs and other stroke risk factors. 'Locked-in' syndrome (lesions of the ventral pons and cerebellum) is characterized by mutism and total immobility (apart from vertical eye movements and blinking). The patient will often try to communicate.
- *Stiff-person syndrome*—painful spasms brought on by touch, noise, or emotional stimuli (may respond to baclofen, which can induce catatonia).
- *Malignant hyperthermia*—occurs following exposure to anaesthetics and muscle relaxants in predisposed individuals (Neuroleptic malignant syndrome, p. 1018).
- *Akinetic Parkinsonism*—usually in patients with a history of Parkinsonian symptoms and dementia—may display mutism, immobility, and posturing. May respond to anticholinergics, not BDZs.

Other recognized catatonia (and catatonia-like) subtypes

- *Malignant catatonia*—acute onset of excitement, delirium, fever, autonomic instability, and catalepsy—may be fatal.
- *NMS*—Neuroleptic malignant syndrome, p. 1018.
- *SS*—Serotonin syndrome, p. 1022.

Management

Assessment

- Full history (often from third-party sources), including recent drug exposure, recent stressors, and known medical/psychiatric conditions.
- Physical examination (including full neurological).
- Investigations—temperature, BP, pulse, FBC, U&Es, LFTs, glucose, TFTs, cortisol, PRL; consider CT/MRI and EEG.

Treatment

- Symptomatic treatment of catatonia will allow you to assess any underlying disorder more fully (i.e. you will actually be able to talk to the patient).

- Best evidence for use of BDZs (e.g. lorazepam 500mcg–1mg PO/IM—if effective, given regularly thereafter), barbiturates [e.g. amobarbital (Amytal®) 50–100mg), and ECT.
- Alone or in combination, these effectively relieve catatonic symptoms, regardless of severity or aetiology in 70–80% of cases.[3,4]
- Address any underlying medical or psychiatric disorder.

The manipulative patient 1

Manipulation is a term that is generally used pejoratively, although some ethologists regard manipulative behaviour as 'selfish but adaptive' (i.e. the means by which we use others to further our own aims—which may be entirely laudable). In the context of psychiatric (and other medical) settings, manipulative behaviours are usually maladaptive and include:

- Inappropriate or unreasonable demands:
  - More of your time than any other patient receives.
  - Wanting to deal with a *specific* doctor.
  - Only willing to accept one particular course of action (e.g. admission to hospital, a *specific* medication or other form of treatment).
- Behavioural sequelae of failing to have these demands met:
  - Claims of additional symptoms they failed to mention previously.
  - Veiled or explicit threats of self-harm, lodging formal complaints, litigation, or violence.
  - Passive resistance (refusing to leave until satisfied with outcome of consultation).
  - Verbal or physical abuse of staff/damage to property.
  - Actual formal complaints relating to treatment (received or refused) or false accusations of misconduct against medical staff.
  - Pushing or breaking of agreed boundaries and rules.

Key points

- Patients DO have the right to expect appropriate assessment, care, and relief of distress.
- Doctors DO have the right to refuse a course of action they judge to be inappropriate.
- Action should always be a response to clinical need (based on a thorough assessment, diagnosis, and best evidence for management), NOT threats or other manipulative behaviours.
- It is entirely possible that a patient who demonstrates manipulative behaviour DOES have a genuine problem (it is only their way of seeking help that is inappropriate).
- Some of the most difficult patients tend to present at 'awkward' times (e.g. the end of the working day, early hours of the morning, weekends, public holidays, intake of new staff)—this is no accident!
- Admitting a patient to hospital overnight (when you are left with no other option) is not a failure—some patients are very good at

engineering this outcome. At worst, it reinforces inappropriate coping behaviours in the patient. (Critical colleagues would probably have done the same themselves in similar circumstances.)
- If you have any doubts about what course of action to take, consult a senior colleague and discuss the case with them.

Management principles

New case

- Make a full assessment to establish: psychiatric diagnosis and level of risk (to self and others); and whether other agencies are required (e.g. specific services: drug/alcohol problems; social work: housing/benefits/social supports; counselling: for specific issues, e.g. debt/employment/bereavement/alleged abuse).
- Ask the patient what they think is the main problem.
- Ask the patient what they were hoping you could do for them, e.g.:
  - Advice about what course of action to take.
  - Wanting their problem to be 'taken seriously'.
  - Wanting to be admitted to hospital.
  - Wanting a specific treatment.
- Discuss with them your opinion of the best course of action, and establish whether they are willing to accept any alternatives offered (e.g. other agencies, outpatient treatment).

The 'frequent attender'/chronic case

- Do not take short cuts—always fully assess the current mental state, and make a risk assessment.
- When available—always check previous notes, any written care plan, or 'crisis card'.
- Establish the reason for presenting *now* (i.e. what has changed in their current situation).
- Ask yourself, 'Is the clinical presentation significantly different so as to warrant a change to the previously agreed treatment plan?'
- If not, go with what has been laid out in the treatment plan.
  (See Box 23.1 for pitfalls and how to avoid them.)

Box 23.1 Pitfalls (and how to avoid them)

- Try not to take your own frustrations (e.g. being busy, feeling 'dumped on' by other colleagues, lack of sleep, lack of information, vague histories) into an interview with a patient—your job is to make an objective assessment of the person's mental state and to treat each case you see on its own merits.
- Try not to allow any preconceptions or the opinions of other colleagues colour your assessment of the current problems with which the patient presents (people and situations have a tendency to change with time, and what may have been true in the past may no longer be the case).
- Watch out for the patient who appeals to your vanity by saying things like: 'You're much better than that other psychiatrist I

saw … I can really talk to you … I feel you really understand'. They probably initially said the same things to 'that other psychiatrist' too!
- Do not be drawn into being openly critical of other colleagues; remember you are only hearing one side of the story. Maintain a healthy regard for the professionalism of those whom you work beside—respect their opinions (even if you really do not agree with them).
- If you encounter a particularly difficult patient, enlist the support of a colleague and conduct the assessment jointly.
- NEVER acquiesce to a 'private' consultation with a patient of the opposite sex; do not make 'special' arrangements; and NEVER give out personal information or allow patients to contact you directly.

The manipulative patient 2

Specific situations

Patient demanding medication

- There are really only two scenarios where there is an urgent need for medication:
  - The patient who is acutely unwell and requires admission to hospital anyway (e.g. with acute confusion, acute psychotic symptoms, severe depression, high risk of suicide).
  - The patient who is known and has *genuinely* run out of their usual medication (for whom a small supply may be dispensed to tide them over until they can obtain a repeat prescription).

Patient demanding immediate admission

- Clarify what the patient hopes to achieve by admission, and decide whether this could be reasonably achieved or if other agencies are better placed to meet these requests (The role of the psychiatrist, p. 8).
- If the patient is demanding admission due to drug/alcohol dependence, emphasize the need for clear motivation to stop and offer to arrange outpatient follow-up (the next day) (Planning treatment in alcohol misuse, p. 588).
- Always ask about any recent trouble with the police; it is not uncommon for hospital to be sought as a 'sanctuary' from an impending court appearance (but remember this can be a significant stressor for patients with current psychiatric problems).

Additional complications

Demanding relatives/other advocates

- Assess the patient on their own initially, but allow those attending with the patient to have their say (this may clarify the 'why now' question, particularly if it involves the breakdown of usual social supports).

- Ask the patient for their consent to discuss the outcome of your consultation with those accompanying them (to avoid misunderstandings and improve compliance with the proposed treatment plan).

Patient 'raising the stakes'

- If a patient is dissatisfied with the outcome of your consultation, they may try a number of ways to change your mind (The manipulative patient 1, p. 1056); they may even explicitly say 'What do I have to do to convince you?' before resorting to other manipulative behaviours.
- This type of response only serves to confirm any suspicions of attempted manipulation and should be recorded as such in the notes (verbatim if possible).
- Stick to your original management plan, and if the behaviour becomes passively, verbally, or physically aggressive, clearly inform them that unless they desist, you will have no other option than to have them removed (by the police, if necessary).
- Equally, any threats of violence towards individuals present during the interview or elsewhere should be dealt with seriously, and the police (and the individual concerned) should be informed—patient confidentiality does not take precedence over ensuring the safety of others.

Suspected factitious illness

- Try to obtain corroboration of the patient's story (or confirmation of your suspicions) from third-party sources (e.g. GP, relative, previous notes, including other hospitals where they claim to have been seen).
- If your suspicions are confirmed, directly feed this information back to the patient, and clearly inform them of what course of action you plan to take (e.g. recording this in their notes, informing other agencies, etc.).
- Do not feel 'defeated' if you decide to admit them to hospital. Record your suspicions in the notes, and inform the psychiatric team that the reason for admission is to assess how clinically significant the reported symptoms are (it will soon become clear in a ward environment, and it may take time to obtain third-party sources).

Patient threatening suicide by telephone

- Keep the person talking (Dealing with crisis situations p. 1044).
- Try to elicit useful information (name, where they are calling from, what they plan to do, risk to anyone else).
- If you judge the patient to be at high risk of suicide, encourage them to come to hospital—if they refuse or are unable to do so, organize for emergency services to go to their location and bring them to hospital.

- If the patient refuses to give you any information, inform the police who may have other means to determine the source of the call and respond.
- Always document phone calls in the same way as you would any other patient contact ( Closure, see below).

Closure

- Clearly document your assessment, any discussion with senior colleagues, the outcome, and any treatment plan.
- Record the agreement/disagreement of the patient and any other persons attending with them.
- If appropriate, provide the patient with written information (e.g. appointment details, other contact numbers) to ensure clear communication.
- Ensure that you have informed any other necessary parties (e.g. keyworkers/psychiatric team already involved with the patient, source of referral—which may be the GP, other carers, social workers, etc.).
- If the assessment occurs out of hours, make arrangements for information to be passed on to the relevant parties in the morning (ideally try to do this yourself).
- If you have suggested outpatient follow-up for a new patient, make sure you have a means of contacting the patient, to allow the relevant service to make arrangements to see them as planned.
- If you think it is likely the patient will re-present to other services, inform them of your contact with the patient and the outcome of your assessment.

Issues of child protection

The treating doctor has a responsibility to consider the welfare not only of their patient, but also of the patient's dependents (in most cases, their children). Where there are concerns relating to the welfare of children, this responsibility may be discharged both through actions you take yourself (e.g. admitting the patient to hospital) and through involvement of appropriate statutory agencies (e.g. child and family social services). It is everyone's responsibility to keep children safe, and it is important for different agencies to communicate with each other if there is any suspicion of child protection concern. Each case should be individually assessed; however, a number of scenarios can be recognized:

- *Necessary absence*—when a patient is brought into hospital (e.g. for emergency assessment), the admitting doctor should clarify whether they have dependent children and, if so, what arrangements have been made for their care. If these are unsatisfactory or are disconcertingly vague (e.g. 'with a friend'), child and family social services should be consulted.
- *Neglect of childcare responsibilities*—in some circumstances, as a result of mental disorder, patients' ability to provide the appropriate level of physical or emotional care may be impaired.

This may relate to functional impairments (e.g. poor memory), continuing symptomatology (and medication side effects), or dependence on drugs or alcohol. Having a mental disorder does not preclude being a parent—what is important is that individual patients receive appropriate assessment to ascertain the type of additional support they may need and the level of monitoring required.

- *Risk of positive harm to child*—certain disorders carry the risk of harm to the child by acts of *commission*, rather than *omission*. These include:
  - Psychotic disorders in which the patient holds abnormal beliefs about their child.
  - Severe depressive disorder with suicidal ideas, which involve killing the child (usually for altruistic reasons).
  - Drug misuse where there are drugs or drug paraphernalia left carelessly in the child's environment.

In these cases, a joint approach should be adopted, involving mental health (optimizing the patient's management) and social services (addressing issues of child protection and welfare).

Patients acting against medical advice 1: guiding principles

In certain situations, doctors are faced with deciding whether or not to act against a patient's stated wishes. This most commonly occurs when:

- A patient does not consent to a particular treatment plan.
- A patient wishes to leave hospital, despite medical advice that this is not in their best interests.

For some common clinical scenarios, see Patients acting against medical advice 2: clinical scenarios, p. 1064.

Fundamental principles

- An adult has the right to refuse treatment or to leave hospital, should they wish.
- Doctors have a responsibility to discuss what they are proposing with the patient fully, to ensure that the patient is informed of the options and risks, and the preferred management (but not to enforce or coerce).

Special circumstances

In some circumstances, doctors have the power to act without the patient's consent or override a patient's expressed wishes when:

- Consent cannot be obtained in an *emergency* situation and treatment may be given under *common law* (Common law, p. 940).
- A patient's *capacity* is either temporarily or permanently impaired (Consent to treatment, p. 936) and they are unable to give *informed* consent. The responsible doctor should act in the

patient's *best interests* (Common law, p. 940)—consider treatment using incapacity legislation (Mental Capacity Act: England and Wales, p. 942; Incapacity Act: Scotland, p. 946; Incapacity Act: Northern Ireland, p. 942; Incapacity Act: Republic of Ireland, p. 948).

- They are suffering from a mental disorder and their capacity to take decisions is impaired. Use of the MHA may be necessary to ensure their own (or other persons') safety.

Points to note

- When a *capable* patient disagrees with a proposed course of action, this should be recorded clearly in the notes (with the reasons given by the patient). If this involves discharge from hospital, a 'discharge against medical advice' form may be useful (as a written record of the patient's decision), even though such forms have no special legal status.
- In emergency situations, the definition of 'mental disorder' is that of a layperson, not whether ICD-10 or DSM-5 criteria are satisfied.
- Incapacity legislation does not allow for detention in hospital; equally, detention under the MHA does not allow for compulsory treatment of physical disorders.
- Always consider the balance of risks—ask yourself, 'What am I more likely to be criticized (or sued) for?'
- Although the final decision in non-mentally ill, capable adults rests with them, in 'close-call' situations, it is better to err on the side of safety and review again later. (Such situations should always be discussed with a senior colleague.)
- Remember that capacity is assessed on a decision-by-decision basis, and someone may have capacity for some decisions, but not for others.

Patient wanting to leave a psychiatric ward

The duty psychiatrist is often called to psychiatric wards when patients wish to take their own discharge. Although *not* wanting to be on a psychiatric ward may often seem the most rational response—particularly when there are other more behaviourally disturbed patients on the same ward—a pragmatic approach should be adopted (i.e. balancing the need for assessment/inpatient treatment against the additional stress caused by admission). Follow the general principles detailed here, focusing on managing risk and acting in the patient's 'best interests'. Note especially:

- Deciding whether a patient is permitted to leave the ward will be informed by both an assessment of their current mental state and knowledge of any established management plans.
- Often decisions regarding the course of action to take will have already been discussed by the responsible consultant with

nursing staff. When there are concerns, the default position is often reassessment at the time the patient is asking to leave.
- Explain clearly to the patient the reasons why we would want them to stay in hospital (for senior review or to arrange appropriate services, for example), and make sure they understand the risks of leaving against medical advice.
- When a patient does elect to leave against medical advice, record this clearly in the notes with, at the very minimum, an agreement for a planned review (e.g. as an outpatient, by the GP) and the recommendation that, should the patient (or their relatives) feel the situation has become unsustainable at home, they should return to the hospital.

Patients acting against medical advice 2: clinical scenarios

Scenario 1

A 52-yr-old ♂ admitted with chest pain, who ought to remain in the hospital for overnight telemetry, cardiac enzymes, and repeat ECG (in the morning) but does not wish to do so. He is not incapable and not suffering from a mental disorder.

The decision rests with him (he has a right to refuse—even if you think he is acting foolishly).

Scenario 2

A 22-yr-old ♀ who admits to taking 56 aspirin tablets, brought to the GP by a concerned friend, now refusing to get in an ambulance to go to hospital.

Most people would agree that she is possibly suffering from a mental disorder (suggested by her recent OD); hence, there are grounds for use of the MHA, with emergency treatment under common law.

Scenario 3

An 18-yr-old ♀ admitted after a paracetamol OD who needs further treatment but wishes to leave. She has some depressive features and may possibly be under the influence of alcohol.

There is sufficient suspicion of a mental disorder to detain under the MHA (perhaps more than in the previous scenario); treatment would be under common law.

Scenario 4

A 34-yr-old ♀ with long history of anorexia nervosa, current weight under 6 stones, with clear physical complications of starvation (and biochemical abnormalities), refusing admission for medical management.

Clear mental disorder, as well as a 'risk to themselves'—detain under the MHA; emergency treatment under common law.

Scenario 5

A 53-yr-old ♂ previously seen in A&E following a fall while intoxicated, brought back up to A&E 6 days later by spouse, with

fluctuating level of consciousness (also has been drinking heavily)—suspected extradural, but angrily refusing CT head.

Capacity impaired both by alcohol and a potentially serious underlying treatable physical disorder. Necessary urgent investigation warranted, as in patient's best interests—with use of sedation (if necessary) under common law.

Scenario 6

A 67-yr-old ♂ with post-operative URTI who presents as confused, wishing to leave the ward because he is 'late for his brother's wedding'.

There is a clear mental disorder, and he ought to be detained under the MHA; treat under common law (sedate if necessary).

Scenario 7

A 23-yr-old ♂ admitted with psychotic illness, who wants to go home to confront the neighbours whom he believes have conspired with the police to get him 'banged up in a nut hut'.

Clear mental disorder. Detain under MHA; emergency treatment, if required, under common law.

The mental health of doctors

'Quis custodiet ipsos custodes?' Who will watch the watchmen?

In general, doctors are in a pretty good state of health, with a lower prevalence of smoking, cardiovascular disease, and cancer and a longer life expectancy than the general population. With respect to mental health, however, the situation is reversed—with the incidence of most psychiatric disorders *higher* in doctors:

- Surveys have found ~25% of doctors have significant depressive symptoms, with ↑ risk in: junior house officers/interns; junior doctors in obstetrics and gynaecology (O&G) and psychiatry; radiologists, anaesthetists, surgeons, and paediatricians.
- Suicide rates are high, with depression, alcohol, and drug misuse as significant contributory factors. Specialties over-represented include anaesthetics, GP, psychiatry, and emergency medicine.
- Problems of drug and alcohol dependence may affect as many as 1 in 15 doctors in the UK.

Why are doctors more likely to have mental health problems?

Individual factors

- Personality—many of the qualities that make a 'good doctor' may also increase the risk of psychiatric problems (e.g. obsessionality, perfectionism, being ambitious, self-sacrifice, high expectations of self, low tolerance of uncertainty, difficulty expressing emotions).
- Ways of thinking/coping styles, e.g. being overly self-critical, denial, minimization, rationalization, drinking culture, need to appear competent ('no problems').

Occupational factors

- Long and disruptive work hours.

- Exposure to traumatic events—dealing with death, ethical dilemmas.
- Lack of support (particularly from senior colleagues).
- Competing needs of patients and family.
- Increasing expectations, with diminishing resources.
- Professional and geographic isolation.

Barriers to seeking help

Doctors are notoriously bad at seeking help for their own medical problems—particularly psychiatric problems—often only presenting when a crisis arises. Reasons for this include:

- Symptom concealment due to fears of hospitalization, loss of medical registration, and exposure to stigmatization.
- Negative attitudes to psychiatry, psychiatrists, and people with psychiatric problems.
- Lack of insight being a feature of many psychiatric disorders.

This may lead to delayed referral, misdiagnosis, and not receiving the benefits of early interventions.

What to do if you suspect a colleague has a problem

You have a duty to take action (see Box 23.2), both in the interests of patient care and of your colleague's health (such actions are both ethically responsible and caring). Not to do so could both put patients at risk and deny your colleague treatment which might prevent further deterioration in health and performance. Usually a staged approach works best:

- Confirm your suspicions by informal discussion with other colleagues.
- If a clear pattern of behaviour is present, first consider discussing this observation with the colleague in question.
- It is better if face-to-face discussion is conducted by someone of the same grade.
- If face-to-face discussion yields no results, speak to an impartial senior colleague and/or seek further advice about local procedures (see Box 23.2).
- If the colleague is YOU, remember: *responsible* physicians put their patients first and take pride in looking after their own health ( Looking after your own mental health, p. 1068).

Box 23.2 Duty to take action

You must protect patients from risk of harm posed by another colleague's conduct, performance, or health. The safety of patients must come first at all times.[1,2] If you have concerns that a colleague may not be fit to practise, you must take appropriate steps without delay, so that the concerns are investigated and patients protected where necessary. This means you must give an honest explanation of your concerns to an appropriate person from your employing or contracting body and follow their procedures.

If there are no appropriate local systems or the local systems do not resolve the problem, and you are still concerned about the safety of patients, you should inform the relevant regulatory body. If you are not sure what to do, discuss your concerns with an impartial colleague or contact your defence body, a professional organization, or the GMC for advice.

If you know that you have, or think that you might have, a serious condition that you could pass on to patients, or if your judgement or performance could be affected by a condition or its treatment, you must consult a suitably qualified colleague. You must ask for, and follow, their advice about investigations, treatment, and changes to your practice that they consider necessary. You must not rely on your own assessment of the risk you pose to patients.

1 General Medical Council (2006) *Good medical practice*, paragraphs 43 ,44, and 79. Available at: https://www.gmc-uk.org/ethical-guidance/ethical-guidance-for-doctors/good-medical-practice [accessed 8 July 2018].

2 It is worth noting that doctors referred to the GMC because of mental health problems can continue to practise, provided their problems are not judged to affect their professional abilities and they are suitably supervised in an agreed treatment regime.

Looking after your own mental health

You have a duty to yourself and your patients to act promptly if you feel there are early warning signs that your health may be affecting your performance.

Signs to watch out for

- Difficulties sleeping.
- Becoming more impatient or irritable.
- Difficulties concentrating.
- Being unable to make decisions.
- Drinking or smoking more.
- Not enjoying food as much.
- Being unable to relax or ‘switch off’.
- Feeling tense (may manifest as somatic symptoms, e.g. recurrent headache, aches and pains, GI upset, feeling sweaty, dry mouth, tachycardia).

Developing good habits

- *Learn to relax*—this can involve learning methods of progressive relaxation or simply setting aside time when you are not working to relax with a long bath, a quiet stroll, or listening to music. It also means living life less frantically—going to bed at a regular time and getting up 15–20mins earlier to prevent the feeling of ‘always being in a rush’.
- *Take regular breaks at work*—this includes regular meal breaks (away from work). Even when work is busy, try to give yourself a 5–10min break every few hours.

- *Escape the pager*—in the day and age of being always obtainable, it is a good idea to be 'unobtainable' once or twice a week, to give yourself time to be alone and reflect.
- *Exercise*—there is no doubt that regular exercise helps reduce the levels of stress. It will also keep you fit, help prevent heart disease, and improve the quality of sleep.
- *Drugs*—tobacco and other recreational drugs are best avoided. Caffeine and alcohol should be used only in moderation.
- *Distraction*—finding a pursuit that has no deadlines, no pressures, and which can be picked up or left easily can allow you to forget about your usual stresses. This might be a sport, a hobby, music, the movies, the theatre, or books. The important point is that it is not work-related.

Organizing your own medical care

- Register with a GP! Two-thirds of junior doctors have not done this.
- Allow yourself to benefit from the same standards of care (including expert assessment, if this is felt to be necessary) you would expect for your patients.
- If you are having difficulties related to stress, anxiety, depression, or use of substances, consult your GP sooner rather than later.
- Be willing to take advice. In particular, do not rely on your own judgement of your ability to continue working.
- If your GP suggests speaking to a psychiatrist, and you feel uncomfortable with being seen locally, ask for an out-of-area consultation.
- Utilize other sources of help and advice—both informal (friends, family, self-help books) and formal ( Sources of support and advice, see below). Remember you are certainly not the first doctor to have encountered these sorts of difficulties.

Sources of support and advice

- The *Royal College of Psychiatrists* offer a Psychiatrists' Support Service—telephone: 0207 245 0412; e-mail: pss@rcpsych.ac.uk; additional information may be found at:  https://www.rcpsych.ac.uk/members/supporting-you/psychiatrists-support-service [accessed 23 January 2019].
- The *British Medical Association* offers free expert advice for members who may be affected by illness. More information is available at:  https://www.bma.org.uk/advice/work-life-support/your-wellbeing/bma-counselling-and-doctor-advisor-service [accessed 8 July 2018].

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1 National Institute for Health and Care Excellence (2015) *Violence and aggression: short-term management in mental health, health and community settings*. NICE guideline [NG10].  https://www.nice.org.uk/guidance/ng10 [accessed 8 July 2018].

2 For an integrated view of all NICE guidance, see: https://pathways.nice.org.uk/pathways/violence-and-aggression [accessed 8 July 2018].

3 Bush G, Fink M, Petrides G, *et al*. (1996) Catatonia II: treatment with lorazepam and electroconvulsive therapy. *Acta Psychiat Scand* **93**:137–43.

4 Ungvari GS, Kau LS, Wai-Kwong T, *et al*. (2001) The pharmacological treatment of catatonia: an overview. *Eur Arch Psychiat Clin Neurosci* **251**(Suppl 1):31–4.

Chapter 24

Useful resources

Resources for patients

Education of the patient and their relatives and carers is an important part of the management of mental disorders. Equally, contact with fellow sufferers can be an invaluable source of help and support to patients. This applies particularly if the disorder is chronic or is only partially treatment-responsive. The following list of patient organizations, websites, helpline numbers, and books is one which we have found useful in our clinical practice. You should familiarize yourself with the service provided by each resource before recommending it to patients. You should also find out about local services available in your area.

General mental health problems

The Samaritans

http://www.samaritans.org.uk
jo@samaritans.org

116 123

Confidential emotional support for those experiencing feelings of distress, despair, or thoughts of suicide.

MIND

http://www.mind.org.uk
15–19 Broadway, London, E15 4BQ

0300 123 3393 (helpline)

020 8519 2122 (professional contact)

Mental health charity which runs support networks, campaigns on behalf of sufferers from mental health problems, and provides information services.

Royal College of Psychiatrists—leaflets and self-help advice

http://www.rcpsych.ac.uk/info
Leaflets Department, The Royal College of Psychiatrists, 21 Prescot Street, London, E1 8BB

Wide range of information and self-help advice.

SANE

http://www.sane.org.uk

0300 304 7000 (helpline)

Mental health charity which campaigns on behalf of patients with mental illness, funds and carries out research, and provides information services.

Affective disorders: patient organizations

Association for Post Natal Illness

http://www.apni.org

145 Dawes Road, Fulham, London, SW6 7EB

020 7386 0868

Information and advice about postnatal depression.

Beyond Blue

http://www.beyondblue.org.au

Self-help and information about depression from the Australian National Depression Initiative.

BipolarUK (formerly Manic Depression Fellowship)

https://www.bipolaruk.org

0333 323 3880

Charity which provides information and support online and via local self-help groups to those with bipolar disorder.

Books

Butler G, Grey N, Hope T (2018) *Manage Your Mind: The Mental Fitness Guide*. Oxford: Oxford University Press.

Copeland M, McKay M (2001) *The Depression Workbook: A Guide For Living With Depression and Manic Depression*. Oakland, CA: New Harbinger.

Greenberger D, Padesky CA (1995) *Mind Over Mood*. London: Guilford Press.

Bereavement: patient organizations

Compassionate Friends

http://www.tcf.org.uk

08451 23 23 04 (Great Britain)

0288 77 88 016 (Northern Ireland)

Befriending and support by and for bereaved parents.

CRUSE Bereavement Care

https://www.cruse.org.uk

0870 167 1677 (helpline)

020 8939 9530 (professional contact)

Counselling and support for those who have experienced bereavement.

CRUSE Bereavement Care Scotland

0845 600 2227 (helpline)

01738 444 178 (professional contact)

Counselling and support for clients in Scotland.

Children and parents: patient organizations

Attention Deficit Disorder Information and Support Service (ADDISS)

020 8952 2800

Information, training, and support for parents, sufferers, and professionals in the fields of ADHD and related learning and behavioural difficulties.

Childline

0800 1111

National helpline for young people in trouble or danger.

Children 1st

0131 446 2300

Helps families in Scotland with children at risk of abuse.

Education and Resources for Improving Childhood Continence (ERIC)

0845 370 8008 (helpline)

Education and resources for improving childhood continence.

Family Lives (formerly Parentline)

0808 800 2222 (helpline)

Charity offering help and support to parents.

National Autistic Society

0808 800 4104 (helpline)

Information, advice, and support for individuals with autism and their families.

One Parent Families Scotland

 http://www.opfs.org.uk

 0808 801 0323 (helpline)
Counselling, information, and self-help groups.

Tourette Syndrome (UK) Association

 http://www.tourettes-action.org.uk/

 0300 777 8427 (helpline)
A charity which offers advice and support to Tourette's sufferers and funds research into the condition.

YoungMinds

 http://www.youngminds.org.uk
102–108 Clerkenwell Road, London, EC1M 5SA

 0808 802 5544
Charity providing advice and training and campaigning to improve the mental health of children and young people.

Self-harm/borderline personality disorder: patient organizations

BPD Resource Center

 http://www.nyp.org/bpdresourcecenter
Extensive range of information and links to other resources for borderline personality disorder.

BPD World

 http://www.bpdworld.org
Online information, support, and advice on borderline personality disorder, self-harm, and related issues.

National Self Harm Network

 http://www.nshn.co.uk
Online support and self-help for people who self-harm.

Books

Kennerley H (2000) *Overcoming Childhood Trauma*. London: Robinson.
Schmidt U, Davidson K (2004) *Life After Self-Harm: A Guide to the Future*. New York, NY: Brunner-Routledge.

Domestic abuse and violence: patient organizations

National Domestic Violence Helpline

 http://www.nationaldomesticviolencehelpline.org.uk

 0808 2000 247
Advice and information for people who have experienced or are experiencing domestic abuse.

Books

Davies W (2016) *Overcoming Anger and Irritability*. London: Robinson.

McKay M, Rogers P (2012) *The Anger Control Workbook*. Oakland, CA: New Harbinger.

Drug and alcohol problems: patient organizations

Al-Anon

http://www.al-anonuk.org.uk

020 7403 0888 (Great Britain)

028 9068 2368 (Northern Ireland)

00353 1 873 2699 (Republic of Ireland)

Helpline and meetings for families and friends of those with a drink problem.

Alcoholics Anonymous (AA)

http://www.alcoholics-anonymous.org.uk

0800 9177 650 (national helpline)

Long established organization offering peer support to those with an alcohol problem.

Alcohol Concern

http://www.alcoholconcern.org.uk

Range of information about alcohol problems.

Drinkline

0300 123 1110

National confidential helpline for alcohol problems.

Narcotics Anonymous

http://www.ukna.org

0300 999 1212 (helpline)

020 7251 4007 (professional contact)

Group-based self-help recovery programmes based on the '12-step' model.

National Drugs Helpline

http://www.talktofrank.com

0300 123 6600

Department of Health website with information and advice about drug problems.

Books

Fanning P, O'Neil J (1996) *The Addiction Workbook: Step-by-Step Guide to Quitting Alcohol and Drugs*. Oakland, CA: New Harbinger.

Dementia: patient organizations

Alzheimer's Society (England, Wales, and Northern Ireland)

http://www.alzheimers.org.uk

0300 222 1122 (helpline)

020 7306 0606 (professional contact)

Local and telephone support services for those affected by dementia.

Alzheimer Scotland—Action on Dementia

http://www.alzscot.org

0808 808 3000 (helpline)

0131 243 1453 (professional contact)

Service for patients and relatives in Scotland.

Eating disorders: patient organizations

Beating Eating Disorders

http://www.b-eat.co.uk

0808 801 0677 (helpline)

0808 801 0711 (under-18 helpline)

Information and self-help for people with eating disorders.

Books

Cooper P (2009) *Bulimia Nervosa and Binge-Eating*. London: Robinson.

Freeman C (2009) *Overcoming anorexia nervosa*. London: Robinson.

Schmidt U, Treasure J (2015) *Getting Better Bite by Bite: A Survival Kit for Sufferers of Bulimia Nervosa and Binge Eating Disorders*. London: Brunner-Routledge.

Learning disability: patient organizations

Down's Syndrome Association

http://www.downs-syndrome.org.uk

0333 1212 300 (helpline)

Information, education, and training about Down's syndrome.

Down's Syndrome Scotland

http://www.dsscotland.org.uk

0131 442 8840

Advice, information, advocacy, and local group support for individuals in Scotland with Down's syndrome and their families.

Fragile X Society

http://www.fragilex.org.uk

01371 875 100

Charity offering information and supporting research.

Mencap

http://www.mencap.org.uk

0808 808 1111

National charity offering housing support, education, and employment and local groups for individuals with learning disability.

Prader Willi Syndrome Association UK

http://pwsa.co.uk

01332 365 676

Charity supporting sufferers and carers.

Rett UK

http://www.rettuk.org/

01582 798 911

Charity offering information, advice, and practical help to people with Rett syndrome, their families, and carers.

Neurotic disorders: patient organizations

Anxiety UK

http://www.anxietyuk.org.uk/

08444 775 774

Information and self-help guides on a range of anxiety disorders.

OCD Action

http://www.ocdaction.org.uk

0845 390 6232

Information and advice for people suffering from OCD and related disorders.

OCD-UK

http://www.ocduk.org

03332 127 890

Information and self-help advice for people suffering from OCD.

Books

Antony M, Swinson R (2008) *Shyness and Social Anxiety Workbook*. Oakland, CA: New Harbinger.

Beckfield D (2016) *Master Your Panic and Take Back Your Life*. USA: Impact.

Bourne E (2011) *Anxiety and Phobia Workbook*. Oakland, CA: New Harbinger.

Butler G (2016) *Overcoming Social Anxiety and Shyness*. London: Robinson.

Davis M, Eshelman ER (2008) *Relaxation and Stress Reduction Workbook*. Oakland, CA: New Harbinger.

Herbert C, Wetmore A (2008) *Overcoming Traumatic Stress*. London: Robinson.

Hyman B, Pedrick C (2010) *OCD Workbook*. Oakland, CA: New Harbinger.

Kennerley H (2009) *Overcoming Anxiety*. London: Robinson.
Pollard A, Zuercher-White E (2003) *Agoraphobia Workbook*. Oakland, CA: New Harbinger.
Veale D, Willson R (2009) *Overcoming Obsessive Compulsive Disorder*. London: Robinson.
Williams M-B, Poijula S (2002) *PTSD Workbook*. Oakland, CA: New Harbinger.

Schizophrenia: patient organizations

Rethink Mental Illness

http://www.rethink.org

0300 5000 927 (national advice line)

0845 456 0455 (professional contact)

Charity running support groups, carer support, advocacy services, residential and rehabilitation services, and supported housing.

Books

Torrey F (2013) *Surviving Schizophrenia: A Family Manual*. New York, NY: Harper Collins.

Somatization

Books

Campling F, Sharpe M (2008) *Chronic Fatigue Syndrome: The Facts*. Oxford: Oxford University Press.
Cole F, MacDonald H, Carus C, *et al*. (2005) *Overcoming Chronic Pain*. London: Robinson.
Fennell P (2011) *The Chronic Illness Workbook*. Albany Health Management Publishing.
Frances C, MacIntyre A (1998) *M.E. Chronic Fatigue Syndrome: A Practical Guide*. Thorsons Health.
Shepherd C (1999) *Living With M.E.: The Chronic, Post-Viral Fatigue Syndrome*. Vermilion.

Self-help apps and websites

Recent years have seen a massive increase in the number of online resources available for patients with mental health problems.

Some, such as those in Resources for patients, p. 1072, offer information, advice, and signposting. Others aim to offer peer support and networking. An increasing number now also offer a form of online therapy, some examples of which are given in the sections below. Another recent development has been the increasing availability of apps which aim to assist with managing symptoms of mental disorder. This is an area subject to constant change, and professionals must strive to keep themselves aware of potentially useful resources in their clinical area.

Websites

Moodjuice

http://www.moodjuice.scot.nhs.uk

Guided self-help for emotional problems.

Living Life to the Full


https://llttf.com
Online courses offering help with low mood and stress.

Beating the Blues


http://beatingtheblues.co.uk
Online CBT-based treatment for depression and anxiety.

Be Mindful


https://bemindful.co.uk
Online mindfulness course.

Apps

The apps below are available for the iOS and Android platforms via their respective app store.

Stop, Breathe & Think

Mindfulness and meditation

Headspace

Guided meditation.

Calm

Meditation, mindfulness, and sleep exercises.

Smiling Mind

Meditation and stress management.

MindShift

Anxiety self-help.

MoodTools

Depression self-help.

Pacifica

CBT-based self-help for anxiety and depression.

Online clinical resources

Over the last decade, a huge amount of clinically useful information has become available online. Most major journals, professional bodies, governmental organizations, and clinical authorities now publish new material online, and more historical material is digitized and added each month.

Database portals

HON (Health on the Net Foundation)

Portal to quality-assessed medical information, based in Geneva.


http://www.hon.ch

NHS Evidence in Health and Social Care

National NHS e-library.

https://www.evidence.nhs.uk/

The Knowledge Network

NHS Education for Scotland e-Library.

http://www.knowledge.scot.nhs.uk

PubMed

Medline searches via the US National Library of Medicine.

http://www.pubmed.gov

TRIP (Turning Research Into Practice)

Allows simultaneous searches of multiple databases.

http://www.tripdatabase.com

Evidence-based medicine resources

Centre for Evidence-Based Medicine

Oxford-based centre promoting the practice of evidence-based healthcare.

http://www.cebm.net

Clinical Evidence

This 'evidence formulary' from the *BMJ* aiming to supply the best available current evidence of therapeutic effectiveness.

http://www.clinicalevidence.com

Cochrane Library

Evidence from systematic reviews of the results of medical research studies.

http://www.cochrane.org

NHS Centre for Reviews and Dissemination

Database of Abstracts of Reviews of Effects, the NHS Economic Evaluation Database, and the Health Technology Assessment Database.

http://www.york.ac.uk/inst/crd/

Online journals

Directory of open access journals

Free full-text scientific and scholarly journals across all topics.

http://www.doaj.org

Free medical journals

Online full-text journals.

http://www.freemedicaljournals.com

PubMed Central journal archive

US National Institutes of Health's free digital archive of biomedical and life sciences journal literature.

http://www.pubmedcentral.nih.gov

Science Direct

Large electronic collection of science, technology, and medicine full-text and bibliographic information.

http://www.sciencedirect.com

Wiley Interscience

International resource with scientific, technical, medical, and professional content.

http://www3.interscience.wiley.com

American Journal of Psychiatry

The journal of the American Psychiatric Association.

http://ajp.psychiatryonline.org

British Journal of Psychiatry

The 'yellow journal', published monthly by the Royal College of Psychiatrists.

http://bjp.rcpsych.org

British Medical Journal

General medical journal published by the British Medical Association.

http://bmj.bmjjournals.com

Journal of the American Medical Association (JAMA)

Published weekly by the American Medical Association.

http://jama.ama-assn.org

New England Journal of Medicine

High impact factor general medical journal.

http://www.nejm.org/

Clinical guidelines

NICE (National Institute for Health and Care Excellence)

Organization responsible for providing national guidance on promoting good health and preventing and treating ill health.

http://www.nice.org.uk

Healthcare Improvement Scotland

Organization providing advice and guidance to NHS Scotland on effective clinical practice.

www.healthcareimprovementscotland.org/

SIGN (Scottish Intercollegiate Guidelines Network)

Organization for the development of national clinical guidelines containing recommendations for effective practice.

http://www.sign.ac.uk

Online professional resources

British Association for Behavioural and Cognitive Psychotherapies

Directory of accredited cognitive behavioural psychotherapists.

http://www.babcp.org.uk

British Association for Counselling and Psychotherapy

Directories and other information.

http://www.bacp.co.uk

British Association for Psychopharmacology

Journal, membership, and training events.

http://www.bap.org.uk

British Medical Association

The professional association for doctors in the UK.

http://www.bma.org.uk

British Psychoanalytic Council

https://www.bpc.org.uk

British Psychological Society

The professional body for psychologists in the UK.

http://www.bps.org.uk

General Medical Council

The governing authority for medicine in the UK which maintains the medical register and sets standards for good practice.

http://www.gmc-uk.org

Royal College of Psychiatrists

The professional and educational body for psychiatrists in the UK.

http://www.rcpsych.ac.uk

Chapter 25

ICD-10/DSM-5 index

ICD-10 classification of mental and behavioural disorders (1992)

This index lists the mental and behavioural disorders in their ICD-10 order and provides ICD-10 coding information, the 'equivalent' DSM-IV coding (where possible), DSM-5 alternative terminology (for an overview of DSM-5, see  DSM-5 and all that …, p. 12), and a reference within this volume (where available).

F00–F09 Organic, including symptomatic, mental disorders

ICD-10 code	DSM-IV code	ICD-10 terminology	DSM-5 terminology	Ref
F00 (G30.9)	290	Dementia in Alzheimer's disease	Probable major neurocognitive disorder due to Alzheimer's disease	*156*
F00.0	290.10	Early onset		
F00.1	290.0	Late onset		
F00.2	294.1	Atypical or mixed		
F00.9	294.1	Unspecified		
F01	290.40	Vascular dementia	Probable major vascular neurocognitive disorder	*164*
F01.0	290.40	Acute onset		
F01.1	290.40	Multi-infarct		
F01.2	290.40	Subcortical		
F01.3	290.40	Mixed cortical and subcortical		
F02.0 (G31.09)	290.10	Dementia in Pick's disease (frontotemporal disease)	Probable major frontotemporal neurocognitive disorder	*160*
F02.1 (A81.9)	290.0	Dementia in Creutzfeldt–Jakob disease (prion disease)	Major neurocognitive disorder due to prion disease	*168*
F02.2 (G10)	294.1	Dementia in Huntington's disease	Major neurocognitive disorder due to Huntington's disease	*166*
F02.3 (G20)	294.1	Dementia in Parkinson's disease	Major neurocognitive disorder probably due to Parkinson's disease	*142*
F02.4 (B20)	294.9	Dementia in HIV disease (HIV infection)	Major neurocognitive disorder due to HIV infection	*148*
F02.8	294.1	Dementia in other specified diseases	Major neurocognitive disorder due to another medical condition	*166*
F03	799.59	Unspecified dementia	Unspecified neurocognitive disorder	
F04	294.0	Organic amnesic syndrome, not induced by alcohol and other psychoactive substances		*170*
F05	293.0	Delirium	Delirium due to another medical condition	*854*

F05.0	293.0	Not superimposed on dementia		
F05.1	293.0	Superimposed on dementia		
F06	293.8	Mental disorders due to brain damage, dysfunction, and physical disease		
F06.0	293.82	Hallucinosis	Psychotic disorder due to another medical disorder, with hallucinations	*126*
F06.1	293.89	Catatonic disorder	Catatonic disorder due to another medical condition	*1054*
F06.2	293.81	Delusional (schizophrenia-like) disorder	Psychotic disorder due to another medical condition, with delusions	*126*
F06.3	293.83	Mood (affective) disorders	Depressive disorder due to another medical condition Bipolar and related disorder due to another medical condition	*126*
F06.4	293.84	Anxiety disorder	Anxiety disorder due to another medical disorder	*127*
F06.5	300.15	Dissociative disorder	Other specified dissociative disorder	*868*
F06.6	310.1	Emotionally labile (asthenic) disorder	Personality change due to another medical condition, labile type	
F06.7	331.83	Mild cognitive disorder	Mild cognitive disorder due to another medical conditon	
F07	310.1	Personality and behavioural disorders due to brain disease, damage, or dysfunction		*172*
F07.0	310.1	Organic personality disorder	Personality change due to another medical condition	
F07.1	310.1	Post-encephalitic syndrome		*170*
F07.2	310.1	Post-concussional syndrome		*174*
F09	294.9	Unspecified organic or symptomatic	Unspecified mental disorder due to another	

F10–F19 Mental and behavioural disorders due to psychoactive substance abuse

DSM-IV equivalent codings, which have a separate code for substance use and substance-induced disorders, have not been included.

ICD-10 code	ICD-10 terminology	DSM-5 terminology	Ref
F10	Alcohol	Alcohol-related disorders	*576*
F11	Opioids	Opioid-related disorders	*618*
F12	Cannabinoids	Cannabis-related disorders	*626*
F13	Sedatives and hypnotics	Sedative-, hypnotic-, or anxiolytic-related disorders	*620*
F14	Cocaine	Stimulant-related disorders (cocaine)	*622*
F15	Stimulants, including caffeine	Stimulant-related disorders (amphetamine-type; other or unspecified) Caffeine-related disorders	*622*
F16	Hallucinogens	Hallucinogen-related disorders (phencyclidine; other—specify)	*624*
F17	Tobacco	Tobacco-related disorders	*610*
F18	Solvents	Inhalant-related disorders	*628*
F19	Multiple or other	Other (or unknown) substance-related disorders (if multiple, code for each drug)	*629*
Note: a fourth character denotes the clinical condition and a fifth modifies it (xxx denotes specific drug in DSM-5)			
F1x.0	Acute intoxication	xxx intoxication	*570*
F1x.00	uncomplicated		
F1x.01	with trauma or other bodily injury		
F1x.02	with other medical complications		
F1x.03	with delirium		
F1x.04	with perceptual distortions		
F1x.05	with coma		
F1x.06	with convulsions		
F1x.07	pathological intoxication		
F1x.1	Harmful use	xxx use disorder, mild	*571*
F1x.2	Dependence syndrome	xxx use disorder, moderate xxx use disorder, severe	*574*
F1x.20	currently abstinent		
F1x.21	currently abstinent, but in a protected environment		
F1x.22	on a clinically supervised maintenance or replacement regime		
F1x.23	currently abstinent, but		

	receiving treatment with aversive or blocking drugs		
F1x.24	currently using		
F1x.25	continuous use		
F1x.26	episodic use		
F1x.3	Withdrawal state	xxx withdrawal	*571*
F1x.30	uncomplicated		
F1x.31	convulsions		
F1x.4	Withdrawal state with delirium	xxx withdrawal delirium	*571*
F1x.40	With convulsions		
F1x.41	Without convulsions		
F1x.5	Psychotic disorder	Xxx—induced psychotic disorder	*571*
F1x.50	schizophrenia-like		
F1x.51	predominantly delusional		
F1x.52	predominantly hallucinatory		
F1x.53	predominantly polymorphic		
F1x.54	predominantly depressive		
F1x.55	predominantly manic		
F1x.56	mixed		
F1x.6	Amnestic disorder	xxx—induced major neurocognitive disorder, amnestic confabulatory type	*606*
F1x.7	Residual and late-onset psychotic disorder	xxx—induced major neurocognitive disorder, non-amnestic confabulatory type	*571*
F1x.70	flashbacks		
F1x.71	personality or behavioural disorder		
F1x.72	residual affective disorder		
F1x.73	dementia		
F1x.74	other persisting cognitive impairment		
F1x.75	late-onset psychotic disorder		
F1x.8	Other mental and behavioural disorders	Other xxx—induced disorders	
F1x.9	Unspecified mental and	Unspecified xxx—related	

F20–F29 Schizophrenia, schizotypal, and delusional disorders

ICD-10 code	DSM-IV code	ICD-10 terminology	DSM-5 terminology	Ref
F20	295	Schizophrenia	Schizophrenia (no subtypes)	*184*
F20.0	295.30	Paranoid		
F20.1	295.10	Hebephrenic		
F20.2	295.2	Catatonic		
F20.3	295.90	Undifferentiated		
F20.4	311	Post-schizophrenic depression		
F20.5	295.60	Residual		
F20.6	295.90	Simple		
F21	301.22	Schizotypal disorder	Schizotypal (personality) disorder	*228*
F22	297	Persistent delusional disorder		*230*
F22.0	297.1	Delusional disorder	Delusional disorder	
F22.8	297.1	Other persistent delusional disorders	Delusional disorder	
F23	298.8	Acute and transient psychotic disorders	Brief psychotic disorder	*236*
F23.0	298.9	Acute polymorphic psychotic disorder without symptoms of schizophrenia	Unspecified schizophrenia spectrum and other psychotic disorder	
F23.1	295.40	Acute polymorphic psychotic disorder with symptoms of schizophrenia	Schizophreniform disorder	*229*
F23.2	295.40	Acute schizophrenia-like psychotic disorder	Schizophreniform disorder	*229*
F23.3	297.1	Other acute predominantly delusional psychotic disorders	Delusional disorder	
F24	298.8	Induced delusional disorder	Other specified schizophrenia spectrum and other psychotic disorder	
F25	295.7	Schizoaffective disorder	Schizoaffective disorder	*228*
F25.0	295.70	Manic type	Bipolar type	
F25.1	295.70	Depressive type	Depressive type	
F25.2	295.70	Mixed type	With mixed features	
F28	298.8	Other non-organic psychotic disorders	Other specified schizophrenia spectrum	*238; 240*

			and other psychotic disorder
F29	298.9	Unspecified non-organic psychosis	Unspecified schizophrenia spectrum and other psychotic disorder

Notes: Schizophrenia—a fifth character denotes course: continuous (1); episodic with progressive deficit (2); episodic, but stable, deficit (3); episodic remittent (4); incomplete remission.

F30–F39 Mood (affective) disorders

ICD-10 code	DSM-IV code	ICD-10 terminology	DSM-5 terminology	Ref
F30		Manic episode	Bipolar I disorder	*320*
F30.0		Hypomania	Current or most recent episode hypomanic	
F30.1		Mania without psychotic symptoms	Current or most recent episode manic	
F30.2		Mania with psychotic symptoms	Current or most recent episode manic, with psychotic features	
F31		Bipolar affective disorder	Bipolar I disorder	*322*
F31.0	296.40	Current episode hypomanic	Current or most recent episode hypomanic	
F31.1	296.4	Current episode manic without psychotic symptoms	Current or most recent episode manic	
F31.2	296.44	Current episode manic with psychotic symptoms	Current or most recent episode manic, with psychotic features	
F31.3	296.5	Current episode mild or moderate depression	Current or most recent episode depressed. Mild or moderate	
F31.4	296.53	Current episode severe depression without psychotic symptoms	Current or most recent episode depressed. Severe	
F31.5	296.54	Current episode severe depression with psychotic symptoms	Current or most recent episode depressed., with psychotic features	
F31.6	296.80	Current episode mixed	With mixed features	
F31.7	296.56	Currently in remission	In full remission	
F31.8	296.89	Other bipolar affective disorders	Bipolar II disorder	
F32		Depressive episode	Major depressive disorder—single episode	*246*
F32.00	296.21	Mild without somatic symptoms	Mild	
F32.01		Mild with somatic symptoms		
F32.10	296.22	Moderate without somatic symptoms	Moderate	
F32.11		Moderate with somatic symptoms		
F32.2	296.23	Severe without	Severe	

		psychotic symptoms		
F32.3	296.24	Severe with psychotic symptoms	With psychotic features	
F32.8	311	Other	Other specified depressive disorder	*272*
F33		Recurrent depressive disorder	Major depressive disorder—recurrent episode	*250*
F33.00	296.31	Current episode mild without somatic symptoms	Mild	
F33.01		Current episode mild with somatic symptoms		
F33.10	296.32	Current episode moderate without somatic symptoms	Moderate	
F33.11		Current episode moderate with somatic symptoms		
F33.2	296.33	Current episode severe without psychotic symptoms	Severe	
F33.3	296.34	Current episode severe with psychotic symptoms	With psychotic features	
F33.4	296.36	Currently in remission	In full remission	
F34		Persistent mood (affective) disorders		
F34.0	300.4	Cyclothymia	Cyclothymic disorder	*348*
F34.1	301.13	Dysthymia	Persistent depressive disorder (dysthymia)	*274*
F34.8	296.99	Other persistent mood (affective) disorder	Dysruptive mood dysregulation disorder	*700*

F40–F49 Neurotic, stress-related, and somatoform disorders

ICD-10 code	DSM-IV code	ICD-10 terminology	DSM-5 terminology	Ref
F40		Phobic anxiety disorders		
F40.00	300.22	Agoraphobia without panic disorder	Agoraphobia	*374*
F40.01	300.21	Agoraphobia with panic disorder		*368*
F40.1	300.23	Social phobias	Social anxiety disorder (social phobia)	*378*
F40.2	300.29	Specific (isolated) phobias	Specific phobia	*376*
F41		Other anxiety disorders		
F41.0	300.01	Panic disorder (episodic paroxysmal anxiety)	Panic disorder	*368*
F41.1	300.02	Generalized anxiety disorder	Generalized anxiety disorder	*380*
F41.2	311	Mixed anxiety and depressive disorder	Other specified depressive disorder, with anxious distress	
F41.3	300.00	Other mixed anxiety disorders	Unspecified anxiety disorder	
F42	300.3	Obsessive–compulsive disorder	Obsessive–compulsive disorder	*384*
F42.0		Predominantly obsessional thoughts or ruminations		
F42.1		Predominantly compulsive acts (obsessional rituals)		
F42.2		Mixed obsessional thoughts and acts		
F43		Reaction to severe stress and adjustment disorders		
F43.0	308.3	Acute stress reaction	Acute stress disorder	*392; 394*
F43.1	309.81	Post-traumatic stress disorder	Post-traumatic stress disorder	*402*

F43.2	309	Adjustment disorders	Adjustment disorders	*398*
F44		Dissociative (conversion) disorders		*868*
F44.0	300.12	Dissociative amnesia	Dissociative amnesia	
F44.1	300.13	Dissociative fugue	Dissociative amnesia, with dissociative fugue	
F44.2	300.11	Dissociative stupor	Other specified/unspecified conversion (functional neurological symptom) disorders	
F44.3	300.11	Trance and possession disorders		
F44.4	300.11	Dissociative motor disorders		
F44.5	300.11	Dissociative convulsions		
F44.6	300.11	Dissociative anaesthesia and sensory loss		
F44.7	300.11	Mixed dissociative (conversion) disorders		
F44.80	300.11	Ganser syndrome	Other specified conversion disorder	*236*
F44.81	300.14	Multiple personality disorder	Dissociative identity disorder	*868*
F44.82	300.11	Transient dissociate (conversion) disorders occurring in childhood and adolescence	Other specified conversion disorder	
F45		Somatoform disorders		
F45.0	300.82	Somatization disorder	Somatic symptom disorder	*864*
F45.1	300.82	Undifferentiated somatoform disorder	Unspecified somatic symptom and related disorder	
F45.2	300.7	Hypochondriacal disorder	Illness anxiety disorder	*870*
F45.3	300.82	Somatoform autonomic dysfunction	Other specified somatic symptom and related disorder	
F45.4	300.82	Persistent somatoform pain	Somatic symptom disorder, with predominant pain	*866*

		disorder		
F48		Other neurotic disorders		
F48.0	300.82	Neurasthenia	Somatic symptom disorder	*874*
F48.1	300.6	Depersonalization–derealization syndrome	Depersonalization/derealization disorder	*406*

F50–F59 Behavioural syndromes associated with physiological disturbance and physical factors

ICD-10 code	DSM-IV code	ICD-10 terminology	DSM-5 terminology	Ref
F50		Eating disorders		
F50.0	307.1	Anorexia nervosa	Anorexia nervosa	*410*
F50.1	307.59	Atypical anorexia nervosa	Other specified feeding or eating disorder	*411*
F50.2	307.51	Bulimia nervosa	Bulimia nervosa	*418*
F50.3	307.59	Atypical bulimia nervosa	Other specified feeding or eating disorder	*411*
F50.4	307.59	Overeating associated with other psychological disturbances	Other specified feeding or eating disorder	
F50.5	307.59	Vomiting associated with other psychological disturbances	Other specified feeding or eating disorder	
F50.8	307.59	Other eating disorders	Other specified feeding or eating disorder (includes: binge eating disorder; avoidant/restrictive food intake disorder; pica)	*419*
F51		Non-organic sleep disorders		
F51.0 (G47.00)	780.52	Insomnia	Insomnia disorder (specify cause)	*440*
F51.1 (G47.10)	307.44	Hypersomnia	Hypersomnolence disorder (specify cause)	*448*
F51.2 (G47.2)	307.45	Disorder of the sleep–wake schedule	Circadian sleep–wake disorders	*454*
F51.3	307.46	Sleepwalking (somnambulism)	Non-REM sleep arousal disorders, sleepwalking type	*460*
F51.4	307.46	Sleep terrors (night terrors)	Non-REM sleep arousal disorders, sleep terror type	*462*
F51.5	307.47	Nightmares	Nightmare disorder	*465*
F52		Sexual dysfunction, not caused by organic disorder or disease		
F52.0	302.71	Lack or loss of sexual desire	Male hypoactive sexual desire disorder	*498*
F52.1	302.79	Sexual aversion and lack of sexual	Other specified sexual dysfunction	*498*

		enjoyment		
F52.2	302.72	Failure of genital response	Erectile disorder Female sexual interest/arousal disorder	*500*
F52.3	302.73 302.74	Orgasmic dysfunction	Female orgasmic disorder Delayed ejaculation	*500;* *502*
F52.4	302.75	Premature ejaculation	Premature (early) ejaculation	*502*
F52.5	306.76	Non-organic vaginismus	Genito-pelvic pain/penetration disorder	*500*
F52.6	302.76	Non-organic dyspareunia		*501;* *503*
F52.7	302.79	Excessive sexual drive	Other specified sexual dysfunction	*499*
F53		Mental and behavioural disorders associated with the puerperium, not elsewhere classified	'With peripartum onset' may be a specifier for bipolar and depressive episodes	*494*
F53.0	293.9	Mild		
F53.1	293.9	Severe		
F54	316	Psychological and behavioural factors associated with disorders or diseases classified elsewhere	Psychological factors affecting other medical conditions	
F55	305	Abuse of non-dependence-producing substances	Other (or unknown) substance use disorder	
F55.0	305.90	Harmful use of antidepressants		
F55.1	305.90	Harmful use of laxatives		
F55.2	305.90	Harmful use of analgesics		
F55.3	305.90	Harmful use of antacids		
F55.4	305.90	Harmful use of vitamins		
F55.5	305.90	Harmful use of steroids or hormones		
F55.6	305.90	Harmful use of specific herbal or folk remedies		

F55.8	305.90	Harmful use of other substances that do not produce dependence	
F59	300.9	Unspecified behavioural syndromes associated with physiological disturbances and physical factors.	Unspecified mental disorder

F60–F69 Disorders of adult personality and behaviour

ICD-10 code	DSM-IV code	ICD-10 terminology	DSM-5 terminology	Ref
F60		Specific personality disorders	Personality disorders	*523*
F60.l0	301.0	Paranoid	Paranoid personality disorder	
F60.1	301.20	Schizoid	Schizoid personality disorder	
F60.2	301.7	Dissocial	Antisocial personality disorder	
F60.30	301.9	Emotionally unstable—impulsive type		
F60.31	301.83	Emotionally unstable—borderline type	Borderline personality disorder	
F60.4	301.50	Histrionic	Histrionic personality disorder	
F60.5	301.4	Anankastic	Obsessive–compulsive personality disorder	
F60.6	301.82	Anxious (avoidant)	Avoidant personality disorder	
F60.7	301.6	Dependent	Dependent personality disorder	
F60.8	301.8	Other	Other specified personality disorder (includes: narcissistic personality disorder)	
F61	301.9	Mixed and other personality disorders	Unspecified personality disorder	
F62		Enduring personality changes, not attributable to brain damage and disease		
F62.0	301.89	After catastrophic experience	Other specified personality disorder	
F62.1	301.89	After psychiatric illness	Other specified personality disorder	
F63	312	Habit and impulse disorders		
F63.0	312.31	Pathological gambling	Gambling disorder	*424*
F63.1	312.33	Pathological fire-setting (pyromania)	Pyromania	*422*
F63.2	312.32	Pathological stealing (kleptomania)	Kleptomania	*422*
F63.3	312.39	Trichotillomania	Trichotillomania	*425*
F64		Gender identity disorders		

F64.0	302.85	Transsexualism	Gender dysphoria in adolescents and adults	*508*
F64.1	302.85	Dual-role transvestism		
F64.2	302.6	Gender identity disorder of childhood	Gender dysphoria in children	*704*
F65		Disorders of sexual preference	Paraphilic disorders	*504*
F65.0	302.81	Fetishism	Fetishistic disorder	
F65.1	302.3	Fetishistic transvestism	Transvestic disorder	
F65.2	302.4	Exhibitionism	Exhibitionistic disorder	
F65.3	302.82	Voyeurism	Voyeuristic disorder	
F65.4	302.2	Paedophilia	Paedophilic disorder	
F65.5	302.83 302.84	Sadomasochism	Sexual masochism disorder Sexual sadism disorder	
F65.8	302.8	Other disorders of sexual preference	Other specific paraphilic disorders (includes: frotteuristic disorder)	
F66		Psychological and behavioural disorders associated with sexual development and orientation		
F66.0	302.6	Sexual maturation disorder	Gender dysphoria	
F66.1	302.6	Egodystonic sexual orientation		
F66.2	302.6	Sexual relationship disorder		
F68		Other		
F68.0	300.9	Elaboration of physical symptoms for psychological reasons	Other specified mental disorder	
F68.1	300.19	Intentional production or feigning of symptoms or disabilities, either physical or psychological	Factitious disorder	*876*

Notes For F66—Psychological and behavioural disorders associated with sexual development and orientation, a fifth character denotes orientation (.x0 heterosexuality; .x1 homosexuality; .x2 bisexuality; .x8 other, including pre-pubertal).

F70–F79 Mental retardation

ICD-10 code	DSM-IV code	ICD-10 terminology	DSM-5 terminology	Ref
F70	317	Mild mental retardation	Intellectual disability (intellectual developmental disorder), mild	*790*
F71	318.0	Moderate mental retardation	Intellectual disability (intellectual developmental disorder), moderate	*790*
F72	318.1	Severe mental retardation	Intellectual disability (intellectual developmental disorder), severe	*790*
F73	318.2	Profound mental retardation	Intellectual disability (intellectual developmental disorder), profound	*790*
F78	315.8	Other mental retardation	Other specified neurodevelopmental disorder	
F79	319	Unspecified mental retardation	Unspecified intellectual disability (intellectual developmental disorder)	

Notes:

A fourth character may be employed to specify the extent of associated behavioural impairment:
F7x .0 none or minimal.
F7x .1 significant, requiring attention or treatment.
F7x .8 other impairments of behaviour.
F7x .9 unspecified (without mention of impairment of behaviour).

F80–F89 Disorders of psychological development

ICD-10 code	DSM-IV code	ICD-10 terminology	DSM-5 terminology	Ref
F80		Specific developmental disorders of speech and language		*678*
F80.0	315.39	Specific speech articulation disorder	Speech sound disorder	
F80.1	315.31	Expressive language disorder		
F80.2	315.32	Receptive language disorder		
F80.3	307.9	Acquired aphasia with epilepsy (Landau–Kleffner)		
F80.8	307.9	Other developmental disorders of speech and language	Language disorder; childhood-onset fluency disorder (stuttering); social (pragmatic) communication disorder	
F80.9	307.9	Unspecified developmental disorders of speech and language	Unspecified communication disorder	
F81		Specific developmental disorders of scholastic skills		*678*
F81.0	315.00	Specific reading disorder	Specific learning disorder, with impairment in reading	
F81.1	315.2	Specific spelling disorder		
F81.2	315.1	Specific disorder of arithmetical skills	Specific learning disorder, with impairment in mathematics	
F81.3	315.9	Mixed disorder of scholastic skills		
F81.8	315.9	Other developmental disorders of scholastic skills		
F81.9	315.9	Developmental disorder of scholastic skills, unspecified		
F82	315.4	Specific developmental disorder of motor function	Developmental coordination disorder	

F83	315.4	Mixed specific developmental disorders		
F84		Pervasive developmental disorders		*820*
F84.0	299.00	Childhood autism	Autism spectrum disorder	*674; 822*
F84.1	299.00	Atypical autism		*674; 822*
F84.2	299.00	Rett's syndrome		*820*
F84.3	299.00	Other childhood disintegrative disorder		*820*
F84.4	299.00	Over-active disorder associated with mental retardation and stereotyped movements		
F84.5	299.00	Asperger's syndrome		*820*
F84.8	299.00	Other pervasive developmental disorders		
F88	299.80	Other disorders of psychological development	Other specified neurodevelopmental disorder	
F89	299.80	Unspecified disorder of psychological development	Unspecified neurodevelopmental disorder	

F90–F99 Behavioural and emotional disorders with onset usually occurring in childhood and adolescence

ICD-10 code	DSM-IV code	ICD-10 terminology	DSM-5 terminology	Ref
F90	314	Hyperkinetic disorders	Attention-deficit/hyperactivity disorder	*668*
F90.0	314.00	Disturbance of activity and attention	Predominantly inattentive presentation	
F90.1	312.01	Hyperkinetic conduct disorder	Predominantly hyperactive/impulsive presentation	
F90.2	312.01	Combined type	Combined presentation	
F90.8	314.9	Other hyperkinetic disorders	Other specified	
F91	312.8	Conduct disorders	Conduct disorder	*664*
F91.0	312.89	Confined to the family context		
F91.1	312.89	Undersocialized conduct disorder		
F91.2	312.89	Socialized conduct disorder		
F91.3	313.81	Oppositional defiant disorder	Oppositional defiant disorder	*665*
F91.8	312.89	Other conduct disorders	Other specified disruptive, impulse control, and conduct disorder	
F92		Mixed disorders of conduct and emotions		
F92.0	312.89	Depressive conduct disorder	Other specified disruptive, impulse control, and conduct disorder	
F92.8	312.89	Other mixed disorders of conduct and emotions	Other specified disruptive, impulse control, and conduct disorder	
F93		Emotional disorders with onset specific to childhood		
F93.0	309.21	Separation anxiety disorder of childhood	Separation anxiety disorder	*684*
F93.1	300.29	Phobic anxiety disorder of childhood	Specific phobia, childhood onset	*686*
F93.2	300.23	Social anxiety disorder of childhood	Social anxiety disorder, childhood onset	*686*

F93.3	V61.8	Sibling rivalry disorder		
F93.8	313.9	Other childhood emotional disorders		
F94		Disorders of social functioning with onset specific to childhood and adolescence		
F94.0	313.23	Elective mutism	Selective mutism	*686*
F94.1	313.89	Reactive attachment disorder of childhood	Reactive attachment disorder	*658*
F94.2	313.89	Disinhibited attachment disorder of childhood	Disinhibited social engagement disorder	*658*
F94.8	313.9	Other childhood disorders of social functioning		
F95		Tic disorders		*132; 676*
F95.0	307.21	Transient tic disorder	Provisional tic disorder	
F95.1	307.22	Chronic motor or vocal tic disorder	Persistent (chronic) motor or vocal tic disorder	
F95.2	307.23	Combined vocal and multiple motor tic disorder (de la Tourette)	Tourette's disorder	
F95.8	307.20	Other tic disorders	Other specified tic disorder	
F98		Other behavioural and emotional disorders with onset usually occurring in infancy or childhood		
F98.0	307.6	Non-organic enuresis	Enuresis	*680*
F98.1	307.7	Non-organic encopresis	Encopresis	*681*
F98.2	307.53 307.59	Feeding disorder of infancy and childhood	Rumination disorder Avoidant/restrictive food intake disorder	*692*
F98.3	307.52	Pica of infancy and childhood	Pica, in children	*694*
F98.4	307.3	Stereotyped movement disorders	Stereotypic movement disorder	
F98.5	307.9	Stuttering (stammering)	Childhood onset fluency disorder (stuttering)	*678*
F98.6	307.9	Cluttering		*678*
F98.8	313.9	Other specified behavioural and emotional disorders with onset usually occurring in infancy or childhood.		

The ICD-10 multi-axial system

In a multi-axial diagnosis, a patient's problems are viewed within a broader context, which includes: clinical diagnosis, assessment of disability, and psychosocial factors. In ICD-10, multi-axial diagnoses are made along three axes, as follows.

Axis I—clinical diagnoses

This includes all disorders, both psychiatric and physical, including learning disability and personality disorders.

Axis II—disabilities

Conceptualized in line with WHO definitions of impairments, disabilities, and handicaps, this covers a number of specific areas of functioning, which are rated on a scale of 0 ('no disability') to 5 ('gross disability'):

- *Personal care*—personal hygiene, dressing, feeding, etc.
- *Occupation*—expected functioning in paid activities, studying, home-making, etc.
- *Family and household*—participation in family life.
- *Functioning in a broader social context*—participation in the wider community, including contact with friends, leisure, and other social activities.

Axis III—contextual factors

Factors considered to contribute to the occurrence, presentation, course, outcome, or treatment of the present Axis I disorder(s). They include problems related to:

- Negative events in childhood.
- Education and literacy.
- Primary support group, including family circumstances.
- Social environment.
- Housing or economic circumstances.
- (Un)employment.
- Physical environment.
- Certain psychosocial circumstances.
- Legal circumstances.
- Family history of disease or disabilities.
- Lifestyle or life management difficulties.

Wait, what … ICD-11?

Background

The WHO officially initiated ICD-11 in 2005. Technical responsibility for the revision of the chapter on mental and behavioural disorders was assigned to the WHO Department of Mental Health and Substance Abuse, which appointed the International Advisory Group for the Revision of ICD-10 Mental and Behavioural Disorders in 2007. This, in turn, spawned expert Working Groups who were charged with the task of recommending changes to specific areas, based on reviews of the available evidence and current practice. Working Groups were asked to develop source materials for ICD-11 diagnostic guidelines, based on principles established by the International Advisory Group, according to a standard format, and taking the proposals (and, when published in 2013, the criteria) of DSM-5 into account. In 2016, a first 'beta draft' of the categories and definitions for ICD-11 was made publicly available on the Internet (https://icd.who.int/dev11/l-m/en), with more detailed draft guidelines for mental and behavioural disorders also available for review and comment

by members of WHO's Global Clinical Practice Network (http://gcp.network). These proposals were then tested in a range of field studies, and a version of ICD-11 was released on 18 June 2018 to help prepare for implementation (https://icd.who.int/browse11/l-m/en), with plans for its endorsement at the World Health Assembly in May 2019 and adoption by Member States on 1 January 2022.

Proposed categories (with reference to ICD-10)

- F0 (Organic mental disorders), F1 (Substance use disorders), F2 (Schizophrenia and other primary psychotic disorders), and F3 (Mood disorders) groupings will be retained, but relabelled and renumbered, and their internal structures changed considerably.
- F4 (Neurotic, stress-related, and somatoform disorders) to be divided into separate groups: 'Anxiety and fear-related disorders', 'Obsessive–compulsive and related disorders', 'Disorders specifically associated with stress', 'Dissociative disorders', and 'Bodily distress disorders'.
- F5 (Behavioural syndromes associated with physiological disturbance and physical factors) will also be reallocated to new groups: 'Feeding and eating disorders', 'Sleep–wake disorders', 'Sexual dysfunctions', and 'Substance use disorders'.
- F6 (Disorders of adult personality and behaviour) will be allocated new groups: 'Personality disorders', 'Impulse control disorders', 'Paraphilic disorders', 'Gender incongruence', and 'Factitious disorders'.
- F7, F8, and F9 diagnoses will be redistributed within 'Neurodevelopmental disorders', 'Disruptive behaviour and dissocial disorders', 'Anxiety and fear-related disorders', 'Obsessive–compulsive and related disorders', 'Feeding and eating disorders', and "Elimination disorders'. Childhood forms of disorders will not be diagnosed separately.
- New separate chapters will be created for 'Secondary mental or behavioural syndromes associated with disorders or diseases classified elsewhere' and 'Conditions related to sexual health' (e.g. 'Sexual dysfunctions' and 'Gender incongruence').

ICD-11 proposals vs DSM-5

It should come as no surprise that ICD-11 and DSM-5 are, generally speaking, very similar in structure, since ICD-11 set out to harmonize proposed changes with DSM-5, ensuring that Working Groups were globally representative and multidisciplinary, and typically included one (or more) members from parallel DSM-5 Work Groups.

Similarities

- ICD-11 and DSM-5 have similarly subdivided conditions previously found in ICD-10 F4 'Neurotic, stress-related, and somatoform disorders' into 'Anxiety and fear-related disorders' (DSM-5 'Anxiety disorders'), 'Obsessive–compulsive and related disorders' (same in DSM-5), 'Disorders specifically associated with stress' (DSM-5 'Trauma- and stressor-related disorders'), 'Dissociative disorders' (same in DSM-5), and 'Bodily distress disorders' (DSM-5 'Somatic symptoms and related disorders').
- Removal of organic/non-organic and primary/secondary distinctions have created separate sections in ICD-11 for all 'Sleep–wake disorders' [generally in line with, but substantially simpler than, the Third Edition of the International Classification of Sleep Disorders (ICSD-3)] and 'Conditions related to sexual health', that are mirrored in DSM-5.

- Both DSM-5 and ICD-11 integrate disorders that are regarded as continuous across child, adolescent, and adult psychopathology.
- Diagnostic hierarchy requirements/multi-axial systems have been eliminated in both classifications (with the exception of a few specific disorders that should not be simultaneously diagnosed).

Differences

- ICD-10's 'Gender identity disorders' have been substantially reformulated, renamed 'Gender incongruence' and moved out of the mental disorders chapter. DSM-5 retains 'Gender dysphoria'.
- 'Impulse control disorders' and 'Disruptive behaviour and dissocial disorders' are in separate chapters in ICD-11 but are combined in DSM-5 'Disruptive, impulse-control, and conduct disorders'.
- 'Personality disorders' remain unchanged in DSM-5. ICD-11 proposals remove the subtypes and use severity (mild, moderate, severe) as the primary dimension, and five trait domains for 'Prominent personality traits or patterns': negative affectivity, dissociality, disinhibition, anankastia, and detachment.
- Mental and behavioural syndromes due to particular diseases or disorders are organized differently in ICD-11 than in DSM-5, due to differences in the way they handle primary and secondary disorders.

ICD-11 contains proposals for disorders that were considered but not included in DSM-5, e.g. olfactory reference disorder, complex PTSD, and prolonged grief disorder. DSM-5 contains categories that have not been recommended for inclusion in ICD-11, e.g. disruptive mood dysregulation disorder.

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Urgent detention under mental health legislation

Which section?

Jurisdiction	Legislation	Outpatient[1]	Inpatient[2]
England and Wales (Mental Health Act: England and Wales 1, p. 950)	Mental Health Act 1983 and Mental Health Act 2007	s2 or 3 should be used, rather than s4[*], unless the situation is such an emergency that to do so would be unsafe.	s5(2)[*] can be used immediately. In some cases, s2 or 3 would be used directly instead
Scotland (Mental Health Act: Scotland 1, p. 956)	Mental Health (Care and Treatment) (Scotland) Act 2003	Emergency Detention Certificate[*] (Part 5, s36) if arranging short-term detention (Part 6, s44) would involve an undesirable delay. Same procedure for in- and outpatients	
Northern Ireland (NI) (Mental Health Act: Northern Ireland 1, p. 960)	Mental Health (Northern Ireland) Order 1986	a4[**]	a7(2)[*] In some cases, patients may be detained directly under a4[**]
Republic of Ireland (RoI) (Mental Health Act: Republic of Ireland 1, p. 964)	Mental Health Act 2001	s9 and 10[**]	s23[**]

[1] Patients not currently admitted to hospital—includes day hospital, outpatient department, A&E, and patients attending wards who have not been admitted to a bed yet.

[2] Patients in psychiatric or non-psychiatric units, except for the RoI where patients must be in an approved centre (i.e. a psychiatric unit).

[*] Indicates procedures where medical recommendation does not need to be by an approved doctor (England and Wales, Scotland)/appointed doctor (NI) or consultant psychiatrist (RoI).

[**] Indicates procedures which may be initiated by recommendation from doctors who are not appointed (NI) or consultant psychiatrists (RoI), although soon after admission, an assessment from such a doctor is required for the order to stand.

Note: for the procedures marked * and **, the doctor should be a registered medical practitioner but need not be a psychiatrist or psychiatric trainee.

Other issues to consider when detaining patients

- Patients should only be detained if it is necessary and there is no alternative less restrictive option.
- Before seeing a patient (especially an outpatient), if it seems likely from the available information that detention will be necessary, make appropriate arrangements (e.g. booking a bed, arranging for the necessary medical and social work personnel to arrive at the same time, having staff available to convey the patient, liaising with the police if indicated).
- In some cases, getting the person to hospital will be straightforward. However, in more difficult cases, nursing staff and an ambulance, and, where there is potential for violence, the police will be required.

A guide to rapid tranquillization (RT)

(Rapid tranquillization 1&2, pp. 1050–1053.)

- There are often local protocols for RT and for control and restraint, and these should be followed where available.
- In situations requiring RT or control and restraint, discuss management with a senior colleague as soon as possible.
- In the following guide, the doses quoted are appropriate for young, physically fit patients who have previously received antipsychotic medication. In patients who are elderly, have physical health problems, or are 'antipsychotic-naive', the dosage should at least be halved (refer to the *BNF* for further guidance).

Non-psychotic context

- IM lorazepam 1–2mg (or IM promethazine 50mg in those with compromised respiratory function or known to be sensitive/tolerant to BDZs), and wait 30mins to assess response.

Psychotic context

- IM lorazepam 1–2mg (or IM promethazine 50mg), and wait 30mins to assess response.
- If insufficient, add IM haloperidol 5mg (wait 1hr to assess response) or IM olanzapine 5–10mg (do not give IM lorazepam within 1hr of IM olanzapine) or IM aripiprazole 9.75mg (wait 2hrs to assess response). *Note:* haloperidol is usually reserved for those with previous antipsychotic use and a normal ECG; SGAs are less likely to cause significant side effects in the antipsychotic-naive, those with evidence of cardiovascular disease, prolonged QTc, or no ECG, those on drugs that can affect QTc (Box 22.11 The QTc question, p. 1032), and those with alcohol or illicit drug intoxication.

▶ *Repeat, if necessary, up to max BNF dose limits, monitoring closely.*

▶▶ *If no response, arrange urgent team review or consult a more senior colleague.*

Physical health monitoring during and after RT

- Temperature, pulse, BP, O_2 saturation, and respiratory rate should be recorded every 15mins for the first hour, then hourly for 4hrs, then, depending on clinical need, every 4hrs for the next 12hrs. Local paperwork may be available.
- If the patient is asleep, they should be woken, unless there is a good reason not to. At the very minimum, the respiratory and pulse rate should be recorded and the reason for not doing more noted clearly.

Common and serious side effects

- *EPSEs* (especially acute dystonia following haloperidol) ( Dystonic reactions, p. 1016)—utilize IM procyclidine 5–10mg.
- *NMS* ( Neuroleptic malignant syndrome, p. 1018)—will need immediate medical transfer.
- *Hypotension*—lie the patient flat and the raise legs; monitor closely.
- *Respiratory depression*—give O_2, raise the legs; if the respiratory rate drops below 10/min after BDZ administration, call for advanced emergency care (may require IV flumazenil/possible medical transfer/mechanical ventilation) ( Respiratory depression, p. 1052).
-  *Remember:* fatalities do occur during RT.