



Upper Limb fractures

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General principles

- Fracture → break in cortex
- Reduce → Immobilize → Rehabilitate

Aim of reduction

- Anatomical reduction
 - Perfect restoration of bone morphology
- Functional reduction
 - Restoration of anatomical relationships of proximal and distal main fragments:
 - Length
 - Alignment
 - Rotation

Upper limb fracture

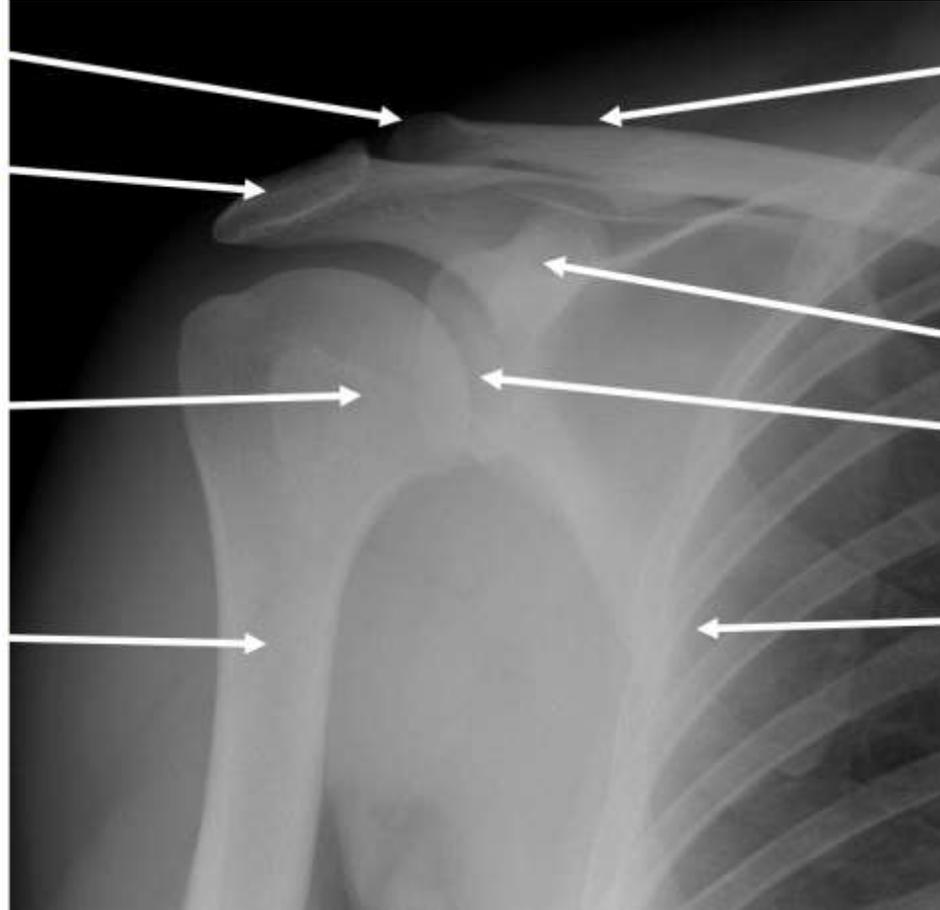
- Heal better than lower limb → good blood supply
- 6 weeks rule
- Intraarticular fractures → anatomic reduction + rigid fixation
 - To prevent O.A. and joint stiffness
- Extraarticular → functional reduction + relative stable fix

Acromioclavicular Jt -

Acromion -

Humeral Head -

Humeral Shaft -



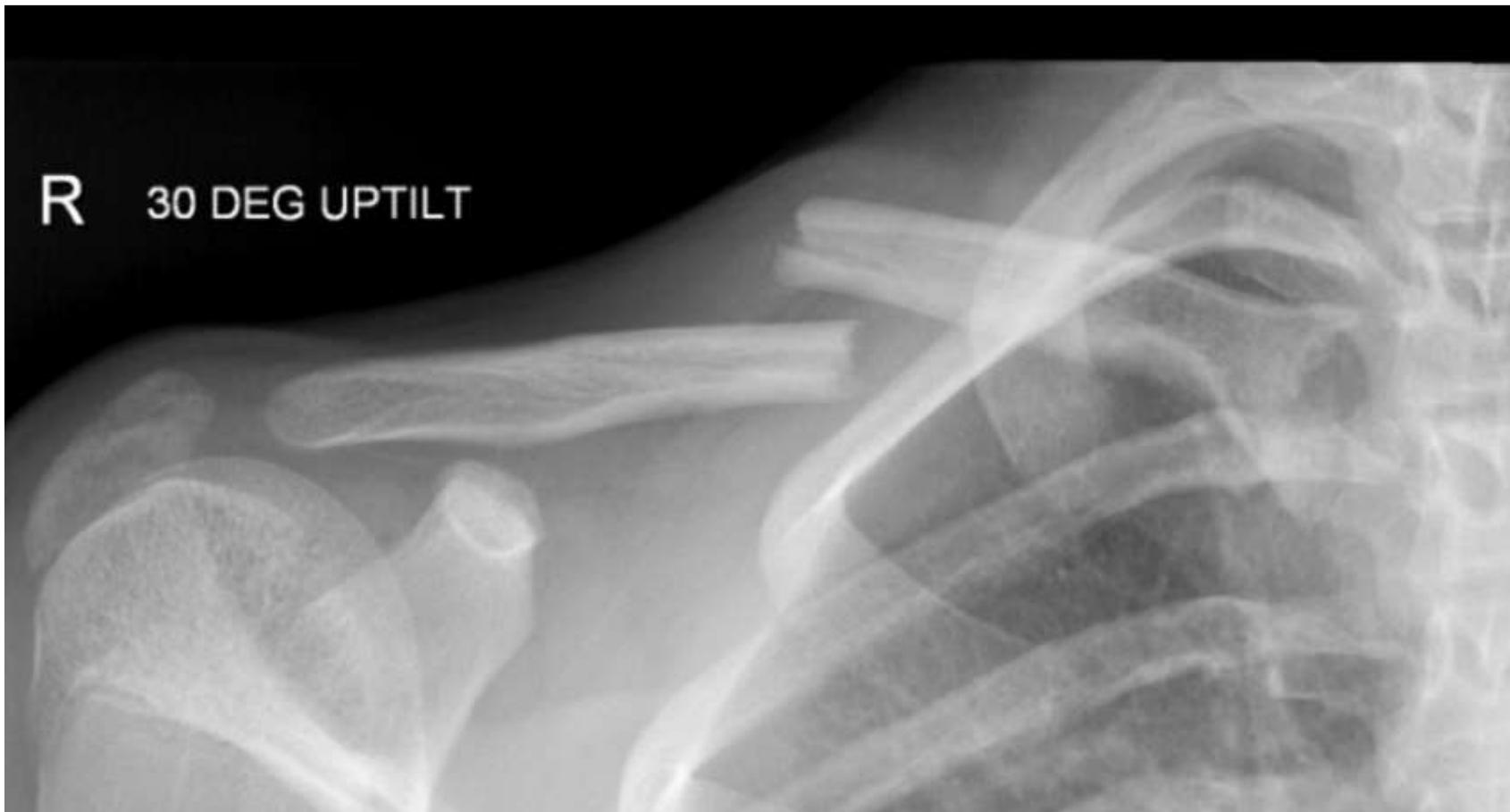
- Clavicle

- Coracoid Process

- Glenoid

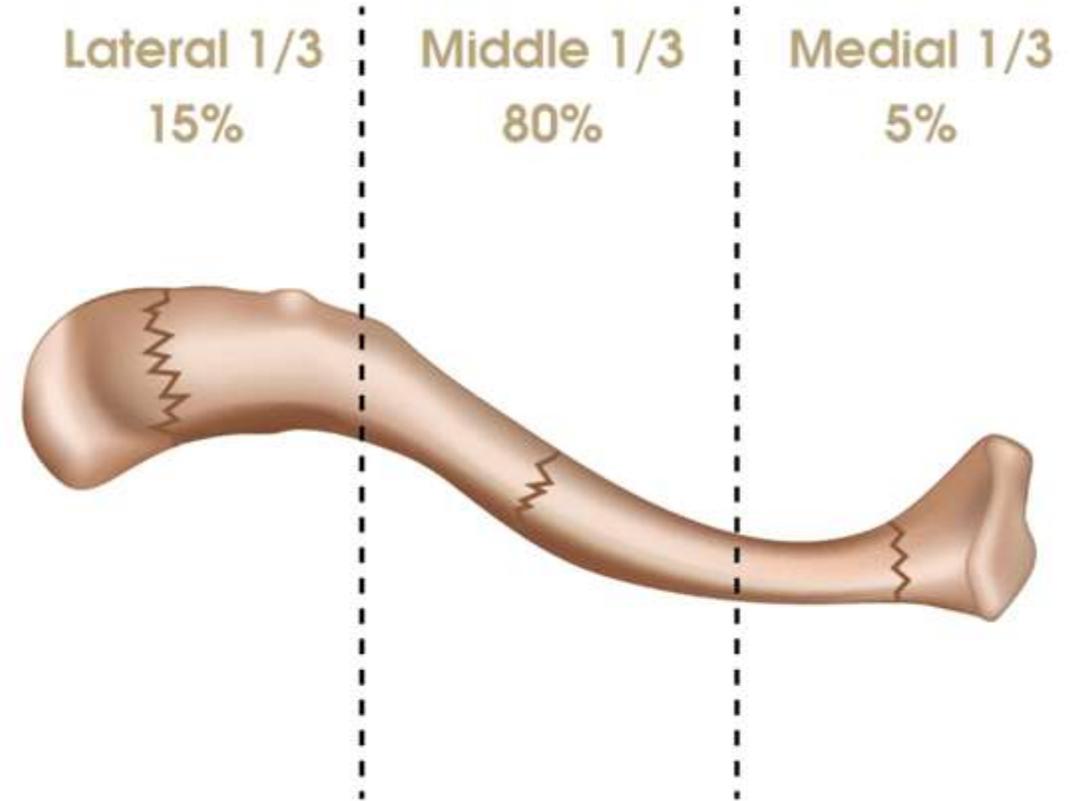
- Blade of Scapula

R 30 DEG UPTILT



Clavicle fracture

- 2nd most common upper limb fracture
- Middle third → Most common , usually non- op
- Sternocleidomastoid
- Lateral third → more unstable , operative ?
- 6 weeks







Normal



Anterior Dislocation



Shoulder dislocation

- Loss of continuity of 2 articular surfaces
- Anterior dislocation 90%
- Risks
- NV assessment
- Urgent Closed reduction → traction counter traction
- Recurrent



Humerus

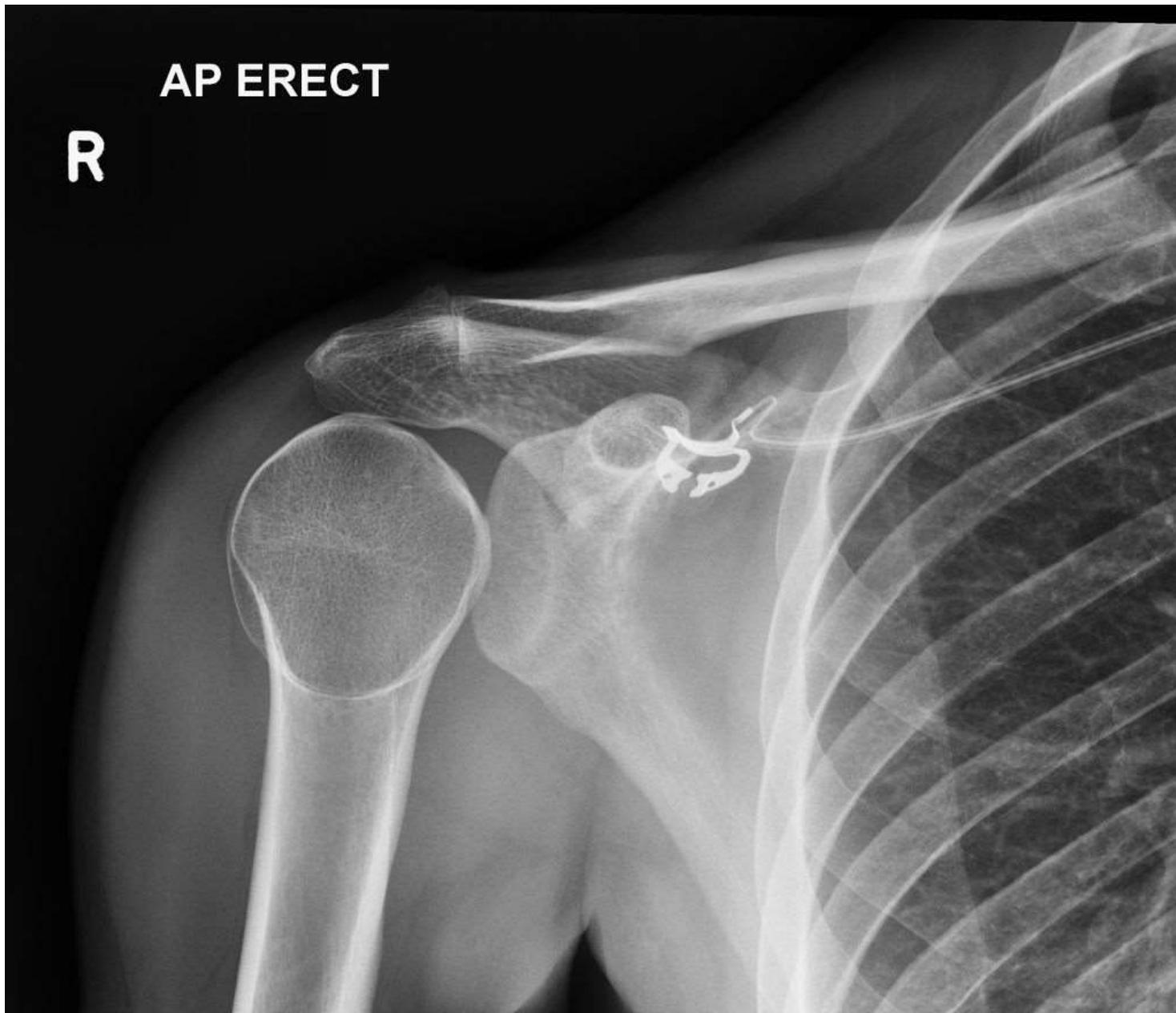
Labrum

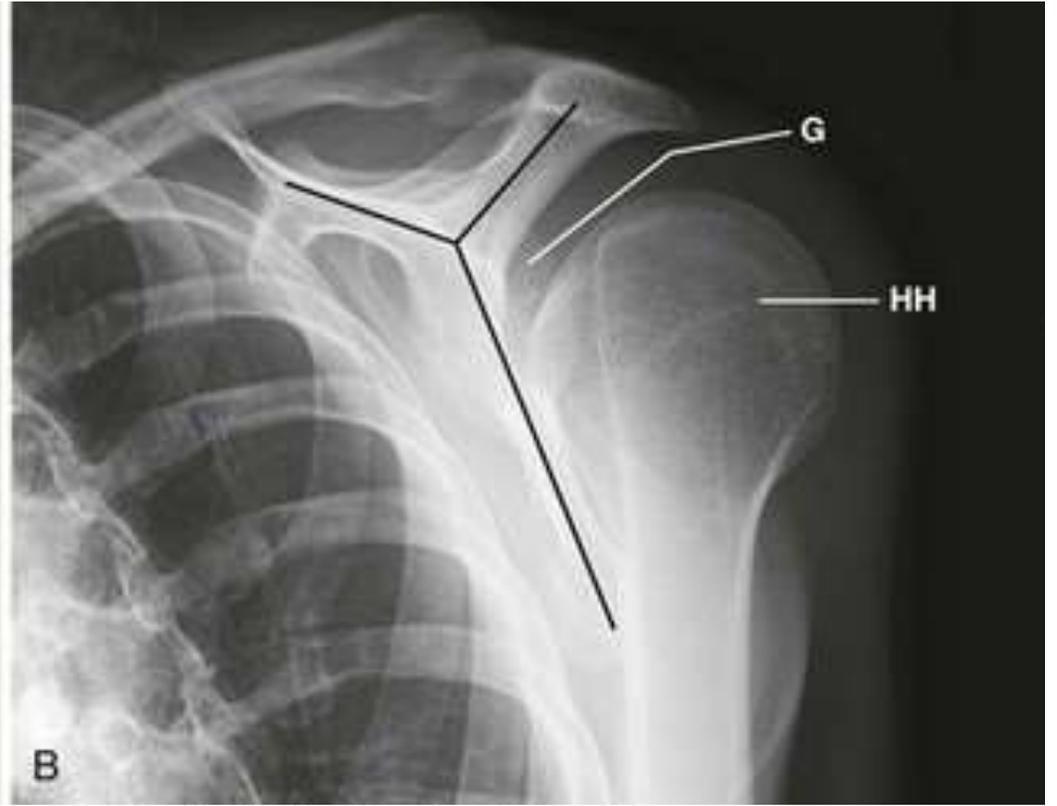
Bankart Lesion



AP ERECT

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Posterior shoulder dislocation

- Commonly missed
- loss of ext rotation
- Seizures
- closed +/- open reduction
- Sling 3 weeks



Proximal humerus fractures

- Most common humeral fractures
- Mechanism =
 - Young: high energy trauma (MVA)
 - Older: fall on outstretched hand in osteoporotic elderly.
- Pain, swelling, tenderness, painful ROM
- Axillary nerve

Undisplaced
Displaced



Complications

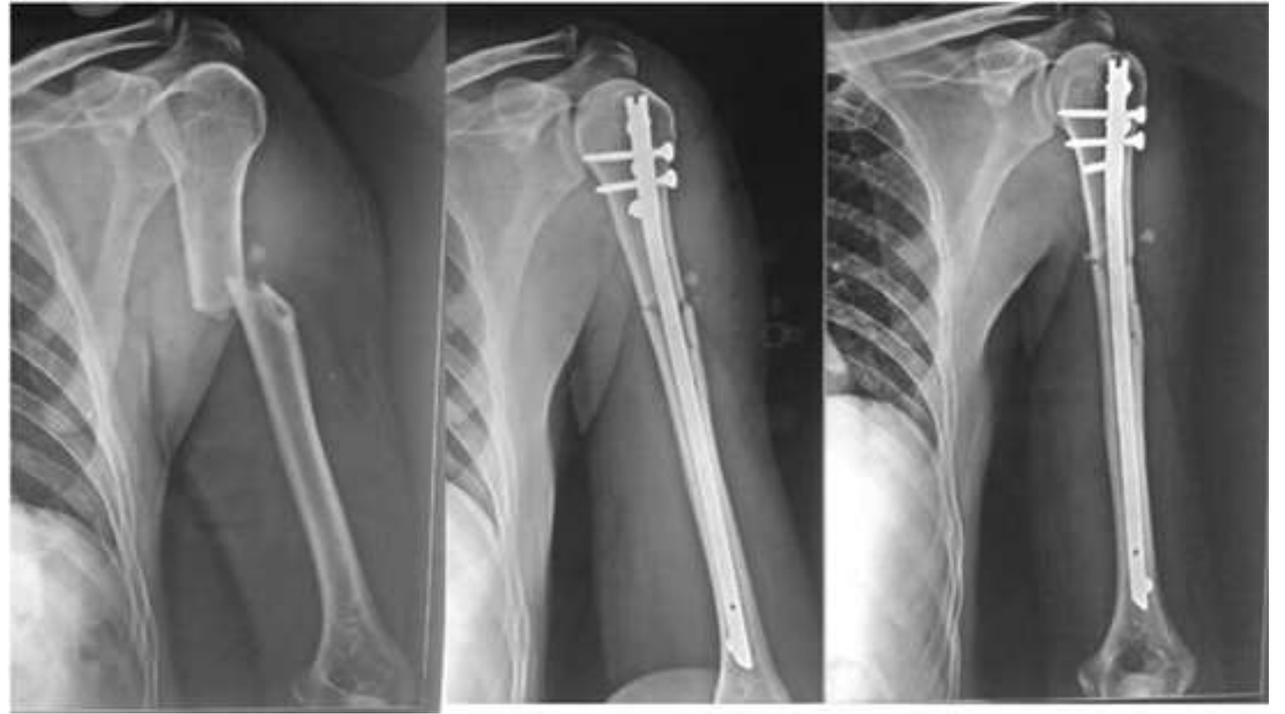
- AVN
- Arthritis
- Stiffness
- Malunion



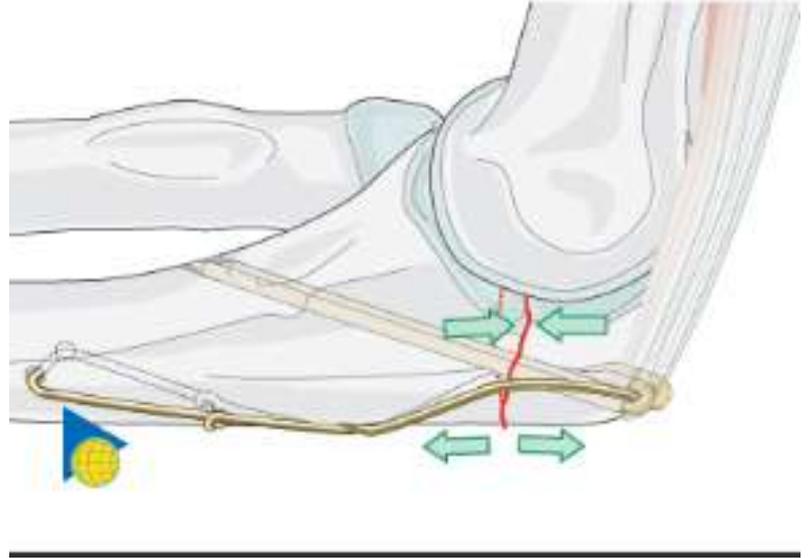
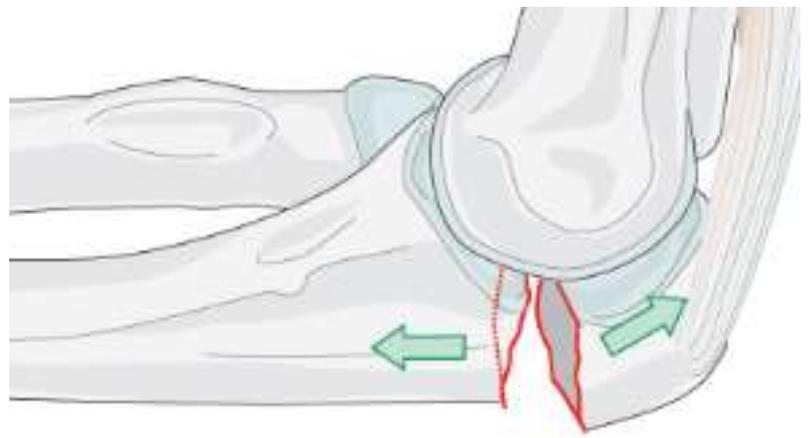
Humeral shaft fracture

- Direct trauma → transverse
- Indirect → spiral; / oblique
- Radial nerve
- Functional reduction
- 3 months

Nonoperative Operative







Olecranon fractures

- Direct trauma vs. Falling on outstretched hand
- Intraarticular fractures
- If displaced → anatomic reduction and rigid fixation
- Complication
 - Prominent metalwork
 - Elbow stiffness



Monteggia Fracture Dislocation

1. Fracture of the proximal half of the ulna.
2. Dislocation of the proximal radius.



Galeazzi Fracture Dislocation

1. Fracture of the distal half of the radius.
2. Dislocation of the distal ulna.



Forearm both bone fra

- Equivalent to intraarticular fractures
- Rigid fixation
- Anatomic reduction



Night stick fracture

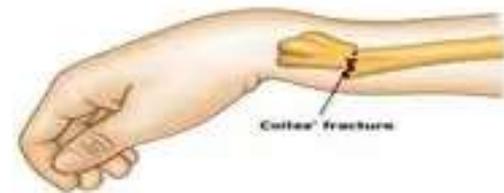
- Isolated Ulna shaft fracture
- Direct trauma
- If undisplaced → above elbow cast for 6 weeks





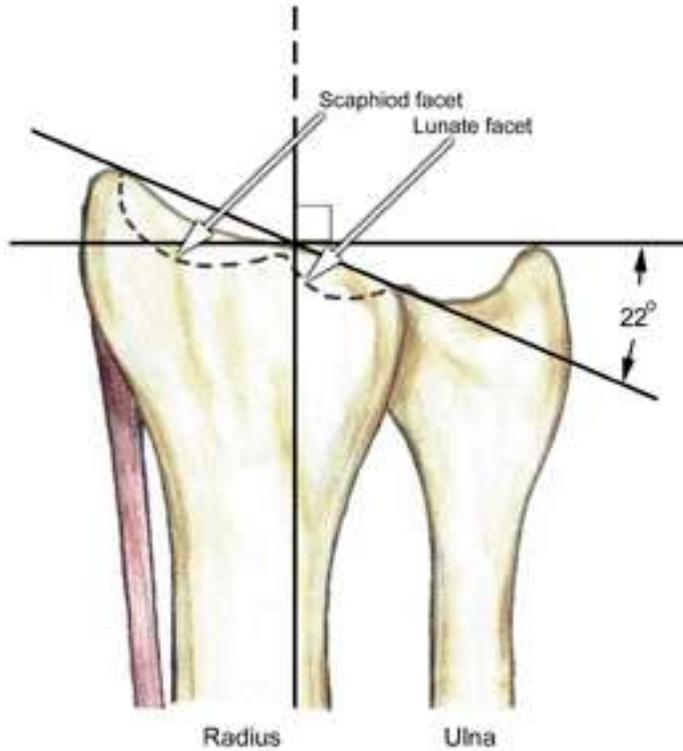
Distal radius fractures

- Colles fractures = extraarticular with dorsal displacement
- Dinner fork deformity
- Closed reduction and casting

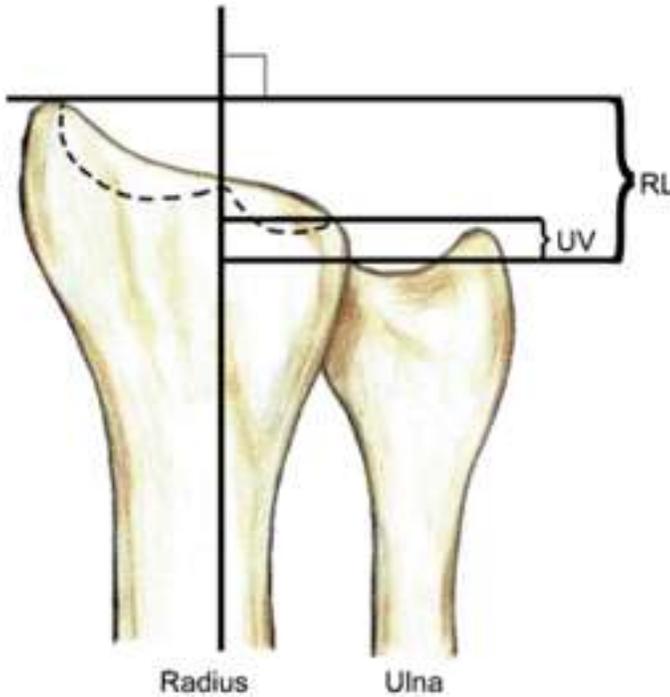


Distal radius Parameters

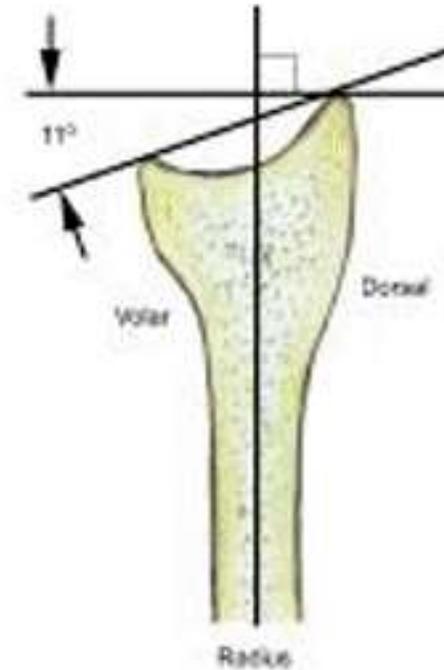
Radial Inclination



Radial Shortening



Volar Tilt

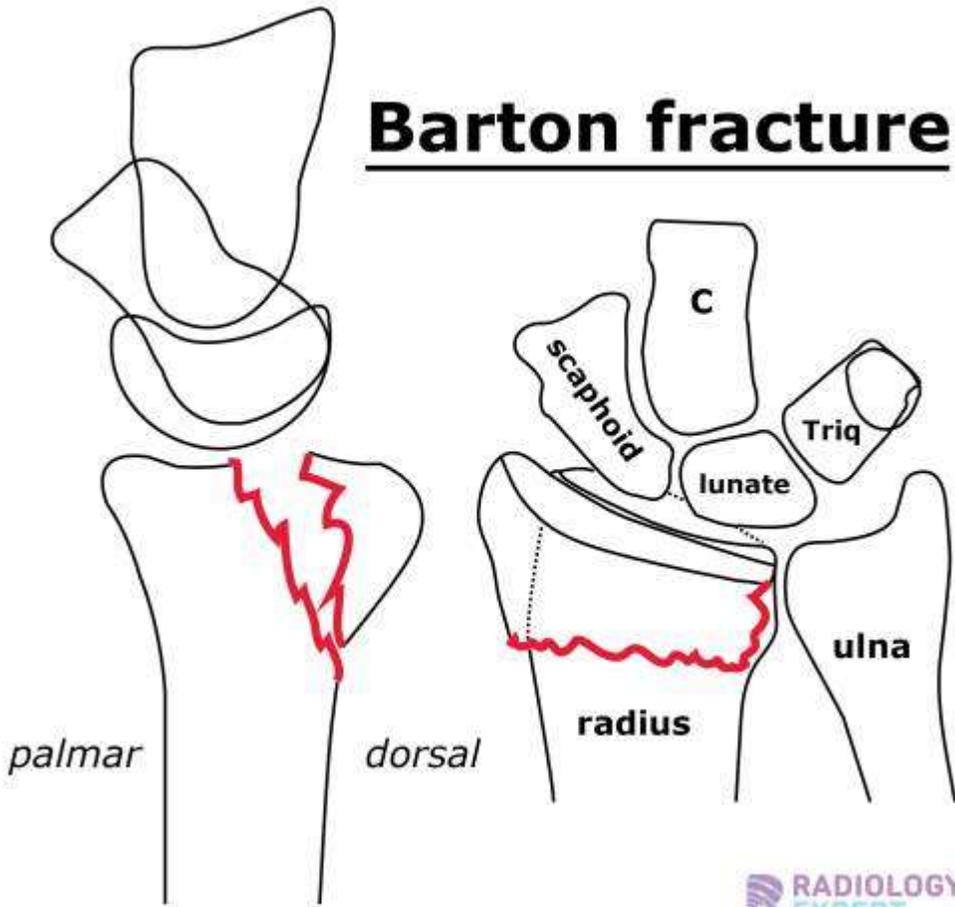


Smith fracture

Barton fracture



Barton fracture



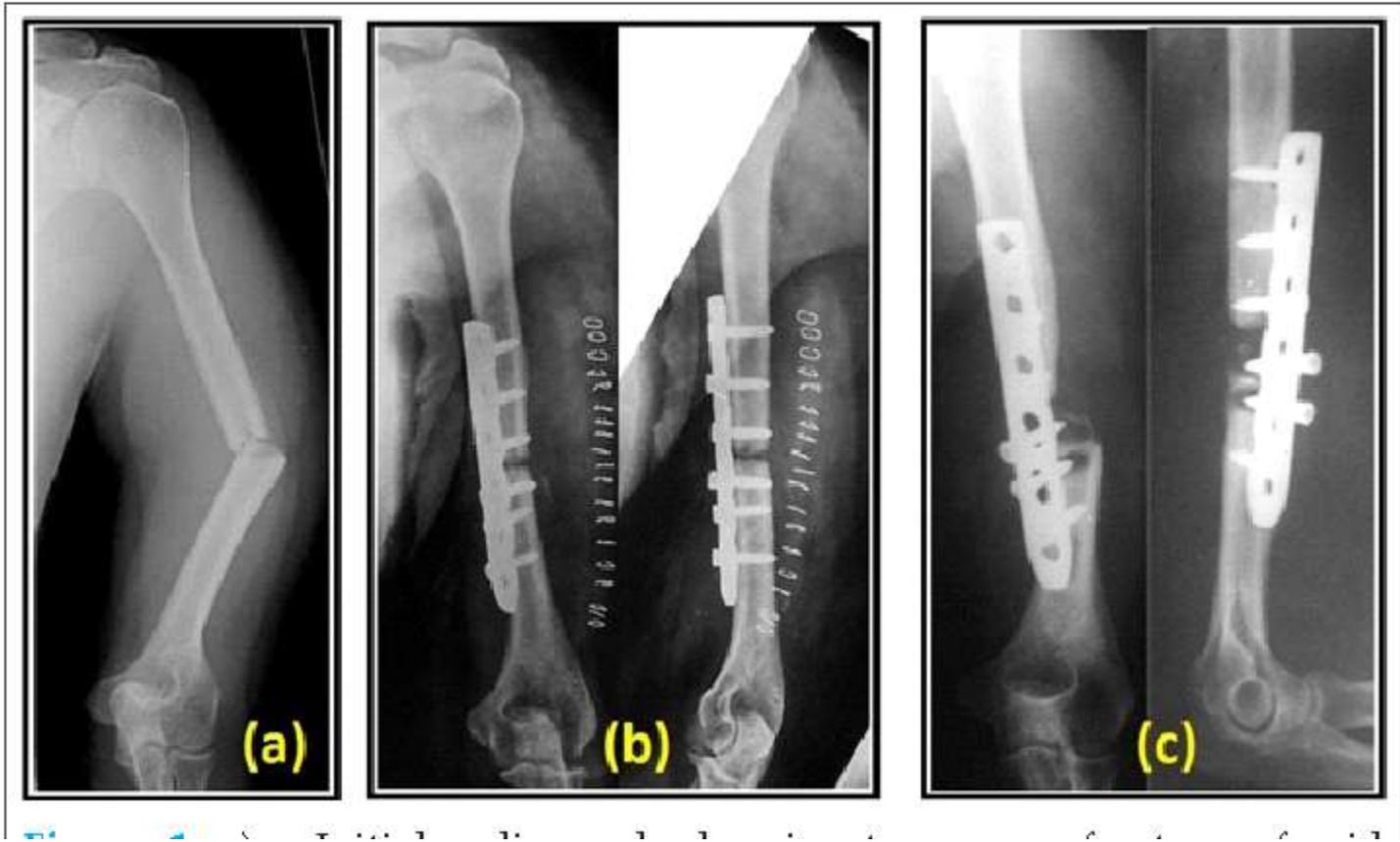




Scaphoid fractures

- Commonly missed
- Physical examination
- Blood supply → retrograde
- Risk of Nonunion
- Could lead to early arthritis
- Cast for 6 -8 weeks Vs. ORIF





Methods of Fixation

Absolute stability	Relative stability
Lag screw	Cast
Compression plate	Splint
Tension band	Sling
	K-wires
	Intramedullary nail
	Bridge plate

Take home message

- Anatomy is crucial - Absolute stability - primary bone healing - no callus
- Alignment only - relative stability -secondary bone healing - with callus