ED Orthopedic Assessment: Pearls and Pitfalls

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This session will be recorded

- We are recording this Zoom session so that it can be watched again at your convenience, and so that we can share it with your colleagues who were not able to join us today.
- If you would prefer that this recording **not** be shared with your EM colleagues, please email amcknight@ghem.ca within 24 hours of the session.
- We will share the presentation slides and other materials (journal articles, etc.) by email; you will have access to all materials regardless of whether the recording is shared.

Global Health Emergency Medicine

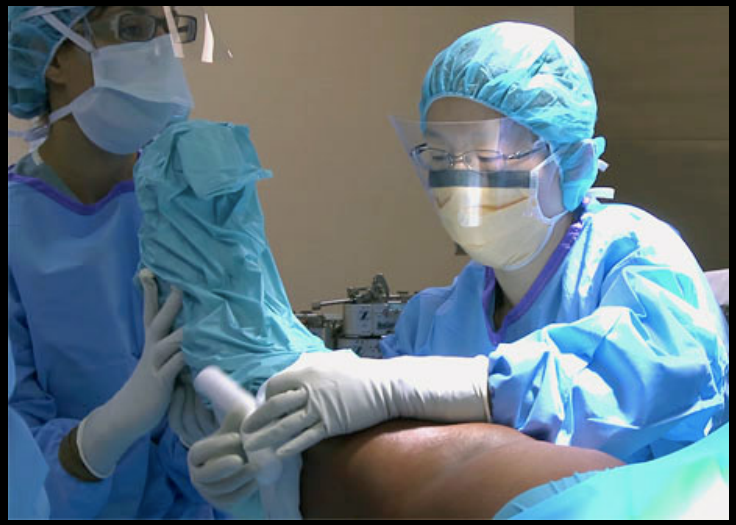
Please also note:

- The information in this presentation and the video recording is up to date as of the date it was recorded June 25, 2020
- It has not been updated to include any subsequent advances in practice, and the information presented in this video does not replace hospital, health centre, or governmental guidelines.

Global Health Emergency Medicine

25 years

15 years



5 years

TAAAC-EM Ortho Talks

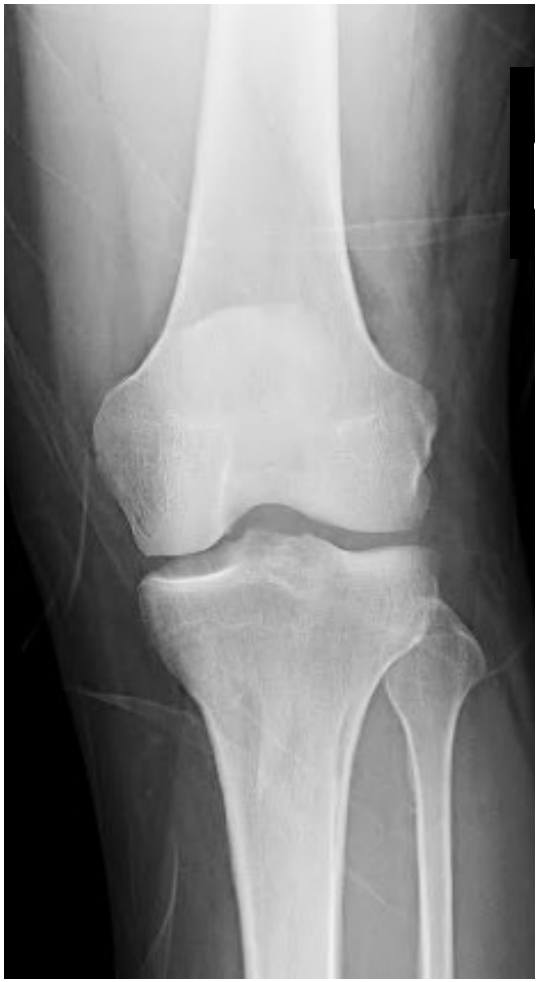
Upper Extremity Injuries

ED Ortho Assessment: Pearls

Lower Extremity Injuries

Pediatric Injuries

ED Decisions



Diagnosis

Management

Disposition

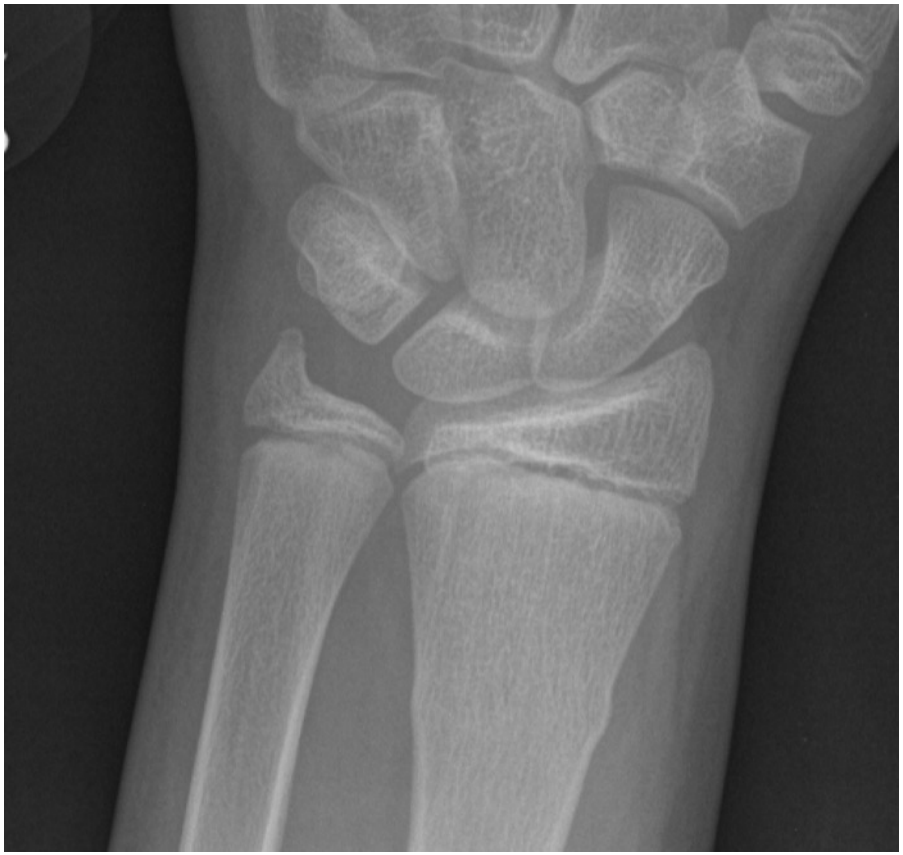
Keys to ED Ortho *Diagnosis*

- History
- Physical
- +/- X-rays

History, History, History

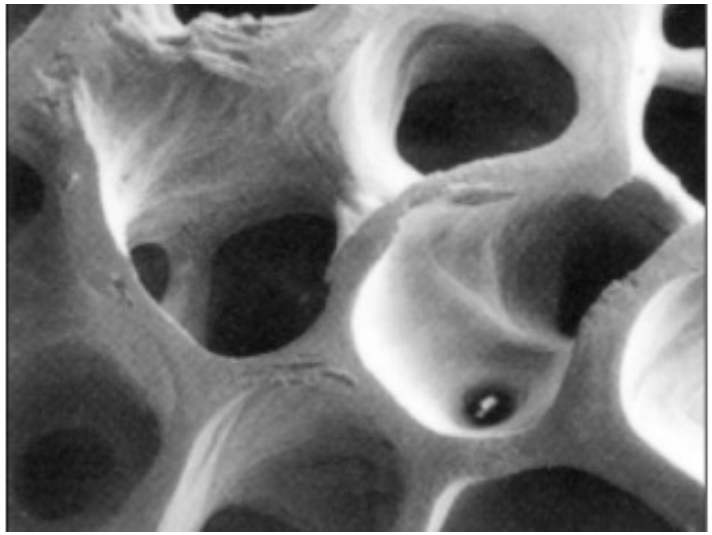
- Mechanical vs. Medical fall

Younger

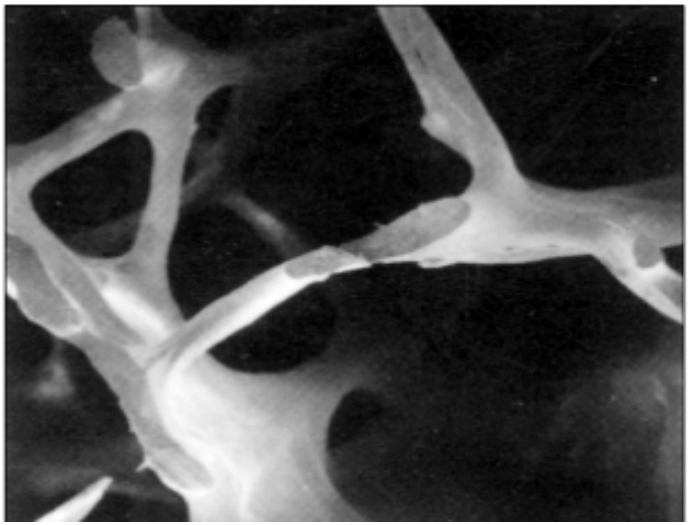


- Growth Plates
- ‘Softer’

Older



Normal



Osteoporotic

From: Osteoporosis.ca

History, History, History

- Trauma
  - Forces involved
  - Mechanism of injury
  - Events after injury

The Patient

- Age
- Past Medical History
- Medications
- Previous Injury
- Vocation / Recreation

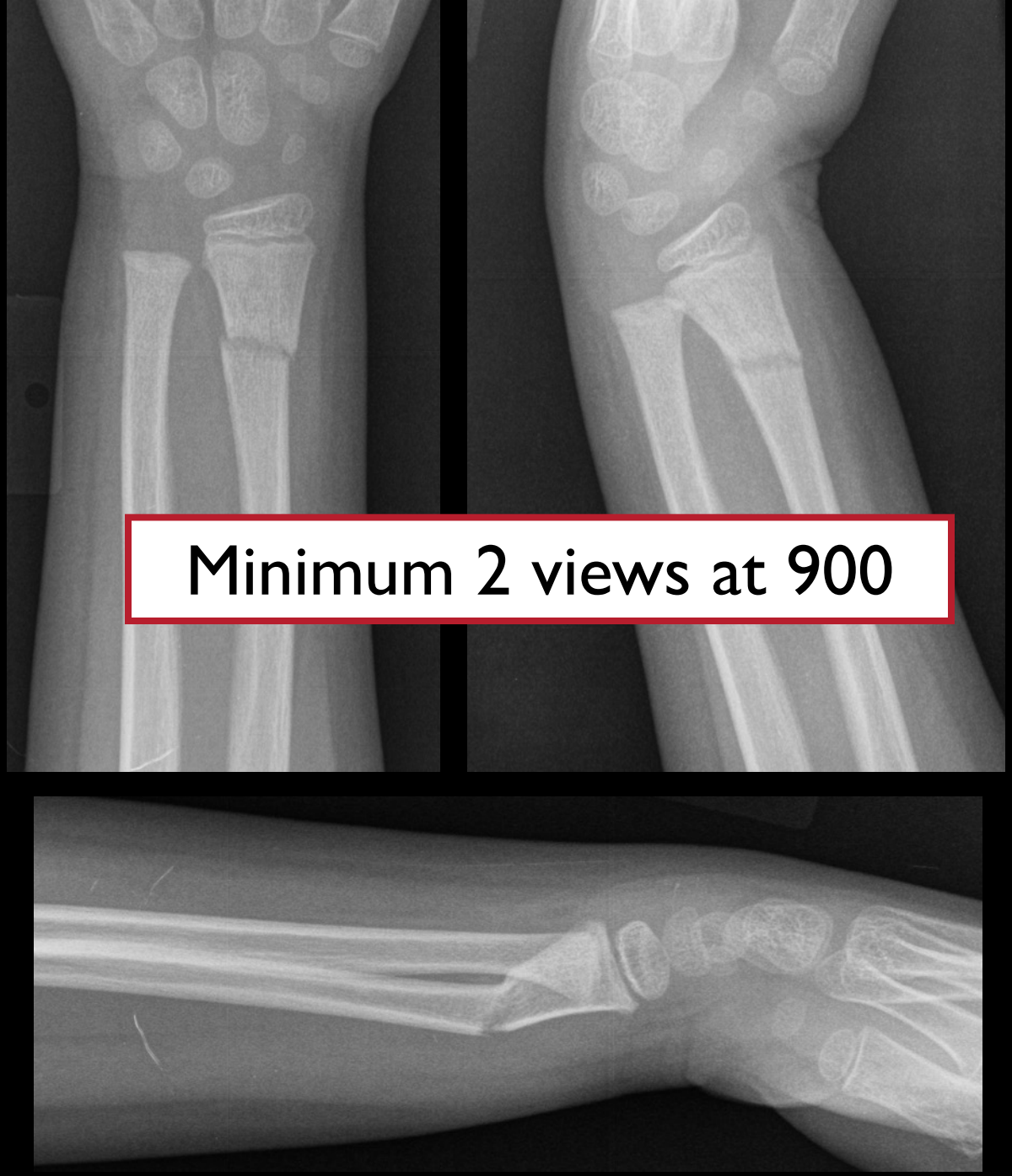
Physical

- ‘Life, Limb, Wound’

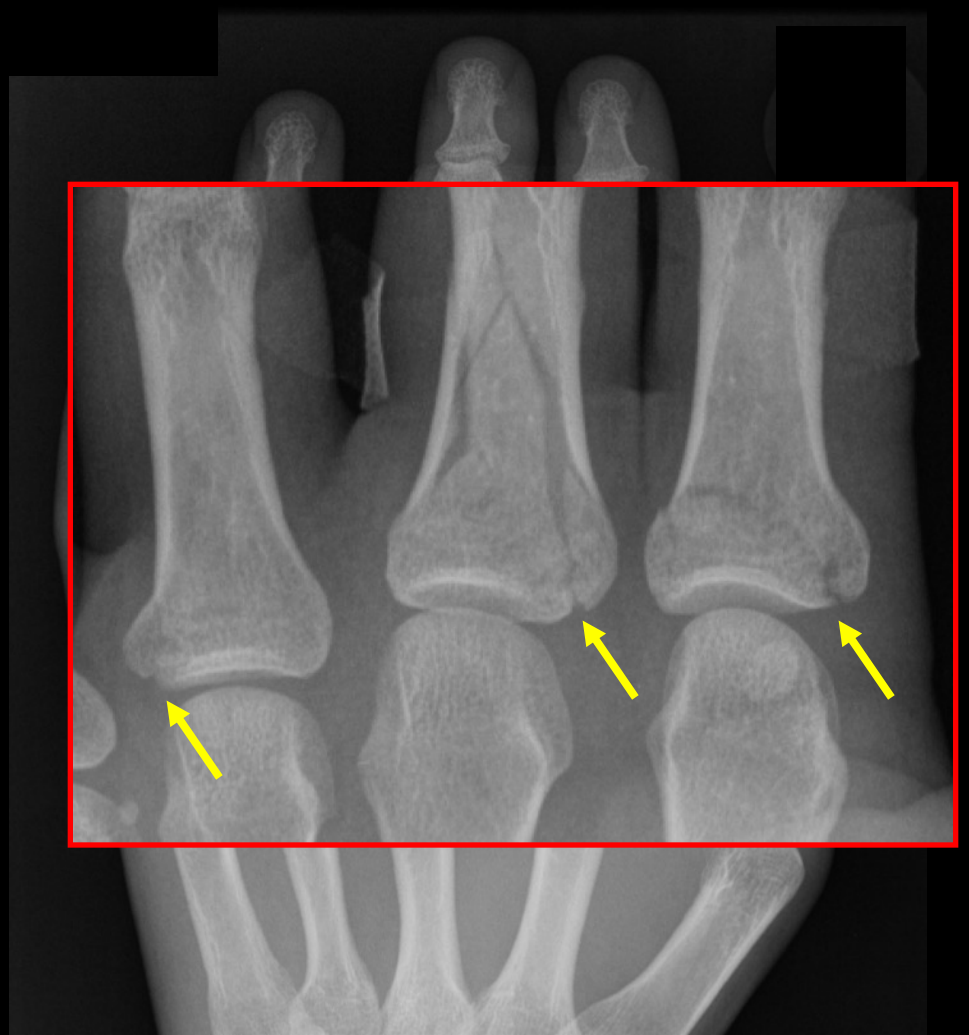
Physical

X-ray

- ‘Look, Feel, Move’


Minimum 2 views at 900

On x-ray, most commonly missed fracture is …..?



Describing Fractures

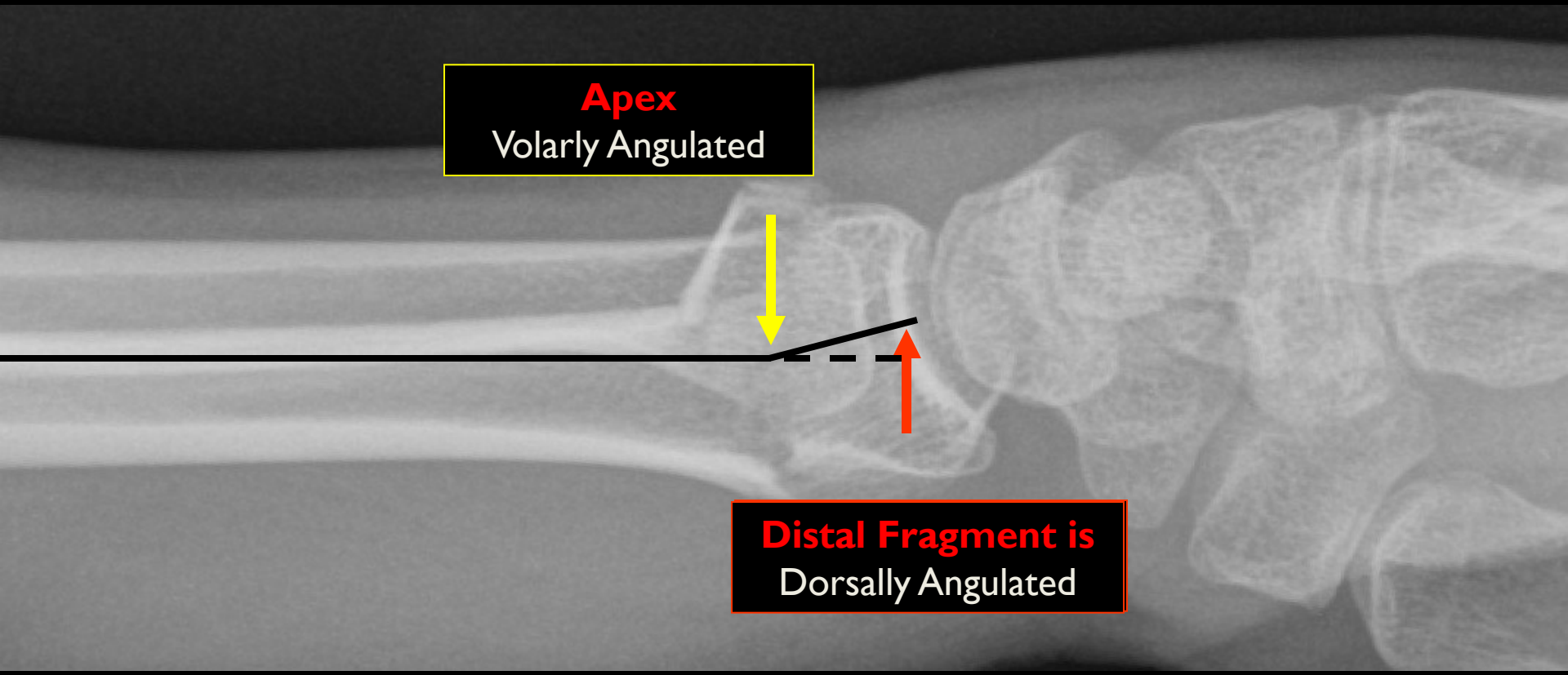
- Open or closed
- Neurovascular deficits

Describing Fractures

- Location / anatomic landmark
- Pattern
  - buckle, transverse, oblique/spiral, etc

Describing Fractures

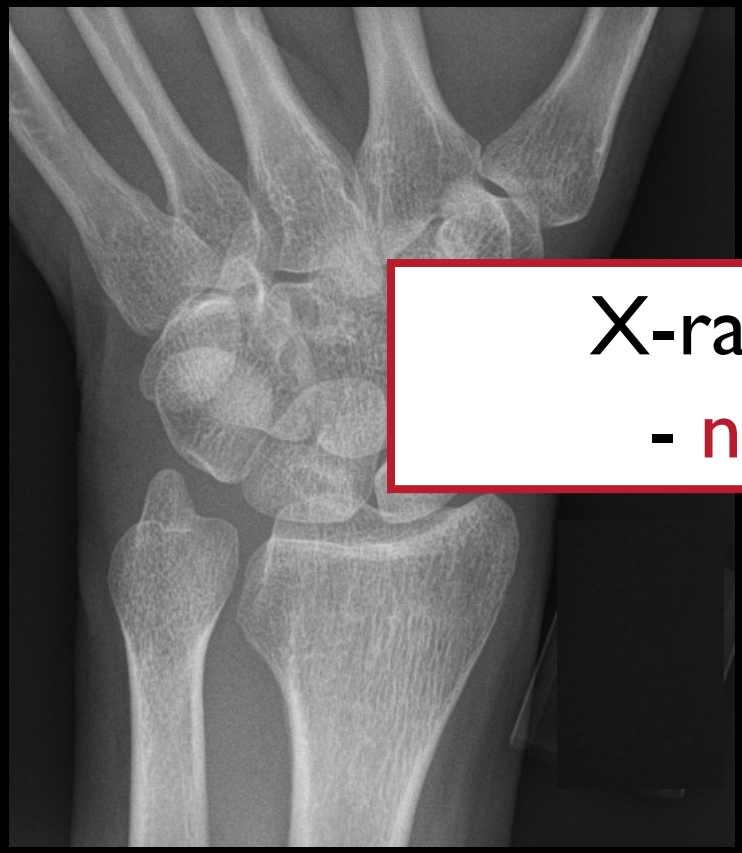
- Displacement
- Angulation


Apex
Volarly Angulated
Distal Fragment is
Dorsally Angulated

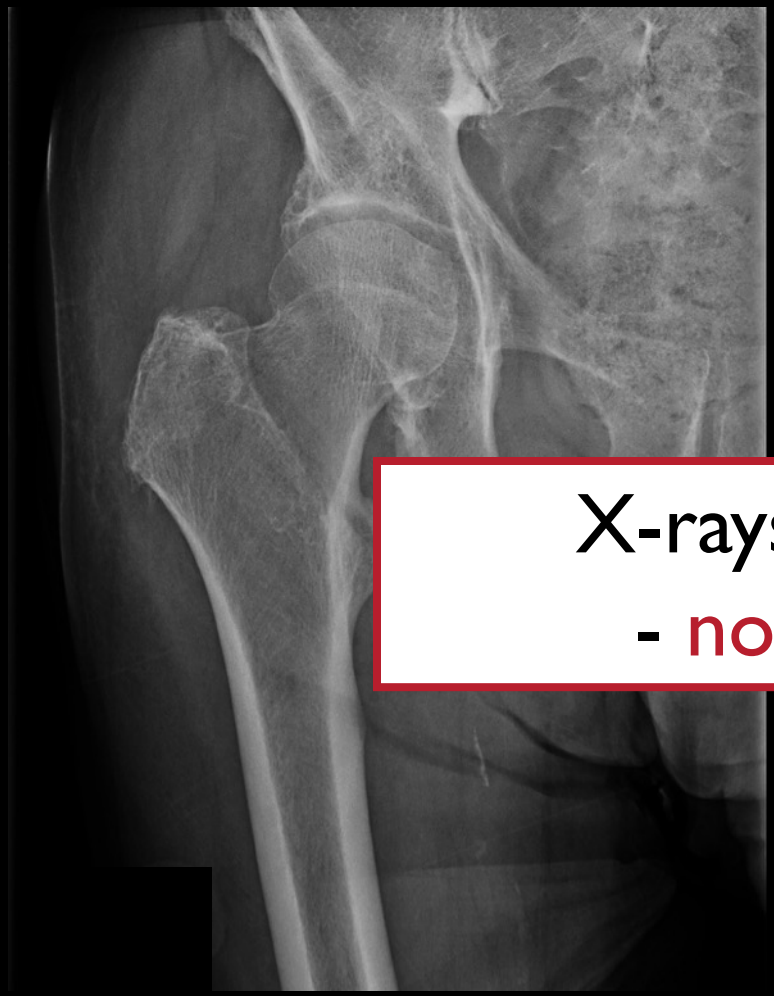
An avulsion fracture is a significant soft tissue injury

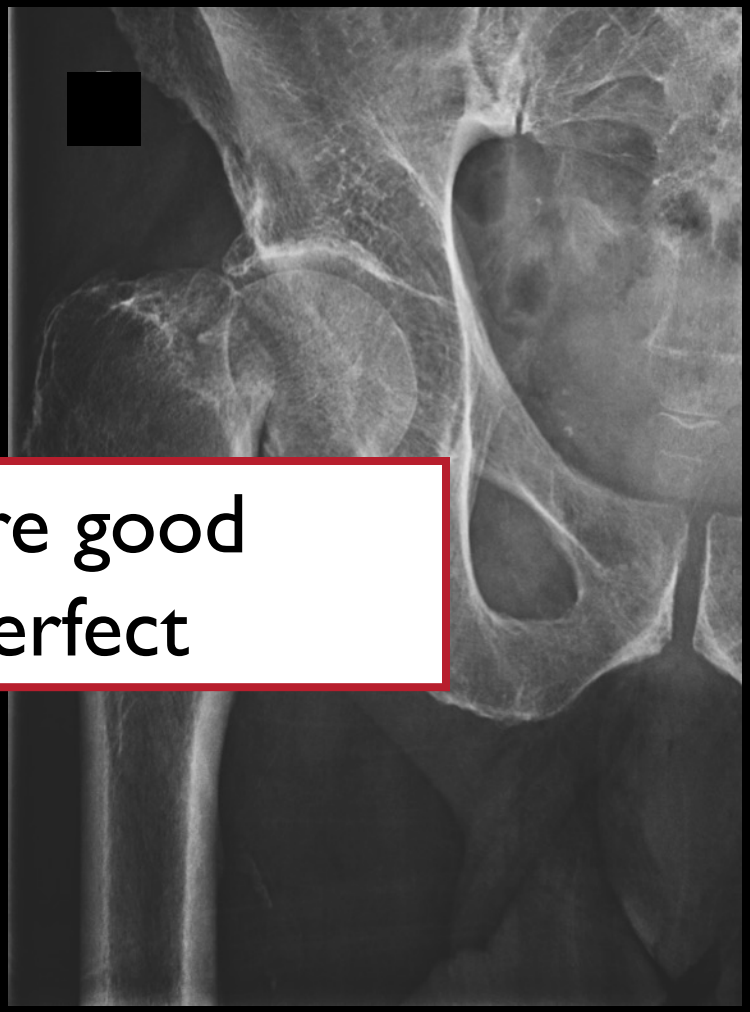
68F Wrist pain after FOOSH
Tender Distal Radius

4 weeks



X-rays are good
- not perfect





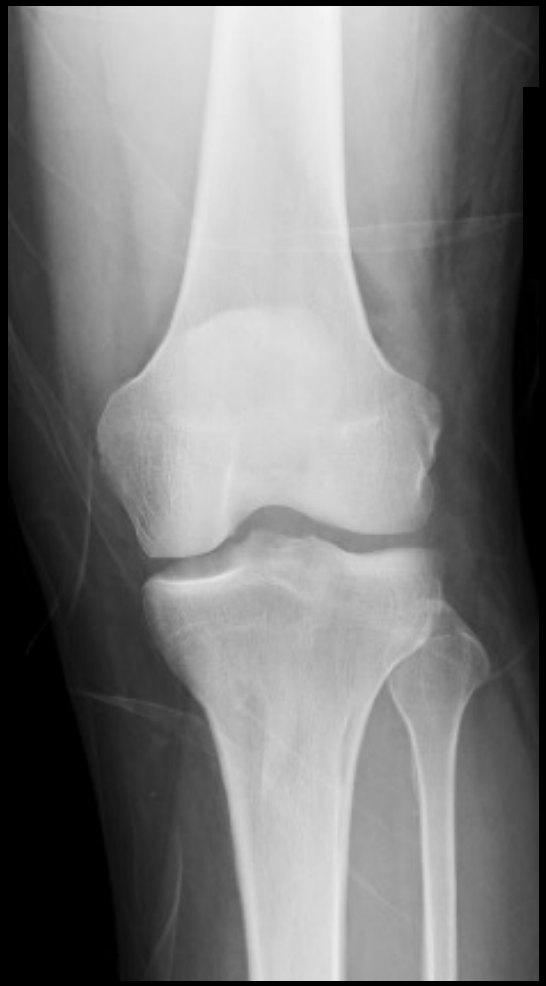
X-rays are good
- not perfect

Day 10

70M – slips off ladder – XR done 1st

Beware of seeing the
x-ray before
seeing the patient

CASTED
Emergency



SCAReD OF

Septic

*C*ompartment Syndrome

*A*buse

Referred pain / **Re**port is false

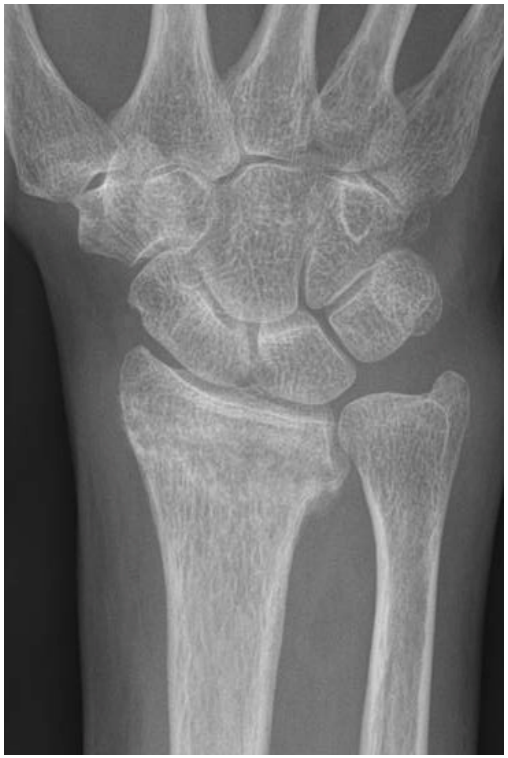
*D*islocation / Subluxation

*O*perative Soft Tissue Injury

Fracture - occult

‘Checklist’
Fracture Severity

‘Good’



Vs.

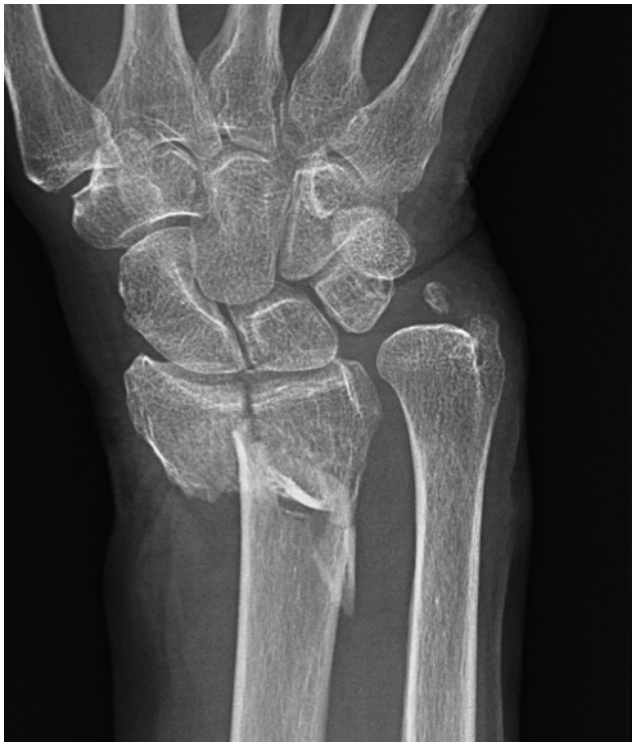
Comminuted

Joint Involved

Shifted

Spiral/Oblique

‘Bad’



‘Obtain and Maintain’

‘Obtain’ = Position

Is the position acceptable?

‘Obtain and Maintain’

‘Maintain’ = Stability

Will the fracture shift?

ED Fracture Immobiliz'n

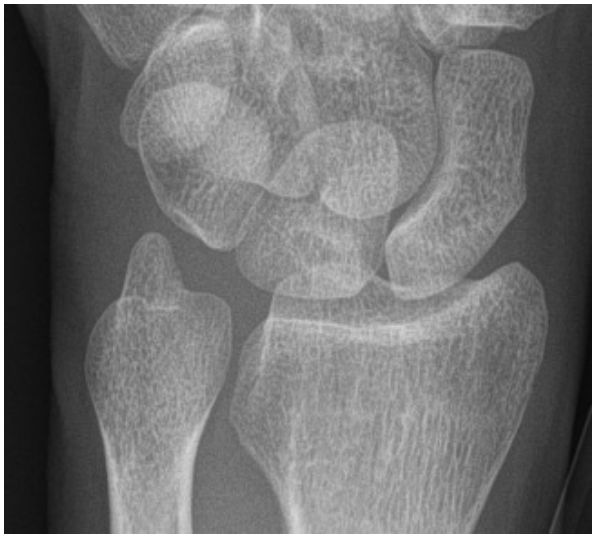
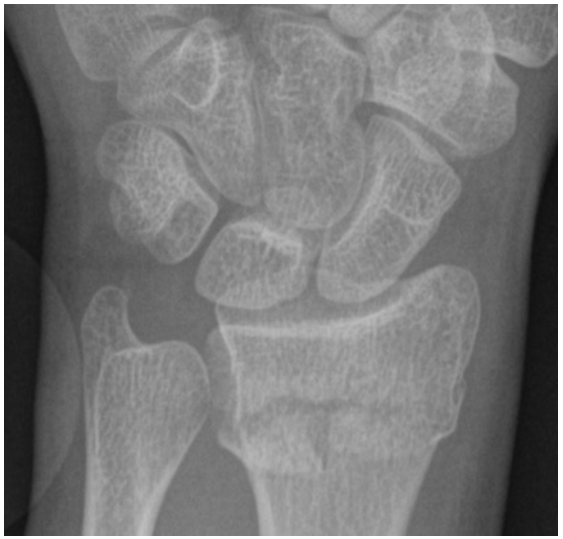
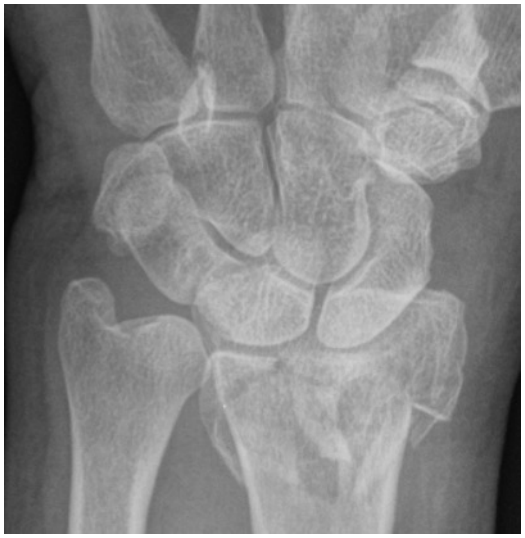
Plaster or
Fiberglass

Fixed or
Removable

Splint or
Cast

Nothing

‘Personality’ of the Fracture

‘Personality’ of the Patient

ED Fracture Immobilization

Stable — Comfort + Protection

Unstable

Mildly — (Reduce) **Mold** + Close F/U

(**Plaster** both sides of #)

Grossly — (Reduce) Splint + Surgery

Approach to ED Orthopedics

- Emergency
- Urgency
- Needs follow-up

Emergency
(call at 2am)

- 'High-energy' pelvic # (hemorrhage)
- Vascular compromise
- Compartment syndrome

Emergency
(call at 2am)

- Infections
  - Septic joints (systemically ill)
  - Necrotizing fasciitis
  - Significant open fractures
- Displaced fracture with neuro deficit
- Particular fractures/dislocations

Urgency

(hold/inform)

- Septic joints (systemically well)
- Minor open fractures
- Operative fractures

Follow-up with Ortho

- ‘Obtain and Maintain’

Summary

- History – Injury details
- Physical – Point of maximal tenderness
- Tests – X-rays are good - not perfect
- Manage – 'Obtain and Maintain'
  - 'Personality of Fracture & Patient

Thank you!!!


CHARLOTTE & LEWIS STEINBERG
EMERGENCY
paramedics
EMS
paramedics
EMS