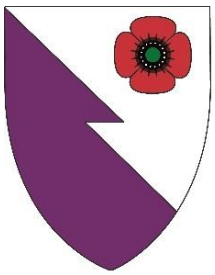
The Royal College of Emergency Medicine

Best Practice Guideline

Management of Pain in Adults



June 2021

Summary of recommendations

1. Recognition and alleviation of pain should be a priority when treating the ill and injured. This process should start at triage, be monitored during their time in the ED and continue through to admission or discharge ensuring adequate analgesia is provided at all times, including beyond discharge where appropriate.
2. All emergency departments should ensure patients with moderate and severe pain receive adequate analgesia within 15 minutes of arrival.
3. All emergency departments should ensure patients in severe pain have the effectiveness of their analgesia re-evaluated within 15 minutes of receiving the first dose of analgesia.
4. All emergency departments should ensure the routine recording of pain in a similar manner as the regular documentation of vital signs.
5. All emergency departments should audit pain management at least annually. Audit should consider equity of analgesia provision across protected characteristics.
6. Emergency department patient surveys should include specific questions regarding pain management.
7. Training in pain relief for all staff involved in patient care is essential to ensure timely and effective management.

Scope

This guideline has been developed and reviewed in order to provide clear guidance on the standards for timeliness of provision of analgesia, and to provide an approach to the delivery of analgesia for adult patients presenting to the emergency department (ED). The guidance does not cover children, palliative care or the issue of discharge medication (covered in separate RCEM guidance).

Reason for development

Pain management is one of the most important components in patient care, which is why it is given such a high priority in the RCEM 'Clinical Standards for Emergency Departments' and initial assessment processes which may involve early warning systems and triage tools, such as the Manchester Triage Scale [1].

Introduction

Pain is a common presenting complaint in Emergency Departments and frequently under-recognised, under-treated and under-prioritised [2,3]. Pain cannot be treated if it has not been recognised or assessed. Recognition and alleviation of pain should be a priority when treating the ill and injured. This process should start at triage, be monitored during their time in the ED and continue through to admission or discharge ensuring adequate analgesia is provided at all times, including beyond discharge where appropriate. This is dependent on many factors in the clinical patient pathway associated with processes, culture and individual prejudices. There is some evidence that pain relief is related to patient satisfaction [4].

Pain Assessment

As part of the initial assessment, pain evaluation is an essential component. Multiple assessment tools are in use. The better known scales have not been validated in the context of an ED environment but are nevertheless satisfactory for the purpose of pain assessment and management. The recording of pain scores is often suboptimal [3]. The experience of the member of staff who first sees a patient will help in estimating the severity of the pain. Staff frequently rely on their experience or intuition when managing pain, particularly when judging the appropriate level of analgesia to prescribe and value this more highly than strict adherence to pain scores [5]. Simply relying on pain scores alone may be unreliable, but the scoring systems are useful in serial assessments and auditing the treatment of pain.

The literature suggests that the assessment of pain in the ED is often not as good as it could be [6,7] which is particularly concerning since pain is often the reason for attending. Other clear reasons to ensure adequate analgesia include improved patient assessment, the ability to perform painful or uncomfortable procedures as

well as physiological benefits to providing adequate analgesia [7]. Table 1 (below) shows themes from a number of UK emergency departments that are potential barriers to adequate pain management in the ED, adapted from Sampson et al [8].

Table1. Summary of barriers to effective pain management in the ED [8]

Overarching Theme	Narrative
Pain management is not perceived to be one of the organisational priorities for which ED staff are held accountable	●4hr waiting time target and ambulance handover target perceived as more important ●Little individual feedback about pain management, the concept of excellent pain management infrequently discussed within the ED ●Poor pain management performance not challenged leading staff to believe pain management was being done well ●Failure to challenge individual staff's belief regarding the utility of pain score
Pain Management is not prioritised within ED training and education	●Staff having limiting knowledge of either local or national guidance ●Staff relying on personal experience rather than evidence based knowledge with regards pain management ●Inconsistent knowledge of key pain management principles eg. the peak effect of morphine, pain ladder.
Low organisational priority underpinned personal beliefs about the priority of pain management	●Not perceived as a priority – "you can't die of pain" ●Perceived low levels of control in improving pain management eg. staff shortages, two witnesses for controlled drugs ●Pain is only one priority competing amongst many other for staff's attention
ED processes and structures enable other ED priorities, but can hinder pain management	●Multiple handovers ●Focus on pain management lost amongst other issues eg. focus on flow and diagnosis ●Departmental layout contributing to barriers eg. location of analgesics within the ED, poor visibility, difficulty communicating between areas within the ED ●ED processes, including poor documentation, competencies

There have been numerous international studies suggesting that patient ethnicity plays a role in determining how quickly and what type of pain relief a patient receives in the emergency department. Statistics released by the Care Quality Commission surprisingly suggest this may not be the case in the UK [9], however staff need to be mindful of the effect that a patient's ethnicity or different culture background might have on their own decisions in relation to the provision of rapid and appropriate analgesia. National guidance already exists for the prompt provision of analgesia experienced during painful sickle crises [10]. Positive and negative personal biases may also manifest themselves when caring for other patient groups eg. obese patients [11], children [12].

Assessment of Acute Pain in the Emergency Department

A numeric rating score for pain is recommended for those patients presenting to Emergency Departments. Special consideration, however, must take place for those patients with cognitive impairment, who may not be able to express the degree of pain clearly (Appendix 2,3)

	No Pain Pain score: 0	**Mild Pain** 1 - 3	**Moderate Pain** 4 - 6	**Severe Pain** 7 - 10
Initial Assessment	Within 15 mins of arrival	Within 15 mins of arrival	Within 15 mins of arrival	Within 15 mins of arrival
Re -evaluation	Within 60 mins of initial assessment	Within 60 mins of analgesia	Within 30 mins of analgesia	Within **15 mins** of analgesia

• Using this method of pain scoring it should be possible to adequately assess into one of four categories and treat pain appropriately.

• Once the category has been established, appropriate analgesia may be prescribed according to the flow chart.

• Following reassessment, if analgesia is still found to be inadequate, stronger or increased dose of analgesics should be used along with the use of nonpharmacological measures.

• It is important to re-assess the pain control within 15-30 minutes in severe and moderate pain.

How to Manage Pain

Documentation of pain is essential and departments should formalise pain recording in the same manner as the regular documentation of vital signs. This is in keeping with the suggestion that aligning pain management improvements with existing priorities may improve pain management overall [8]. Similarly the documentation of any analgesic interventions should also be noted.

Patients in severe pain should be transferred to an area where they can receive appropriate intravenous, inhaled or rectal analgesia within 15 minutes of arrival. Patients in severe pain should have the effectiveness of analgesia re-evaluated within 15 minutes of receiving the first dose of analgesia.

Patients in moderate pain should be offered oral analgesia at the initial assessment. Patients with moderate pain should have the effectiveness of analgesia re-evaluated within 30 minutes of the first dose of analgesia.

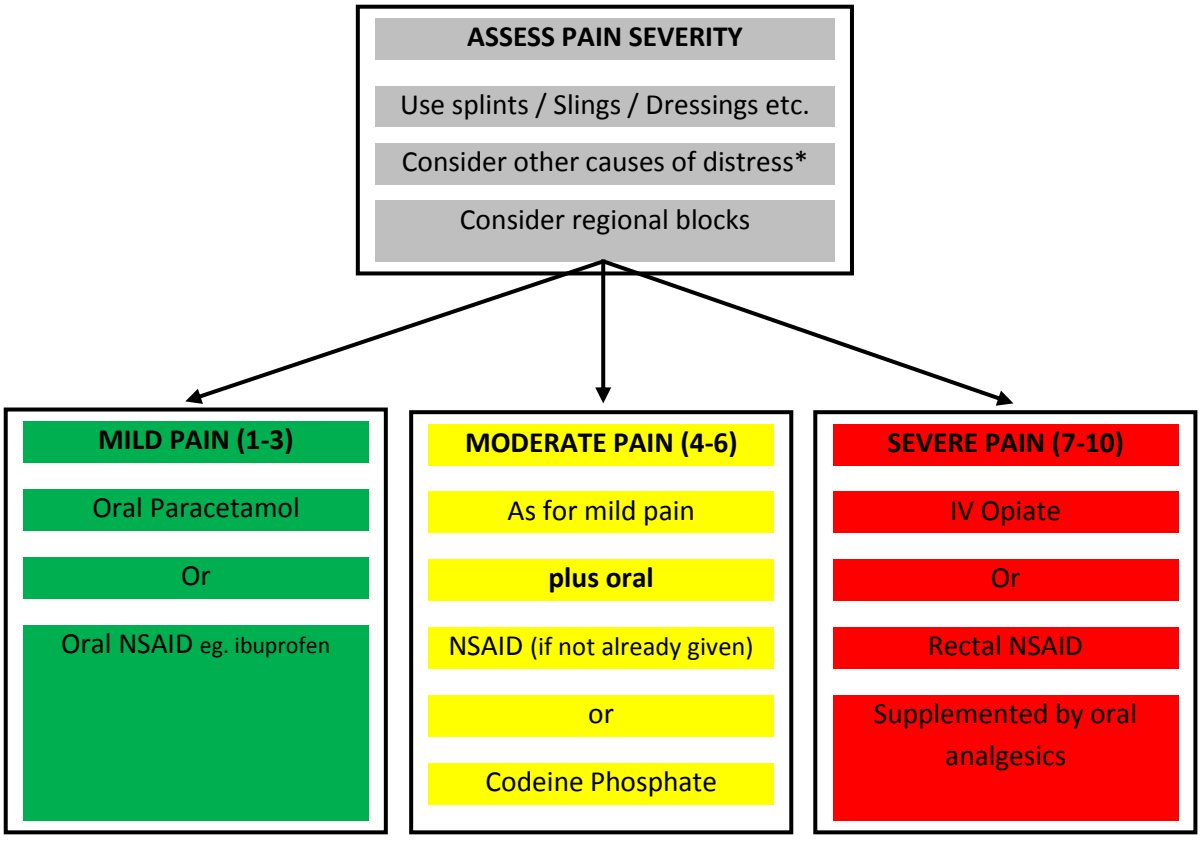
The guidance in this document is primarily aimed at ensuring patients get appropriate and adequate analgesia in a timely fashion. When patients first present to the ED the diagnosis may be unclear and it is important that the lack of diagnosis does not delay administration of appropriate analgesia. Pain relief must not be withheld in the misunderstanding that it will mask signs required to make a diagnosis. It is recognised however that there are a number of conditions or presentations in which certain types or combinations analgesics are known to perform particularly well eg. angina and nitrates or NSAID and ureteric colic.

Emergency physicians are sometimes placed in the very difficult position of having to decide whether a patient's pain is genuine or not (i.e. is the patient displaying 'drug seeking' behaviour?). Careful decision making is required to balance the embarrassment of 'being tricked' by a drug seeker as opposed to denying a patient with genuine pain appropriate and adequate analgesia. Being 'wise after the event' and instituting appropriate measures after the acute episode is likely to be preferable (see separate guidance, Frequent Attenders in the ED).

In all cases it is important to think of using non-pharmacological techniques to achieve analgesia, which may include applying a dressing, immobilising a limb etc.

Algorithm for Treatment of Undifferentiated Acute Pain in the Emergency Department

	No Pain Pain score: 0	**Mild Pain** 1 - 3	**Moderate Pain** 4 - 6	**Severe Pain** 7 - 10
Suggested route & type of analgesia	No action	Oral analgesia	Oral analgesia	IV Opiates or PR NSAID
Initial Assessment	Within 15 mins of arrival	Within 15 mins of arrival	Within 15 mins of arrival	Within 15 mins of arrival
Re -evaluation	Within 60 mins of initial assessment	Within 60 mins of analgesia	Within 30 mins of analgesia	Within **15 mins** of analgesia



*Other causes of distress include: fear of the unfamiliar environment, needle phobia, fear of injury severity etc.

When prescribing for the **elderly** it is worth remembering that paracetamol (including intravenous) is a safe first line treatment with a good safety profile. NSAIDS should be used with caution and at the lowest possible dose in older adults in view of gastrointestinal, renal and cardiovascular side effects as well as drug-drug interactions and the effects on other co-morbidities [13]. When using opiate medication in the elderly appropriate dose reduction should be used as well as anticipating any other drug interactions; particularly those acting on the central nervous system which may increase the likelihood of respiratory depression, for example drugs used for procedural sedation.

When prescribing in **pregnancy** the general rule is try to avoid any medication, however this is not always practical. Paracetamol is considered safe in all three trimesters, ibuprofen is best avoided and can only be used during the second trimester (if essential). Morphine and codeine can be used in all three trimesters if necessary but should be avoided during delivery.

Drug Notes

Paracetamol

Available as oral, rectal and intravenous preparations.

- The standard oral and IV dose for adults is 1gram qds however when administering the IV preparation the dose must be adjusted for those patients weighing less than 50kg (adults 40-49kg 750mg qds, 35-39kg 500mg qds).
- The IV route is particularly useful when patients need to be kept nil by mouth and rapid mild-moderate analgesia is required [7].
- The rectal preparation is probably best avoided due to variable and slow absorption in adults [14].

Before prescribing paracetamol inquiry must be made regarding previous paracetamol use (including preparations such as co-codamol and OTC preparations e.g. cold relief powders as well as paramedic use prior to arrival in the ED).

Non-Steroidal Anti-inflammatory Drugs (NSAIDS)

Available as oral, rectal, intravenous and intra-muscular preparations (although it should be noted IM diclofenac has been associated with sterile abscesses following IM use).

- Ibuprofen 400mg PO tds; fewer side effects than other NSAIDs, good analgesic but relatively weak anti-inflammatory properties.
- Naproxen 500mg PO initially then 250mg every 6-8hrs in acute musculoskeletal disorders; stronger anti-inflammatory properties than ibuprofen but with relatively fewer side-effects compared to other NSAIDs [14].
- Diclofenac 50mg PO tds, 100mg PR; particularly useful for the treatment of renal colic pain via the rectal route however in recent years concern has been raised regarding increased risk of thrombotic events (incl. MI) and Clostridium difficile [16] and it is contra-indicated in IHD, PVD, CVD and heart failure [15].

Avoid NSAIDS in asthmatics who are known to get worsening bronchospasm with NSAIDS, also avoid in patients with previous or known peptic ulcer disease. NSAIDs should be used with caution in the elderly (risk of peptic ulcer disease) and women who are experiencing fertility issues. It should also be avoided in pregnancy, particularly during the third trimester.

Opiates

- Codeine Phosphate is available as oral and IM preparations, 30-60mg qds are typical adult doses however consider lower doses in the elderly. Codeine prescribed in combination with paracetamol is significantly more effective than codeine when prescribed alone [16].

- Morphine is available as oral, intravenous and intra-muscular preparations (due to its relatively slow onset of action the oral preparation is not recommended for acute pain control in the ED, unless the patient is already taking the drug in which case this might be a reasonable alternative). Morphine 0.1-0.2mg/kg IV is a typical adult dose, however a titrated dose to provide the desired response is recommended; consider lower doses in the elderly.

Use with caution if risk of depression of airway, breathing or circulation. The routine prescription of an anti-emetic with an opiate is not recommended, and only required if patient is already experiencing nausea / vomiting [18]. It should be noted that the use of opioids in abdominal pain does not hinder the diagnostic process [19].

Opiate seeking behaviour is not uncommon in Emergency Departments. This is not only in those with active abuse but also in those with chronic pain disorders. However, if after assessment an opiate is deemed necessary, do not withhold appropriate treatment, but be aware of possible signs of dependency such as repeat attendances, asking for treatment by different doctors, 'losing' prescriptions

etc. Emergency Departments are unlikely to start a patient's opiate addiction, but can help to cultivate it.

If there is a possibility of abuse, patients discharged with opiate prescriptions should have no more than 48-72hrs worth of medication prescribed.

Others

Entonox®, a 50% mixture of nitrous oxide and oxygen, is very useful for short term and rapid relief of severe pain and for performing short lasting uncomfortable procedures. It should not be viewed as a definitive analgesic and EDs need mechanisms in place to ensure rapid assessment and institution of appropriate analgesia when paramedics bring patients to the ED who are using Entonox as their sole source of analgesia. Entonox should be avoided in patients with head injuries, chest injuries, suspected bowel obstruction, middle ear disease, early pregnancy and B12 or folate deficiency [20].

Methoxyflurane is volatile anaesthetic (Penthrox™) designed to be self-administered via a "green whistle". It has been shown to be a safe and effective when used for pain relief in adult patients with minor trauma. Following its use in the pre-hospital setting, it has also been introduced into some emergency departments. It has been shown to offer advantages compared to standard care, specifically time to effective analgesia and efficacy when compared to standard care. Penthrox™ may be a useful addition to the ED formulary for patients with moderate to severe pain particularly in the setting of trauma. Penthrox™ is contra-indicated in patients with known renal or hepatic failure, cardiac insufficiency or respiratory depression, known or suspected susceptibility to malignant hyperthermia [21].

Low dose **Ketamine** is an effective analgesic at sub-anaesthetic doses either as a sole agent or as an adjunct to an opiate. Analgesic doses are generally considered to be 0.1 – 0.3 mg/kg IV (0.5-1.0mg/kg IM); the higher the dose within this range the greater the chance of dissociative effects, these are also more likely in older age groups. Some studies suggest the neuropsychiatric and sedative side effects can be lessened by infusion over 15mins as compared to a bolus over 5 minutes [22]. Contraindications include schizophrenia, active pulmonary disease or infection, cardiovascular disease, hydrocephalus, globe injury or glaucoma.

Non systemic drug treatment of pain

Oral and intravenous drugs should not be thought of as the only treatment for acute pain for patients presenting to Emergency Departments. There are several

alternatives that may prove more effective ore reduce the need for dose increases or more potent medication.

Relaxation techniques:

Relaxation techniques are dependent on appropriately trained members of staff and are particularly helpful in children. There are many techniques available. Typically, some techniques work well for one person and other techniques work better for another. A quiet environment will also help in this regard.

Local and regional anaesthesia:

The use of local anaesthetic agents are an excellent form of pain relief. This may be regionally, such as *fascia iliaca blocks* or locally such as *'ring' blocks*.

Immobilisation:

Appropriate immobilisation of fractures produces excellent analgesia. However, in order to immobilise an area, good analgesia may be required initially. Once the area is immobilised the level of analgesia required may be reduced significantly.

Early reduction of fractures and dislocations:

As with immobilisation, once a fracture or dislocation is reduced, using appropriate analgesia, ongoing pain relief will decrease.

Abbreviations

IM intramuscular	PO oral	PR rectal	IV intravenous
kg Kilogram	mg Milligram		
od once a day	bd twice a day	tds three times a day	qds four times a day
NSAID non-steroidal anti-inflammatory drug	IHD ischaemic heart disease	PVD peripheral vascular disease	CVD cerebrovascular disease

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Best Practice Sub-Committee, Quality in Emergency Care Committee

Endorsements

None

Review

Usually within three years or sooner if important information becomes available.

Conflicts of Interest

None

Disclaimers

The College recognises that patients, their situations, Emergency Departments and staff all vary. This guideline cannot cover all possible scenarios. The ultimate responsibility for the interpretation and application of this guideline, the use of current information and a patient's overall care and wellbeing resides with the treating clinician.

Research Recommendations

Barriers to prompt and effective provision of analgesia during a patient's stay in the in the ED

Audit standards

Documentation of patient assessment for pain, during their initial clinical assessment.

Provision of analgesia or lack of, documented in accordance with severity.

Documentation of re-assessment of pain in those requiring any intervention to relieve pain.

Pain management audits should be performed as a minimum annually.

Patient feedback surveys should include specific questions related to the management of pain within the emergency department.

Key words for search

Pain, analgesia

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Appendix 1

Methodology

Where possible, appropriate evidence has been sought and appraised using standard appraisal methods. High quality evidence is not always available to inform recommendations. Best Practice Guidelines rely heavily on the consensus of senior emergency physicians and invited experts.

Evidence Levels

1. Evidence from at least one systematic review of multiple well designed randomised control trials.

2. Evidence from at least one published properly designed randomised control trials of appropriate size and setting.

3. Evidence from well-designed trials without randomisation, single group pre/post, cohort, time series or matched case control studies.

4. Evidence from well-designed non experimental studies from more than one centre or research group.

5. Opinions, respected authority, clinical evidence, descriptive studies or consensus reports.

Appendix 2: PAINAD tool [23]

Example of a pain assessment tool for patients with cognitive impairment

The total score ranges from 0-10 points. A possible interpretation of the scores is:

- Mild pain 1-3
- Moderate pain 4-6
- Severe pain 7-10

Caution should be used when categorising the score with this tool.

Behavior	0	1	2	Score
Breathing Independent of vocalization	• Normal	• Occasional labored breathing • Short period of hyperventilation	• Noisy labored breathing • Long period of hyperventilation • Cheyne-Stokes respirations	
Negative vocalization	• None	• Occasional moan or groan • Low-level speech with a negative or disapproving quality	• Repeated troubled calling out • Loud moaning or groaning • Crying	
Facial expression	• Smiling or inexpressive	• Sad • Frightened • Frown	• Facial grimacing	
Body language	• Relaxed	• Tense • Distressed pacing • Fidgeting	• Rigid • Fists clenched • Knees pulled up • Pulling or pushing away • Striking out	
Consolability	• No need to console	• Distracted or reassured by voice or touch	• Unable to console, distract, or reassure	
			TOTAL SCORE	

(Warden et al., 2003)

Appendix 3: Abbey Pain Scale

Example of a pain assessment tool for patients with cognitive impairment

The Abbey Pain Scale

For measurement of pain in people with dementia who cannot verbalise

How to use scale: While observing the resident, score questions 1 to 6.

Name of resident: .....

Name and designation of person completing the scale: .....

Date: ..... Time: .....

Latest pain relief given was ..... at .....hrs.

Q1. Vocalisation
eg whimpering, groaning, crying
Absent 0 *Mild 1* *Moderate 2* *Severe 3*
Q1 ☐

Q2. Facial expression
eg looking tense, frowning, grimacing, looking frightened
Absent 0 *Mild 1* *Moderate 2* *Severe 3*
Q2 ☐

Q3. Change in body language
eg fidgeting, rocking, guarding part of body, withdrawn
Absent 0 *Mild 1* *Moderate 2* *Severe 3*
Q3 ☐

Q4. Behavioural change
eg increased confusion, refusing to eat, alteration in usual patterns
Absent 0 *Mild 1* *Moderate 2* *Severe 3*
Q4 ☐

Q5. Physiological change
eg temperature, pulse or blood pressure outside normal limits, perspiring, flushing or pallor
Absent 0 *Mild 1* *Moderate 2* *Severe 3*
Q5 ☐

Q6. Physical changes
eg skin tears, pressure areas, arthritis, contractures, previous injuries
Absent 0 *Mild 1* *Moderate 2* *Severe 3*
Q6 ☐

Add scores for Q1 to Q6 and record here ⇒ Total pain score ☐

Now tick the box that matches the Total pain score ⇒

0–2 No pain	3–7 Mild	8–13 Moderate	14+ Severe

Finally, tick the box which matches the type of pain ⇒

Chronic	Acute	Acute on chronic

Abbey J, De Bellis A, Piller N, Esterman A, Giles L, Parker D, Lowcay B. The Abbey Pain Scale. Funded by the JH & JD Gunn Medical Research Foundation 1998–2002.
(This document may be reproduced with this reference retained.)

Appendix 4: Safety Alert

The Royal College of Emergency Medicine

July 2017

Safety Alerts: Oramorph

5 of the 16 NEVER EVENTS reported in ED over the past 2 years involve the IV administration of ORAMORPH

Actions to mitigate the risk

- ONLY USE ORAL SYRINGES TO DRAW UP ORAL MEDICATIONS (this is the main mitigation) - these do NOT FIT onto IV cannulas
- Only prescribe one route of administration
- Keep oral syringes near to storage of oral medications
- The person who prepares the drug should administer it

http://www.nrls.npsa.nhs.uk/resources/?entryid45=59808

For other RCEM issued Safety Alerts and Safety Newsflashes see:
www.rcem.ac.uk/safetyalerts

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