



In the name of GOD

Musculoskeletal system

For

paramedicine student

By

Dr. Saeednia

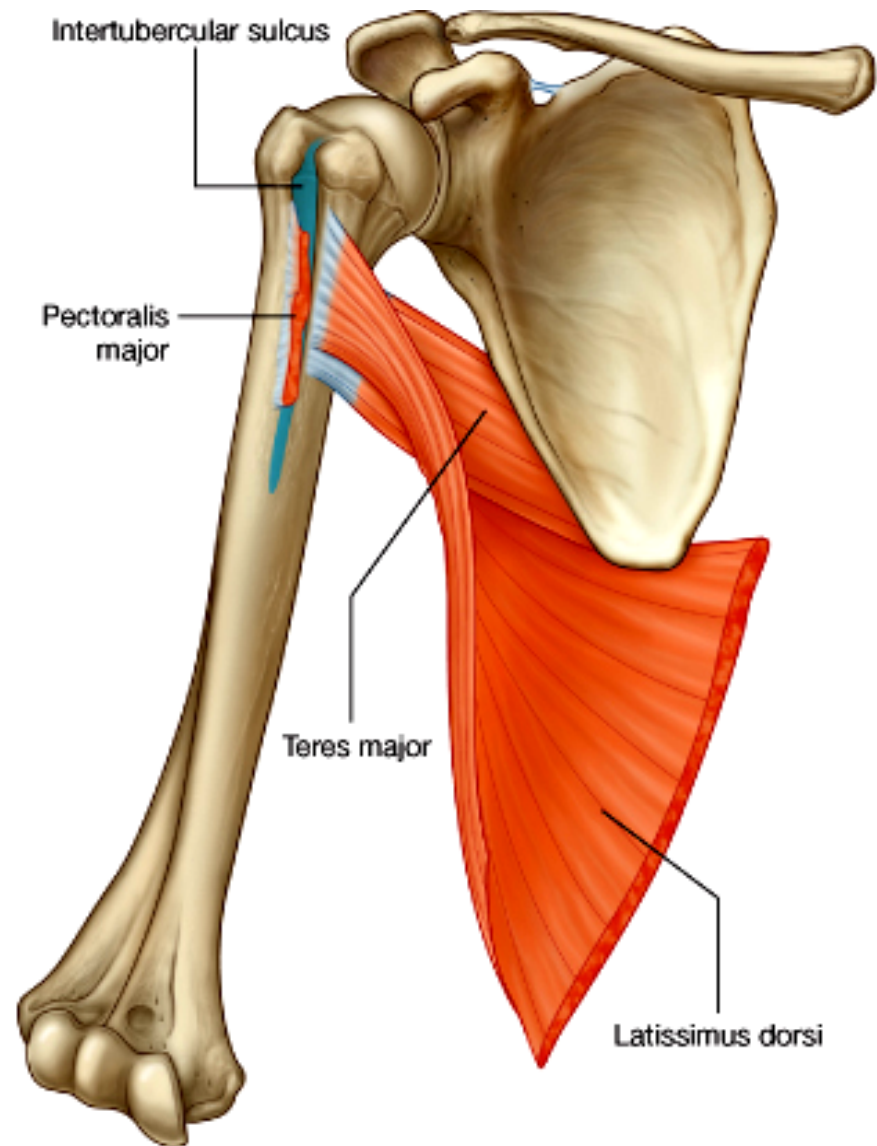


Anatomy Of Skeletal System

Upper Limb

Shoulder girdle:

- ❖ Consist of scapula & clavicle bones
- ❖ Not articulate with vertebral column
- ❖ 2 clavicles not articulate anteriorly
- ❖ articulation of scapula & humerus is not deep and have motion
- ❖ articulation of clavicle & sternum is small and have motion



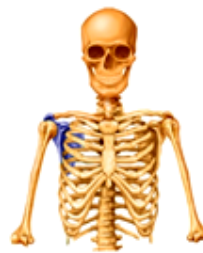
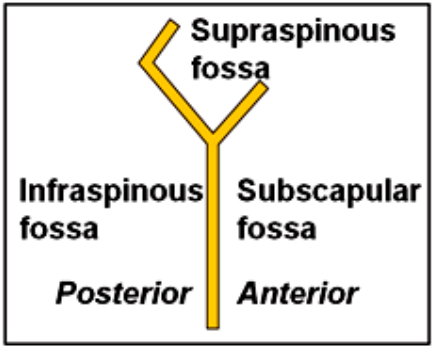
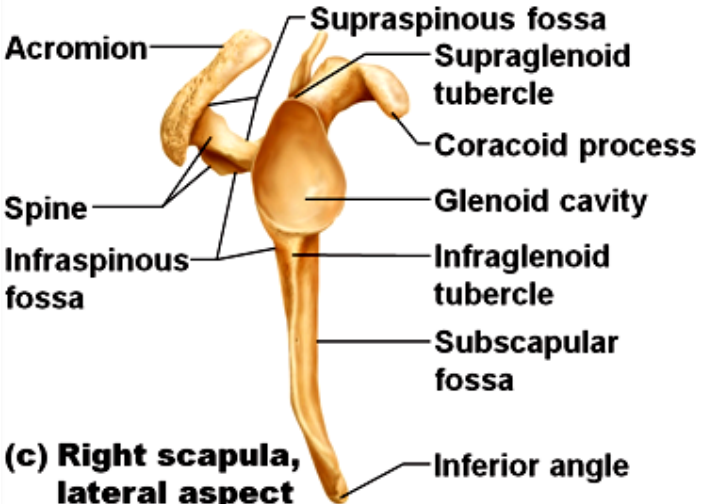
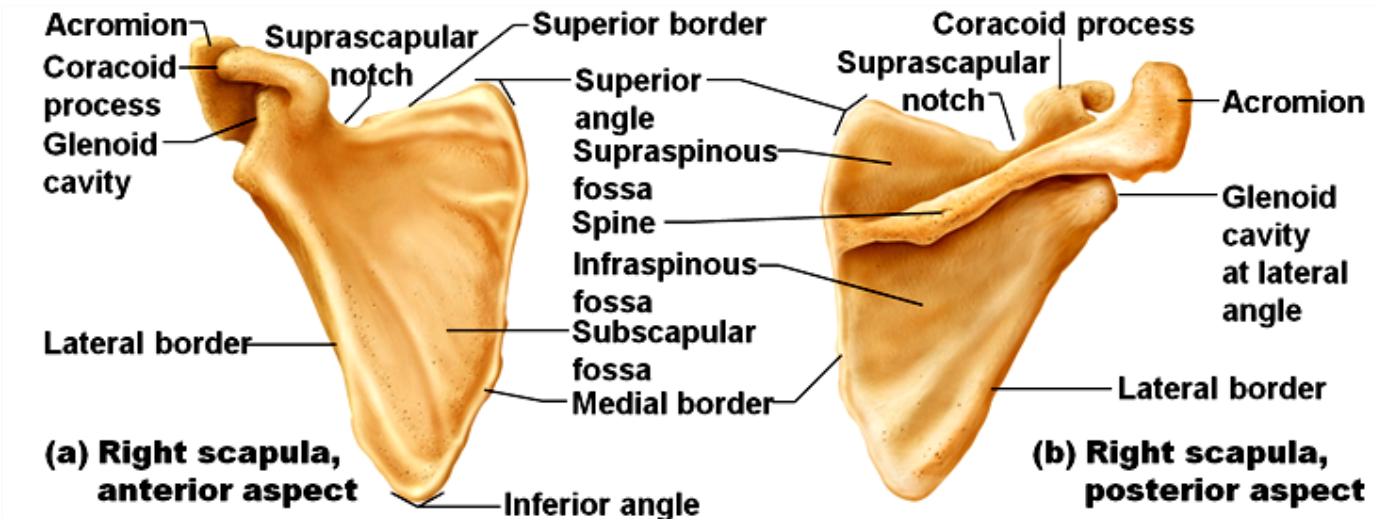
Scapula:

Surfaces: ant./ pos.

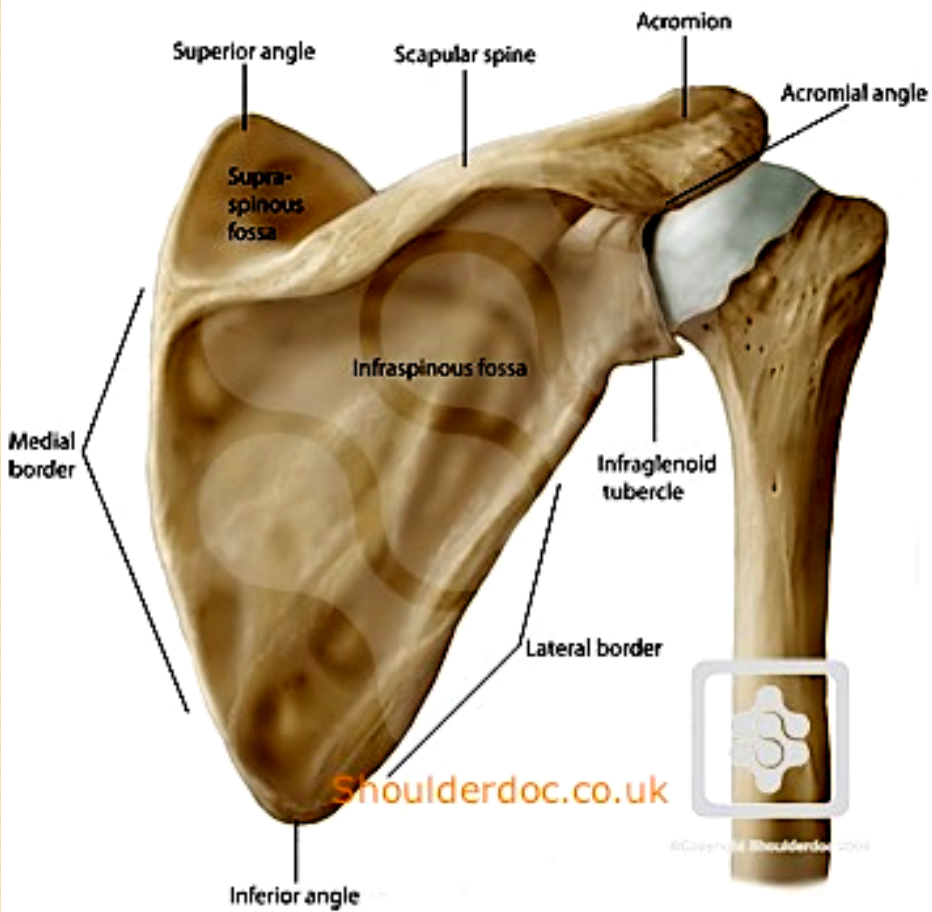
Borders: sup./ med./ lat.

Angles: lat./ sup./ inf.

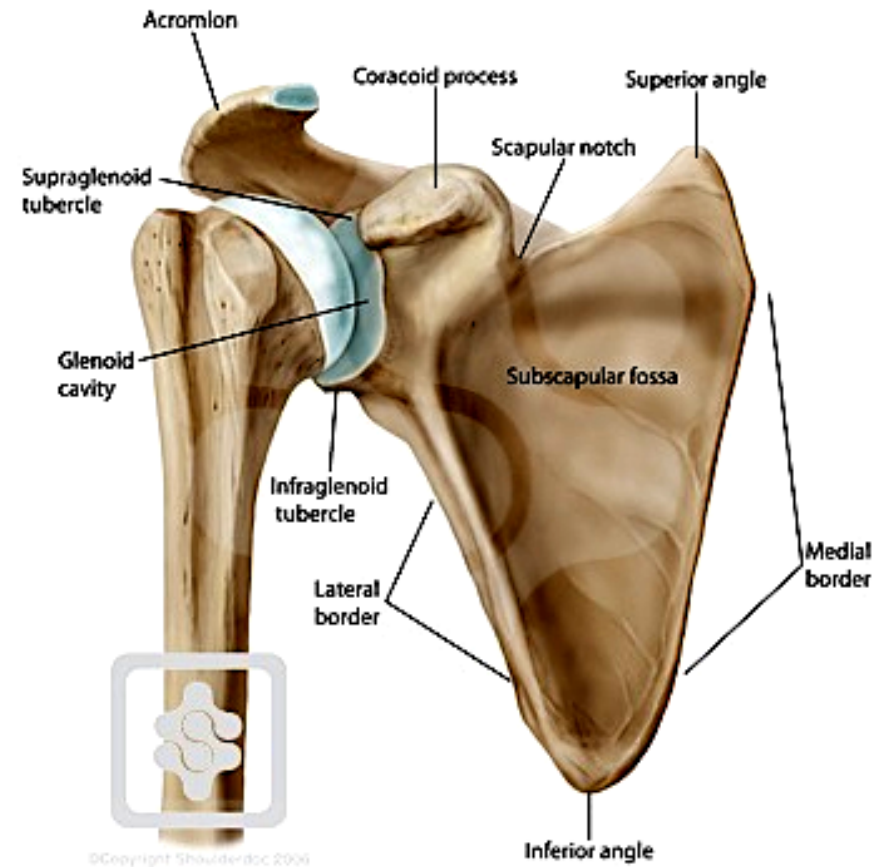
Process: spinous/ acromion/ coracoid



POSTERIOR VIEW



ANTERIOR VIEW



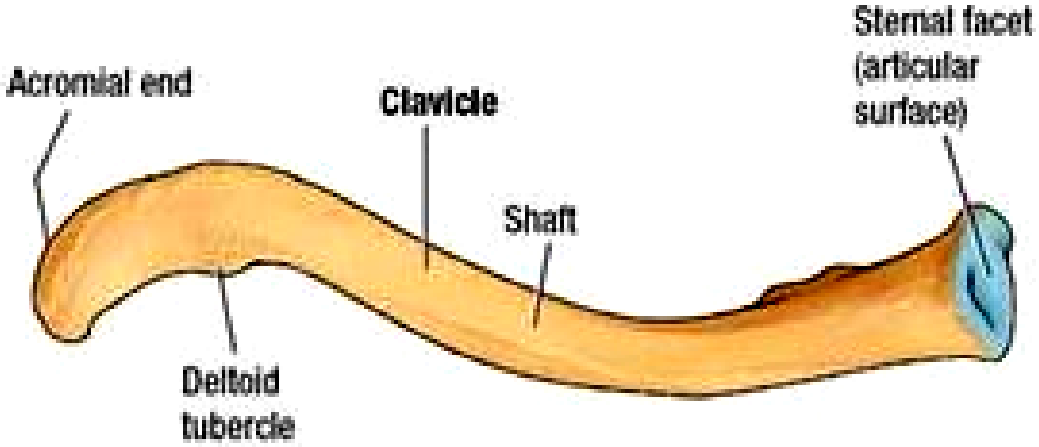
Clavicle:

2/3 med.

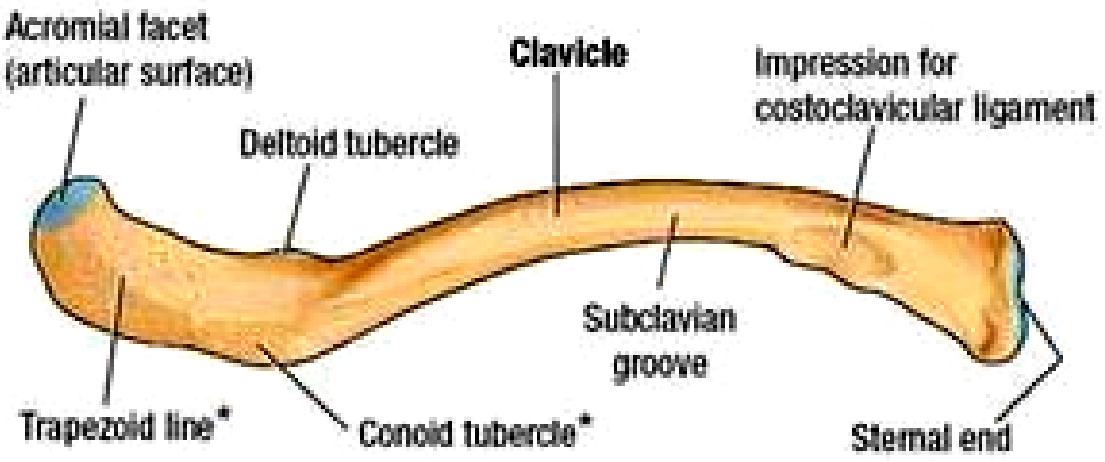
1/3 lat.

- ✓ Conoid tubercle
- ✓ Trapezoid line
- ✓ Sub clavian groove

Clinical note



A. Superior Surface






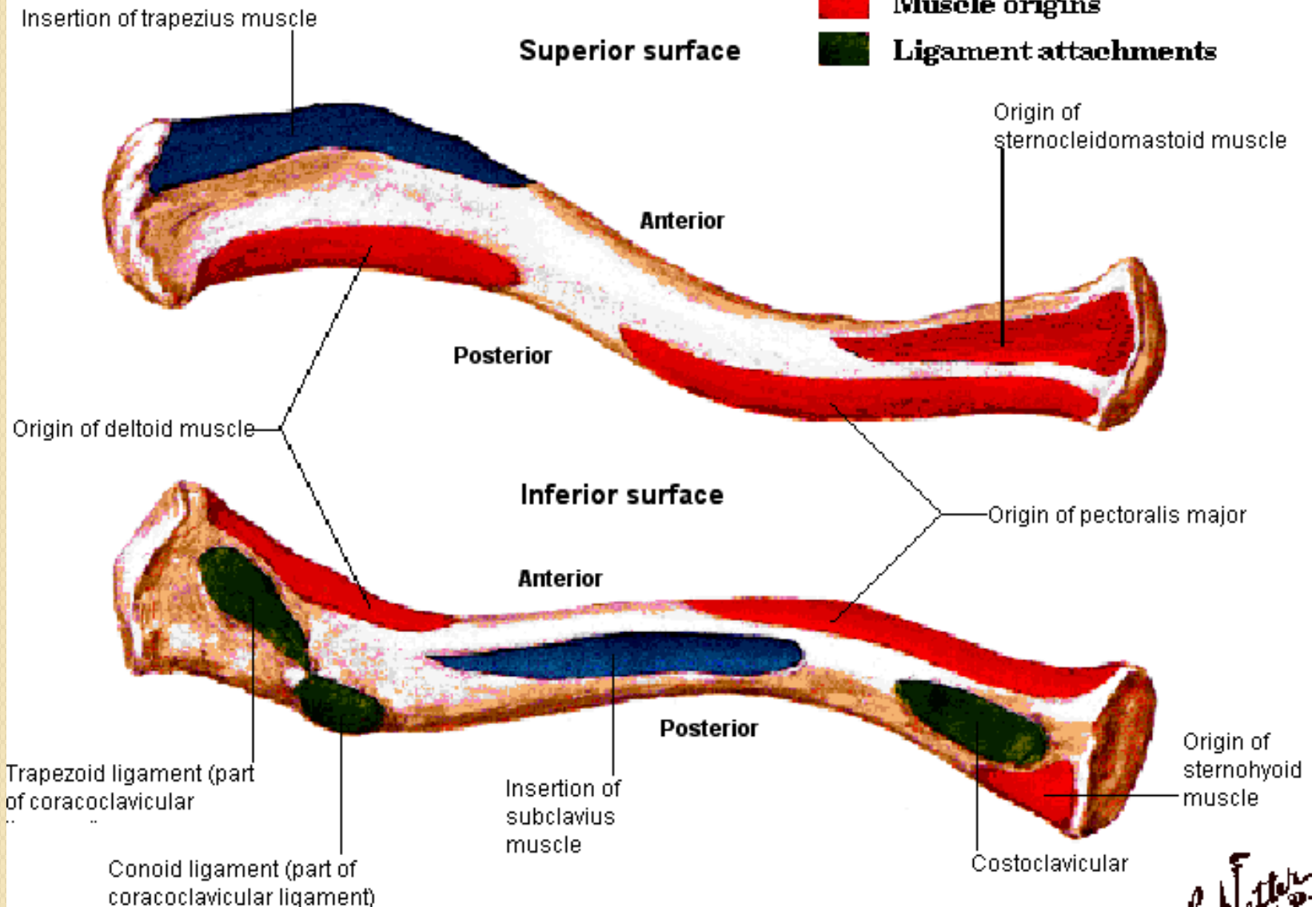
B. Inferior Surface

*Tuberosity for coracoclavicular ligament

Right Clavicle - Muscle Attachments

Snapped with HyperSnap-DX
<http://www.hyperionics.com>

-  **Muscle insertions**
-  **Muscle origins**
-  **Ligament attachments**



Handwritten signature

Lateral $\frac{1}{3}$

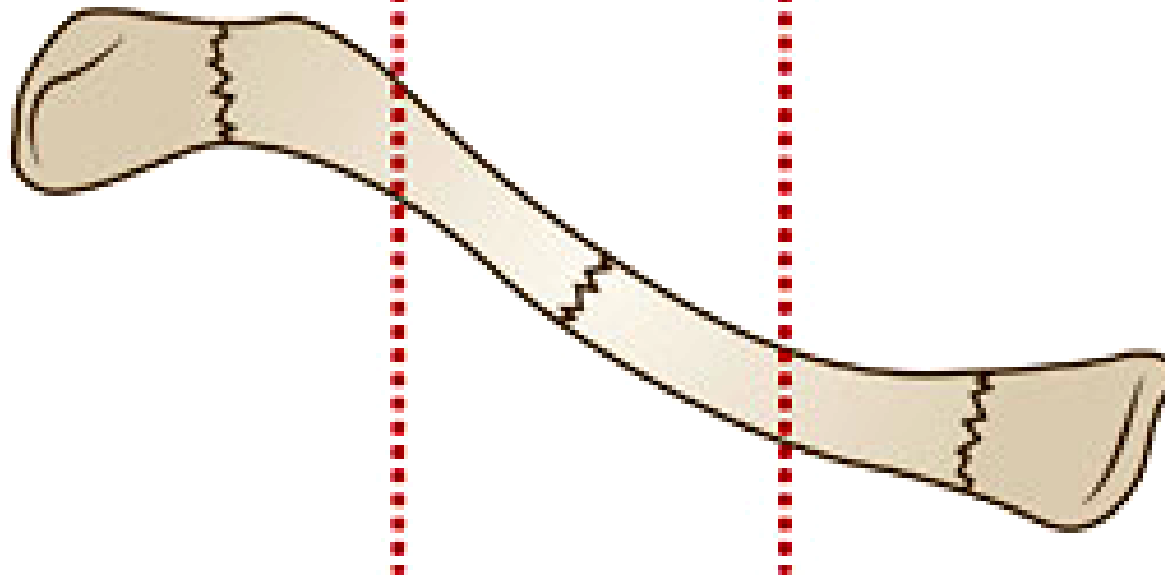
15%

Middle $\frac{1}{3}$

80%

Medial $\frac{1}{3}$

5%



the trunk, it is not surprising that it is often fractured. The typical site of fracture is the middle third (Fig. 7.30). The medial and lateral thirds are rarely fractured.

The acromial end of the clavicle tends to dislocate at the acromioclavicular joint with trauma (Fig. 7.31). The outer third of the clavicle is joined to the scapula by the conoid and trapezoid ligaments of the coracoclavicular ligament.

A minor injury tends to tear the fibrous joint capsule and ligaments of the acromioclavicular joint, resulting in acromioclavicular separation on a plain radiograph. More severe trauma will disrupt the conoid and trapezoid ligaments of the coracoclavicular ligament, which results in elevation and upward subluxation of the clavicle.



Fig. 7.30 There is an oblique fracture of the middle third of the right clavicle.

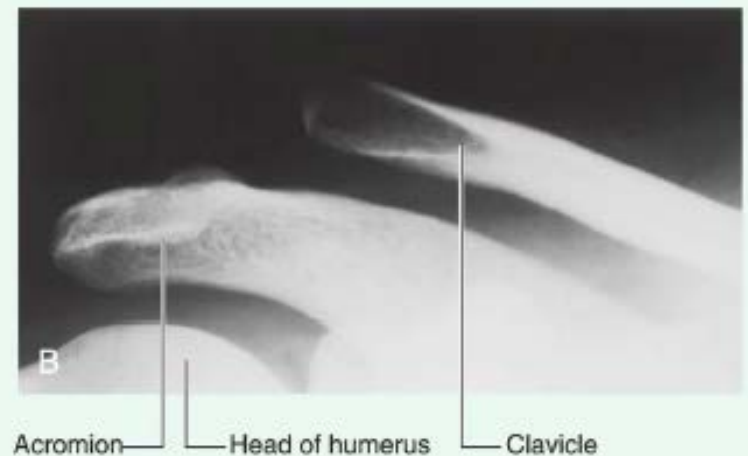
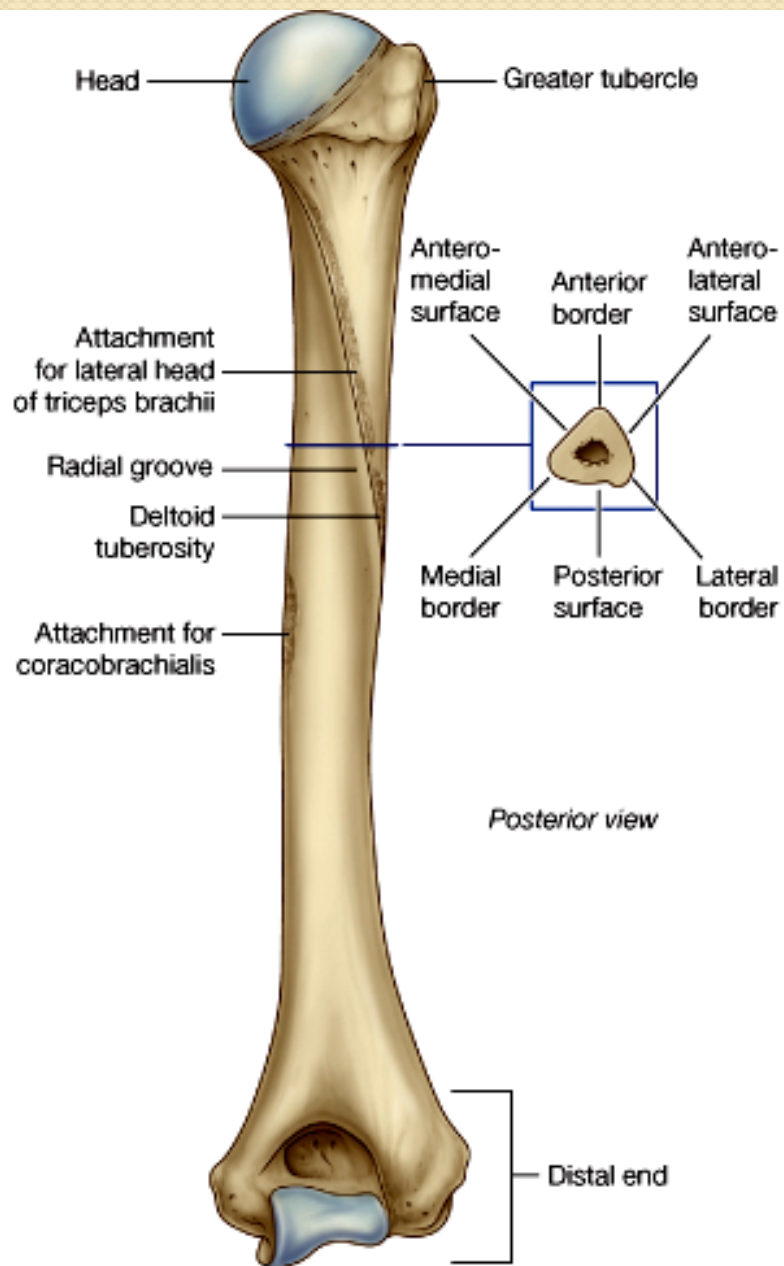


Fig. 7.31 Radiographs of acromioclavicular joints. **A.** Normal right acromioclavicular joint. **B.** Dislocated right acromioclavicular joint.



✓ **Humerus:**

upper End
Body (shaft)
Lower End

Clinical note

Superior facet on greater tubercle
(for attachment of supraspinatus)

Head of humerus

Lesser tubercle
(for attachment of subscapularis)

Anatomical neck

Surgical neck

Lateral lip of intertubercular sulcus
(for attachment of pectoralis major)

Medial lip of intertubercular sulcus
(for attachment of teres major)

Roughening in floor of sulcus
(for attachment of latissimus dorsi)

Head of humerus

Anatomical neck

Surgical neck

Lesser tubercle

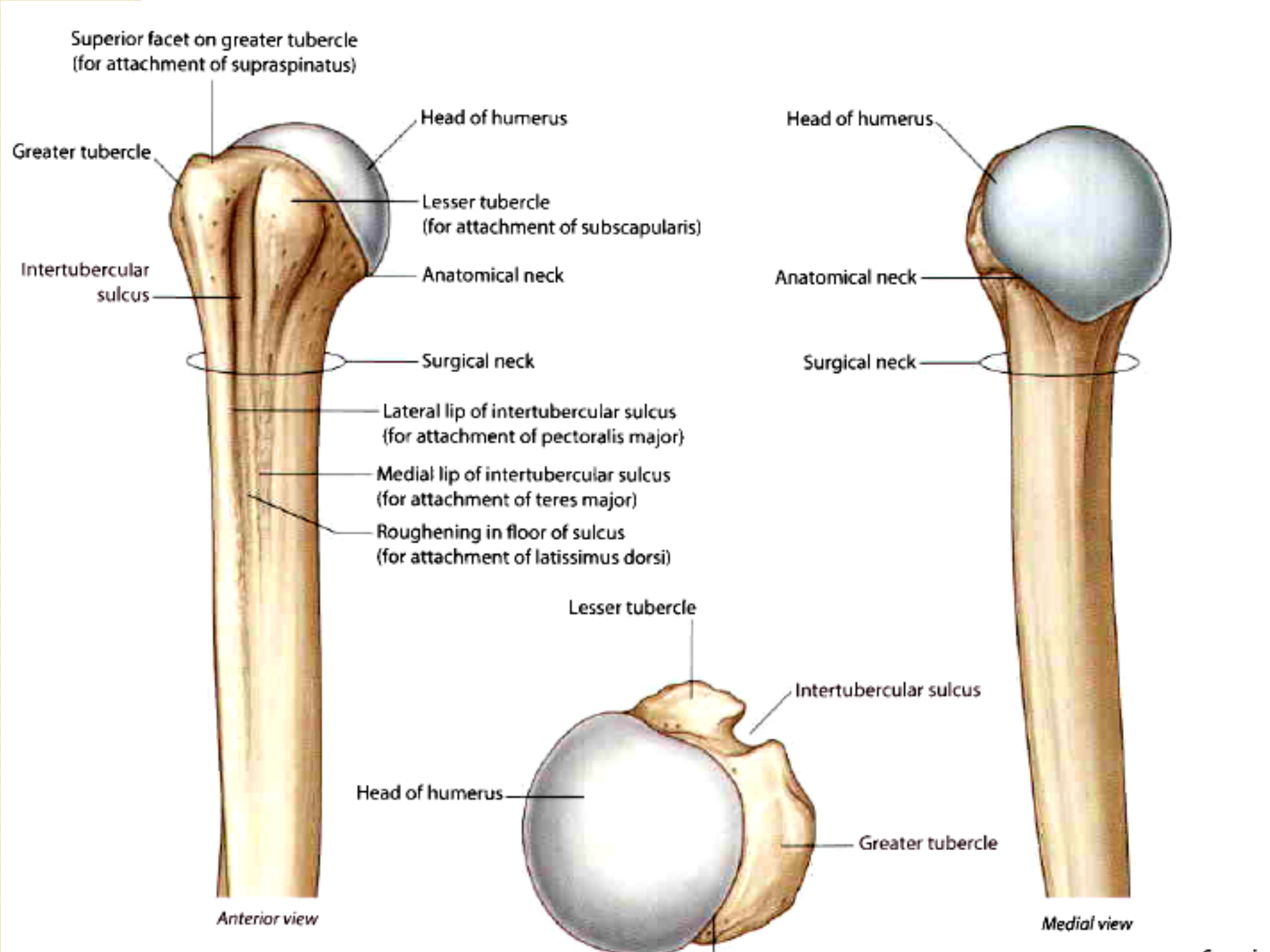
Intertubercular sulcus

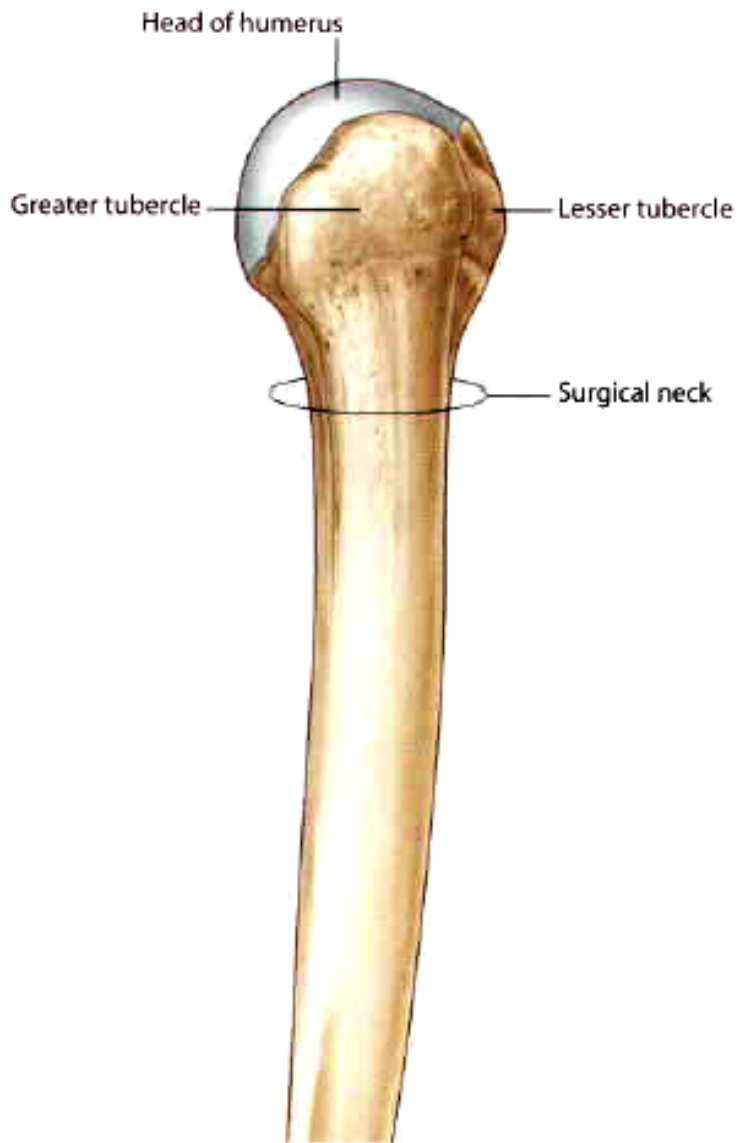
Head of humerus

Greater tubercle

Anterior view

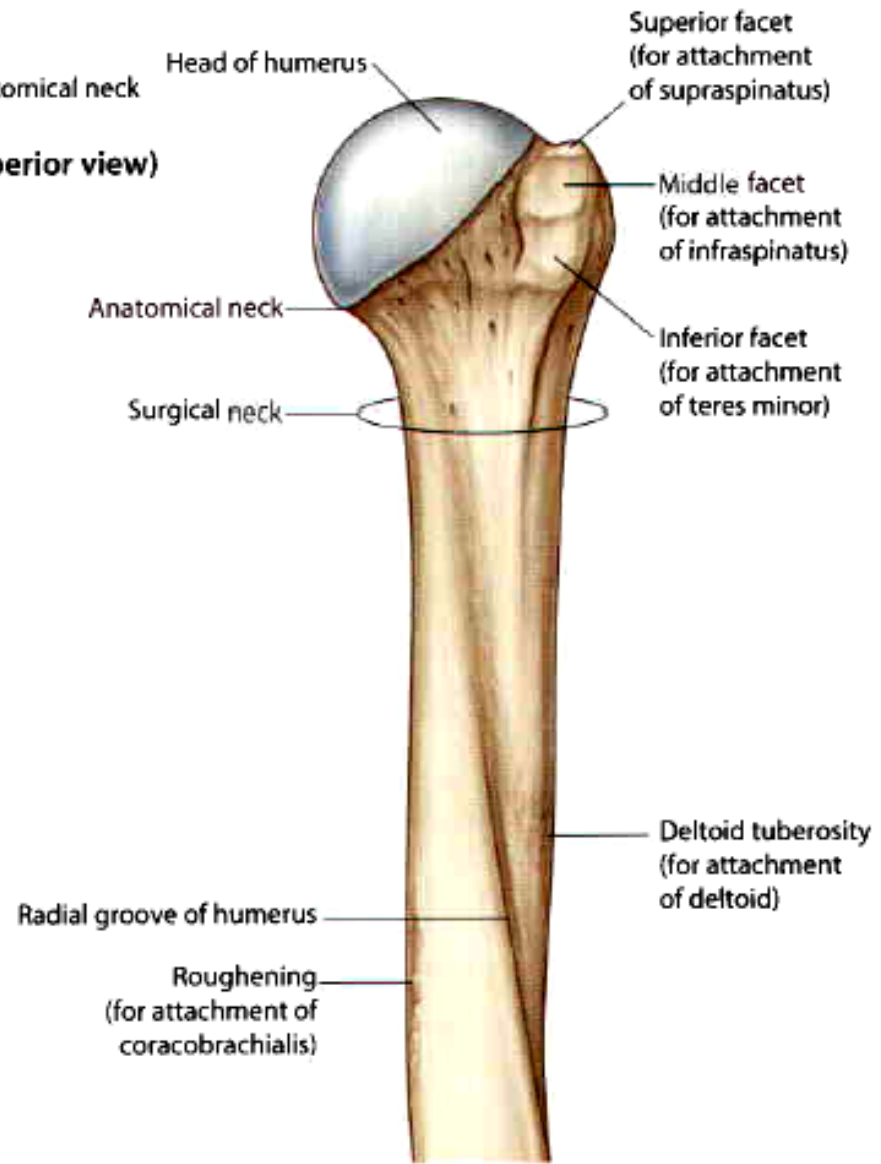
Medial view



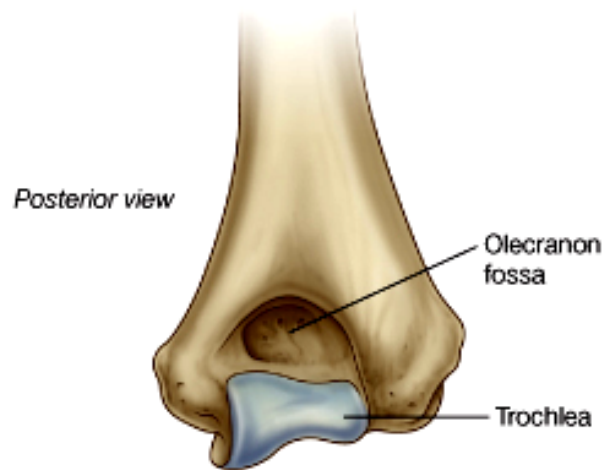
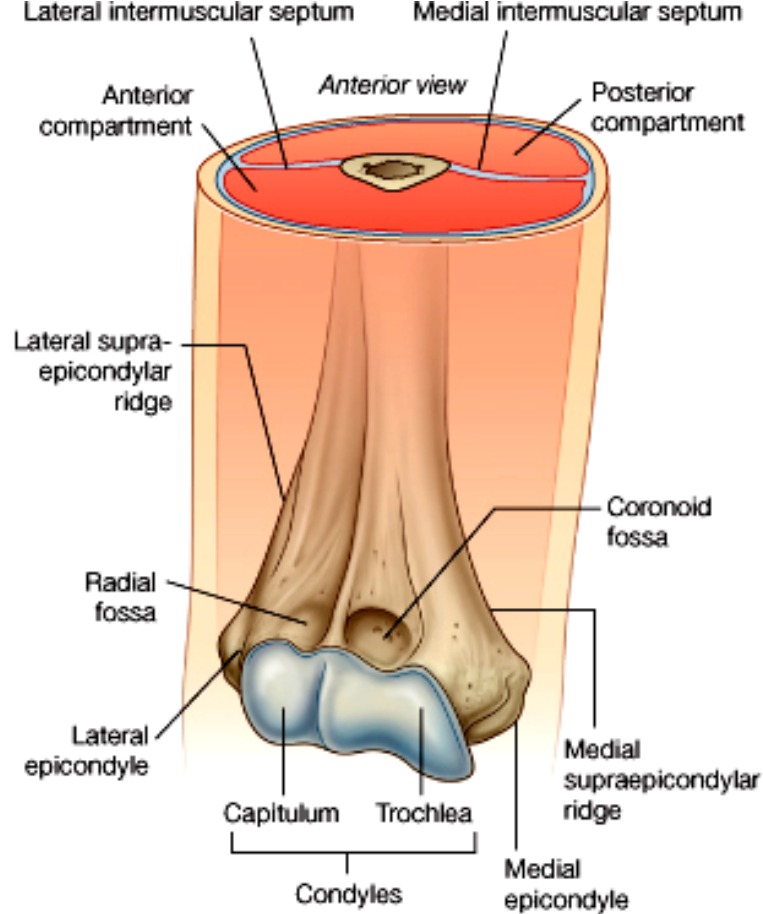


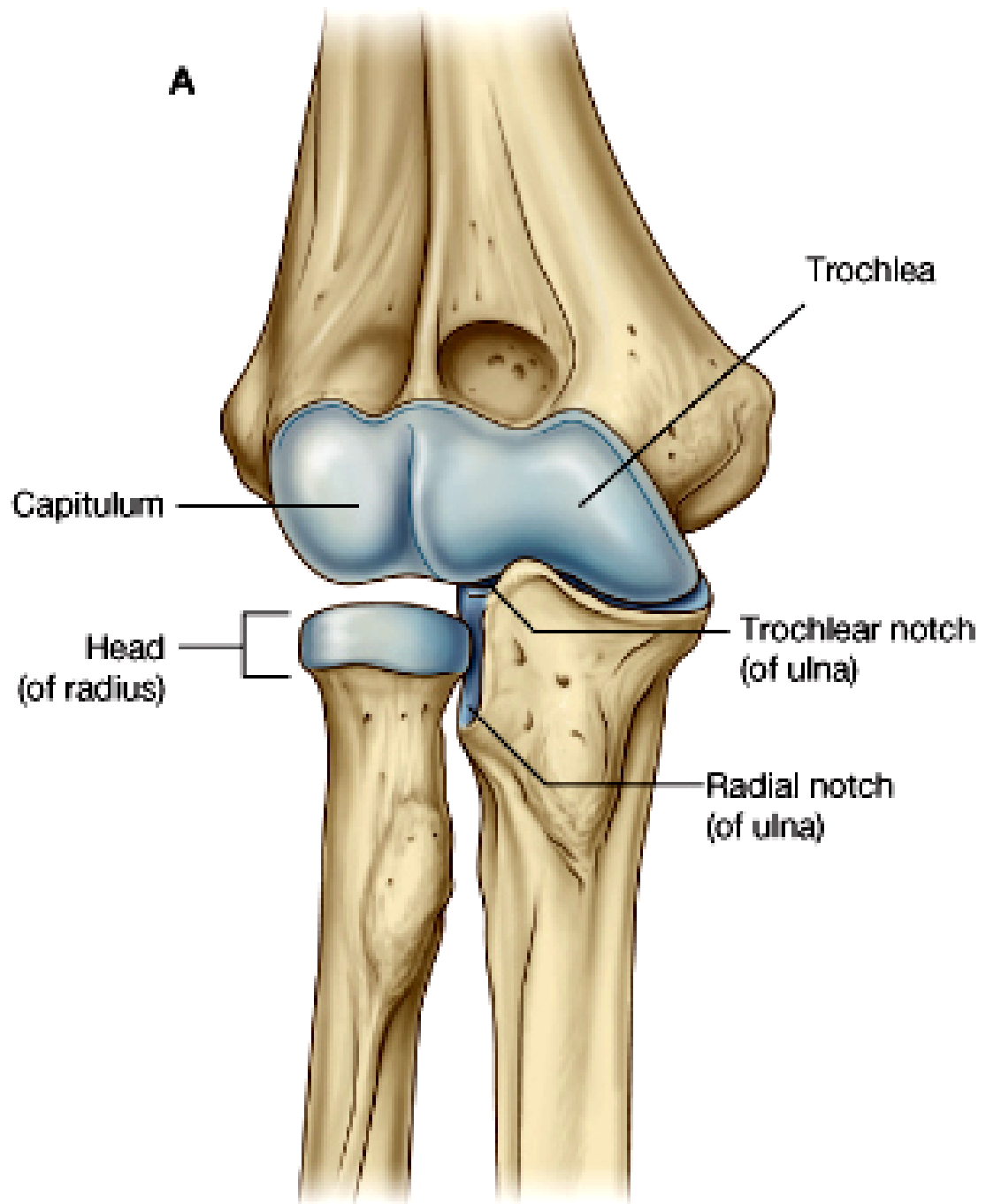
Lateral view

Humeral head (superior view)

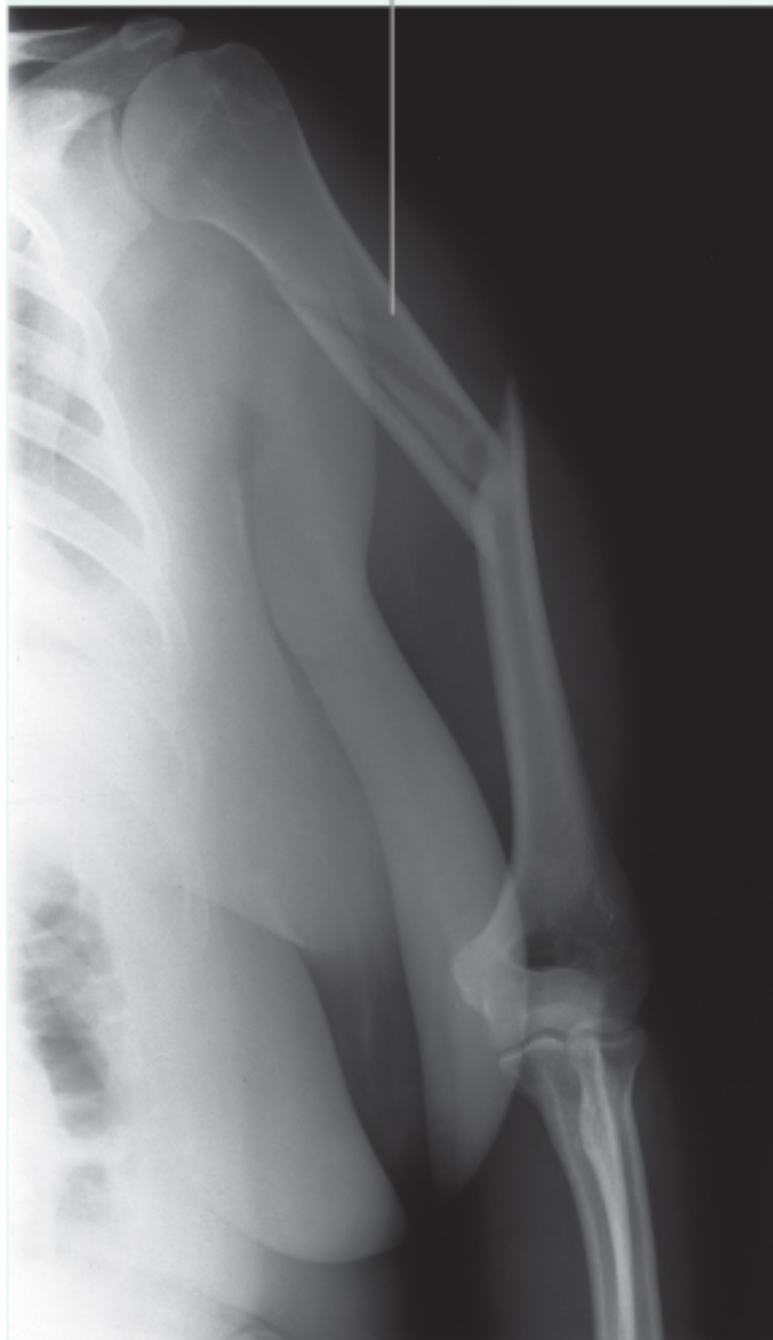


Posterior view



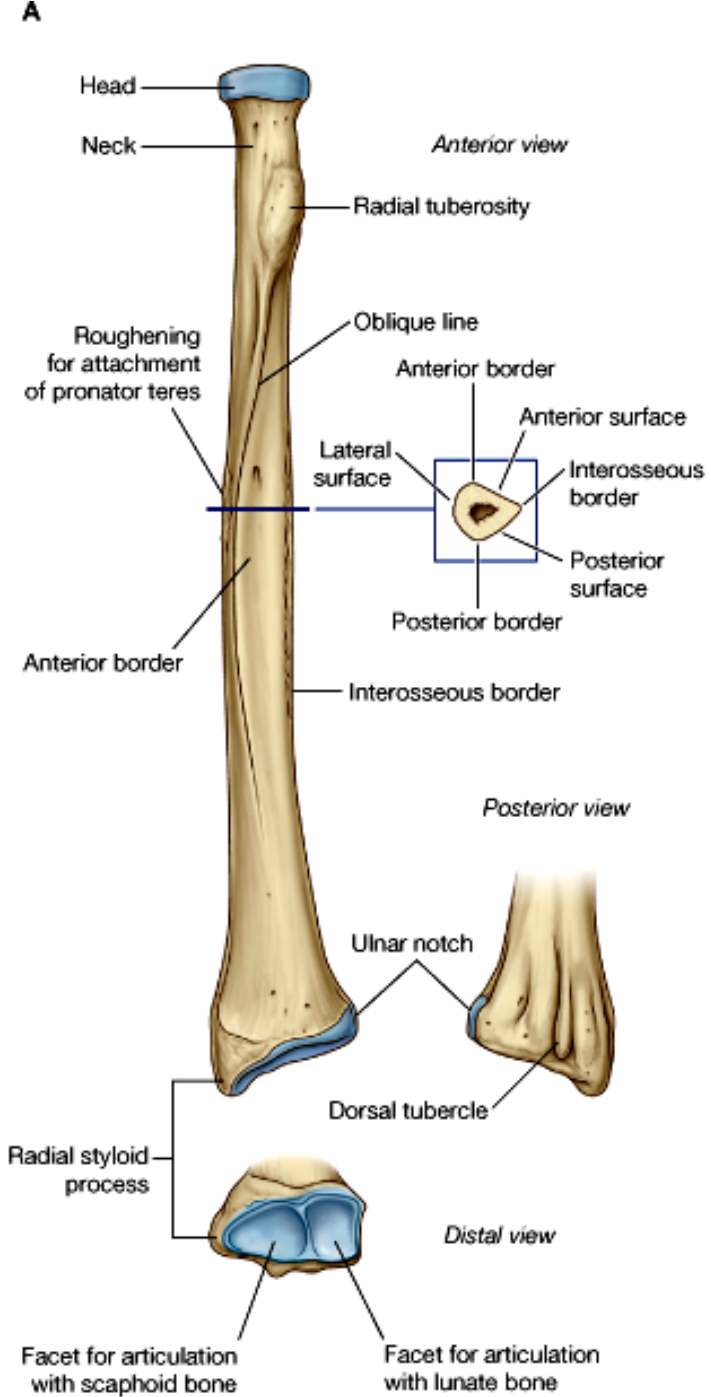


Humerus

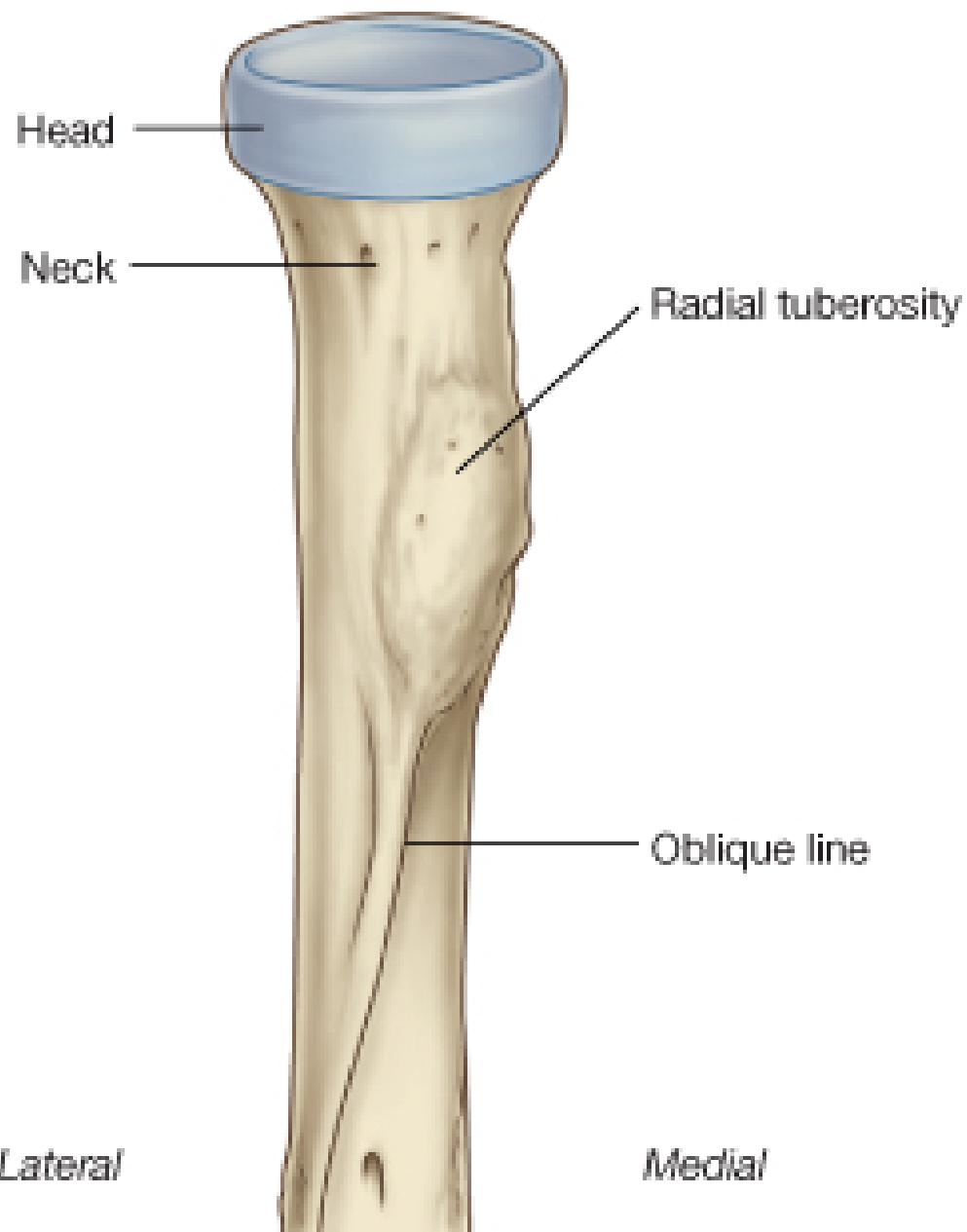


Radius:

- Upper end
- Body
- Lower end

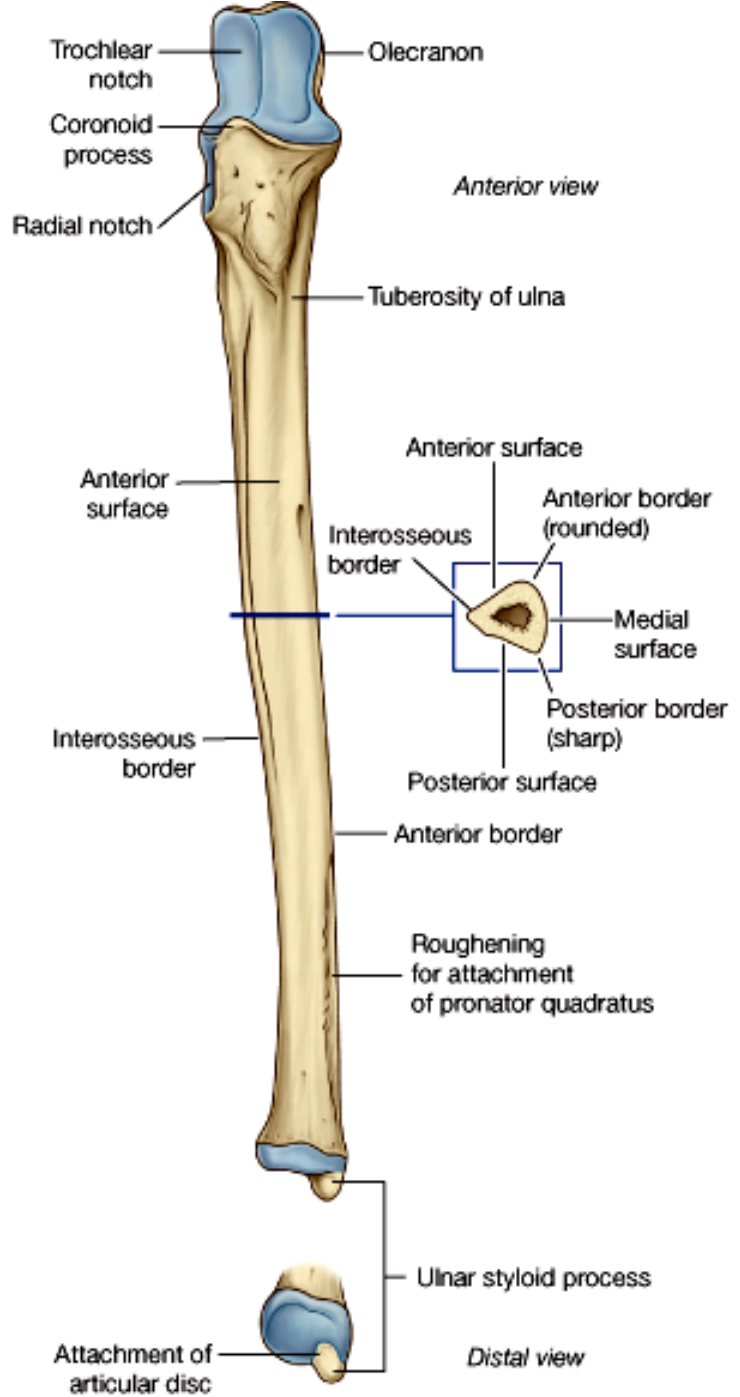


A

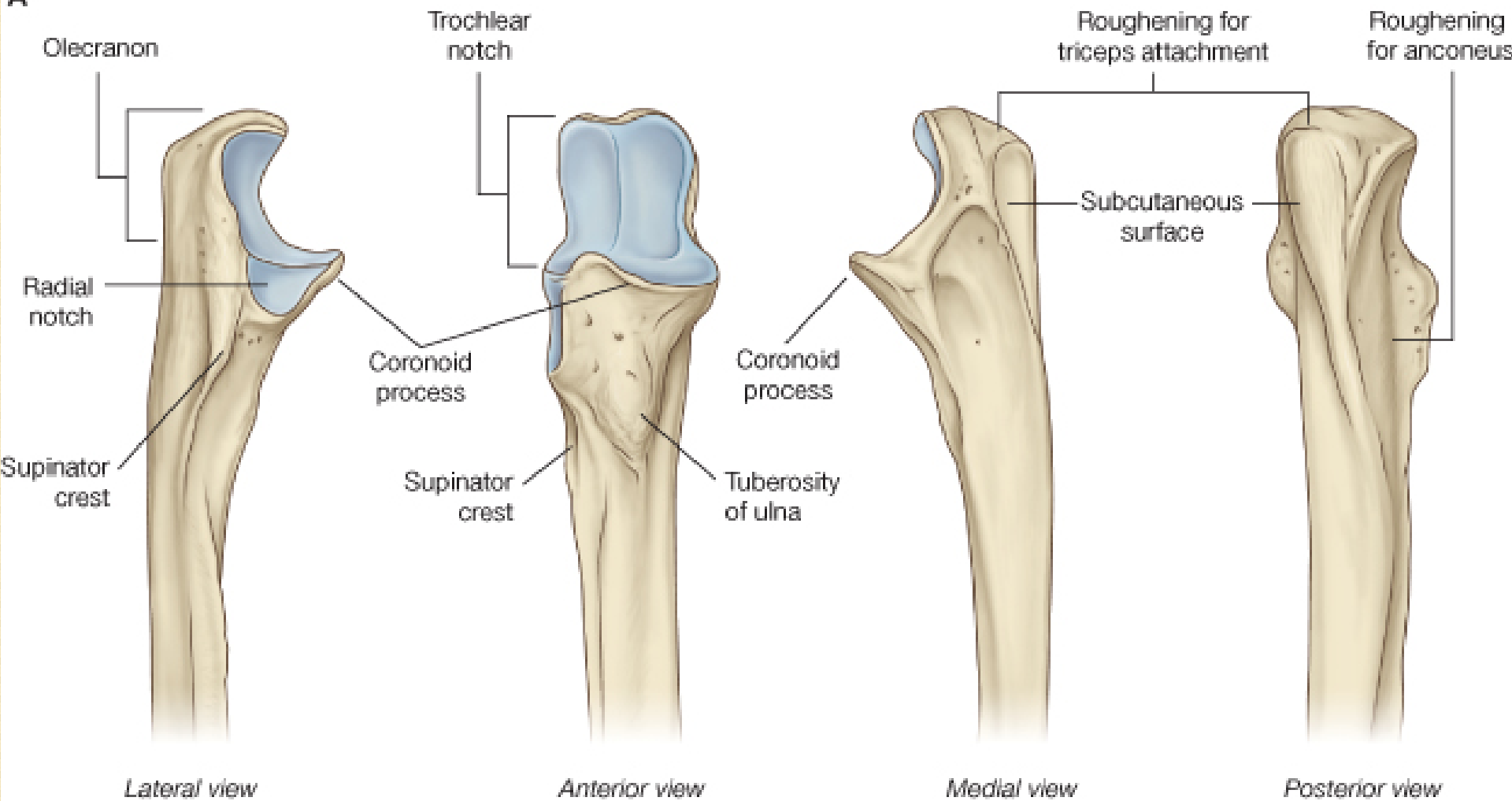


Ulna:

- Upper end
- Body
- Lower end



A



B



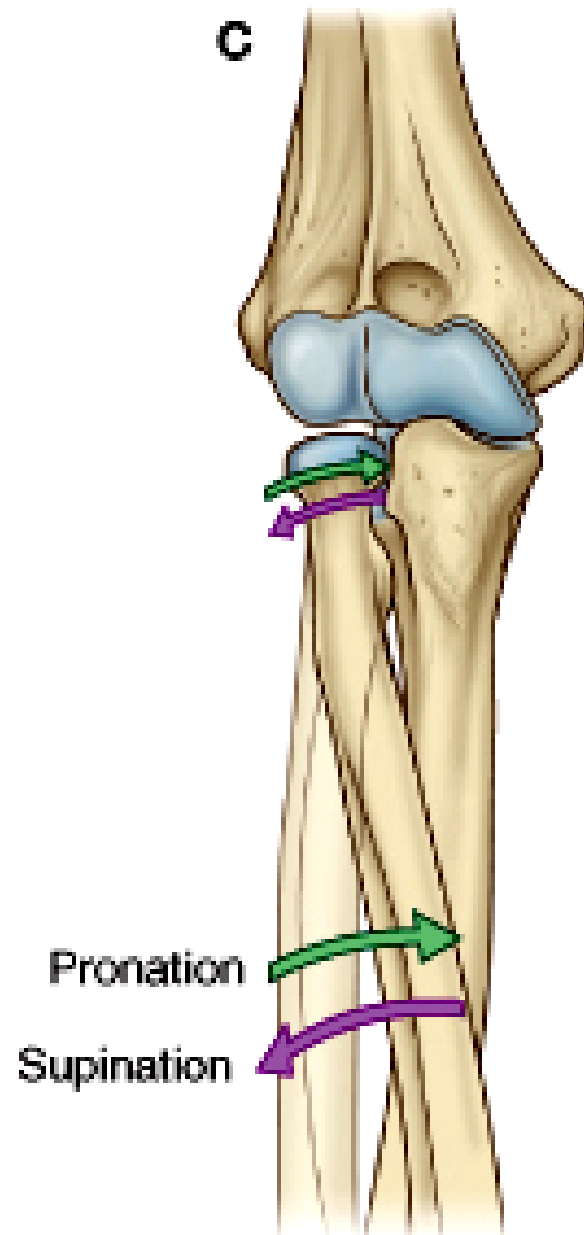
B

Radial tuberosity Capitulum Humerus



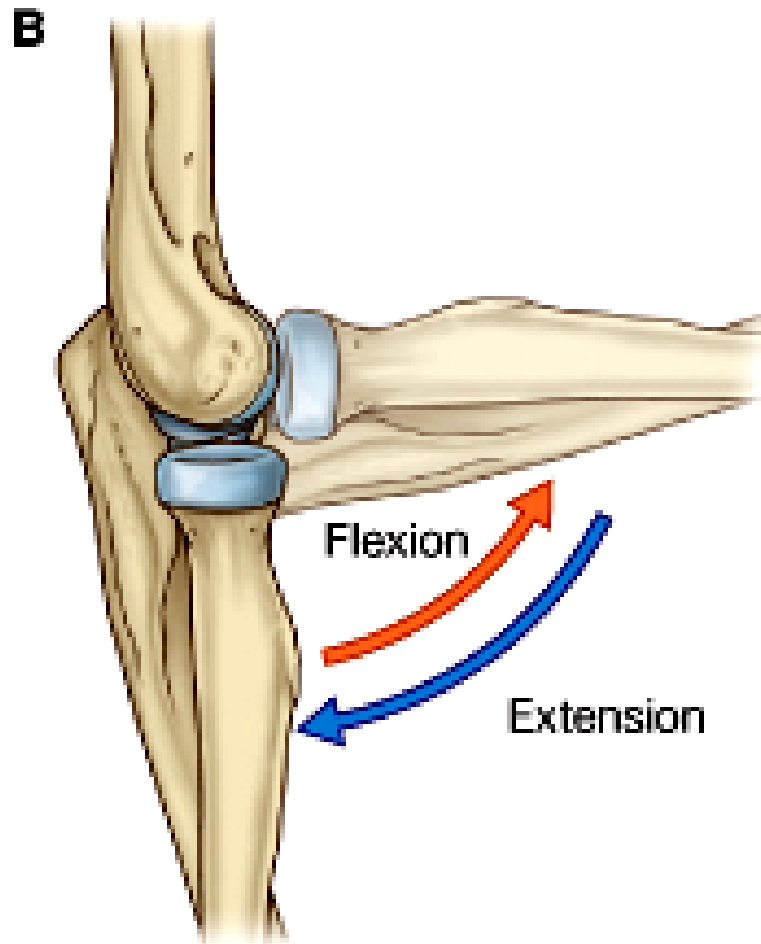
Coronoid process Trochlear notch Olecranon

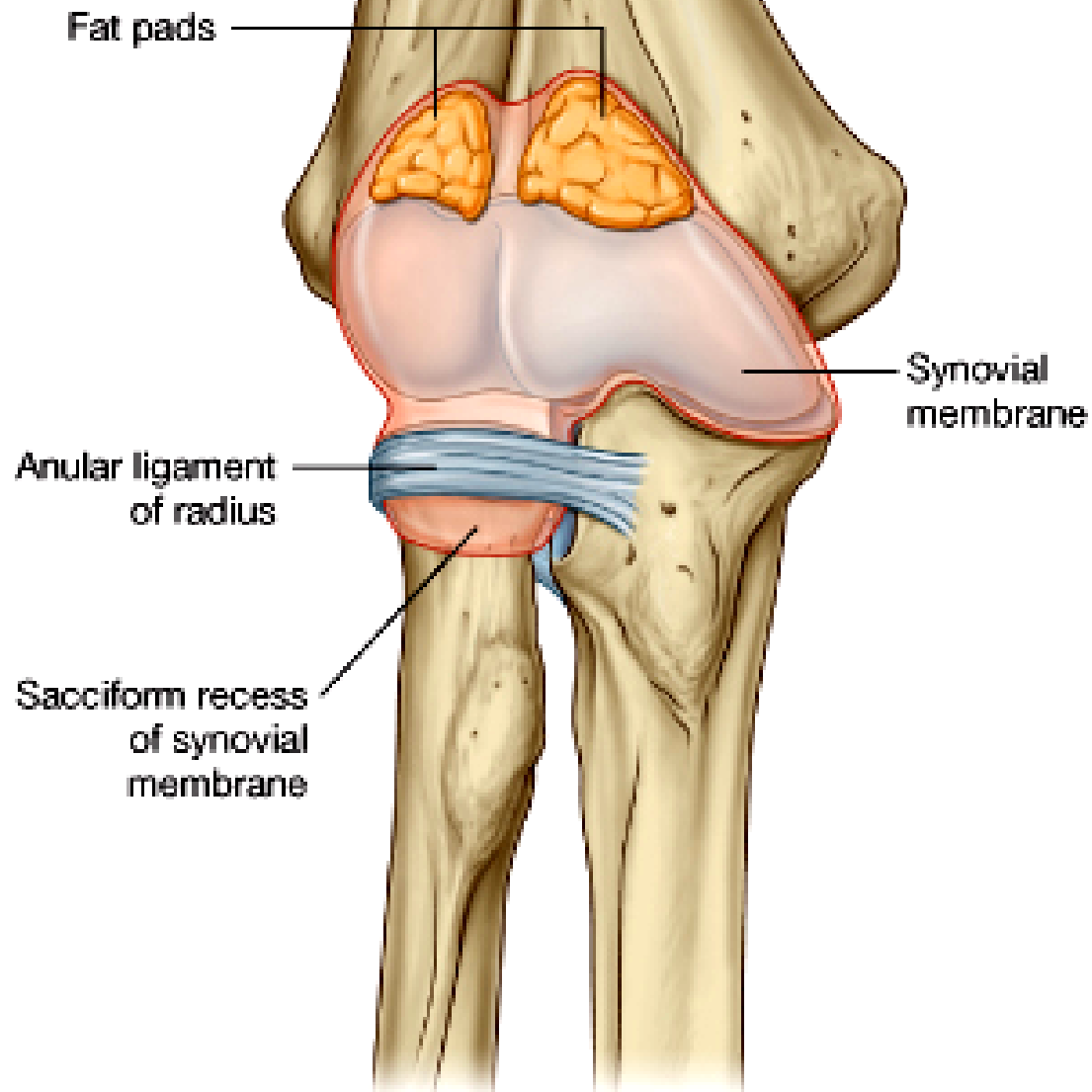
c



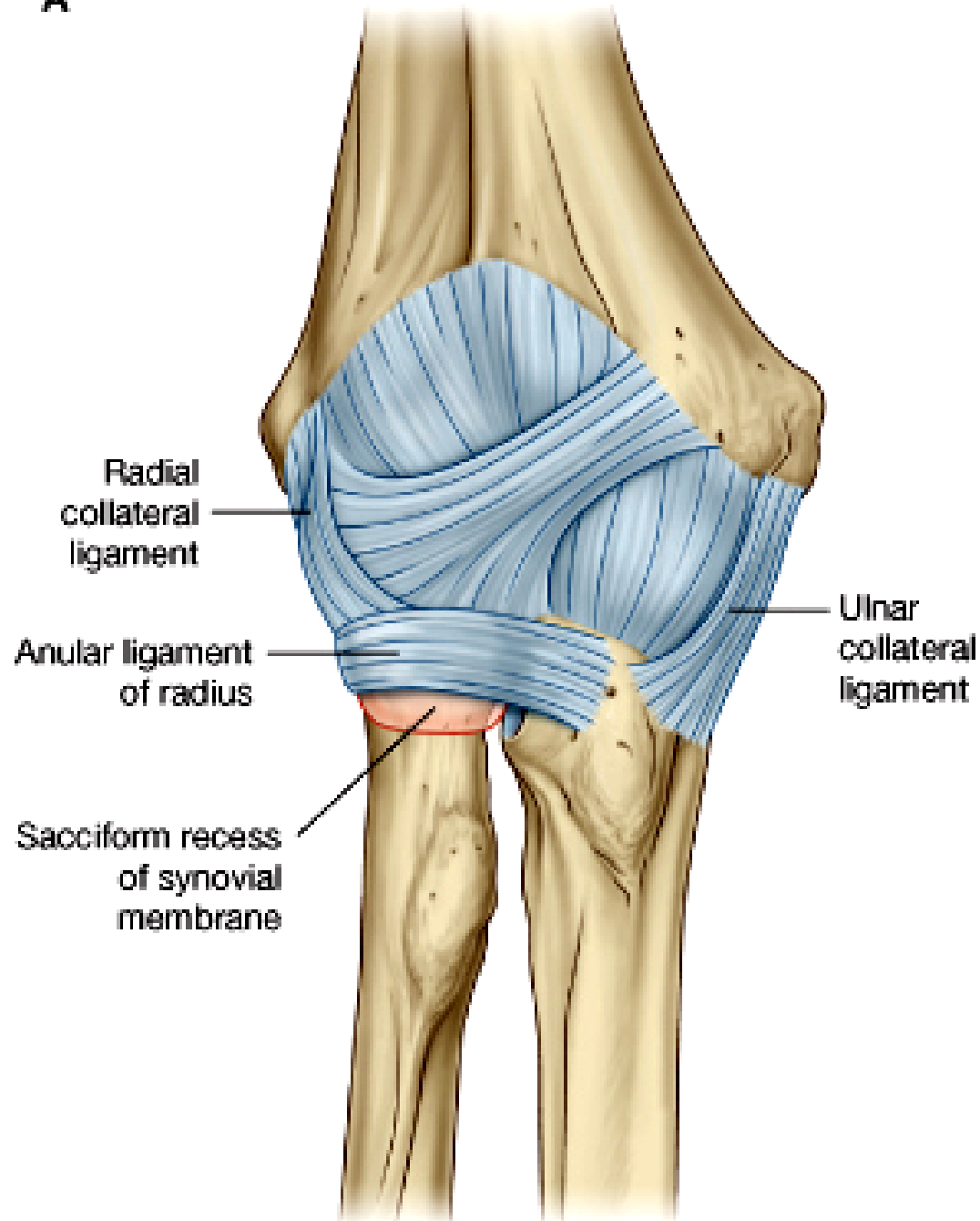
Pronation

Supination



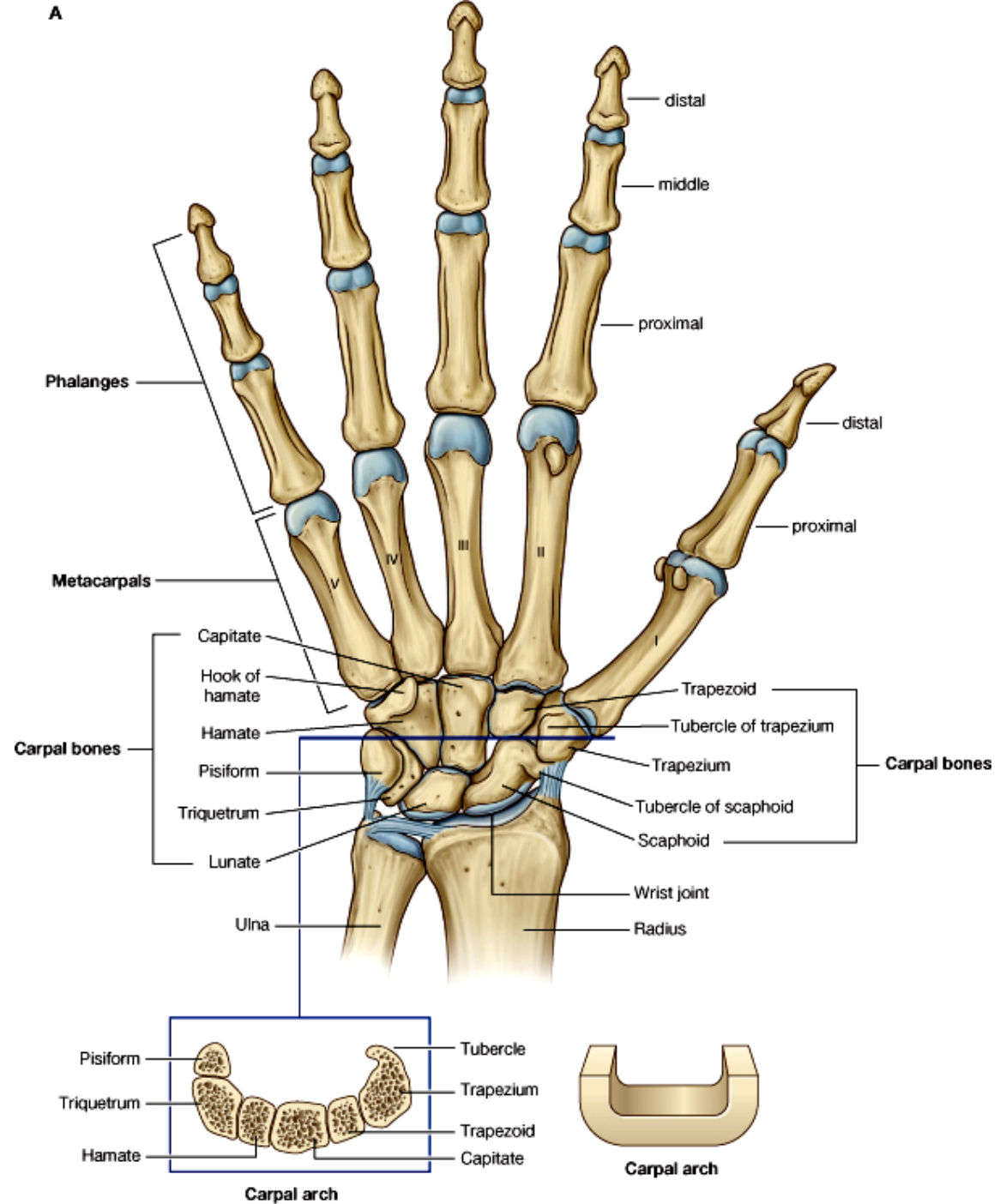


A



Wrist:

- ❖ Proximal
- ❖ Distal
- ❖ Clinical note



Metacarpal bone:

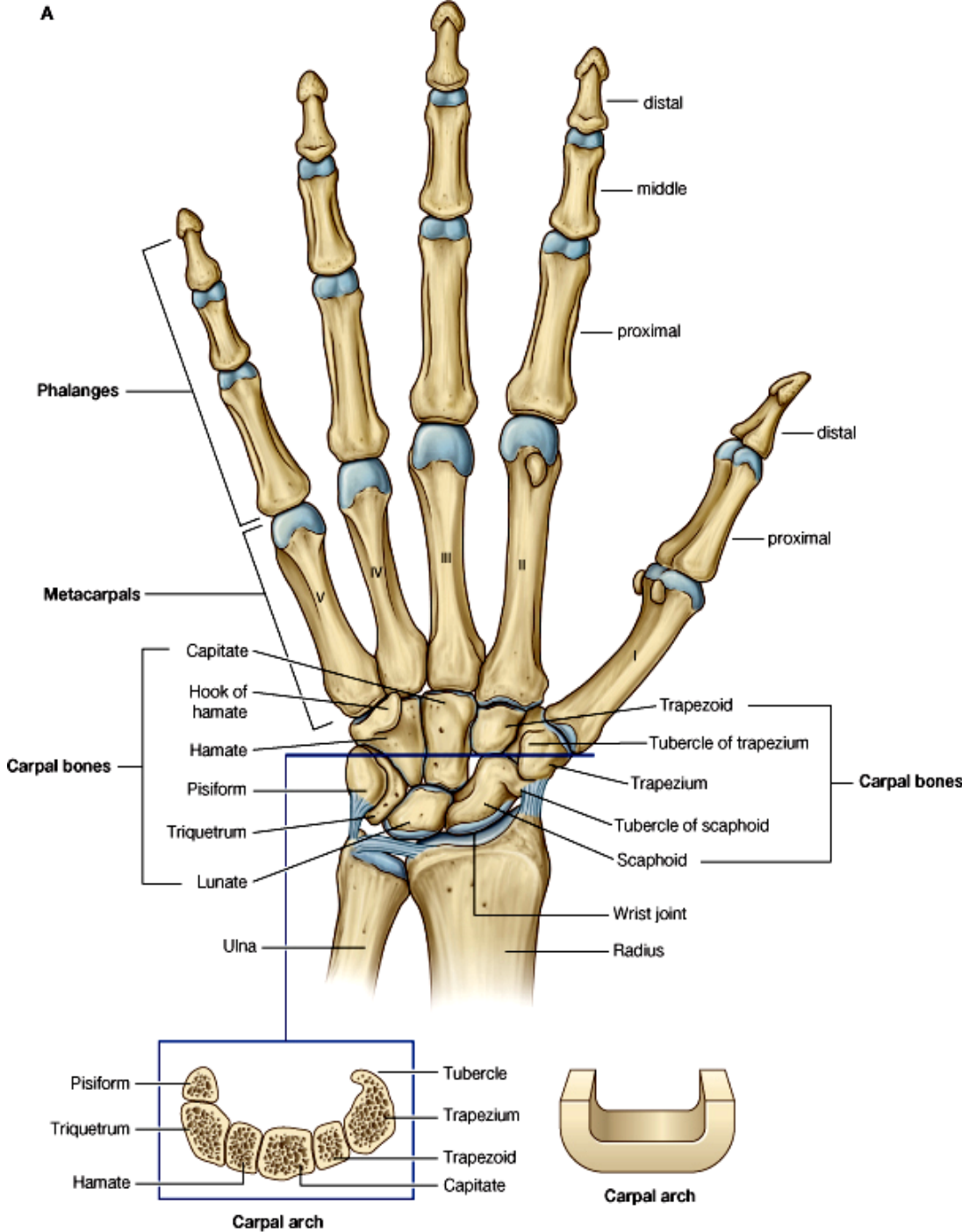
- Proximal end (base)
- Shaft (body)
- Distal end (apex)

Phalanges:

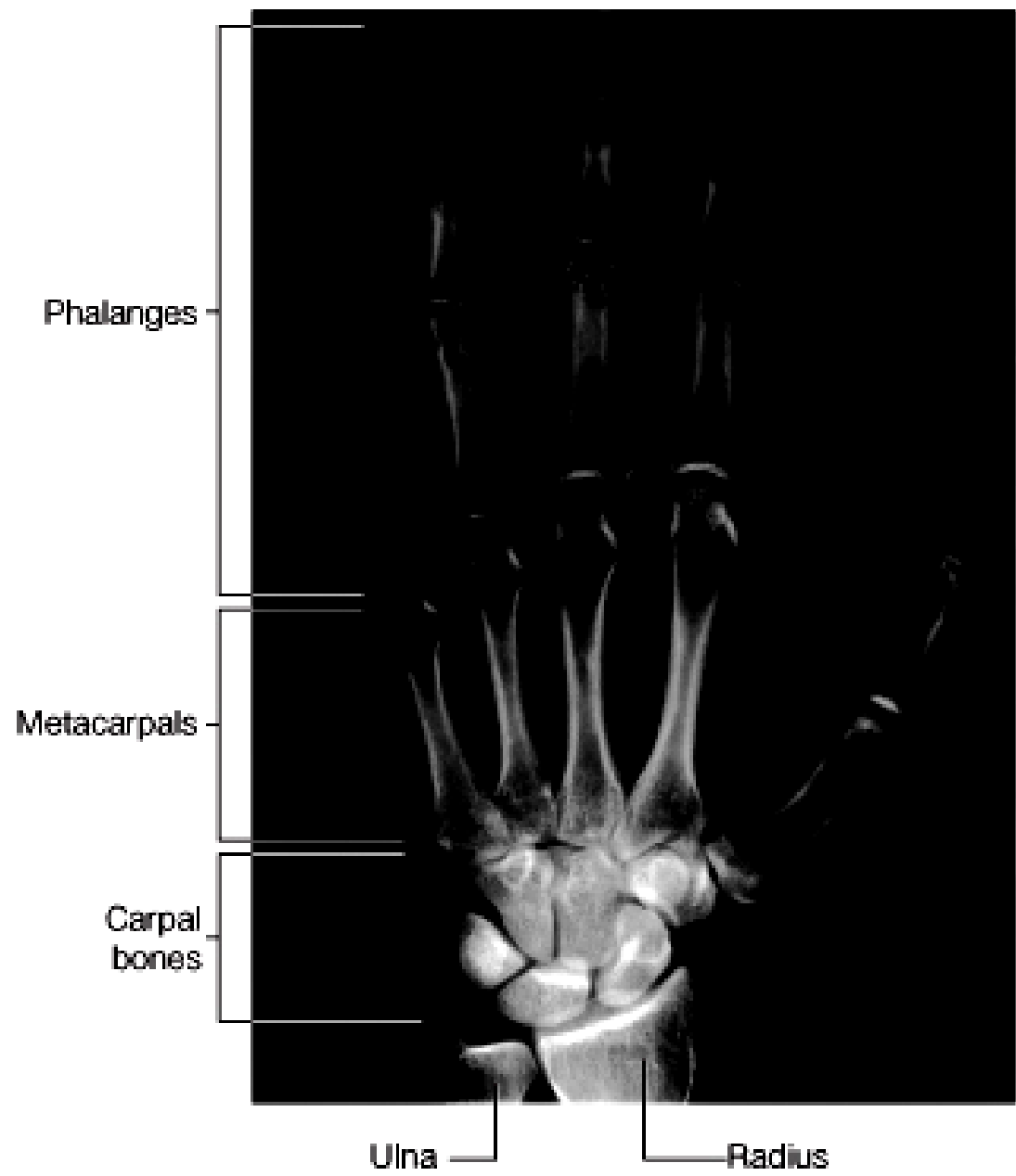
- Proximal end (base)
- Shaft (body)
- Distal end (apex)

articulation

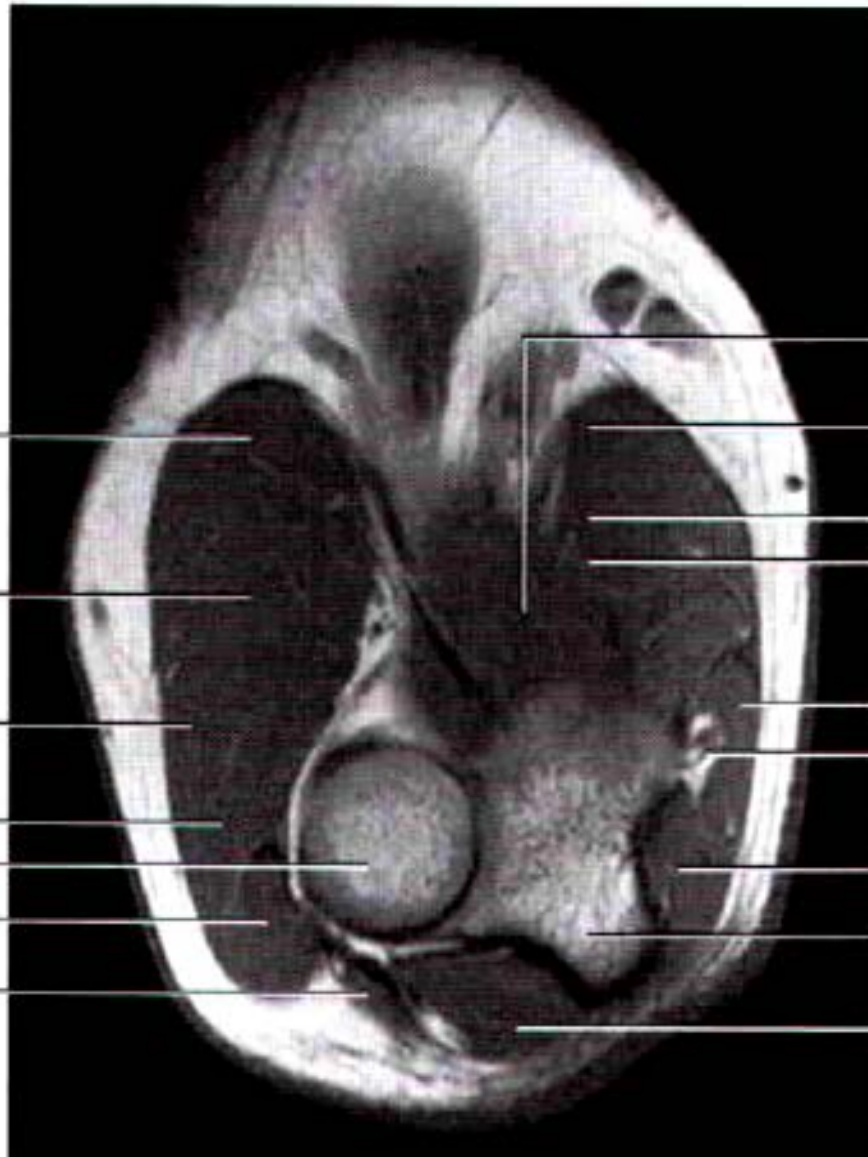
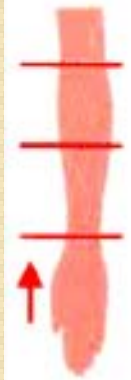
- Proximal inter phalangeal (PIP)
- Distal inter phalangeal (DIP)



B



A



Brachioradialis

Extensor carpi radialis longus

Extensor carpi radialis brevis

Extensor digitorum

Head of radius

Extensor digiti minimi

Extensor carpi ulnaris

Brachialis

Pronator teres

Flexor carpi radialis

Palmaris longus

Flexor carpi ulnaris

Ulnar nerve

Flexor digitorum superficialis

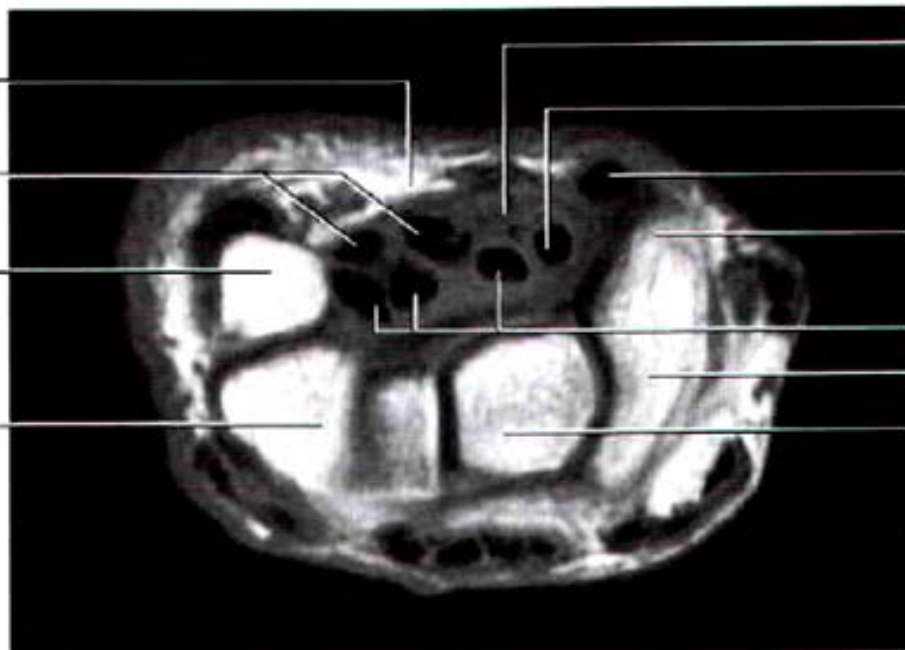
Ulna

Anconeus



A

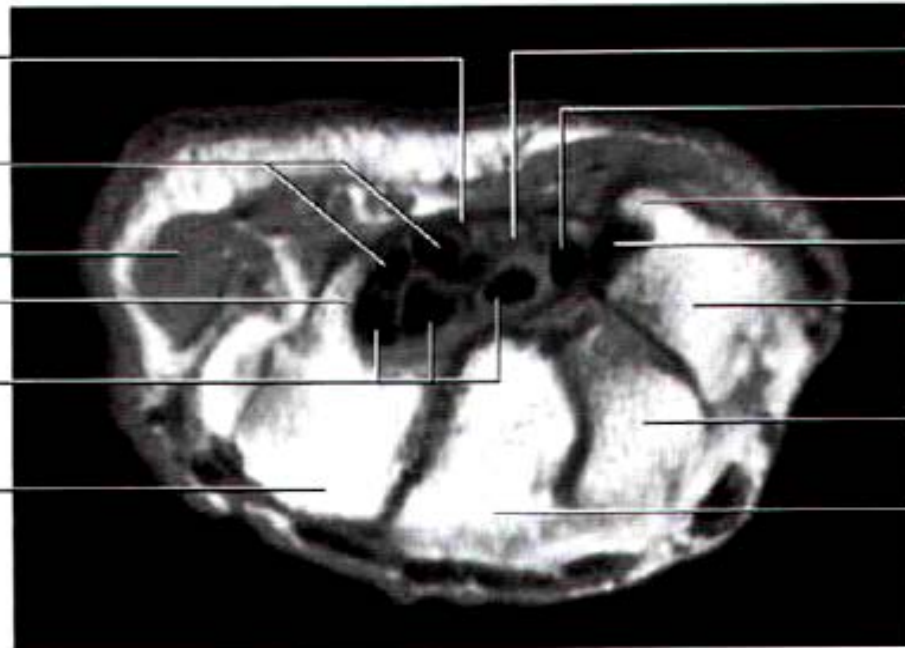
- Flexor retinaculum
- Flexor digitorum superficialis tendons
- Pisiform
- Triquetrum



- Median nerve
- Flexor pollicis longus tendon
- Flexor carpi radialis tendon
- Tubercle of scaphoid
- Flexor digitorum profundus tendons
- Scaphoid
- Lunate

B

- Flexor retinaculum
- Flexor digitorum superficialis tendons
- Hypothenar muscles
- Hook of hamate
- Flexor digitorum profundus tendons
- Hamate



- Median nerve
- Flexor pollicis longus tendon
- Tubercle of trapezium
- Flexor carpi radialis tendon
- Trapezium
- Trapezoid
- Capitate