Hand and Wrist

Injury	A&E	Key Clinical	Summary Plan
High pressure injection injury	Urgent → Ortho on-call		
Open fracture/joint ?tendon injury ?nerve injury Crush injury Concerning open wound or Infection Irreducible dislocation	Refer Ortho on-call		
Distal radial fractures – check median nerve	AP/Lateral Xrays Reduce, Analgesia, Back slab, Elevate → VFC If reduction unsatisfactory please liaise with oncall team	If Dorsal Displacement – Dorsal Slab If Volar Displacement – Volar Slab	1/52 Xray review then either a. Completion of cast + 4-5/52 cast removal b. Surgery
Injured wrist - no obvious fracture/possible	Scaphoid Views + AP/lat Wrist xrays Backslab, Analgesia, Elevate,		VFC review – if any doubts then CT/MRI scan requested. If no overt concern then: 1/52 – ESP review:

scaphoid	VFC		- If improved symptoms no clinical findings then discharge - If improving symptoms with some discomfort persisting then futura splint and phone follow-up - If pain continues then repeat x-rays and discussion with ortho team re: further imaging.
Scaphoid fractures	Scaphoid Views + AP/lat Wrist xrays Backslab, Analgesia, Elevate, VFC		VFC Review - If undisplaced – cast for 6/52 (will need to come in within 2/52 for conversion of backslab to full cast) - If displaced – F2F within 1/52 to discuss surgery
Other carpal fracture/injury – check median nerve	Reduce if needed, ~~d~~ Back slab ~~On-line~~ referral to virtual hand fracture clinic		VFC Review - If undisplaced – cast for 6/52 (will need to come in within 2/52 for conversion of backslab to full cast) - If displaced – F2F within 1/52 to discuss surgery
Metacarpal fractures	AP/Lat/Oblqiue (ROTATIONAL DEFORMITY Documentation) ~~On-line~~ referral to virtual hand fracture clinic	Neck Bedford Splint Shaft Futura Splint Base – Reduce/Backslab +/- Ulna Gutter for 4/5 MC fractures	VFC Review - If undisplaced – conservative 4/52 then mobilise - If rotational deformity/displaced then next F2F review for manipulation +/- surgery

Phalangeal fractures	Reduce if needed Bedford Splint ~~On-line~~ referral to virtual hand fracture clinic		VFC Review - If undisplaced – conservative 4/52 then mobilise - If rotational deformity/displaced then next F2F review for manipulation +/- surgery
Mallet injury	Reduce + Mallet splint – 8/52 ~~On-line~~ referral to virtual hand fracture clinic		VFC – no routine follow-up – Information sheet? Hand therapist at 4/52
Thumb fractures	Reduce ~~On-line~~ referral to virtual hand fracture clinic	Distal phalanx - Mallet splint – 8/52 Other fracture/ligament injury – Thumb spica cast	VFC – no routine follow-up – Information sheet? Hand therapist at 4/52

Upper Limb

Types of slings:

Broad arm sling

Collar and Cuff

Triangle sling

Injury	A&E	Key Clinical	Summary Plan
Sternoclavicular joint dislocation	Anterior or superior	Polysling, Analgesia - VFC	VFC – 4/52 functional assessment with ESP
	Posterior	Refer to Ortho on-call team Urgent Airway/Vascular assessment	
Clavicle fractures	Open fracture, threat to skin and/or neurovascular	Refer to Ortho on-call team	

	compromise		
	AP/Oblique Xrays with elbow supported Closed injury, no threat to skin or neurovasular compromise	Polysling/double collar and cuff Analgesia ~~On-line~~ referral to virtual fracture clinic	VFC – depending on displacement - Minimal displacement – 4/52 → ESP/physio - Displaced – 4/52 clinical review ?surgery
Acromioclavicular joint injuries	Polysling/double collar and cuff Analgesia ~~On-line~~ referral to virtual fracture clinic		VFC – Depending on displacement & age I – discharge II & III - <55/manual worker or sports to see shoulder surgeon for discussion of fixation within 2/52 otherwise to physio IV+ - Shoulder surgeon review
Soft tissue shoulder injuries	Polysling or double loop collar & cuff Analgesia ~~On-line~~ referral to virtual fracture clinic	Including proximal biceps tendon injuries and suspected rotator cuff tears Functional assessment is key	VFC – symptom/age/function dependent - Pain, but no functional limitation – DC - Pain with some functional limitation – sling, physio review in 2/52 - Pain, dysfunction – refer for USS
Anterior Shoulder dislocations	Reduce Polysling Analgesia - VFC	Clear documentation of axillary nerve function and previous dislocations	VFC reviews – if no immediate concerns then discharge to physiotherapy otherwise refer onto shoulder team with MRI Arthrogram request
Posterior shoulder dislocations	Traumatic or following epileptic seizure. Refer to Ortho on-call for advice		

	before reduction. A proximal humeral fracture must be excluded.		
	Multiple Direction Instability - Reduce, Polysling, Analgesia Virtual Fracture Clinic	Clear documentation of axillary nerve function	VFC – refer to named shoulder surgeon if already under the care or discharge and ask for GP referral if warranted
Acute Atraumatic Shoulder Pain (including Calcific Tendonitis)	Exclude infection (temp, FBC, CRP) and other red flags. Collar & Cuff (single or double loop) Analgesia - Refer to GP		
Proximal humeral fractures	Collar & Cuff Analgesia, VFC	If <65 and grossly displaced, discuss with oncall team for consideration of surgery	VFC – surgical intervention based
Humeral shaft fractures	Open fracture, significantly displaced or radial nerve injury	Refer to Ortho on-call	
	Closed fracture, reasonable alignment & radial nerve intact – collar/cuff/analgesia VFC		VFC – depending on age/function 1/52 xray with converson to a functional brace if possible
Distal Biceps tendon rupture	Sling, analgesia	Refer to Ortho on-call	Needs to be sent to U/L surgeon asap
Distal humeral	Backslab, analgesia. admission	Refer to Ortho on-call	RJAH for surgical fixation +/- replacement

fracture	dependent on comminution/displacement		
Olecranon fractures	Above elbow backslab Analgesia, VFC	Clear nerve function documentation and functional expectations	If no articular disruption or elderly patient consider conservative management. 1/52 follow-up as needed for xray displacement check
	Displaced	Refer Ortho on-call	
Radial head/neck fractures	AP/lateral elbow Collar & cuff or backslab depending on pain. Analgesia, VFC	If any associated subluxation/dislocation or ulna fracture refer to ortho oncall	VFC – if undisplaced – mobilise as pain allows – discharge. Any concerns follow up as needed for xrays
		Refer Ortho on-call	
Dislocated elbow	Relocate under sedation Polysling - elbow in 90 degrees flexion, Analgesia	If congruent with no fracture – VFC if incongruent or fractures – discuss with oncall team	VFC – if ok in polysling immobilise in sling for 4/52 – then physio for movements
Radial & ulna midshaft fractures	Above elbow cast (90deg flexion, neutral rotation) Polysling, Analgesia	Nightstick ulna (undisplaced)→VFC Both bone fracture – Oncall Team	VFC – if undisplaced fracture – will need check xray in 1/52. Conversion to below elbow cast to be then determined

Lower Limb

Injury	**A&E**	**Key Clinical**	**Summary Plan**

Pelvic fracture	APC, LC, VS	Treat hypovolaemia Refer Ortho on-call	REFER TO STOKE
	Low energy, elderly pubic rami fractures	Mobilise FWB, investigate cause of fall, discharge planning as per best practise tariff	- Discharge back to nursing home, admit if only unsupported at home. - Urgent orthogeri review
	Avulsion fractures – analgesia, VFC		VFC – pain management - discharge
Acetabular fracture	Refer Ortho on-call	Neurovascular status/haemodynamic stability	
Neck of femur	Refer Ortho on-call	IVI, pain relief, rapid referral to ortho	RJAH for surgery
Dislocated Total hip replacement	Refer Ortho on-call For reduction in theatre		RJAH for surgery
Hip pain post fall, no fracture on plain x-ray	Check weight bearing ability	If weight bearing – discharge – VFC If non-weight bearing – refer to oncall	
Femoral Fractures		Refer Ortho on-call	RJAH for surgery
Thigh injury/haematoma	Analgesia, VFC	Exclude compartment syndrome	VFC – Patient advised to get in touch if symptoms change (cellulitis, swelling, worsening pain, ongoing dysfunction)
Calf Muscle Tear	Weight bear as tolerated Boot and wedges for comfort if required. Advised to wean off		

	wedges as soon as able. If significant injury, refer to VFC.		
Soft tissue knee injuries	Analgesia, mobilise as able Splint as needed	X-ray normal WB tolerated – VFC X-ray normal WB not tolerated – VFC Locked knee, or mechanical limitation to ROM – refer to ortho oncall Full ROM	VFC outcome depends on injury and patient. MRI as needed + refer to Knee team
	Patella tendon rupture or quads tendon rupture	Refer Ortho on-call	RJAH for surgery
Atraumatic swollen knee	Apyrexial, normal CRP & WCC. No infection or other red flags.	If Normal CRP/WCC, apyrexial and no redflags then discharge to GP with advice If elevated CRP/WCC, pyrexia and infection concerns – then refer to ortho oncall	
Patella Fracture	Analgesia	Displaced – backslab and refer to oncall Undisplaced – cricket pad splint, mobilise, VFC	VFC – repeat xrays at 1-2/52 or if patient has worsening in symptoms. Gentle ROM from 4 weeks.
Patella dislocation	Reduce AP, Lateral & Skyline x-ray WB as able with crutches If struggling to weight bear without then Cricket	If Xray normal – VFC If Xray abonormal – talk to oncall team Clear indication of primary or recurrent dislocation, any history of contralateral dislocation, any history of flexibility or soft tissue	VFC Aim to discharge to physio, unless specific concerns about instability or chondral injuries – request MRI and discuss with Knee team for potential urgent AKC review

	pad splint until clinic review VFC	disorders (ehlers danlos, hypermobility)	
Tibia	Above knee backslab Analgesia, elevation	Plateau, proximal, shaft, disal, pilon fractures Refer to oncall team Check for compartment syndrome	RJAH for fixation
Fibula Fractures	Check Ankle – if no associated ankle injuries then crutches, WB, VFC		
Soft tissue ankle injury/sprain	Compression bandage Black boot if severe Weight bear as tolerated Most soft tissue ankle injuries do not need referral to VFC. Refer only if severe injury or clinical concerns.		Needs information fact sheet on ankle sprains. No routine need for follow-up as initial Analgesia, Rest, Ice, Compression Elevation. Standard rehab exercises to be done at home. Patient to call ESPs if any difficulties
Ankle fractures	Ap/Lateral/Mortise view. Check Fibula along entire length for tenderness	Weber A – Black boot, WB as able, VFC Weber B No talar shift – Blackboot, WB, VFC Weber B Talar shift – Reduce, backslab, Xray liaise with ortho oncall Weber C No talar shift – Blackboot, WB, liaise with ortho oncall	VFC decision based on what is needed Black boot 6/52 + xrays as needed at 1/52 post injury Weber B – isolated distal fibula – Weight bearing xray at 1-2 weeks

		Weber C Talar shift – Reduce, backslab, Xray liaise with ortho oncall Bi- or Tri-malleolar - Reduce, backslab, Xray liaise with ortho oncall Isolated undisplaced medial malleolus – xray full fibula to determine Maisonneuve injury. - If fracture identified in fibula then refer to oncall team. - If no fracture and no syndesmosis widening or talar shift – Black booth, WB, VFC Isolated, displaced, medial malleolus – call oncall team	
Hindfoot injuries	Talus fractures +/- dislocation	Backslab – will need a CT Refer Ortho on-call	URGENT Reduction if dislocated
	Small avulsion fractures of talus / calcaneum	Black boot, WB as tolerated Document Swelling and extent and location VFC	To discuss with Foot and Ankle Team but most likely observation and discharge
	Calcaneus fracture (Undisplaced or displaced)	Backslab – will need a CT Refer Ortho on-call	To discuss with Foot and Ankle Team
	Achilles tendon rupture	If diagnosis in doubt consult A&E senior or Ortho Registar on-call Rebound boot or, if unavailable, black boot with	

		5 wedges. Urgent outpatient USS to confirm diagnosis and size of gap. (A&E to send form please, Confirm on referral form that USS organised) Weight bear as tolerated. **Prophylactic Enoxaparin prescribed for 4 week -** Referral to VFC	
Midfoot injuries	Avulsion fractures of tarsal bones	Black boot Document Swelling and extent and location Full weight bear VFC	VFC
	Tarsal fractures - Undisplaced	Request urgent outpatient CT for VFC review Document Swelling and extent and location Black boot NWB	To discuss with Foot and Ankle Team
	Tarsal fractures - Displaced	Backslab, CT, Refer Ortho on-call	To discuss with Foot and Ankle Team
	Lis-franc fracture / dislocation Including suspected on basis of mechanism / swelling / planter bruising	CT, Backslab, Refer Ortho on-call	To discuss with Foot and Ankle Team
Forefoot injuries	1st metatarsal fracture	Black boot Heel weight bear VFC	

	2nd-4th metatarsal - single fracture	Black boot, Weight bear as tolerated VFC	VFC plan case based ?discharge or 6/52 follow-up
	2nd-4th metatarsal - multiple fractures	Black boot Weight bear as tolerated Document Swelling and extent and location VFC	VFC plan case based ?discharge or 6/52 follow-up
	Hallux phalanx fracture - intra-articular	Black boot/loose shoe Weight bear as tolerated, VFC	VFC plan case based ?discharge or 6/52 follow-up
	Hallux Phalanx fracture - undisplaced	Black boot three weeks Weight bear as tolerated, Discharge	
	Hallux Phalanx fracture - displaced	Reduce Black boot three weeks Weight bear as tolerated VFC	VFC plan case based ?discharge
	Lesser phalanx fracture	Neighbour strap two weeks Weight bear as tolerated, Discharge	
	Toe dislocations	Reduce Neighbour strap two weeks Weight bear as tolerated Discharge unless reduction is unstable. If unstable, online referral to virtual fracture clinic.	VFC plan - if unstable then for wiring?