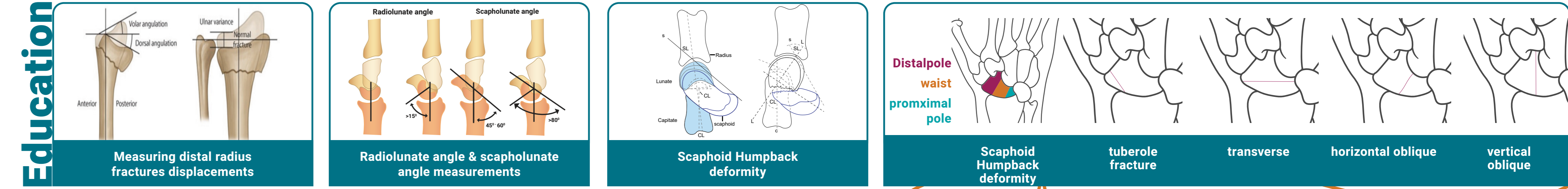


# Emergency fractures Quick reference

All open injuries and/or injuries with neurovascular compromise need discussion with appropriate team (orthopaedics or plastics)

## Finger / Hand Wrist Elbow Forearm Upper arm Clavicle



**1 Tuft Fracture:** non-displaced /minimally displaced  
**Immobilisation:** Finger splint for protection (stax/thermoplastic) for 3-4 weeks.  
**Follow up:** GP follow up  
**Red flags:** if open (nail bed or pulp laceration), request plastics opinion

**2 Mallet Finger +/- avulsion fragment**  
**Immobilisation:** Mallet finger splint (stax/thermoplastic). Must wear splint at all times.  
**Follow up:** Plastics OPD.  
**Red flags:** if intra-articular fracture fragment is more than a 1/3 of DIPJ, request plastics opinion.

**3 Volar plate avulsion fragment**  
• Contact CCT OT for thermoplastic splint within hours  
• Apply zimmer finger splint from fast track stores room out of hours  
**Immobilisation:** Dorsal 30° flexion thermoplastic splint or zimmer finger splint.  
**Follow up:** Plastics OPD within a week-hand therapy rehab required.  
**Red flags:** if intra-articular fracture fragment is more than a 1/3 of DIPJ, consult with plastics.

**4 Uncomplicated phalangeal fractures: distal and middle phalanx**  
**No rotational deformity, less than a 1/3 intra-articular surface and minimal displacement or angulation**  
**Immobilisation:** Extension finger splint (thermoplastic or zimmer).  
**Follow up:** Plastics OPD.  
**Note:** Must wear splint at all times.

**5 All proximal phalanx fractures & complicated distal/middle phalangeal fractures**  
• Rotational deformity, more than a 1/3 intra-articular surface & significant displacement or angulation. Discuss with plastics.  
**Immobilisation:** Buddy strap & volar slab  
**Follow up:** Plastics OPD.

**6 Uncomplicated Metacarpal fractures**  
No rotational deformity, minimal displacement/angulation:  
• 2nd + 3rd digits- shaft angulation <20° or neck angulation <15°  
• 4th digit- shaft angulation <30° or neck angulation <40°  
• 5th digit- shaft angulation <40° or neck angulation <60°  
**Immobilisation:** Buddy strap & volar slab. Note: 4th and 5th neck fractures thermoplastic splint or buddy strap  
**Follow up:** Plastics OPD.

**7 Complicated Metacarpal fractures**  
Rotational deformity, multiple fractures, significant displacement/angulation:  
• 2nd + 3rd digits- shaft angulation >20° or neck angulation >15°  
• 4th digit- shaft angulation >30° or neck angulation >40°  
• 5th digit- shaft angulation >40° or neck angulation >60°  
**Discuss with plastics about management**  
**Immobilisation:** Buddy strap & volar slab or ulnar gutter slab.  
**Follow up:** Plastics OPD +ORIF.

**8 Uncomplicated thumb and/or 1st MC fractures**  
• No rotational deformity  
• Not involving articular surface  
• minimal displacement or angulation <30°  
**Immobilisation:** Thumb spica backslab.  
**Follow up:** Plastics OPD.

**9 Complicated thumb and/or 1st MC fractures**  
Rotational deformity, involving articular surface, significant displacement or angulation:  
• Extra-articular # > 30°  
• Bennett's # > 1mm step off articulation  
• Rolando # or severely comminuted #  
• UCL ligament rupture/tear +/- proximal phalanx base fragment (ulnar) intra-articular, >20° side to side variation varus/valgus instability or >35° opening or Stener lesion (adductor aponeurosis)  
**Discuss with plastics about management**  
**Immobilisation:** Thumb spica backslab.  
**Follow up:** Plastics OPD +ORIF.

**10 Clinically suspected scaphoid fracture: Clinically suspected scaphoid injury**  
**ASB tenderness, axial loading tenderness or tenderness on scaphoid tubercle**  
**Immobilisation:** Thumb spica futuro splint  
**Follow up:** Orthopaedics OPD

**11 Uncomplicated scaphoid fracture: Non-displaced scaphoid fracture**  
**Immobilisation:** Thumb spica backslab  
**Follow up:** Orthopaedics OPD  
**Red flag:** non-displaced waist fractures to be discussed with orthos

**12 Complicated scaphoid fractures: Displaced scaphoid fracture:**  
• Proximal pole fractures displacement > 1mm  
• 15° scaphoid humpback deformity  
• Scapholunate angle >60°  
• Radiolunate angle >15°  
**Discuss with orthos about ORIF**  
**Immobilisation:** Thumb spica backslab  
**Follow up:** Orthopaedics OPD

**13 Uncomplicated distal radius/ulnar fractures**  
• Minimally displaced distal 1/3 fractures: <20° dorsal angulation or <10° volar angulation & <5mm radial shortening  
• Extra-articular fractures  
**Immobilisation:** Dorsal backslab  
**Follow up:** Orthopaedics OPD  
**Red flag:** intra-articular component (Barton's) (discuss with orthos)

**14 Complicated distal radius/ulnar fractures**  
• Displaced distal 1/3 fractures: >20° dorsal angulation or >10° volar angulation & >5mm radial shortening  
• Intra-articular (Barton's) / comminuted fractures  
• Bier's block reduction in ED  
**Discuss with orthopaedics about ORIF**  
**Immobilisation:** Dorsal backslab  
**Follow up:** Orthopaedics OPD

**15 Galeazzi fractures**  
• Simple, wedge & complex distal 1/3 radius/ulna shaft #s and DRUJ dislocation.  
• DRUJ dislocation signs: 1-ulna styloid # 2-widening of joint on AP view 3-dorsal/volar displacement on lateral view 4-radial shortening >=5mm  
**Discuss with orthopaedics about ORIF**  
**Immobilisation:** Above elbow backslab in supination position  
**Follow up:** Orthopaedics OPD

**16 Occult radial head fracture & positive fat pad signs**  
• Anterior fat pad elevated >45° is pathological  
• Presence of posterior fat pad is also pathological  
**Immobilisation:** Broad arm sling-No backstrap  
**Follow up:** Orthopaedics OPD

**17 Uncomplicated radial head fractures**  
• Minimally displaced <2mm step  
• No mechanical block to rotation  
• Angulation <30°  
**Immobilisation:** Broad arm sling-No backstrap  
**Follow up:** Orthopaedics OPD

**18 Complicated radial head fractures**  
• Displaced >2mm step  
• Mechanical block to rotation  
• Angulation >30°  
Check distal radio-ulnar joint tenderness (r/o Essex Lopresti lesion)  
**Discuss with orthos about ORIF**  
**Immobilisation:** Broad arm sling-No backstrap  
**Follow up:** Orthopaedics OPD

**19 Essex Lopresti lesion**  
• Breach of intraosseous membrane between radius/ulna & DRUJ risk  
• Check distal radio-ulnar joint tenderness  
**Discuss with Orthopaedics about ORIF**  
**Immobilisation:** Broad arm sling-No backstrap  
**Follow up:** Orthopaedics OPD

**20 Uncomplicated distal humerus condyle fractures (Milch type I)**  
• Lateral condyle undisplaced fractures need discussing with orthos  
**Immobilisation:** Lateral condyle fracture Above elbow backslab in supination position. Medial condyle fracture-Above elbow backslab in pronation position  
**Follow up:** Orthopaedics OPD

**21 Complicated distal humerus condyle fractures (Milch type II)**  
**Discuss with orthos about ORIF**  
**Immobilisation:** Lateral condyle fracture-Above elbow backslab in supination position. Medial condyle fracture-Above elbow backslab in pronation position  
**Follow up:** Orthopaedics OPD

**22 Coronoid fracture**  
Pathognomonic for elbow instability  
Commonly occur with associated injuries: terrible triad of elbow, elbow dislocation, radial head fracture + LCL injury, LCL injury  
**Immobilisation:** Above elbow backslab  
**Red flag:** Prone to instability always consult with orthos as it may well require ORIF  
**Follow up:** Orthopaedics OPD

**23 Uncomplicated olecranon fractures**  
Minimally displaced  
**Immobilisation:** Above elbow backslab  
**Follow up:** Orthopaedics OPD

**24 Complicated olecranon fractures**  
Significantly displaced or angulated  
Intra-articular  
**Discuss with orthos about ORIF**  
**Immobilisation:** Above elbow backslab  
**Follow up:** Orthopaedics OPD

**25 Uncomplicated mid-shaft radius & ulnar fractures**  
Minimally displaced  
**Immobilisation:** Above elbow backslab  
**Follow up:** Orthopaedics OPD

**26 Complicated mid-shaft radius & ulnar fractures**  
Significantly displaced: >20° dorsal angulation or >10° volar angulation  
**Discuss with orthos about reduction and ORIF**  
**Immobilisation:** Above elbow resting backslab  
**Follow up:** Orthopaedics OPD

**27 Monteggia fracture dislocations**  
Proximal 1/3 ulnar fracture with associated radial head dislocation  
**Discuss with orthos about reduction and ORIF**  
**Immobilisation:** Above elbow resting backslab  
**Follow up:** Orthopaedics OPD

**28 Uncomplicated proximal humerus fractures**  
Uncomplicated: <50% displacement  
**Immobilisation:** High arm collar and cuff  
**Follow up:** Orthopaedics OPD

**29 Complicated proximal humerus fractures**  
Complicated: >50% displacement  
**Discuss with orthos about ORIF**  
**Immobilisation:** High arm collar and cuff  
**Follow up:** Orthopaedics OPD

**30 Uncomplicated humerus shaft fractures**  
Uncomplicated: <10° angulation  
**Immobilisation:** High arm collar and cuff  
**Follow up:** Orthopaedics OPD

**31 Complicated clavicle fractures**  
Complicated: Distal & proximal third zone  
**Discuss with orthos**  
**Immobilisation:** Elevated broad arm sling for 3 weeks  
**Follow up:** Orthopaedics OPD  
**Red Flag:** Skin tenting-impending compound, needs discussion with orthos

**32 Complicated humerus shaft fracture**  
Complicated: >10° angulation  
**Discuss with orthos about ORIF**  
**Immobilisation:** U-slab  
**Follow up:** Orthopaedics OPD

**33 Uncomplicated clavicle fractures**  
Uncomplicated: Mid-third zone  
**Immobilisation:** Elevated broad arm sling for 3 weeks  
**Follow up:** Orthopaedics OPD  
**Red Flag:** Skin tenting-impending compound, needs discussion with orthos

## Treatment and intervention

**1 Thermoplastic tuft/mallet splint/protective splint**  
• Contact CCT OT to apply splint within working hours

**2 Stax tuft/mallet splint/protective splint**  
• Available from fast track store room  
• Secure with Elastoplast  
• Give directions to patient in how to remove splint correctly, keeping DIPJ straight at all times, supported by firm straight surface underneath (i.e. table)

**3 Dorsal 30° flexion thermoplastic finger splint for volar plate injuries**  
• Available by contacting ED CCT OT within hours

**4 Dorsal 30° flexion zimmer finger splint for volar plate injuries**  
• Available in fast track stores room out of hours

**5 Zimmer middle phalanx extension splint**  
• Available in fast track stores room out of hours

**6 Buddy strap**  
• Insert some gauze for padding between fingers to prevent pressure sores.  
• Strap with tape middle phalanges together and proximal phalanges together.

**7 4th & 5th MC neck fractures thermoplastic splint**  
• Available from ED CCT OT within hours  
• Only available for undisplaced or minimally displaced neck fractures  
• Consult with CCT OT team

**8 Thumb spica backslab**  
• 30° wrist extension  
• The thumb should be maintained in a slightly flexed and abducted position as if holding a narrow cup

**9 Futuro thumb spica splint**  
• kept on ED compactors

**10 Above elbow backslab in supination position**  
• 90° elbow flexion  
• Hand on supination

**11 Above elbow backslab on forearm pronation**  
• 90° elbow flexion  
• Hand on pronation

**12 High arm collar & cuff**

**13 Dorsal Backslab**  
• Slight wrist palmar flexion  
• Ulnar deviation

**14 U-Slab**  
• the plaster must extend passed the fracture site

**15 Broad arm sling no backstrap**