



— B E L M A T T —
HEALTHCARE TRAINING

The Wrist & Hand

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Objectives

- Anatomy of Wrist and Hand
- Standard x ray views
- Common pathologies – adults & children
- General comments on interpretation of the wrist & hand x ray
- Missed injuries can cause ongoing loss of function
- High area of litigation and hence specialist input – hand surgeons / plastic surgeons
- UCC / ED Mx strategies
- Referral criteria

Wrist and Distal Forearm

- Always start with a history
- Followed by examination.....
- Look, feel, move (active), NV deficit
- X-ray - 2 views for all (scaphoid 4 views)

ABC Approach to the wrist and hand views

- Adequacy
- Alignment
- Bones
- Cartilage, joints and soft tissues

Normal Wrist



Surface Anatomy – Wrist & hand

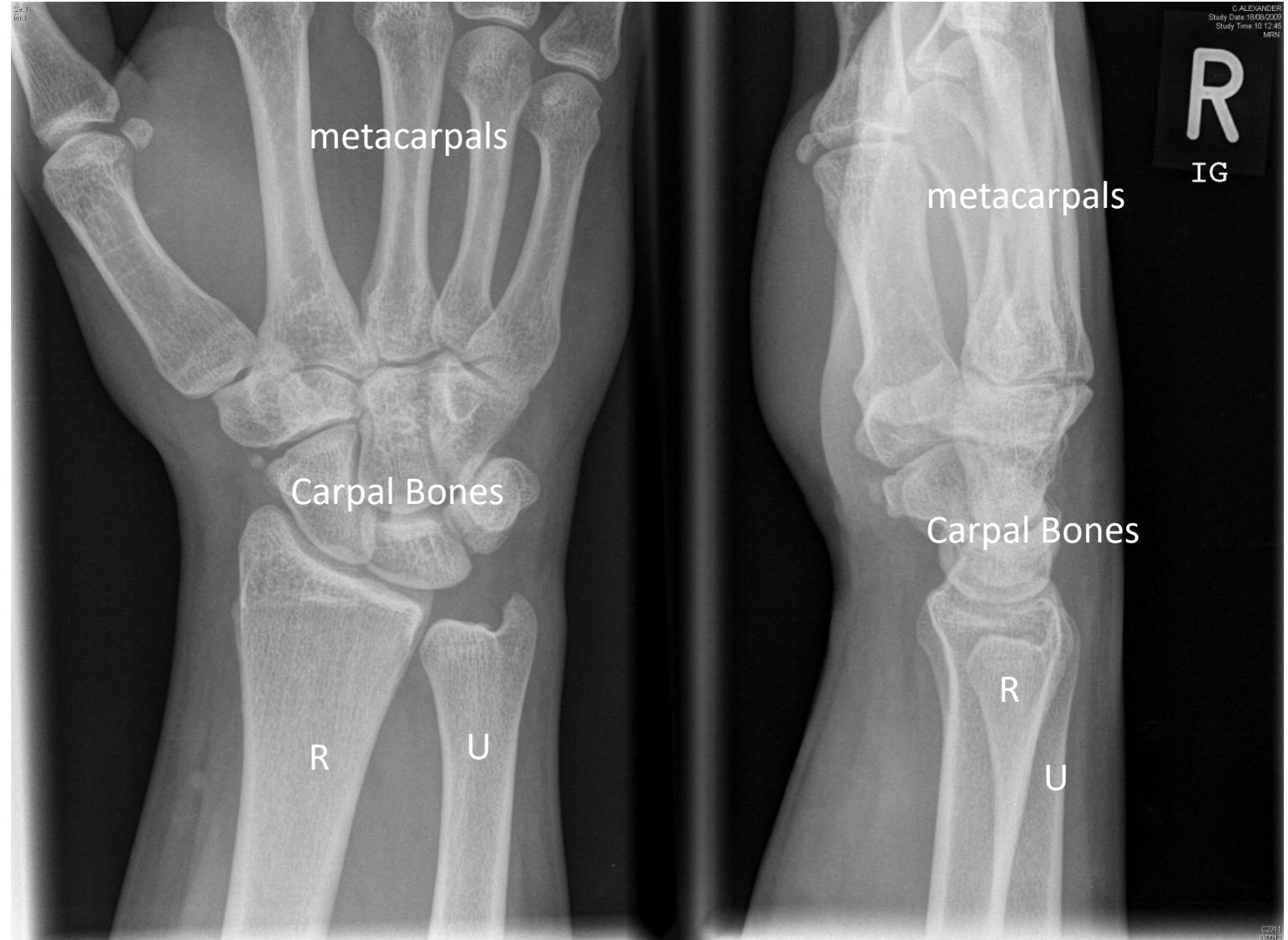
Surface Anatomy



Normal Wrist



Normal Wrist



Normal Wrist

- Bottom row:

Scaphoid

Lunate

Triquetral

Pisiform



Normal Wrist

- Top row:

Trapezium

Trapezoid

Capitate

Hamate



Normal Wrist – lateral views

- Lateral view:

Alignment



Hit on hand by hammer

- Very tender + swollen hand
- Point tender over carpals
- N/Vasc in tact
- Builder / Boxer / Violinist

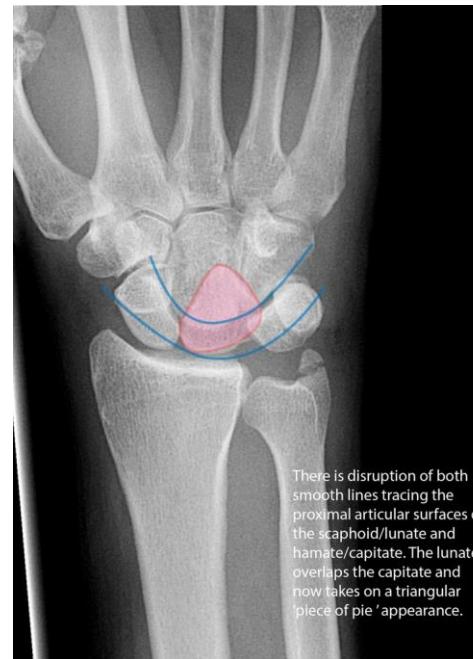
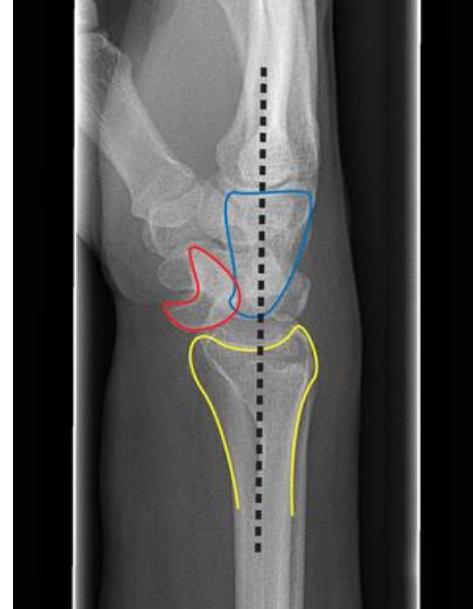
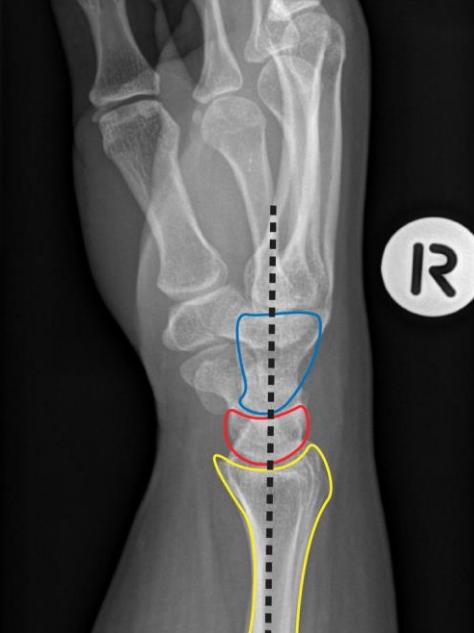


Hit on hand by hammer

- Very tender + swollen hand
- Point tender over carpals



Lunate Dislocation



FOOSH

- Very tender + swollen hand
- Globally tender over carpal

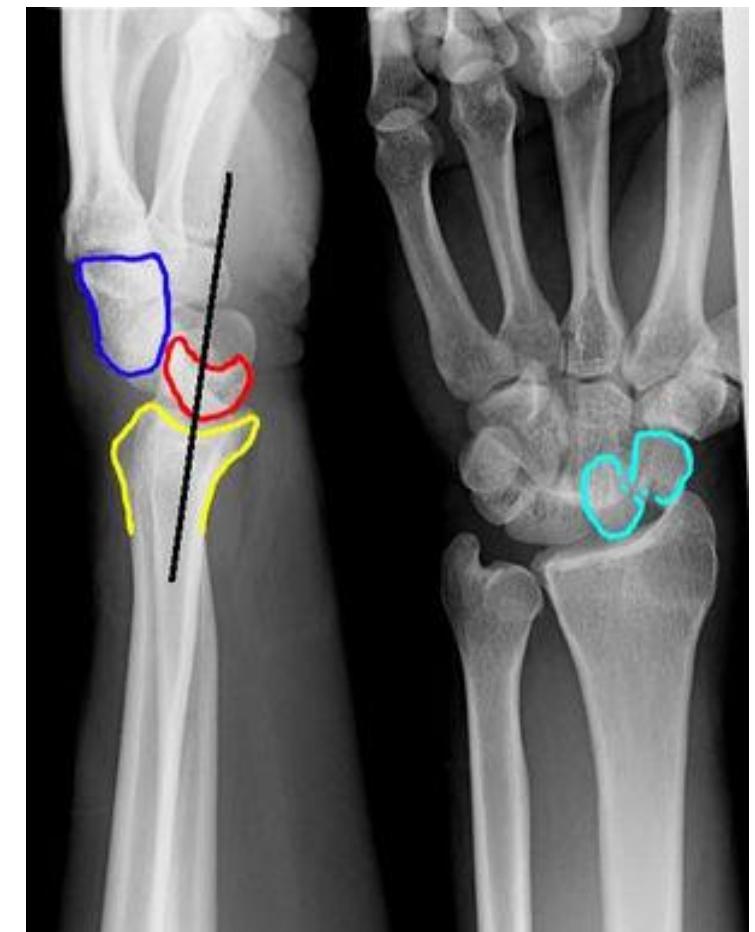


Peri-Lunate Dislocation

Lunate Dislocation



Peri lunate Dislocation



FOOSH

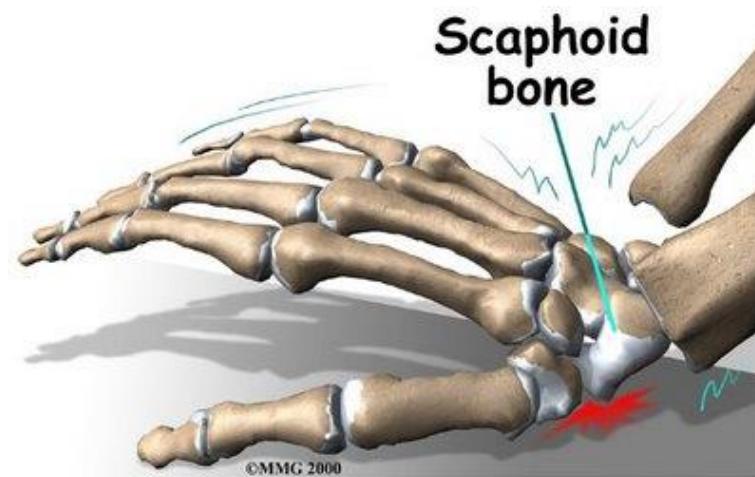
- Very tender + swollen hand
- Point tenderness at ASB



Scaphoid Series



Scaphoid fracture



Scaphoid fractures ?

Case 1



Case 2



FOOSH

- Very tender + swollen hand
- Global tenderness



Triquetral Fractures



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FOOSH – 68
year old
Mary



FOOSH – 75
year old
Agnes



Colles fracture

Distal radius is angulated dorsally



Mx:

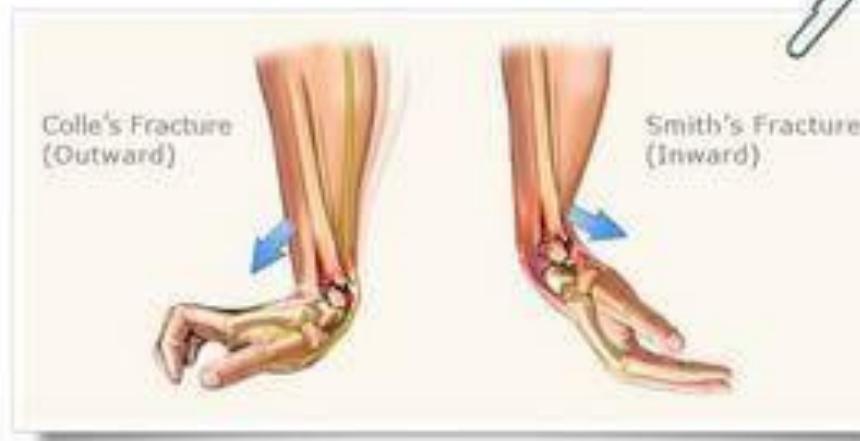
- If undisplaced, backslab and H.A.S.
 - # clinic f/u
 - If displaced – manipulate
 - Haematoma block?
 - Penthrox?
-
- Check XR for position

FOOSH – 45
year old
Howard



Colles or Smith's

Colle's vs Smith's



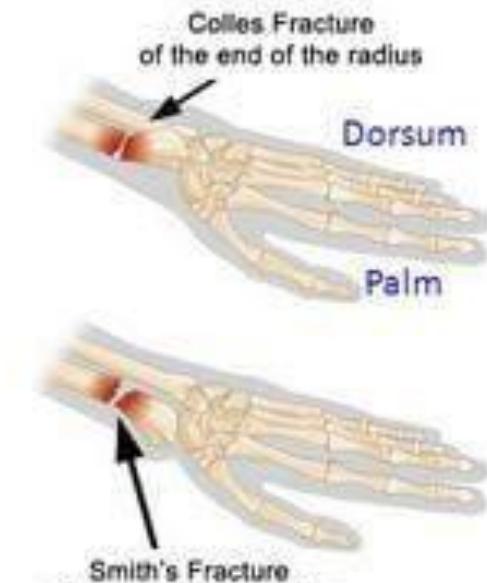
Distal Radius Fractured

Q – Dorsal angulation of the distal bone fragment...

A – Colle's

Q – Palmar angulation of the distal bone fragment...

A – Smith's – More dangerous due to the neurovascular structures in this direction!



Smith fracture (a ‘reverse colles)

Distal radius is angulated *anteriorly*



Mx:

Check N/Vasc status

- Put in backslab
- Requires referral for MUA or ORIF and buttress plate

Barton's fracture

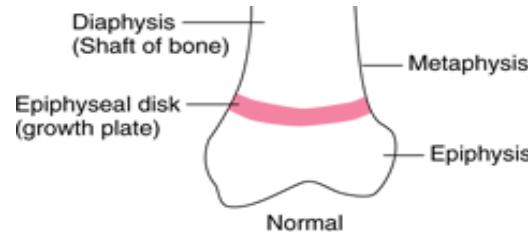
- Intra-articular # of distal radius



Mx:

- Put in backslab
- Often requires referral for ORIF

Paediatric Salter Harris Classification



Type I
A complete physeal fracture
with or without displacement



Type II
A physeal fracture that
extends through the
metaphysis, producing a chip
fracture of the metaphysis,
which may be very small



Type III
A physeal fracture that
extends through the
epiphysis



Type IV
A physeal fracture plus
epiphyseal and metaphyseal
fractures



Type V
A compression fracture of
the growth plate

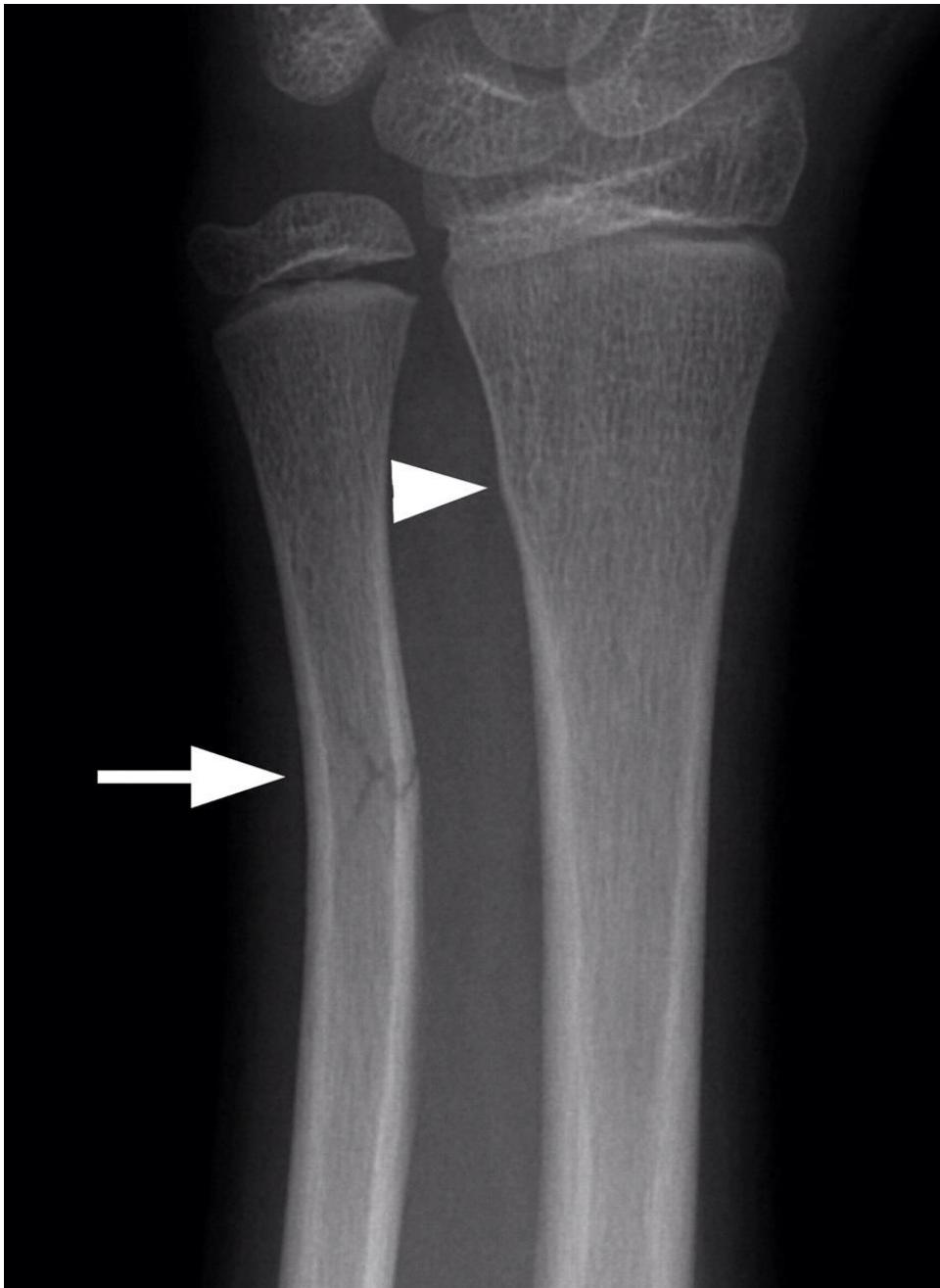


RED DOT



- FOOSH
- Tender distal radius

FOOSH



FOOSH



Green stick and Torus Fractures







- Tender base of 4th



- Tender distal wrist

Hand



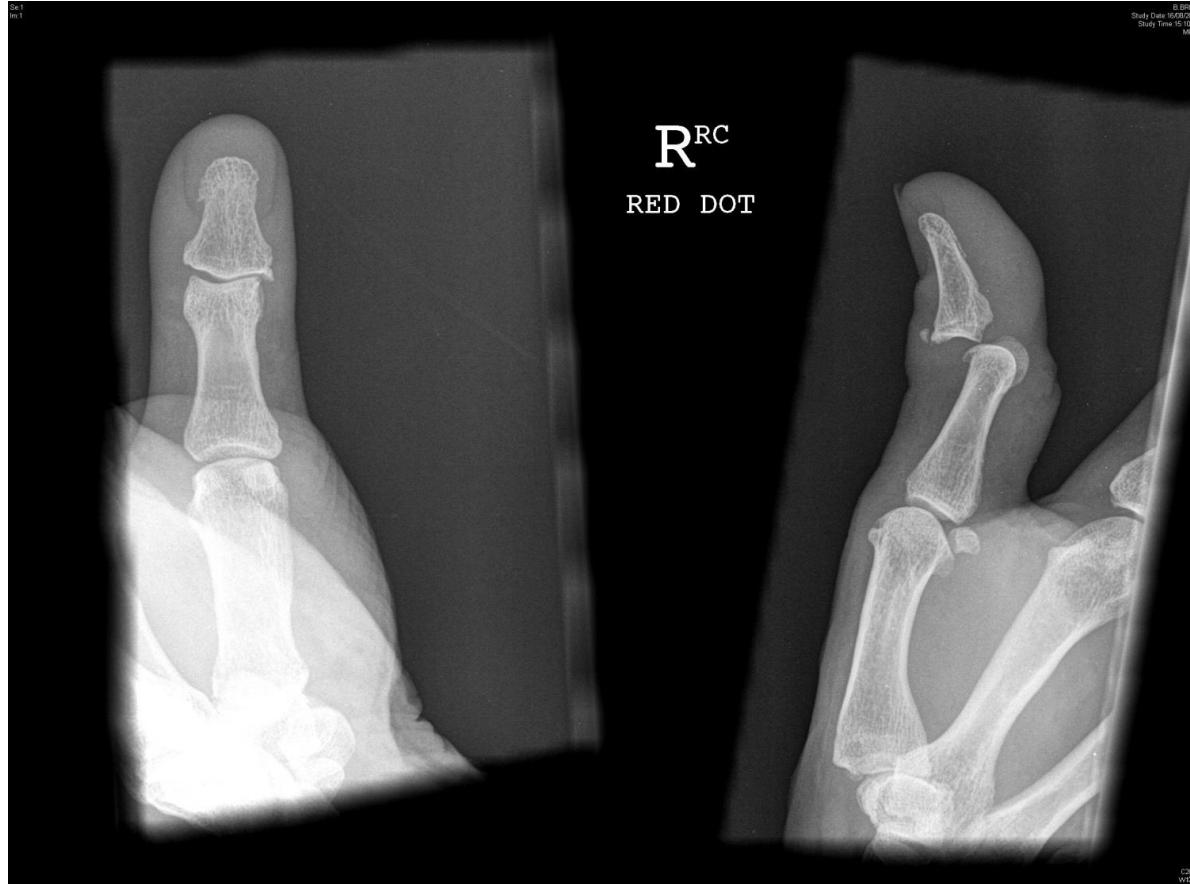
Hand



- Hand
- Always start with a history
- Followed by examination.....
- Look, feel, move (active), NV deficit
- X-ray - 2 views for all
-



Common fractures



- Dislocations

Don't forget ALWAYS 2 VIEWS..

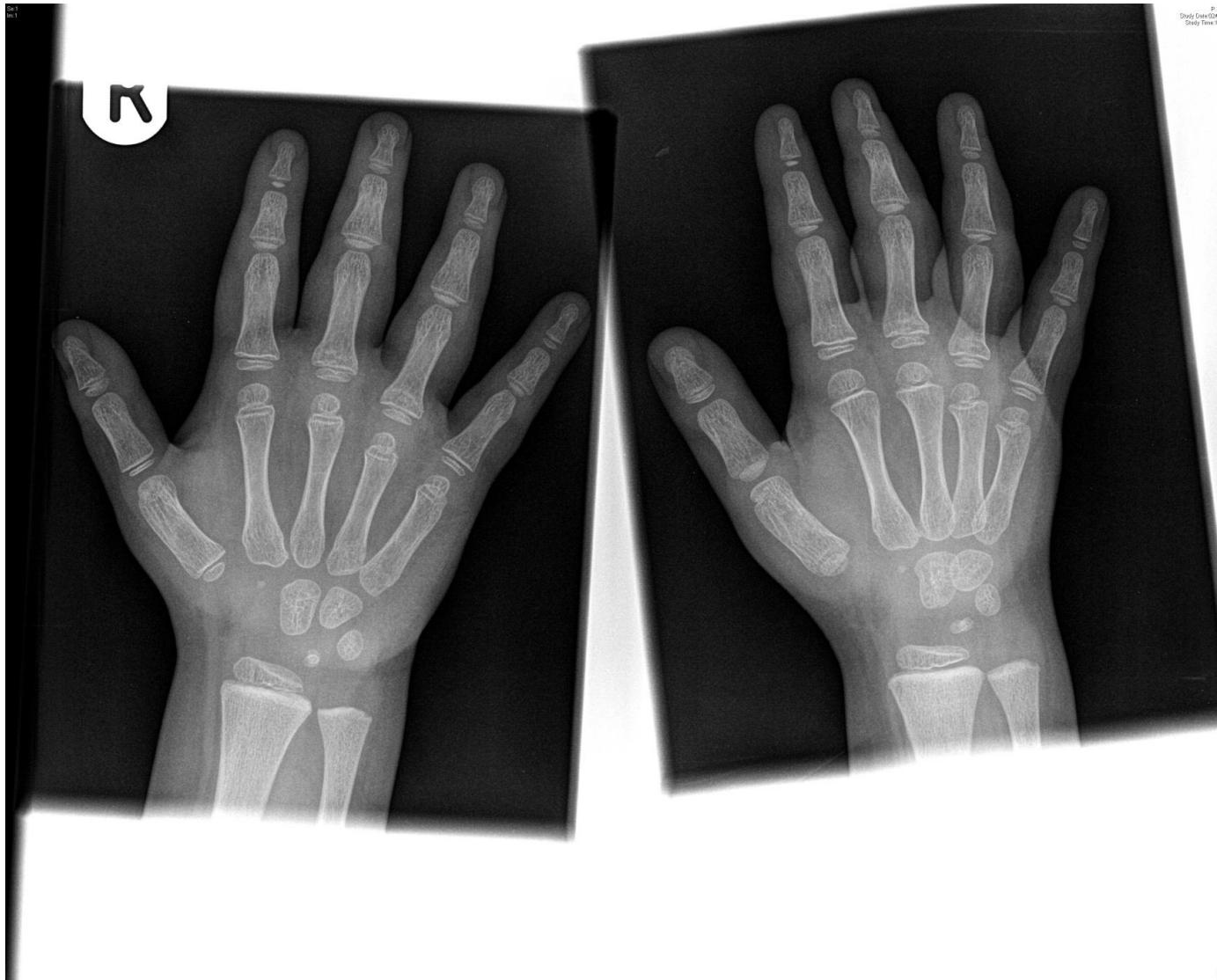


Don't forget ALWAYS 2 VIEWS..





Hand crushed in door



R-DR-HL
Study Date:02/02/2020
Study Time:13:44:52
Ref ID:

Painful
middle and
ring fingers



- Tripped over
- Very swollen
prox 5th MC



35 year old
slipped FOOSH

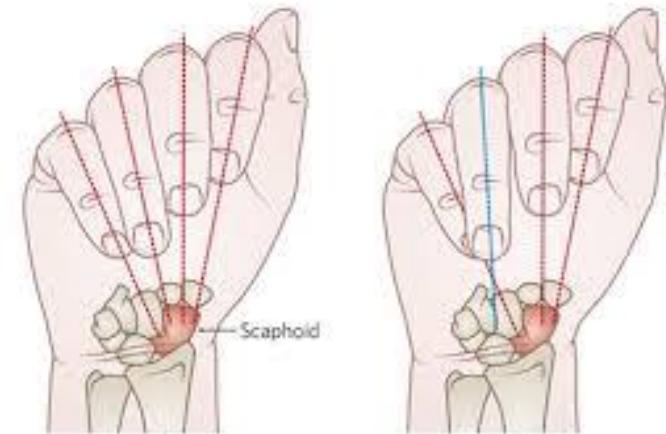
Boxer's fracture



transverse # of the metacarpal neck

Mx:

- If undisplaced – immobilise
- If scissoring or rotation – refer for ORIF



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Phalangeal dislocation

- Posterior dislocation of the thumb

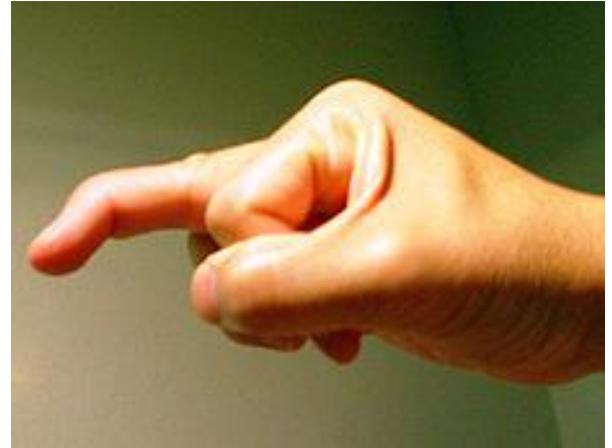


Mx:

- X-ray before reduction to look for #.
- Reduce under digital nerve block.
- Confirm reduction.
- Buddy strap and H.A.S.
- # clinic f/u

Mallet finger

- Mx:
 - If no #, use a mallet splint for 6 wks, and arrange f/u (usually ED)
 - Refer larger bony fragments (>1/3rd articular surface) for k-wire internal fixation.



Distal phalangeal fractures

-
- Mx:
 - If closed - elevation
 - If compound – explore under digital block, wound toilet, consider Abx and tetnus.
 - Arrange f/u



Any
Questions





Summary

- Wrist / Hand fractures check for subtle anomalies check the patient be aware of soft tissue damage.
- Relate mechanism to possible fracture pattern
- If clinically suspicious treat as # and re image according to local policy
- Escalate early