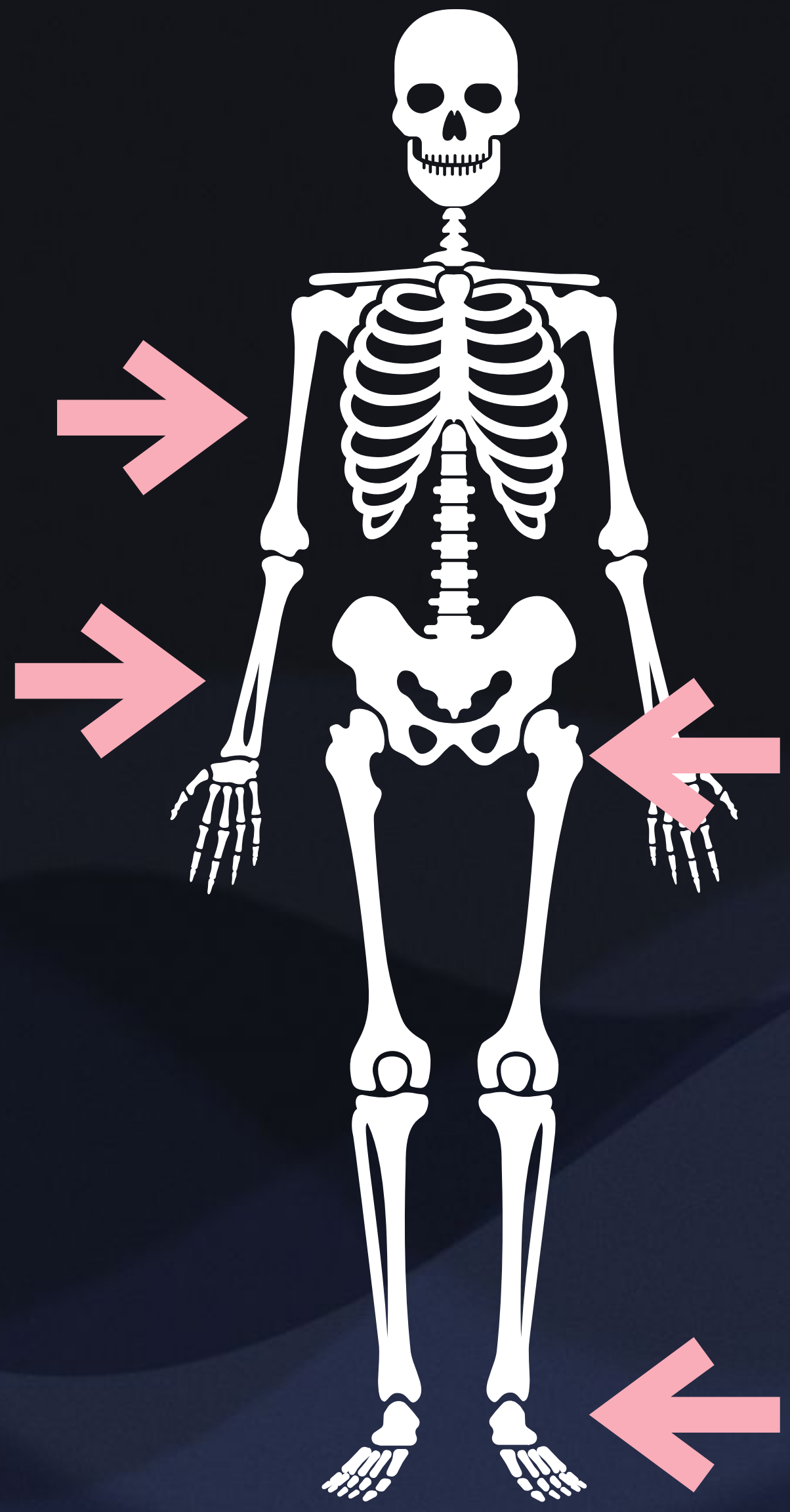
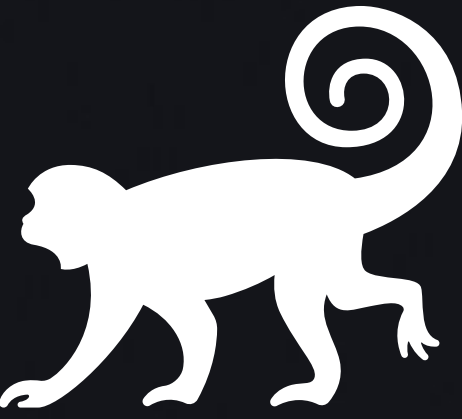


Imaging Interpretation - Trauma & Orthopaedics

To cover today



1748 2671

General Approach

- Confirm details - patient + XR
- ABCS
- Background knowledge + clinical picture

Confirm details

Always begin by **checking the details** discussed below.

Patient details

Confirm the patient's details:

- Full name
- Date of birth (DOB)
- Unique identifier (e.g. hospital number)

Film details

Confirm the details of the radiograph:

- Date and time the film was taken
- The area of the body scanned
- Adequacy of the film:
 - Views: it is good practice have a minimum of 2 projections, this is because many fractures are not visible on a single view ('a single view is no view')
 - Ideally the joint above and below should both be imaged
 - Rotation
 - Penetration

Previous imaging

Previous images provide a baseline for comparison.

- **A**lignment and joint space
- **B**one texture
- **C**ortices
- **S**oft tissues

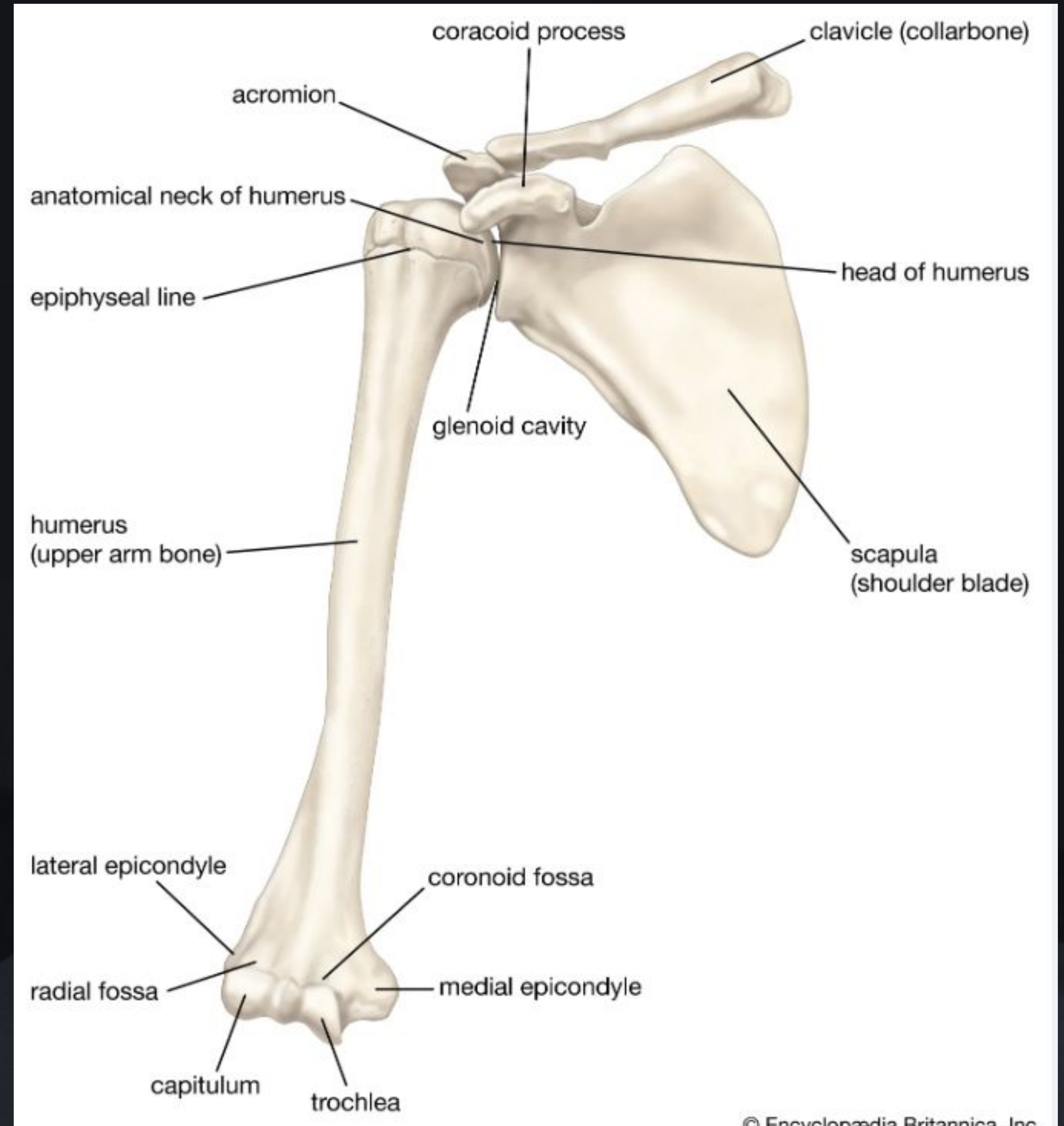
Upper Limb I

- Shoulder dislocation

- Humerus #

- Forearm #

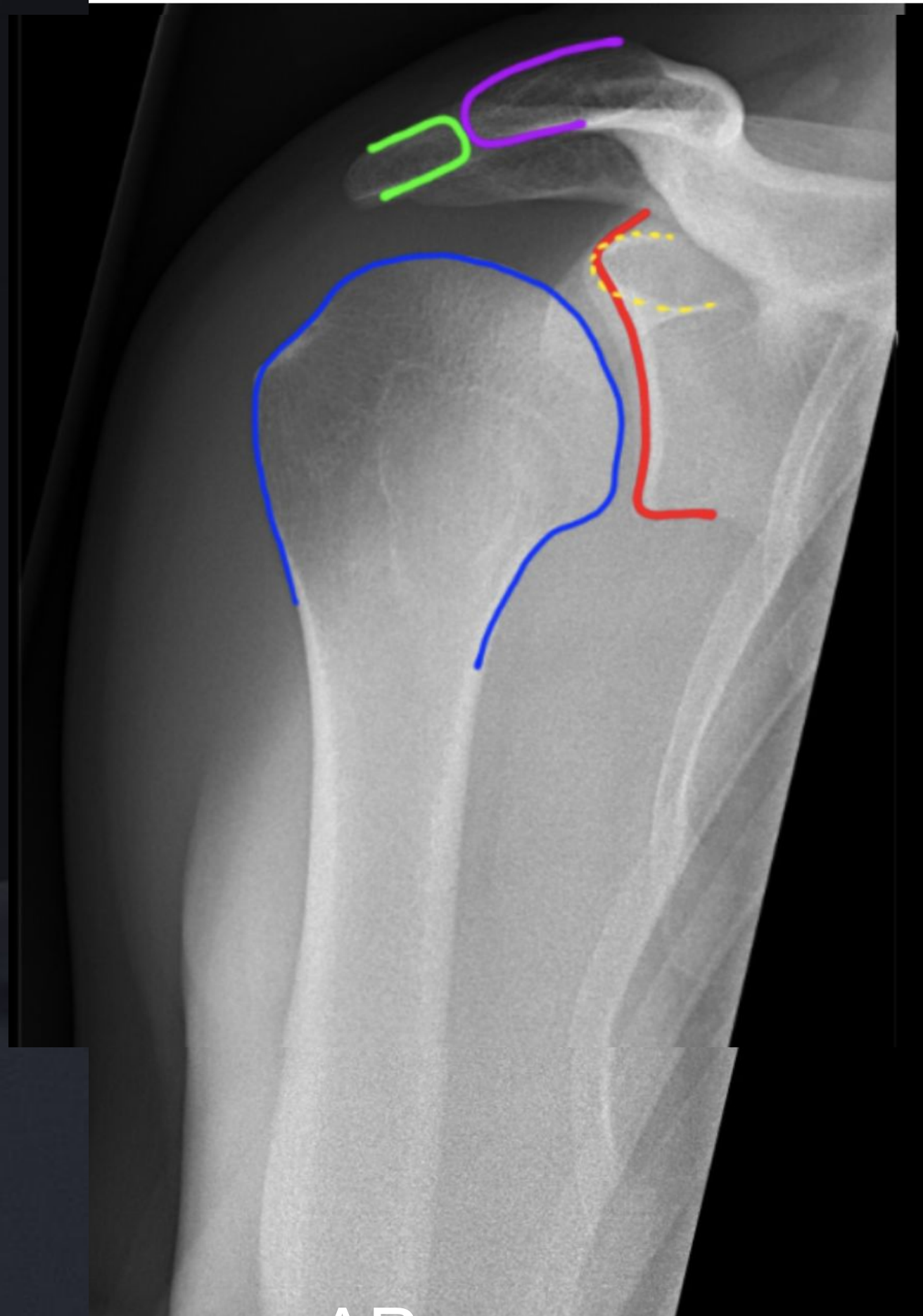
- Wrist #



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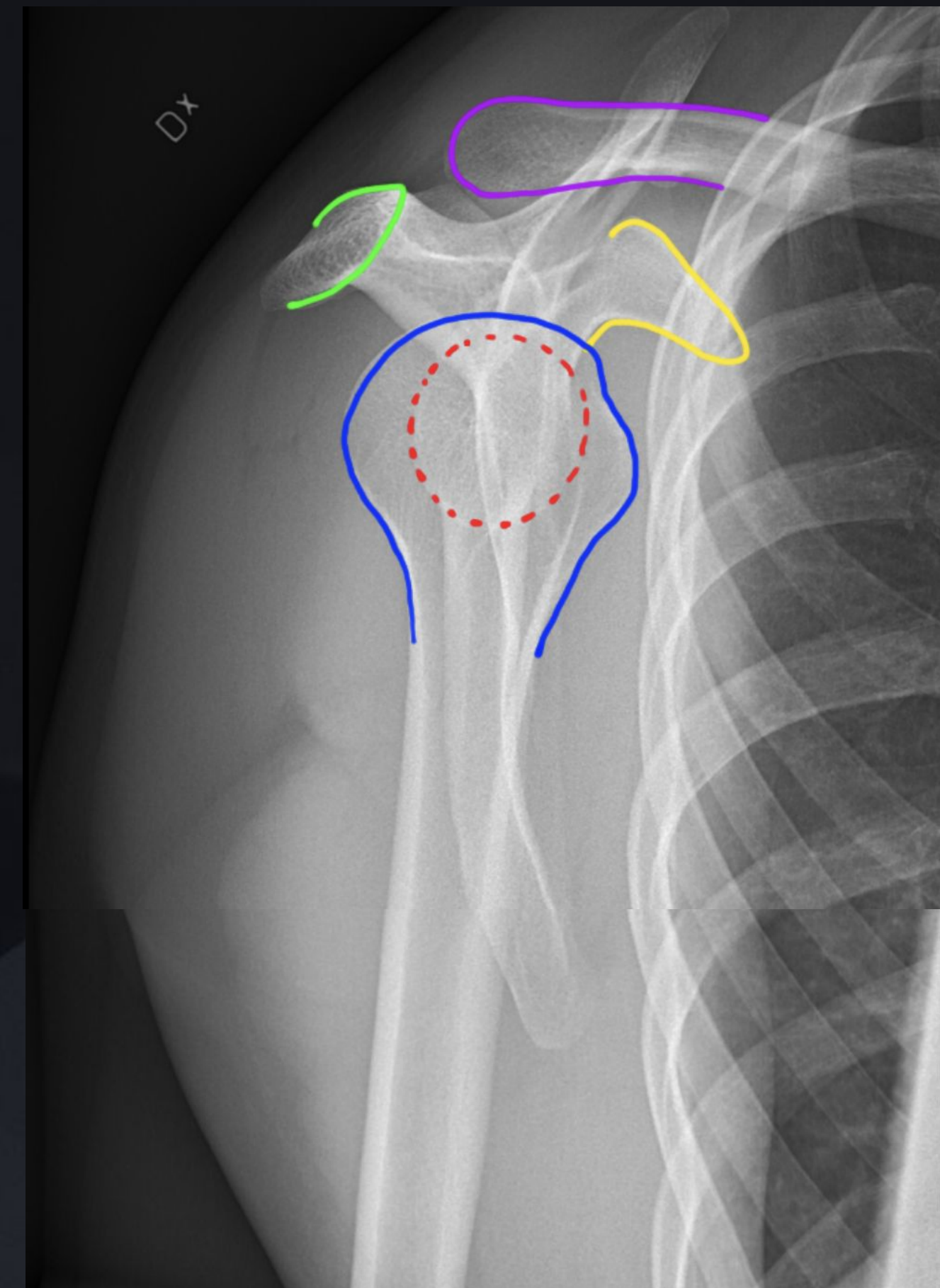
Upper Limb I

Shoulder



AP
View

- Humeral head
- Glenoid fossa
- Acromial process
- Distal clavicle
- Coracoid process



Lateral/Scapula Y

- Humeral head
- Glenoid fossa
- Acromial process
- Distal clavicle
- Coracoid process

Upper Limb I

Shoulder

- Anterior - 90%
- Posterior - epilepsy + electric shocks
- Inferior - rare, arm abducted overhead

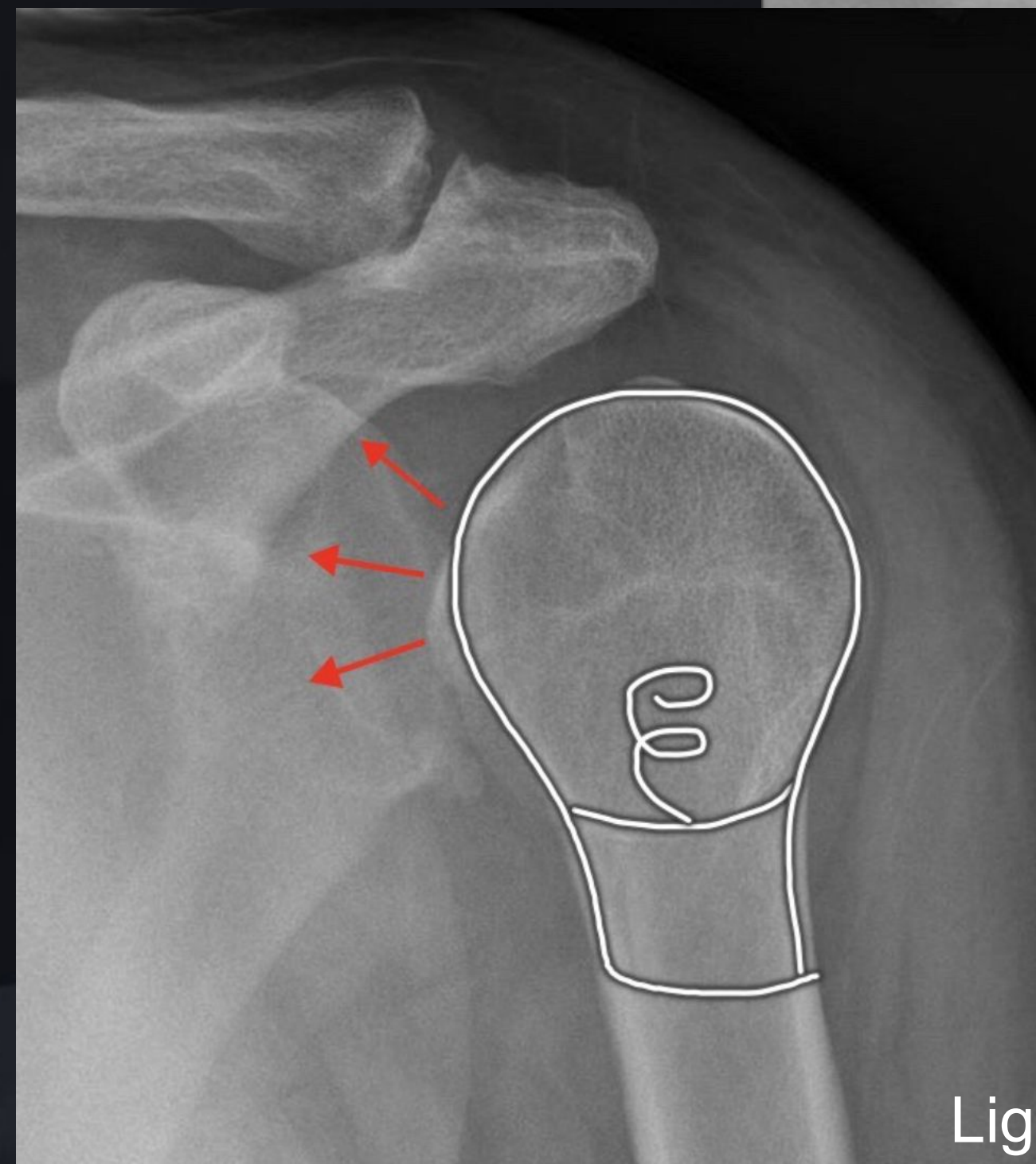




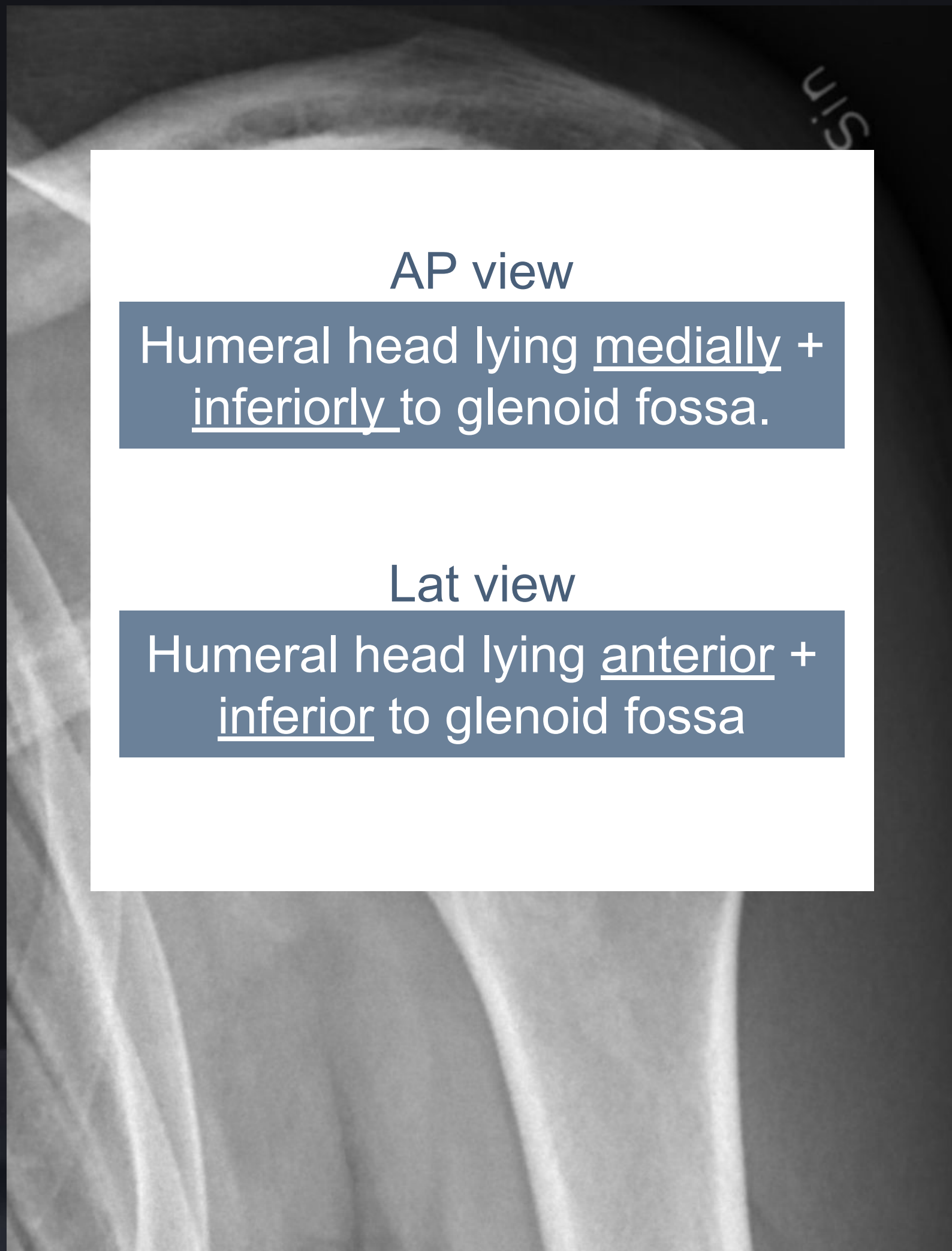
Anterior dislocation



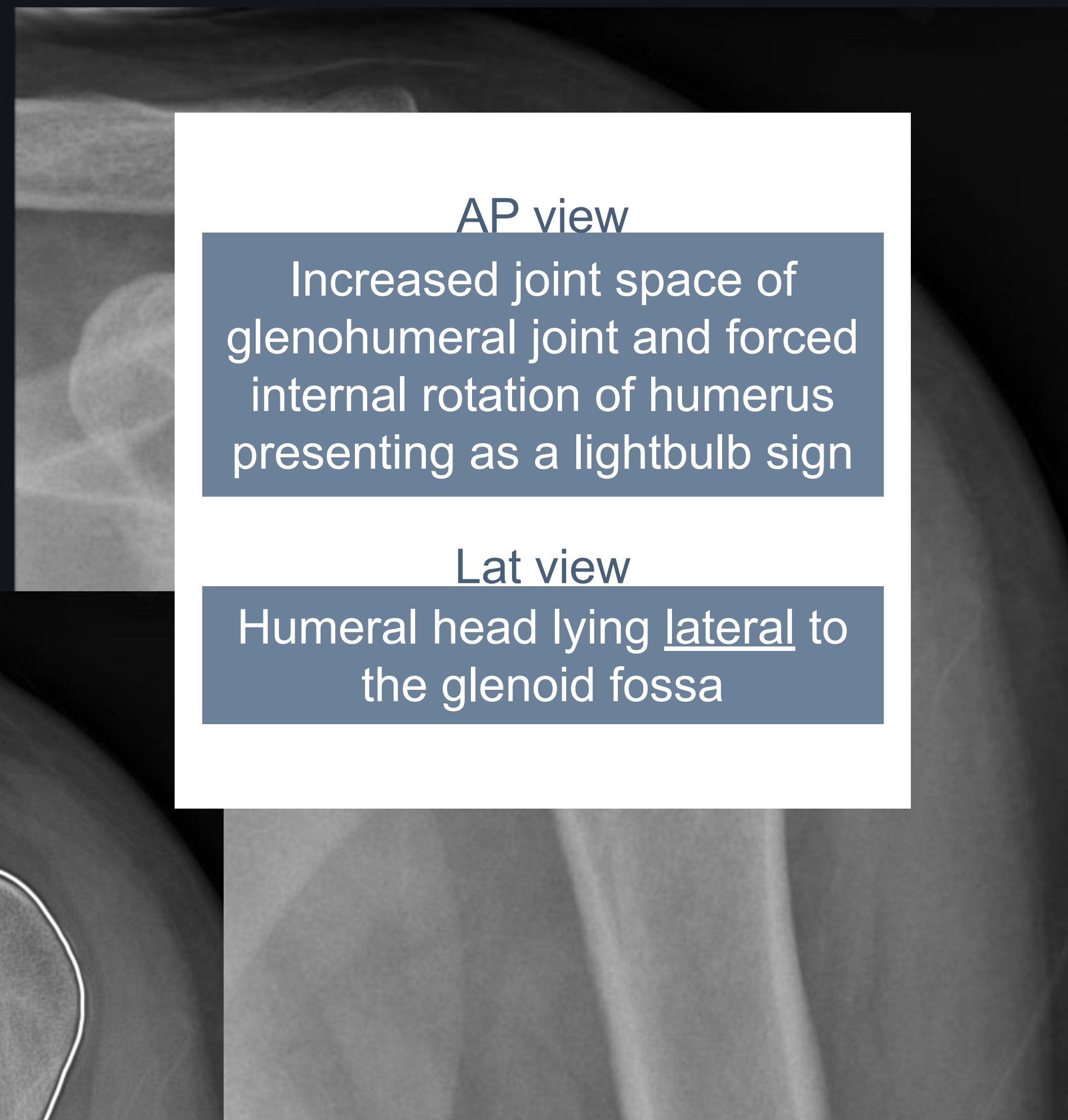
Posterior dislocation



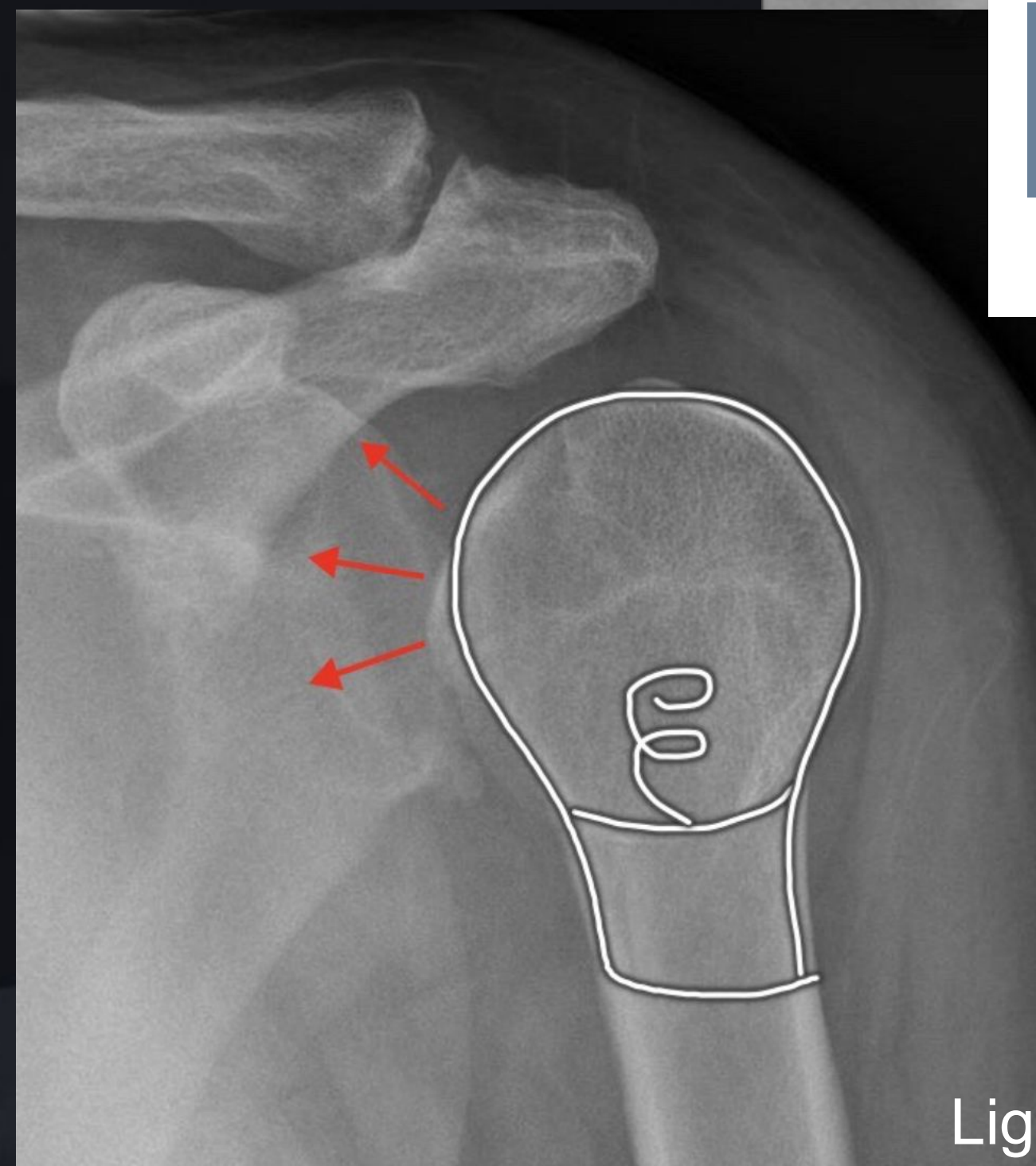
Lightbulb sign (+increased joint space)



Anterior dislocation



Posterior dislocation



Lightbulb sign (+increased joint space)

Management for Shoulder Dislocations

Take a full history + A-E assessment of shoulder joint - *dislocations commonly occur with other injuries*

Analgesia

NV status

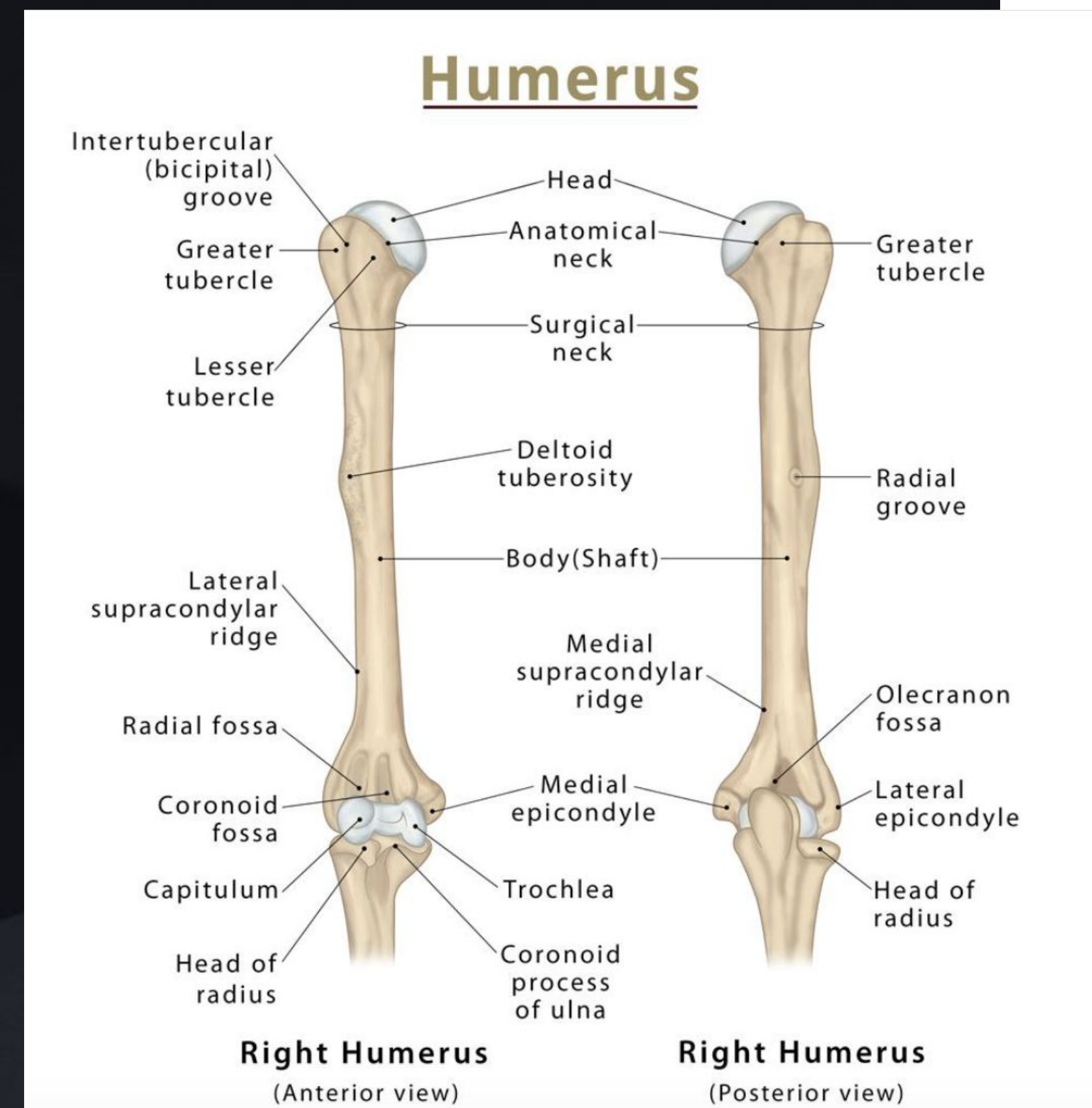
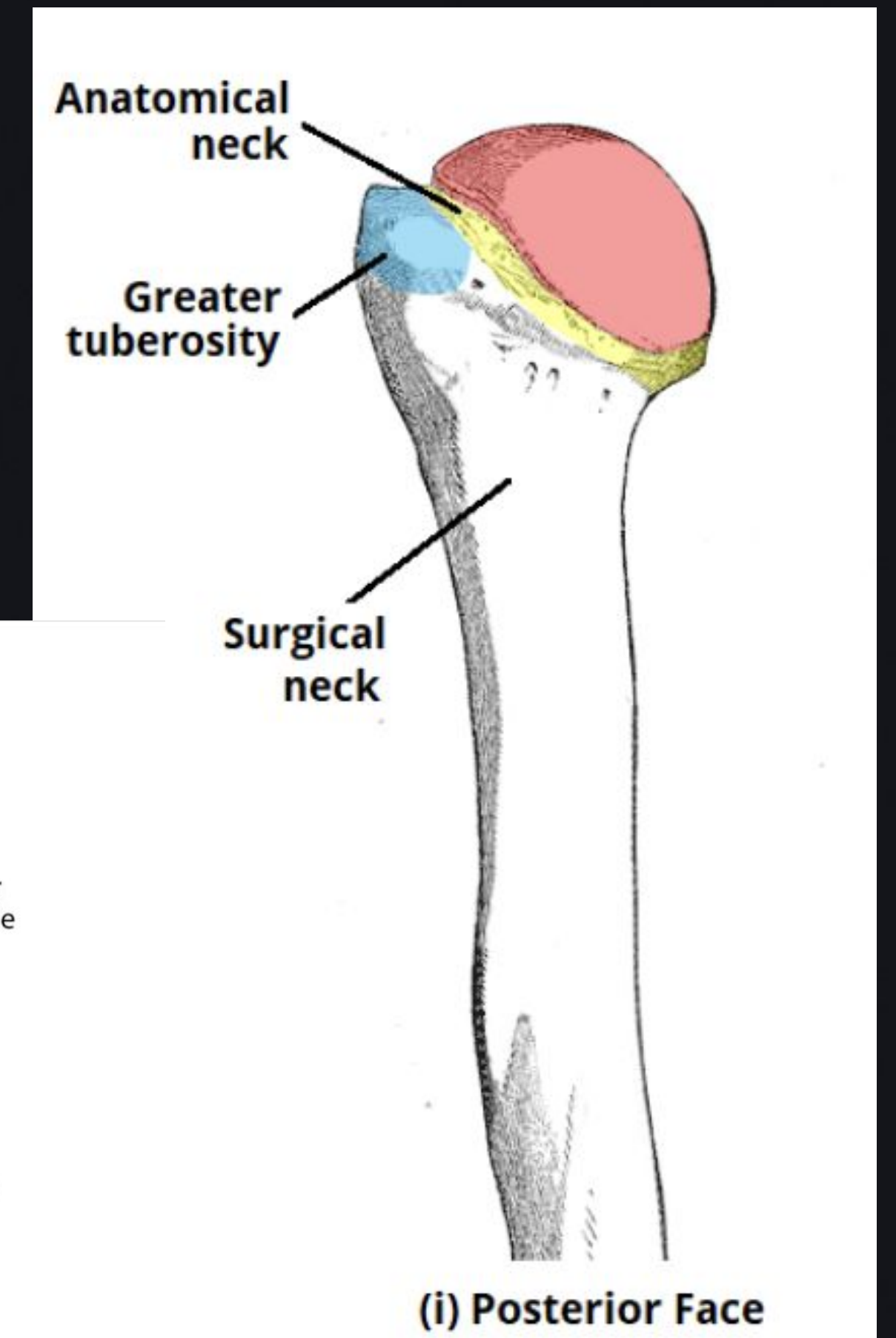
Tx: closed reduction, broad-arm sling + physio - *most are non-op tx.*

“Reduce, Restrict, Rehab”

Upper Limb II

Humerus - Shaft

- 2 Key areas:
 - Prox. Humerus, surgical neck
 - Humeral shaft
- PHS# - MCly elderly osteoporotic, FOOSH
- HS# - Bimodal - younger and elderly



Upper Limb II

Humerus - Shaft

- PHS#:
 - Axillary nerve
 - Circumflex vessels - AVN to humeral head



Upper Limb II

Humerus - Shaft

- Radial nerve injury!



Normal XR



Management for Humerus

Take a full history + A-E assessment of the limb + a joint above and joint below

Analgesia

NV status - **state** which vessel or nerve you are concerned about.

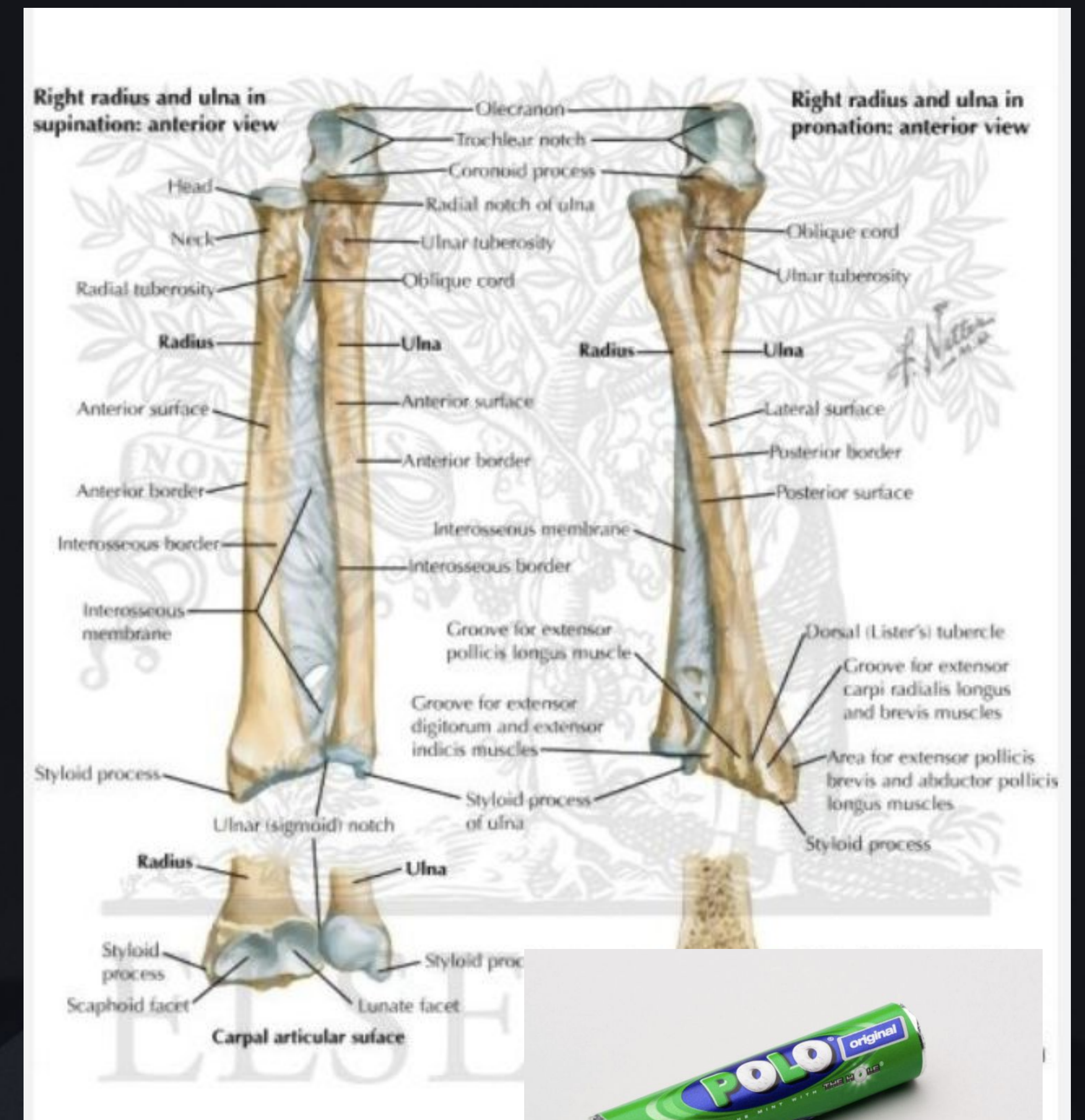
Tx: Most managed conservatively - surgery needed if open, displaced, comminuted, or NV compromise.

Broad-arm sling, collar+cuff, hanging cast, U-slab etc. to immobilise and support.

Upper Limb III

Forearm

- 2 classic - Galeazzi and Monteggia
- Polo ring model
- Dislocations and isolated # also possible - eg. Nightstick #



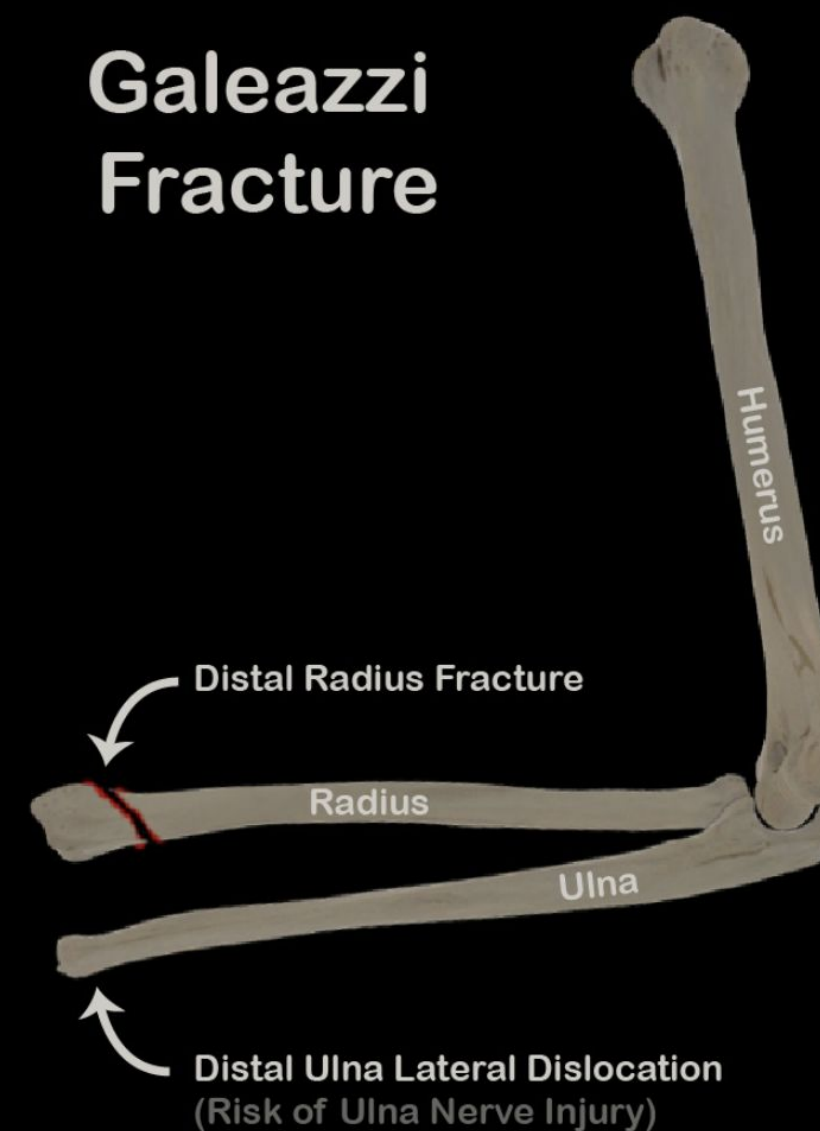
Upper Limb III

Forearm

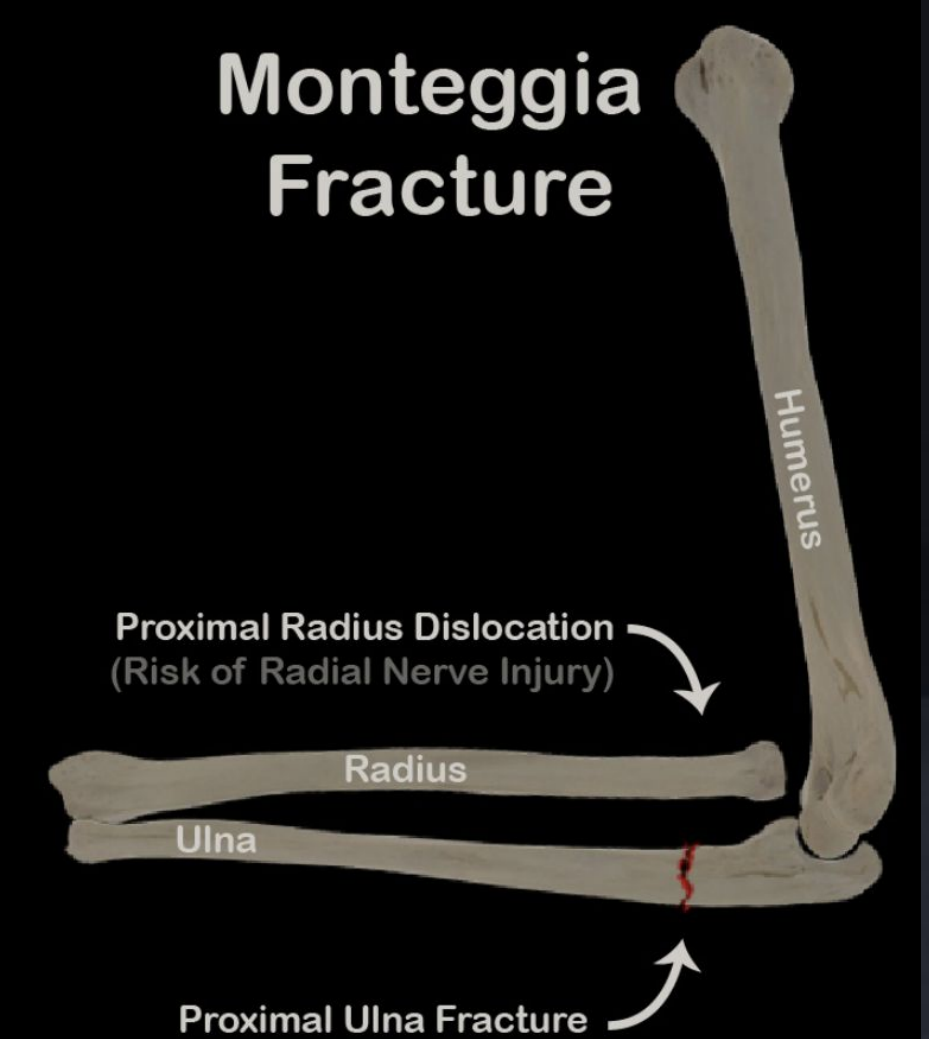
- A forearm # + dislocation combination
- Monteggia + Galeazzi - # is MuGr
- Monteggia + Galeazzi - dislocation is A + Z



Galeazzi Fracture

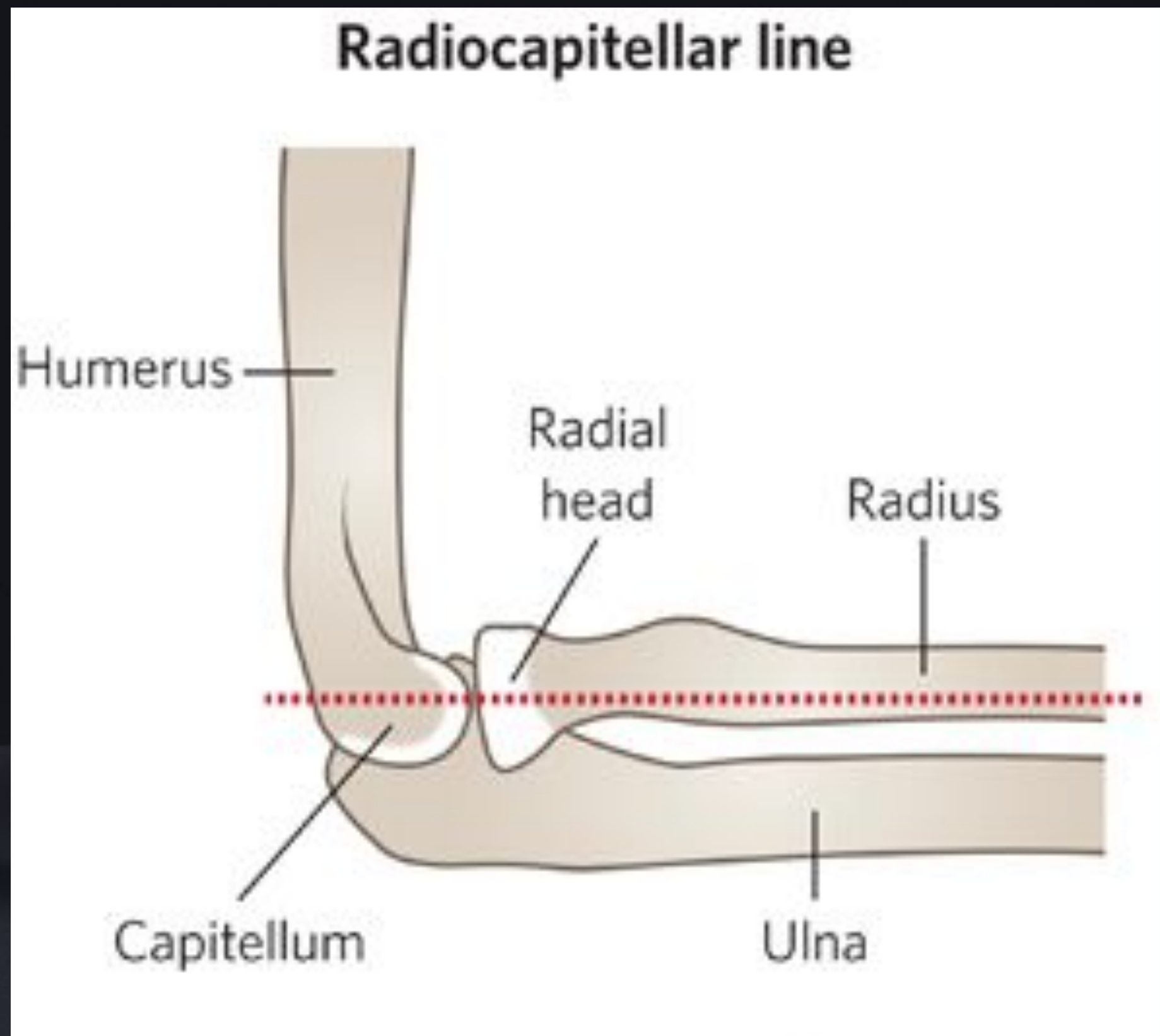


Monteggia Fracture



Upper Limb III

Forearm



Management for Forearm

Take a full history + A-E assessment of the limb + a joint above and joint below

Analgesia

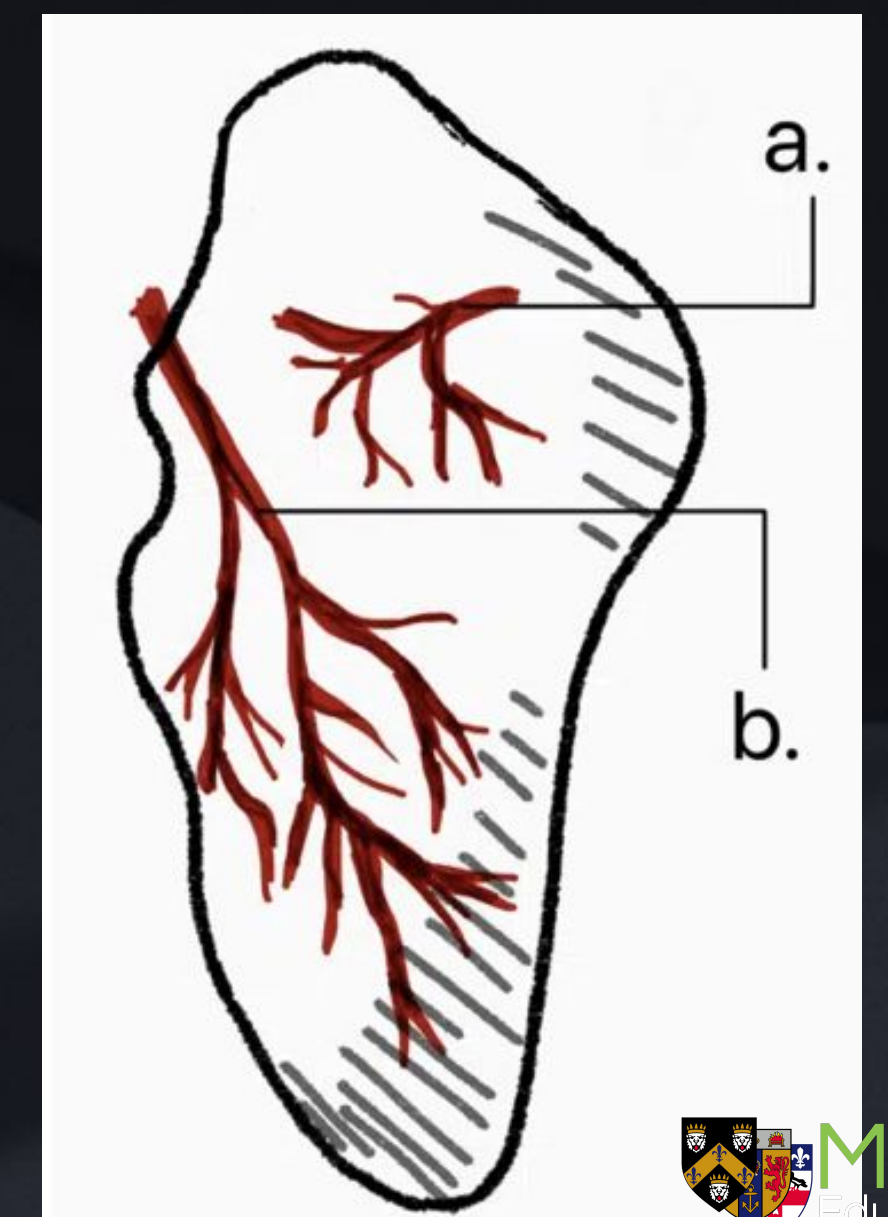
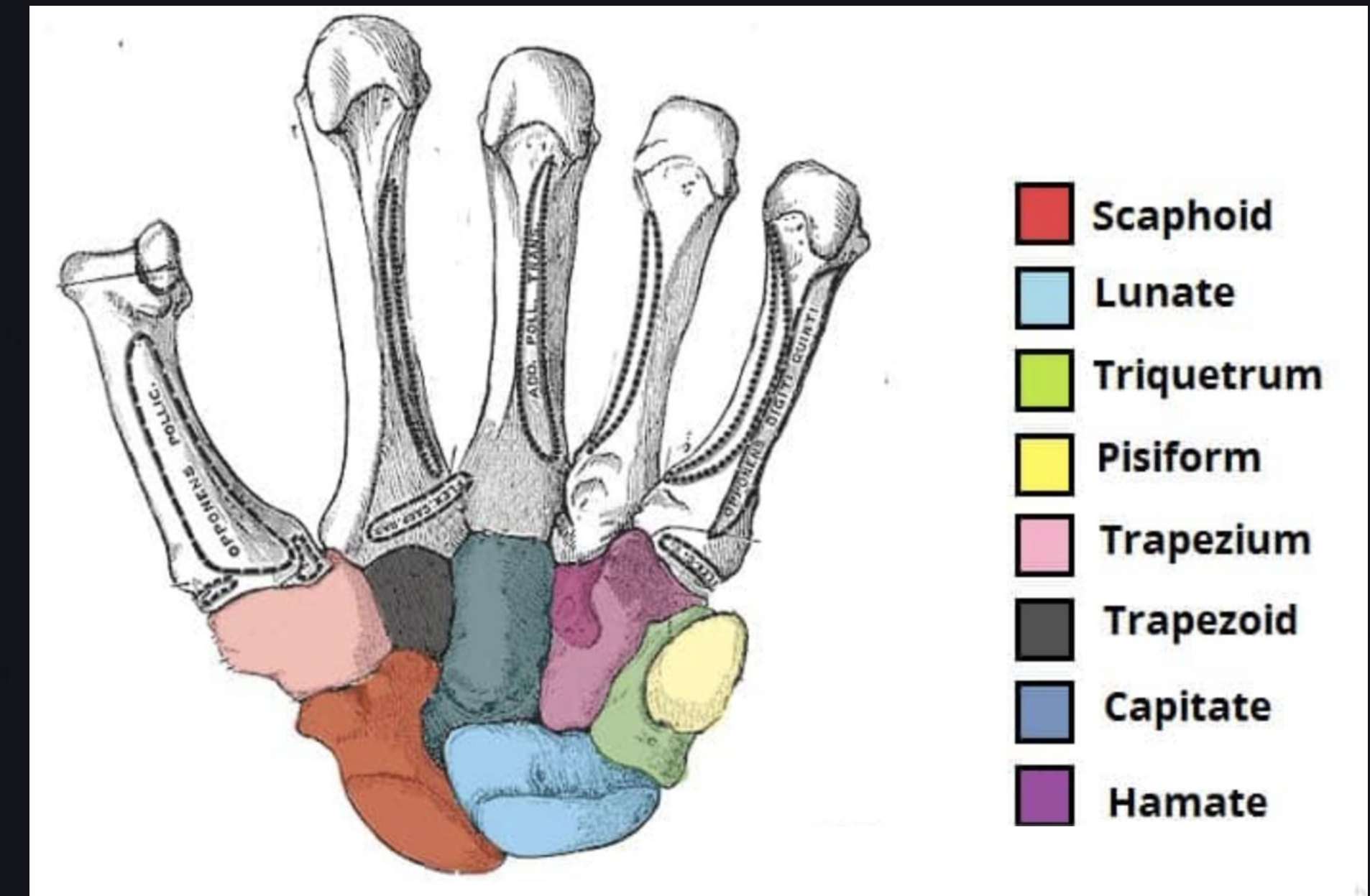
NV status - **state** which vessel or nerve you are concerned about.

Tx: Most need operative fixation - get ortho consult - especially if NV compromise, if open or tented, if comminuted, etc.

Upper Limb IV

Wrist

- Scaphoid # - high energy trauma, men 20-30yo
- Dorsal branch of radial artery
- P/C pain in anatomical snuffbox, pain on palp., pain on teelscoping of thumb
- XRs - “Scaphoid series” - AP, Lat, Oblique



Upper Limb IV

Wrist



Upper Limb IV

Wrist

- Not always detected on first XR! Always splint and repeat XR in 10-14d
- If still -ve + sx, get an MRI

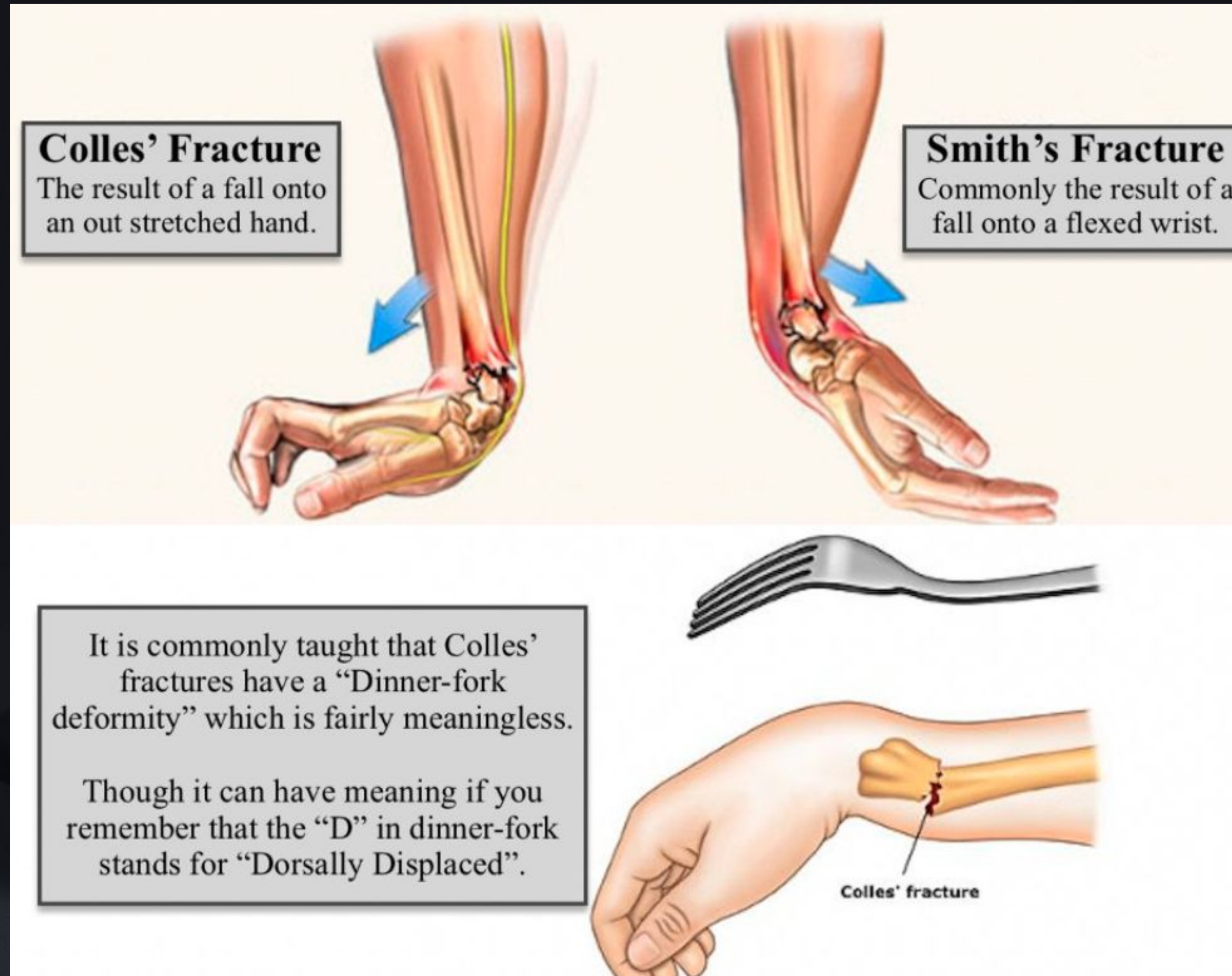
Complications

- AVN
- Non-union



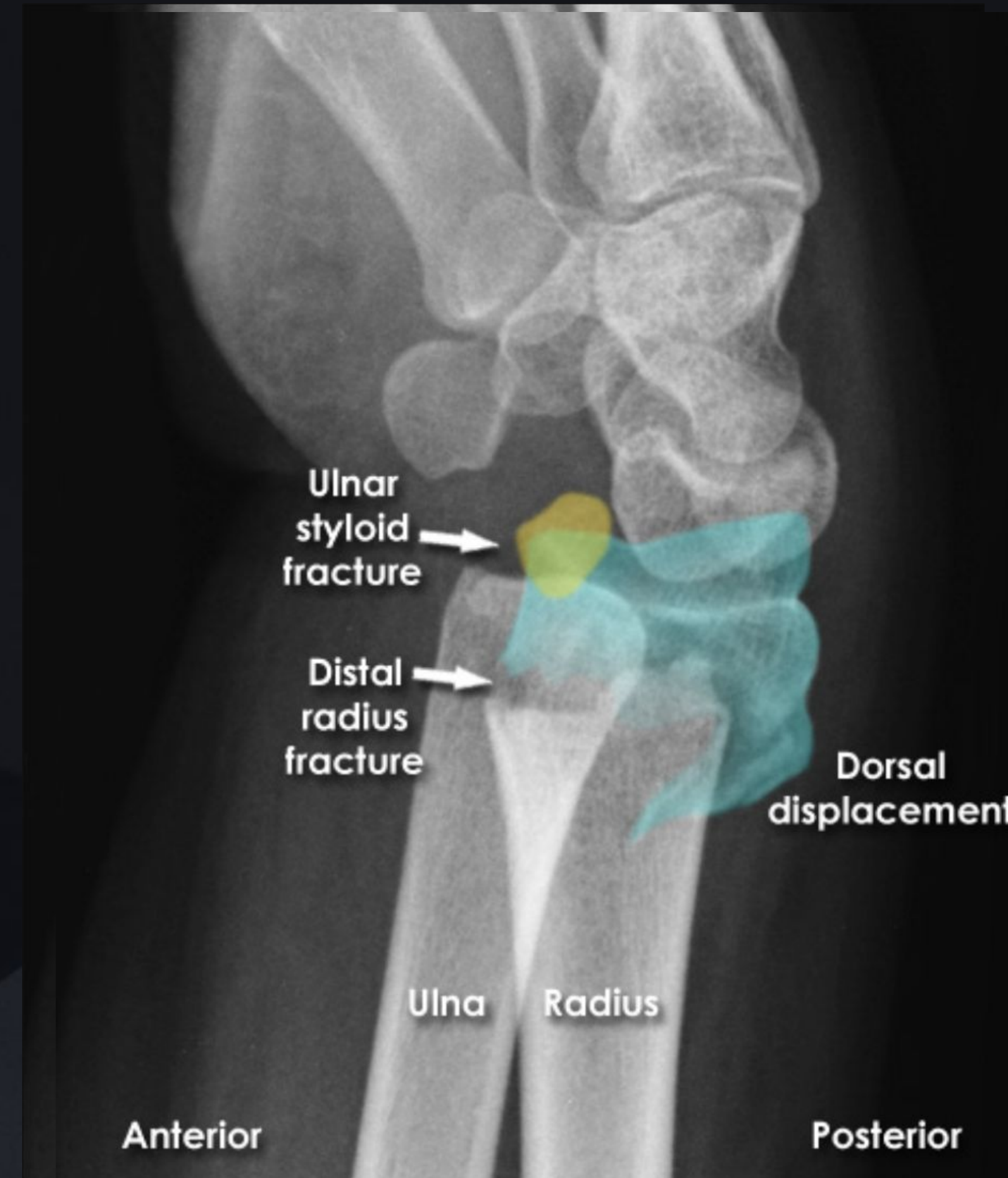
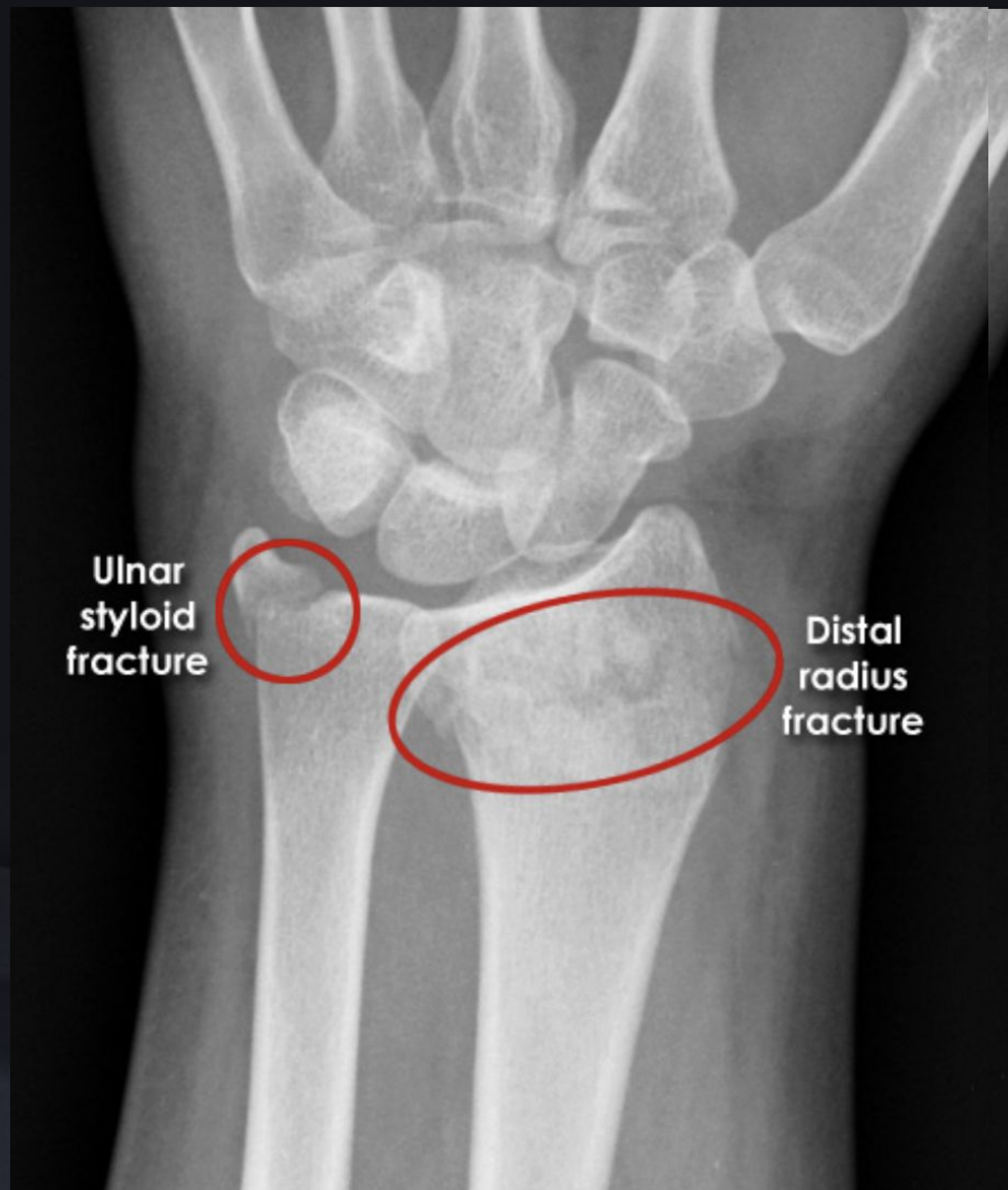
Upper Limb IV

Wrist



Upper Limb IV

Wrist



Lower Limb I

- NOF #
- (Femoral, tibial shaft #)
- Ankle #

Lower Limb I

NOF#

- Intracapsular vs Extracapsular
- Management options - acute + definitive
- Garden system classification

Lower Limb I

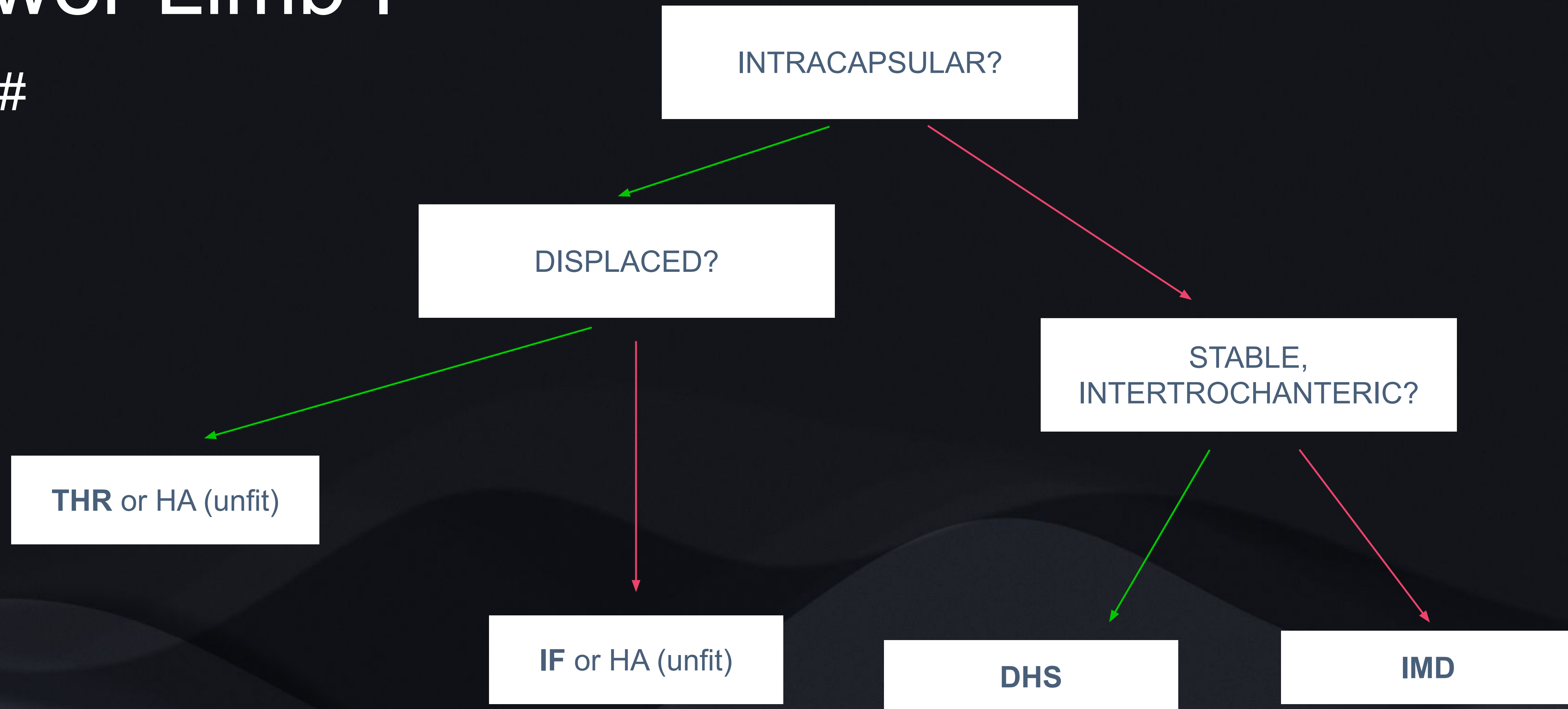
NOF#

- AVN of femoral circumflex arteries



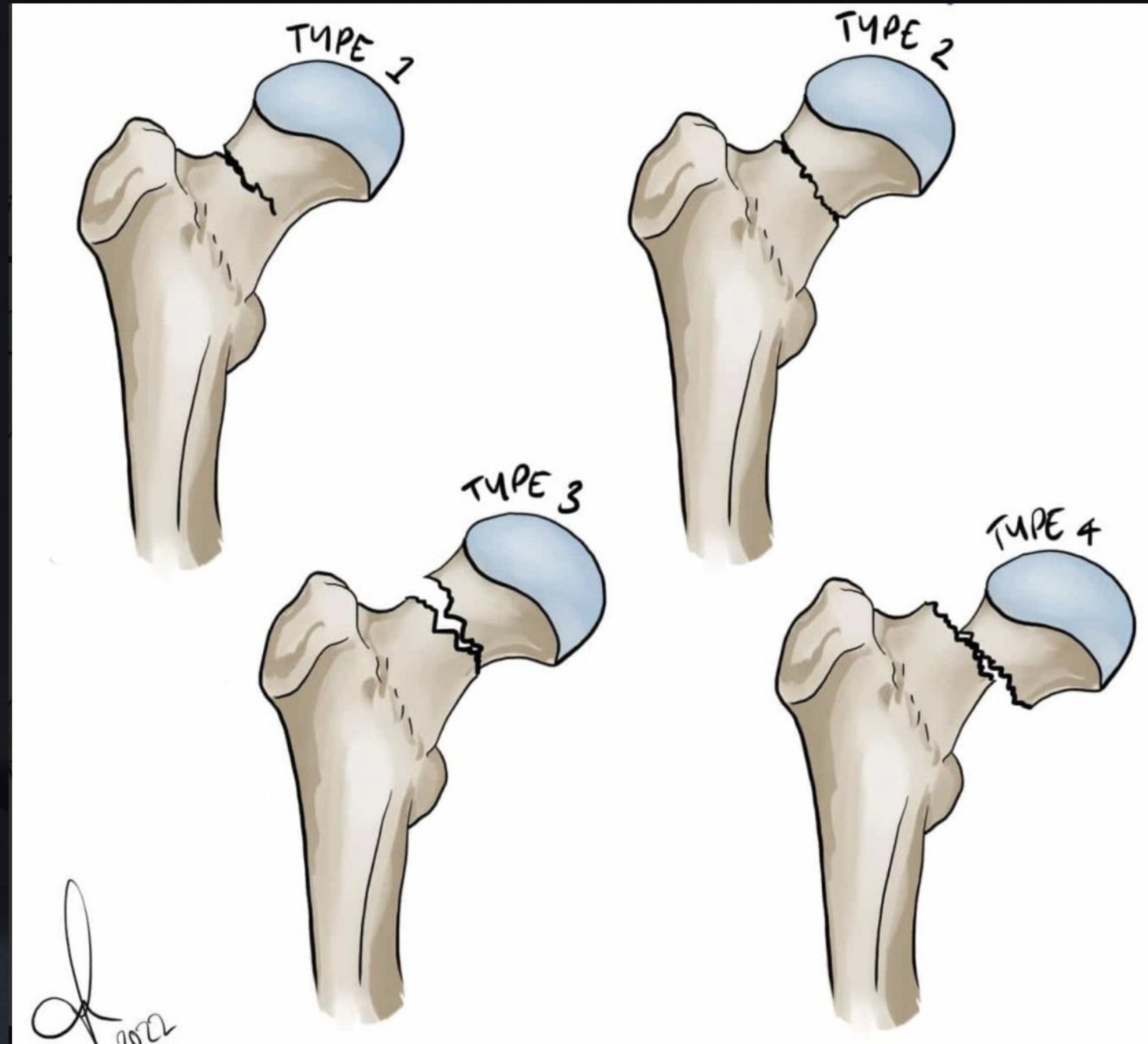
Lower Limb I

NOF#



Lower Limb I

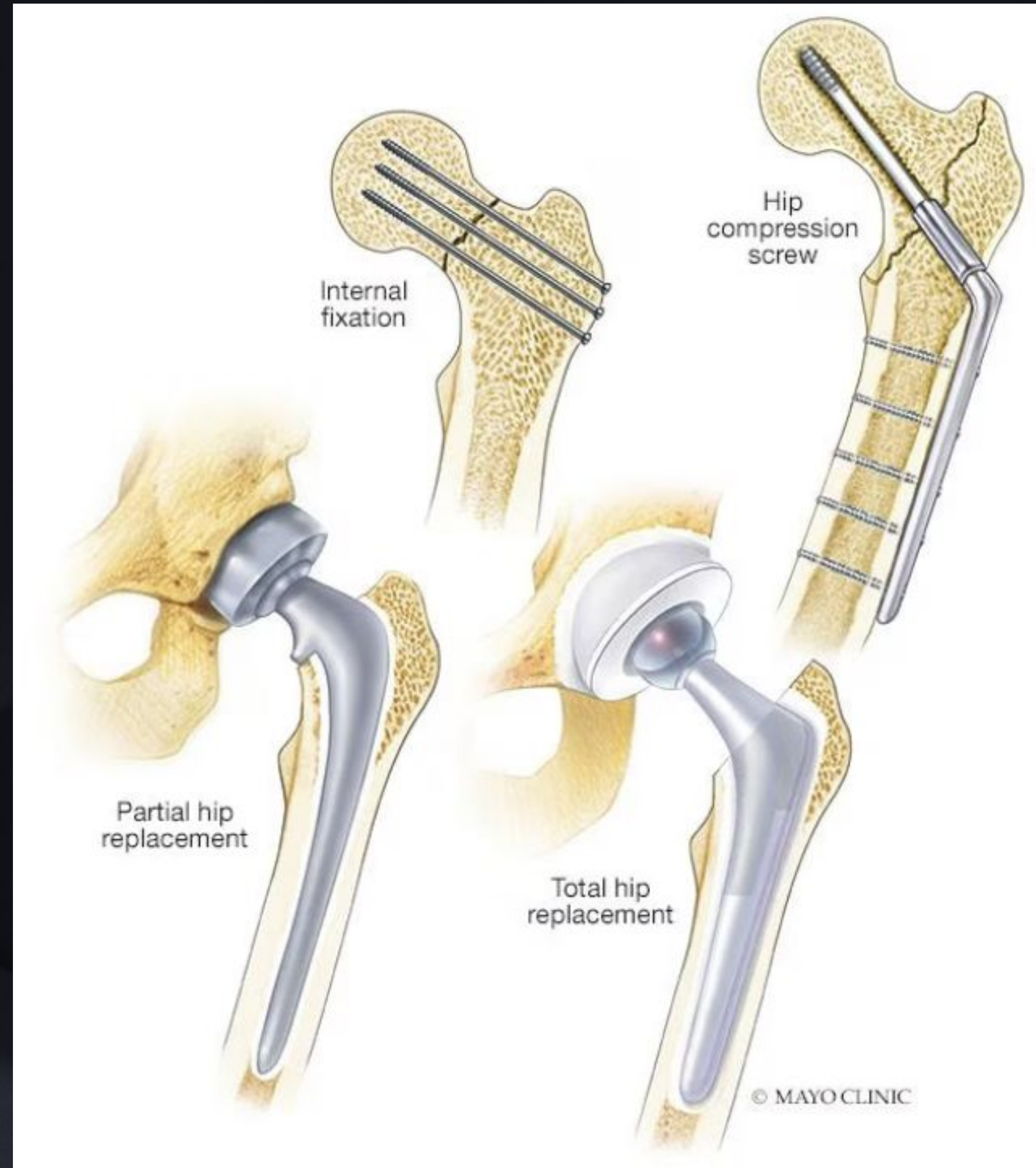
NOF#



Garden classification

Lower Limb I

NOF#

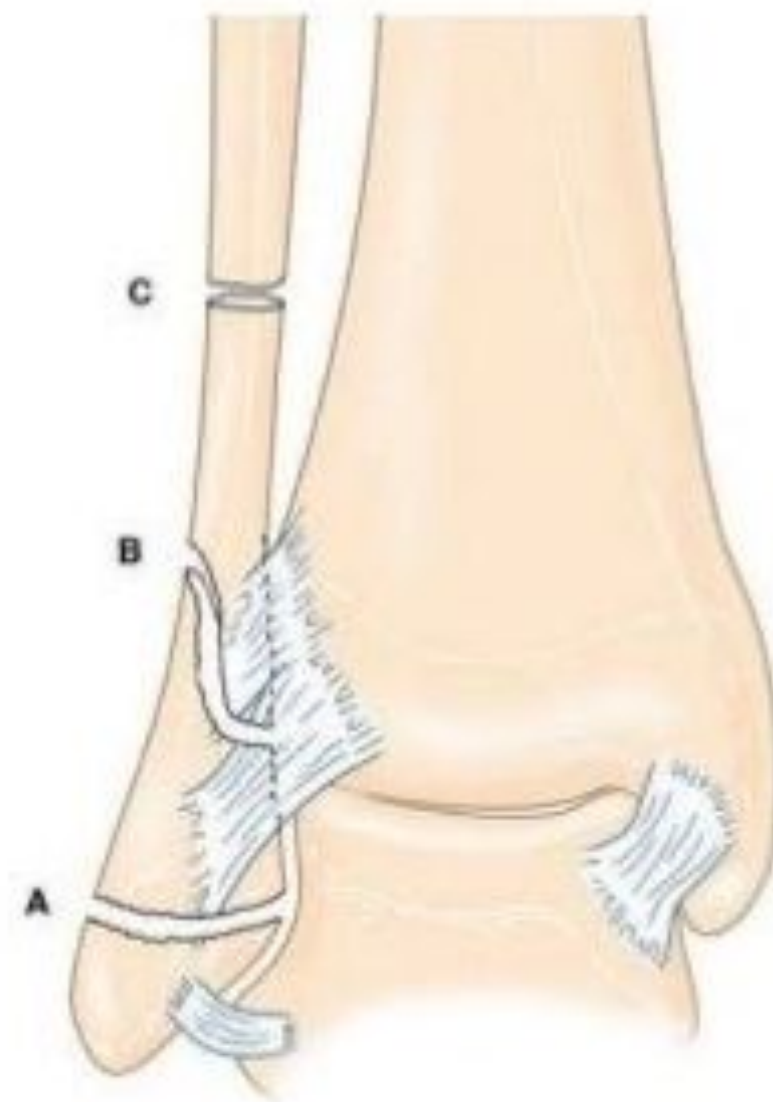


Lower Limb II

Ankle

- Weber Classification

- Level of fibular fracture relative to the syndesmosis
- A = below syndesmosis
- B = level of syndesmosis
- C = above level of syndesmosis



Weber C = always unstable



Talar shift - good to mention!



Test yourself!







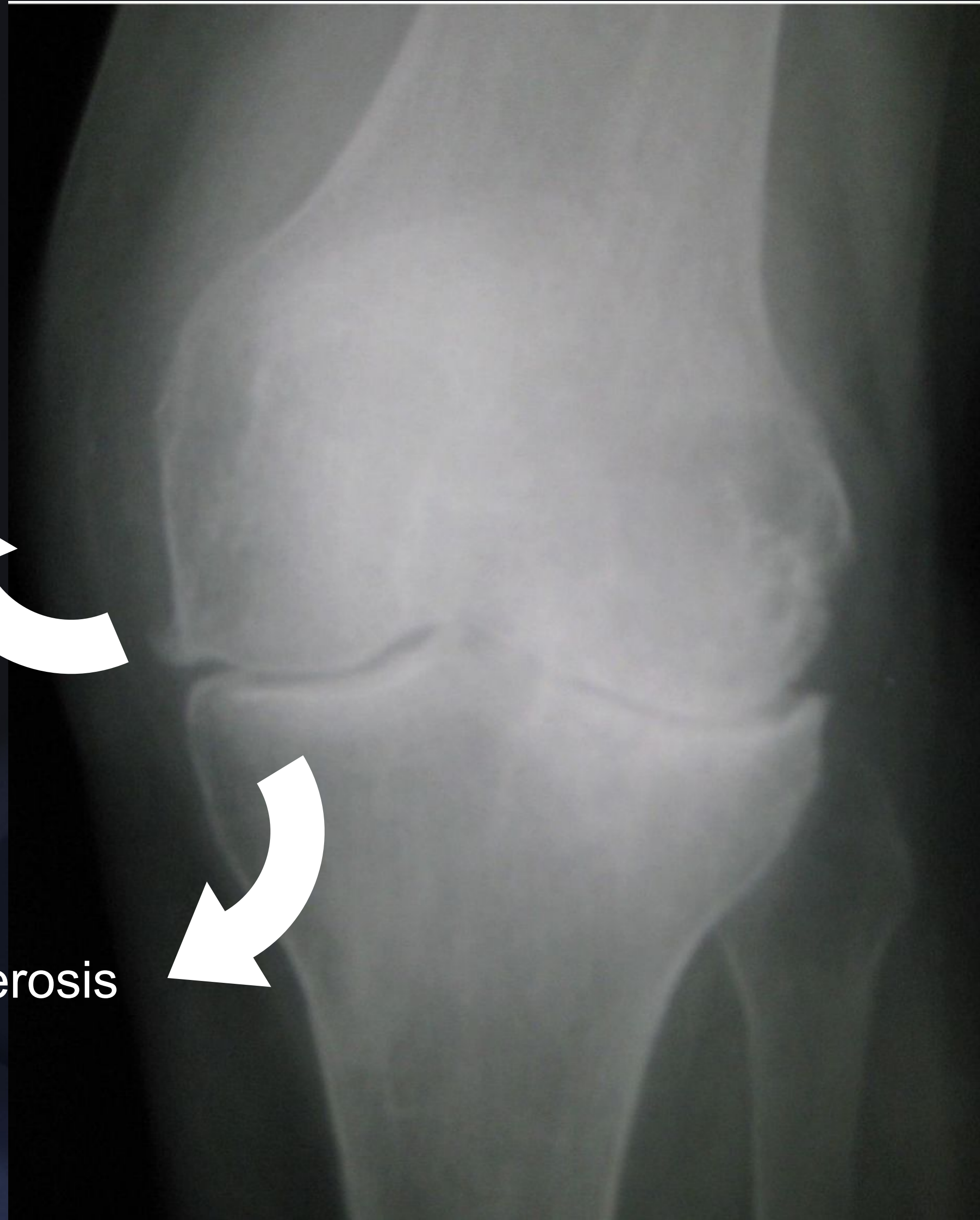




Osteophyte



Subchondral sclerosis















Summary

Upper Limb - Shoulder dislocations, humerus #, wrist #

Lower Limb - NOF #, ankle #

Recommendations

GeekyMedics OSCE Subscription

Mindthebleep - Surgery, Orthopaedics

Radiopaedia

Quick Mentions

[Geekymedics.com](https://www.geekymedics.com)

[Radiopaedia.com](https://www.radiopaedia.com)

Netter's Anatomy (Textbook)

[mayoclinic.com](https://www.mayoclinic.com)

Thanks! - Questions?

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