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# ELBOW JOINT

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# [Elbow Anatomy]

- Elbow joint is made of
  - 3 bones
  - 2 joints
  - One capsule
  - Hinge joint
  - Flexion(145) and extension

# Elbow joint

Two articulations –

1. Humero-ulnar

2. Humero-radial

the complexity of elbow joint is increased by its continuity with superior radio ulnar joint.

humero-radial

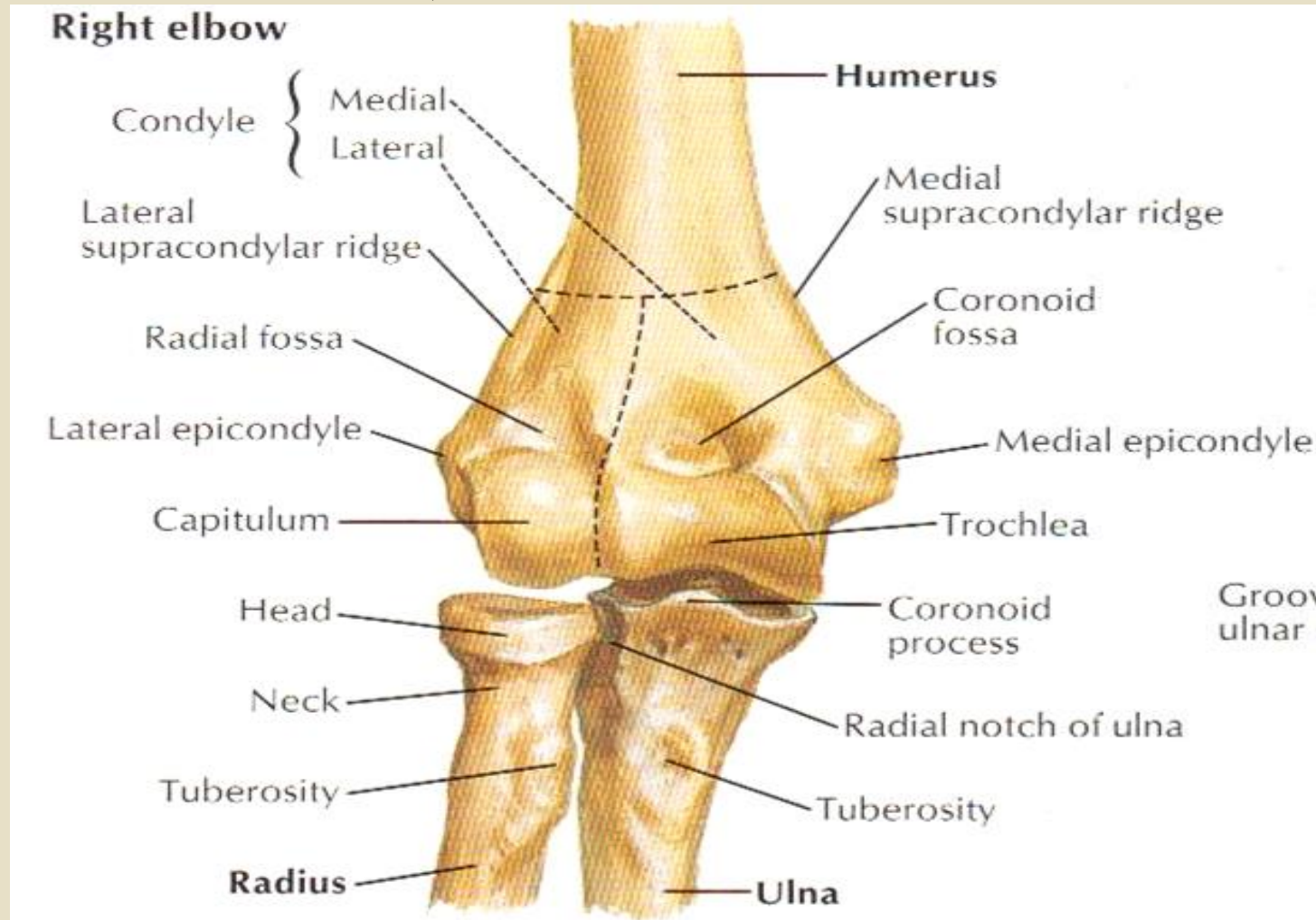
+

humero-ulnar = cubital articulation

+

superior radioulnar

# type of joint



- **synovial joint**
- **hinge variety**
- **compound**
- **typical**

# ELBOW

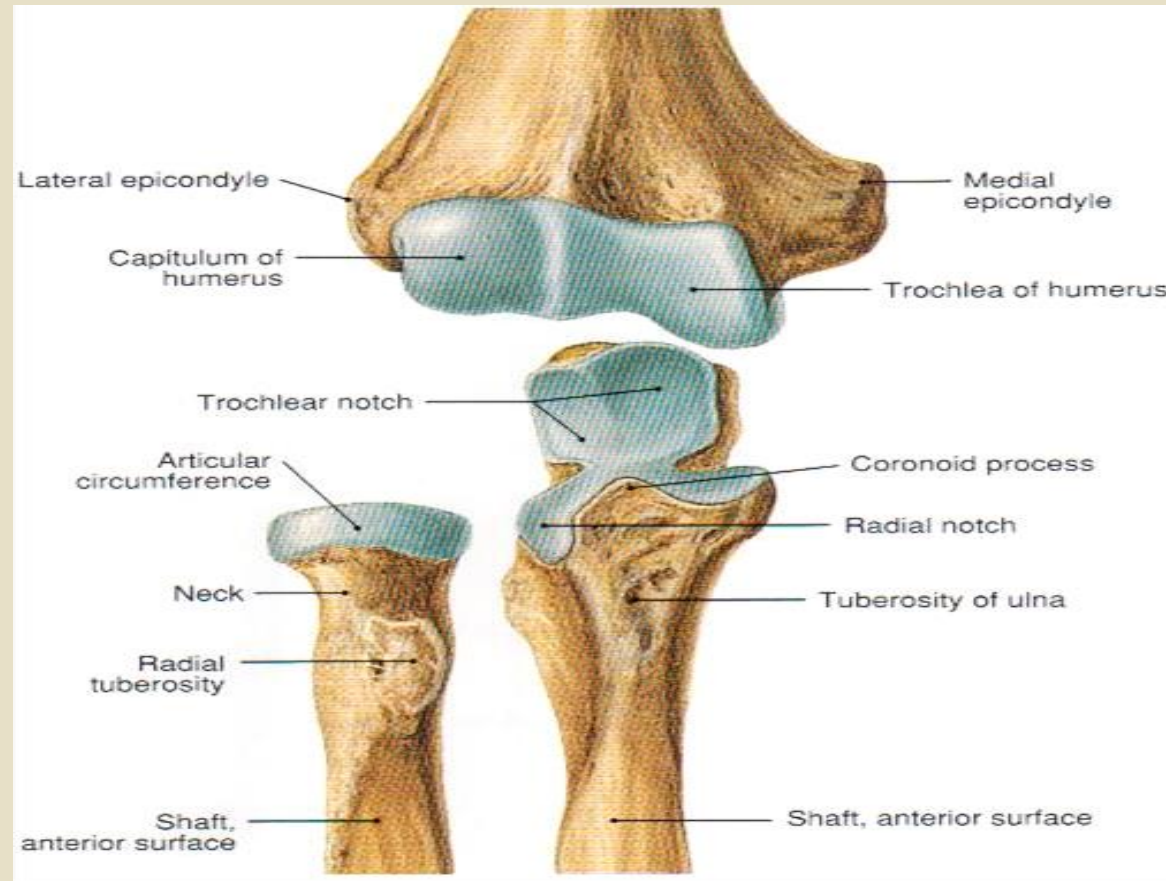


**(c) Anterior view at the elbow region**



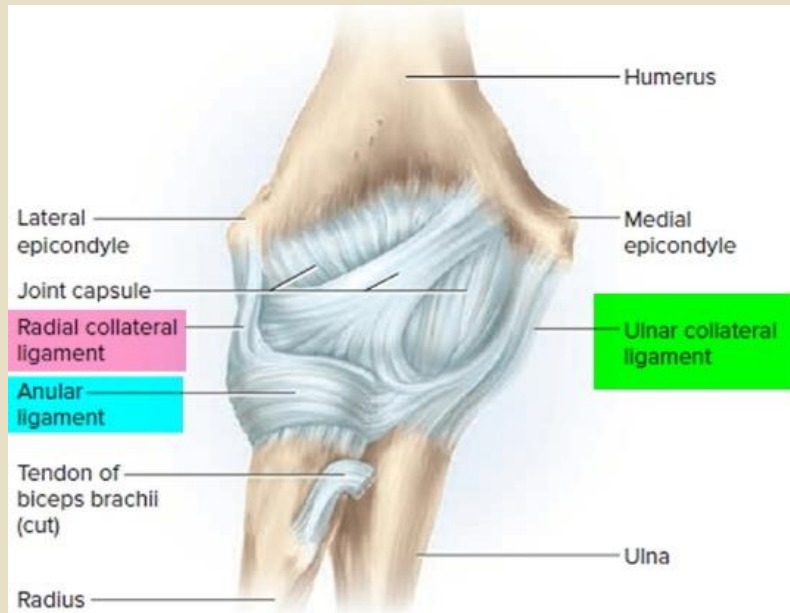
**(d) Posterior view of extended elbow**

# Articular surfaces

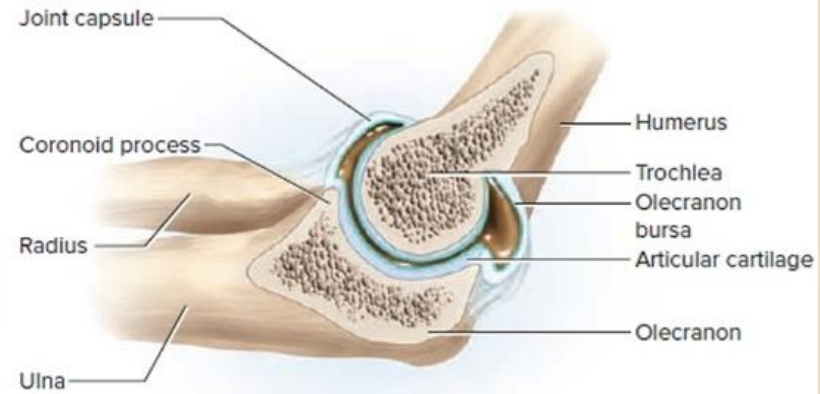


- Capitulum and trochlea of the lower end of humerus
- Upper surface of head of radius and trochlear notch of ulna

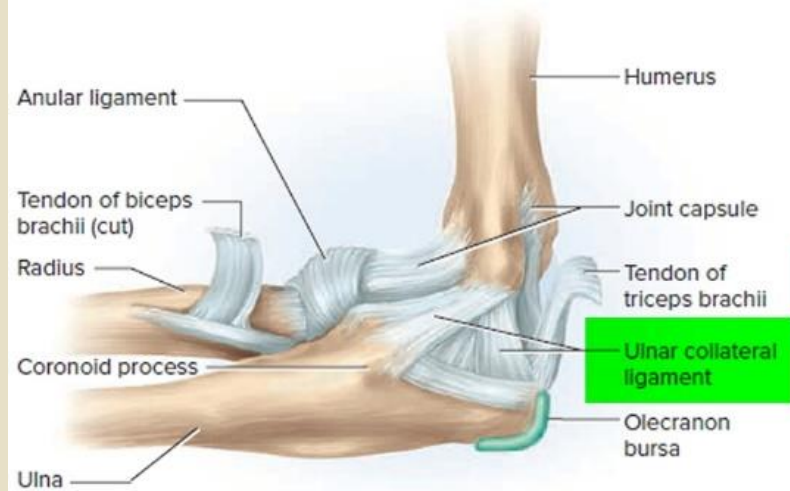




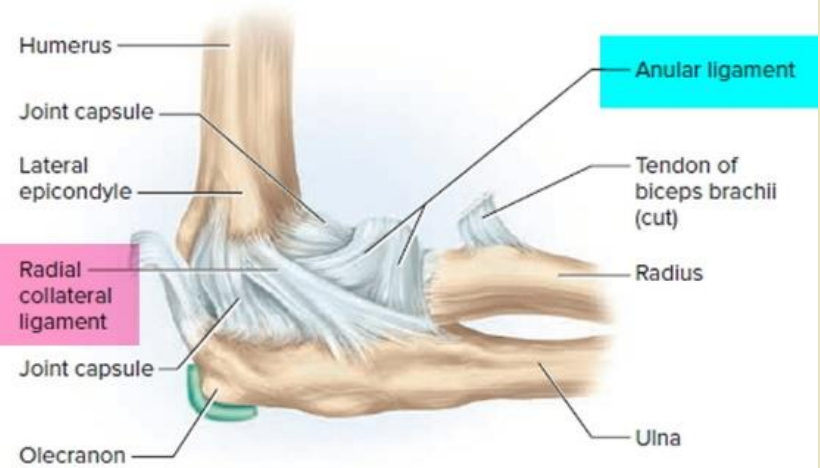
(a) Anterior view



(b) Sagittal section



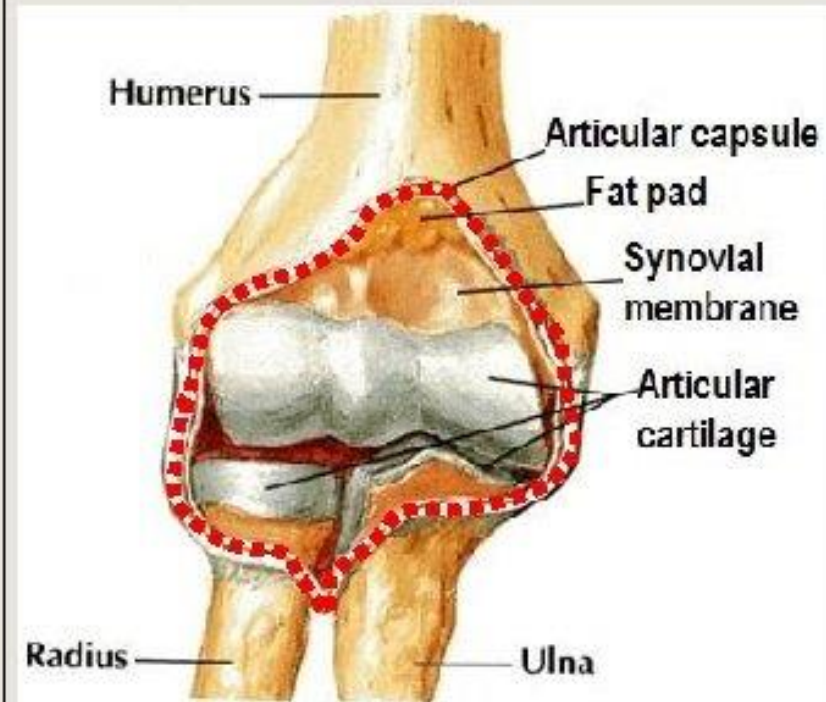
(c) Medial view



(d) Lateral view

# Capsule

- “ **Anteriorly**: attached
- **Above** to the humerus along the upper margins of the coronoid and radial fossae and to the front of the medial and lateral epicondyles and
  - **Below** to the margin of the coronoid process of the ulna and to the anular ligament, which surrounds the head of the radius.

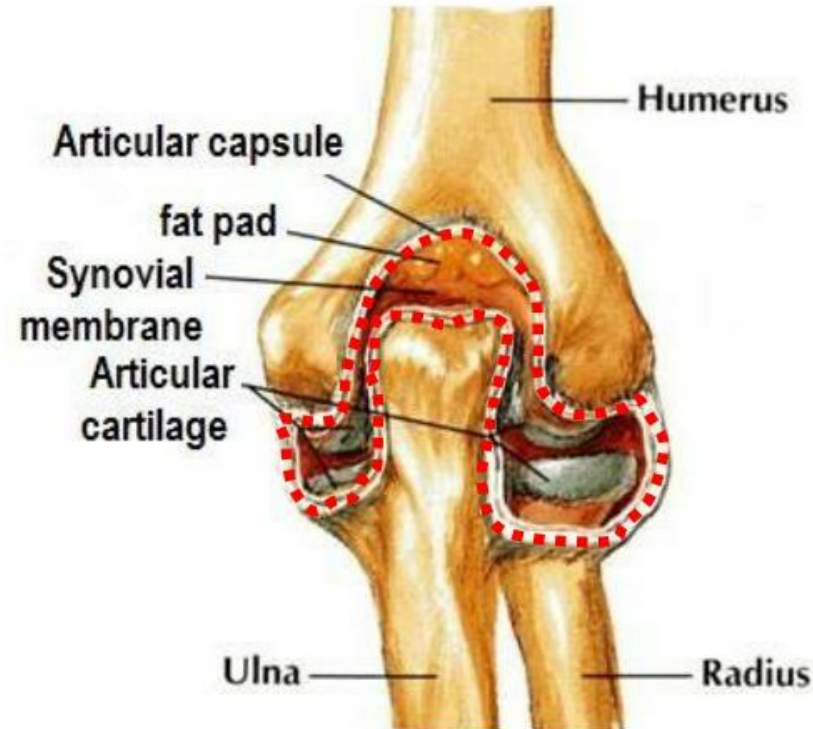




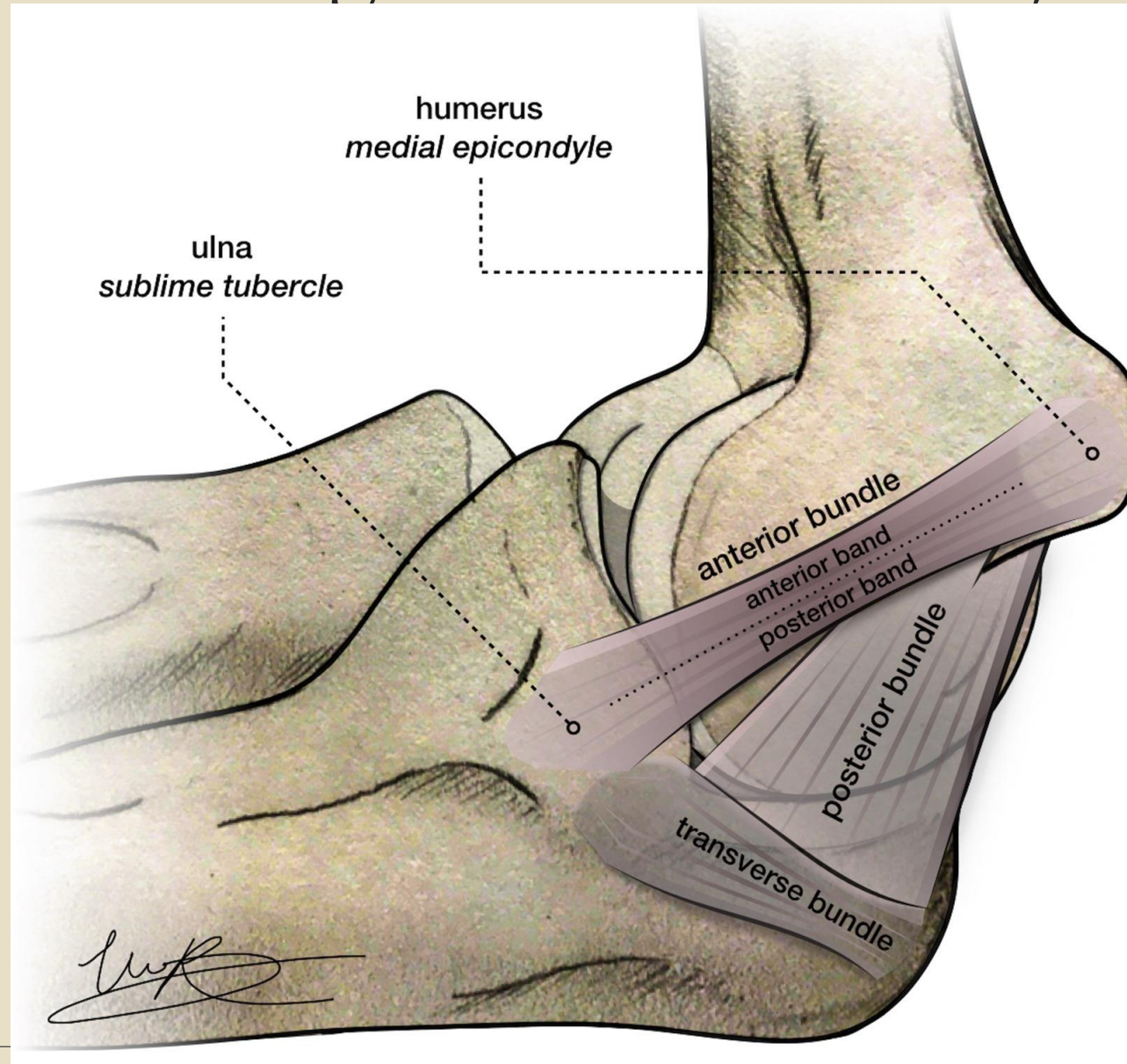
- Posteriorly:

attached

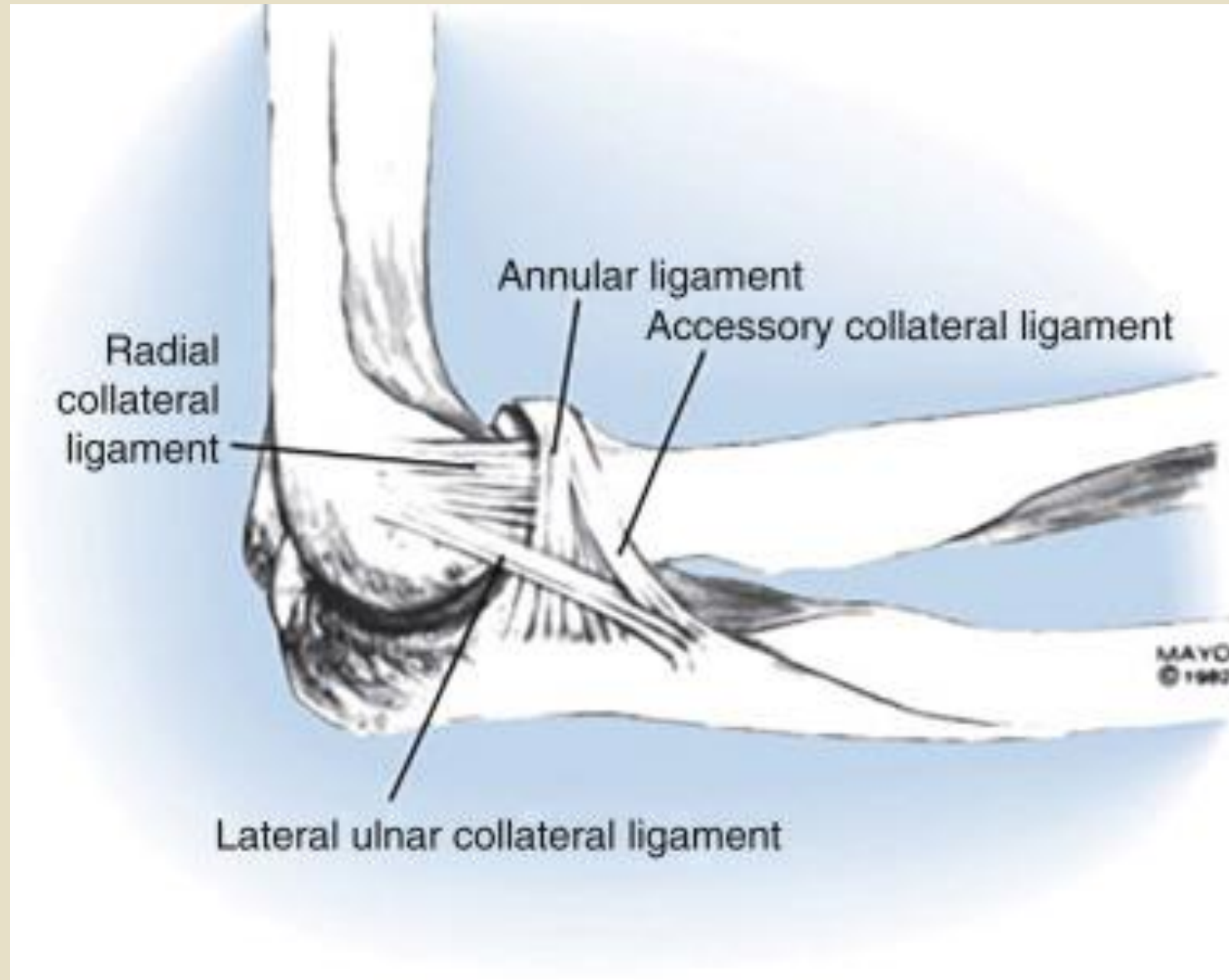
- **Above** to the margins of the olecranon fossa of the humerus and
- **Below** to the upper margin and sides of the olecranon process of the ulna and to the anular ligament.



# Medial collateral ligament of elbow joint

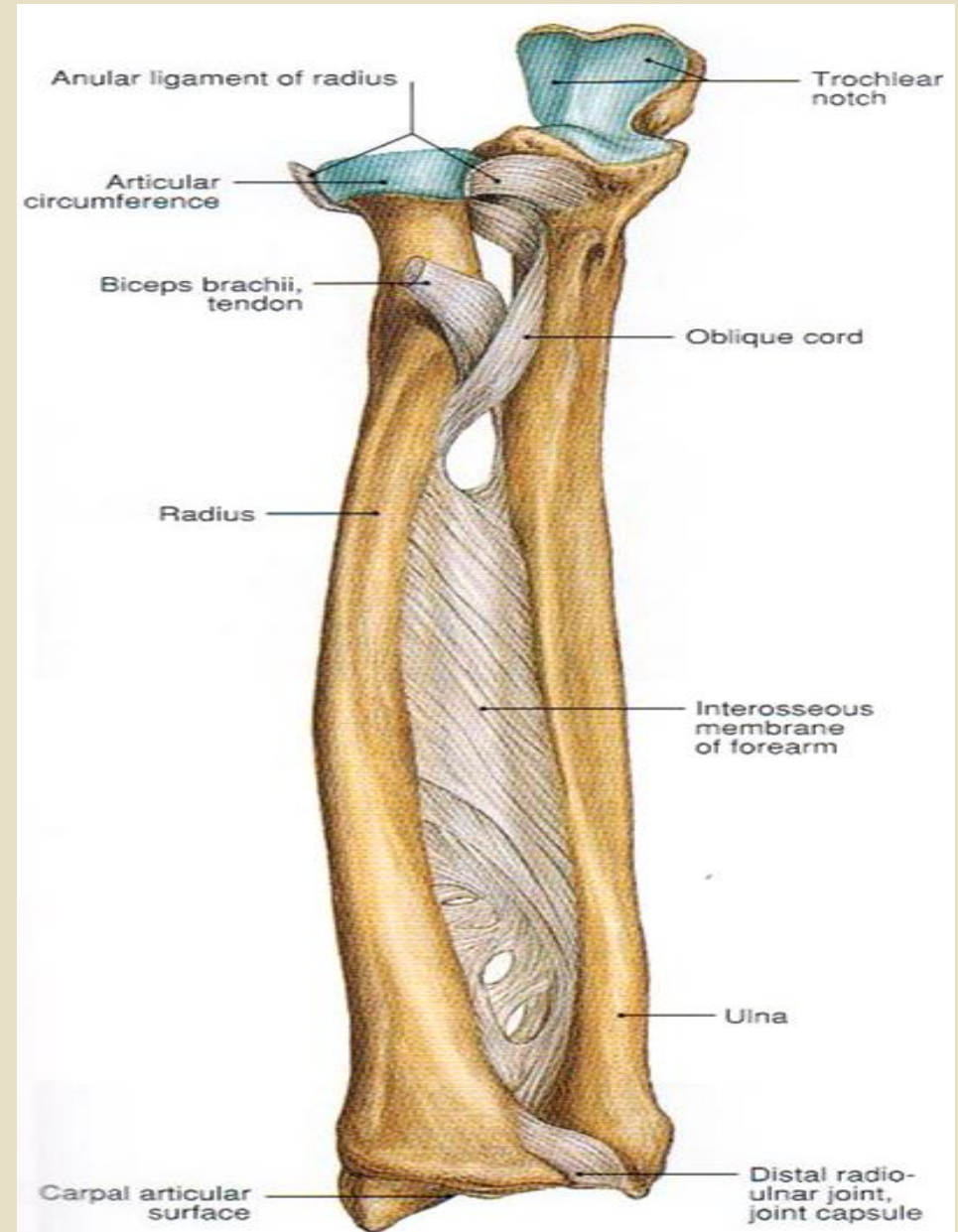


## lateral collateral ligament of elbow joint



# Radio ulnar joints

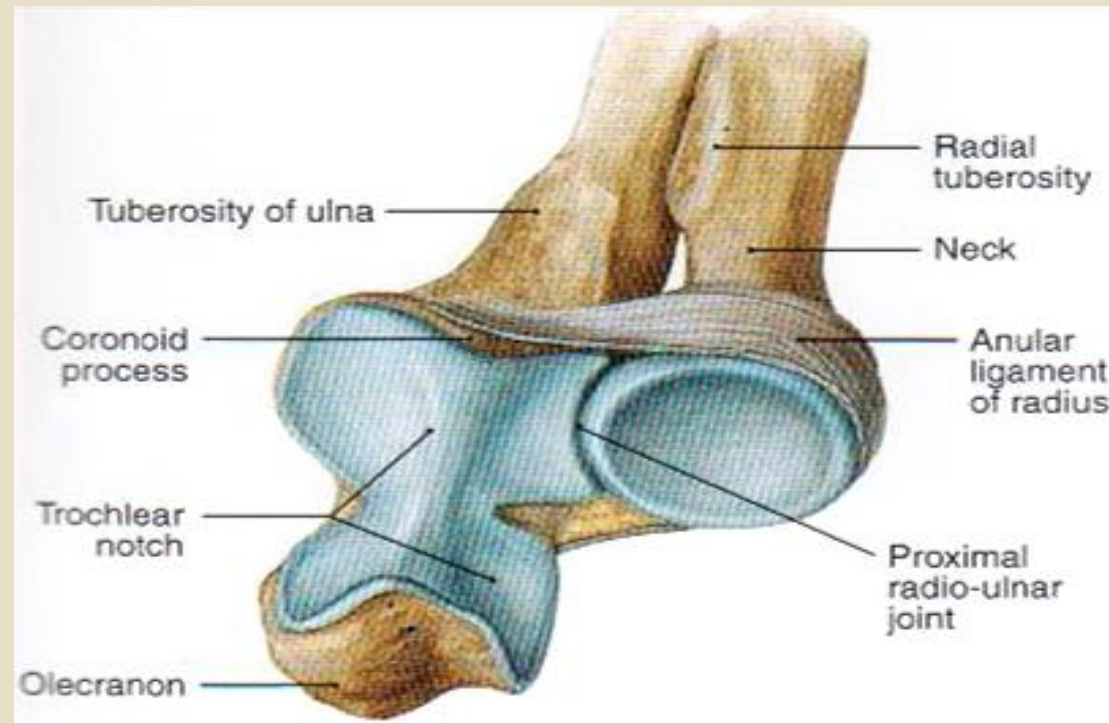
- Superior radioulnar joint
- Middle (interosseous) radioulnar joint
- Inferior radioulnar joint





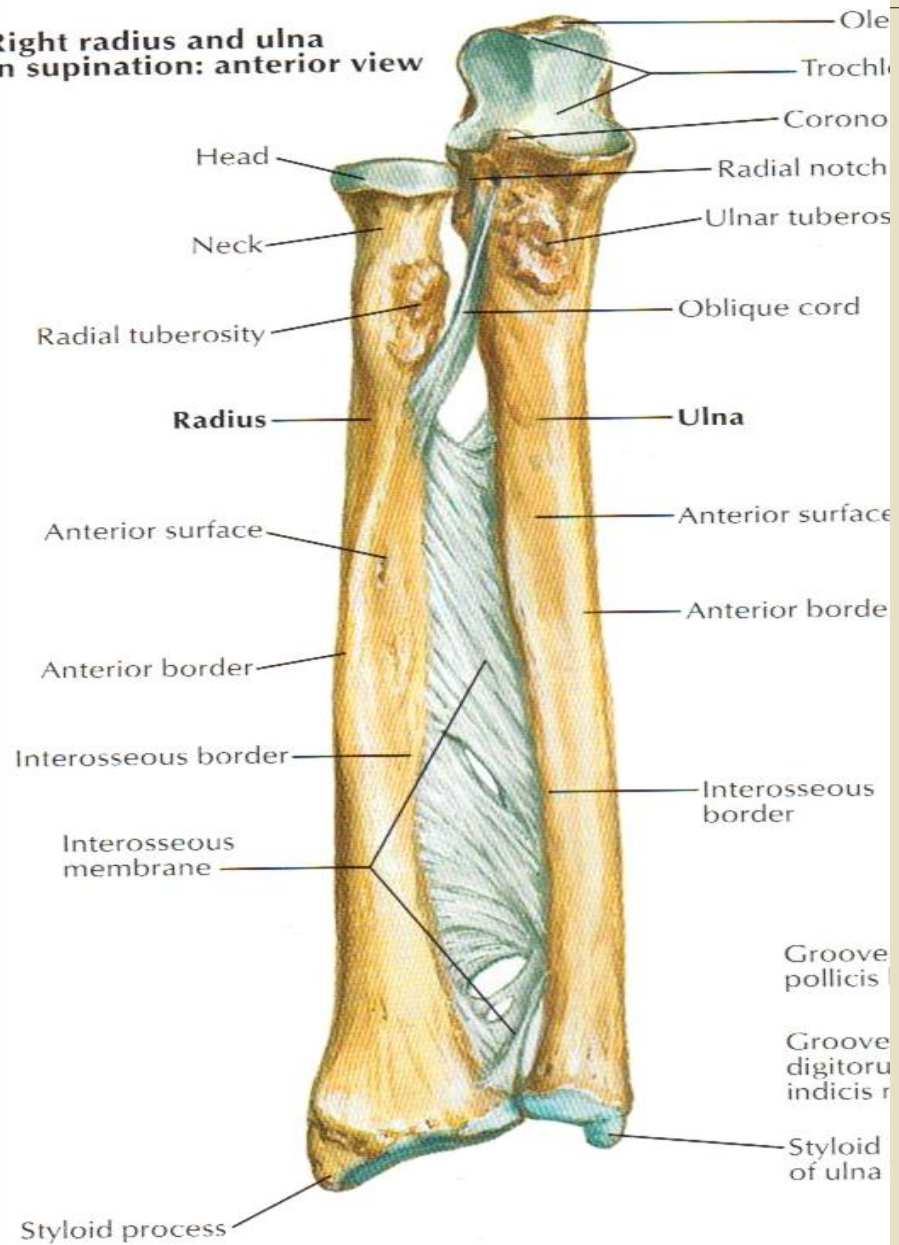
# Articular surfaces

- Circumference of radial head
- Fibro-osseous ring made by radial notch of ulna and annular ligaments





**Right radius and ulna  
in supination: anterior view**



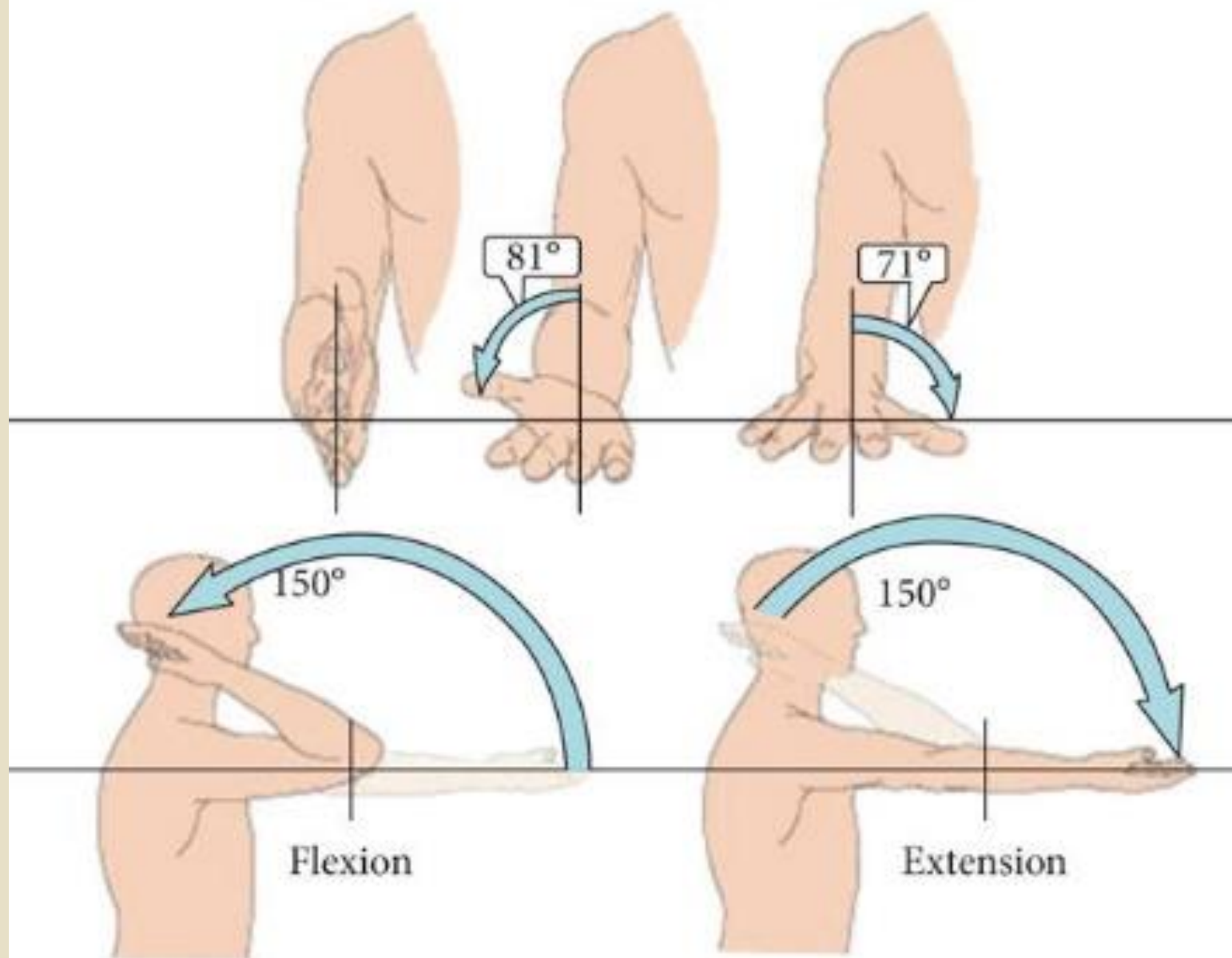
# Muscles producing supination and pronation

- Supination
  - supinator
  - biceps brachii
  - brachioradialis
- Pronation
  - pronator teres
  - pronator quadratus
  - brachioradialis

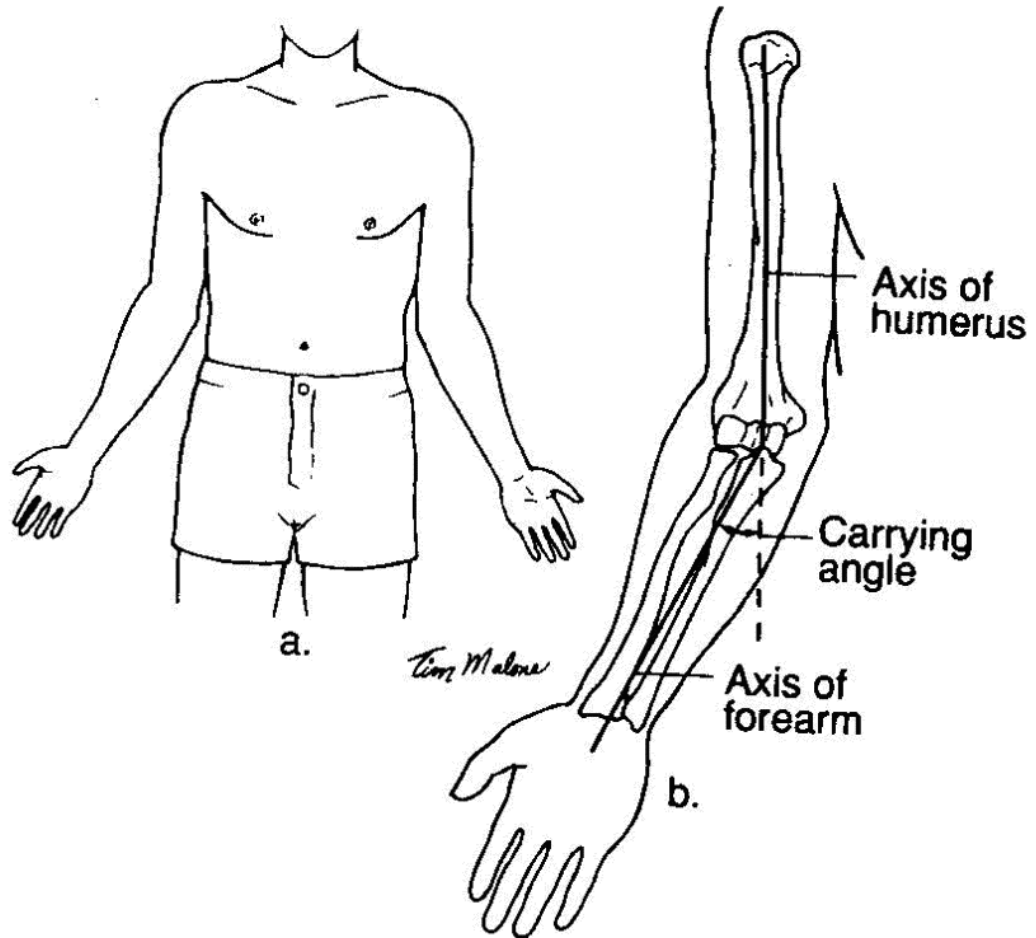
Neutral

Supination

Pronation



# Carrying angle

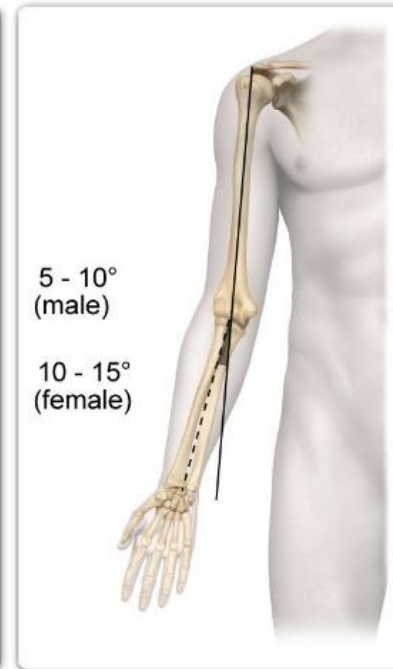


## Arm carrying angle

Cubitus varus



Normal



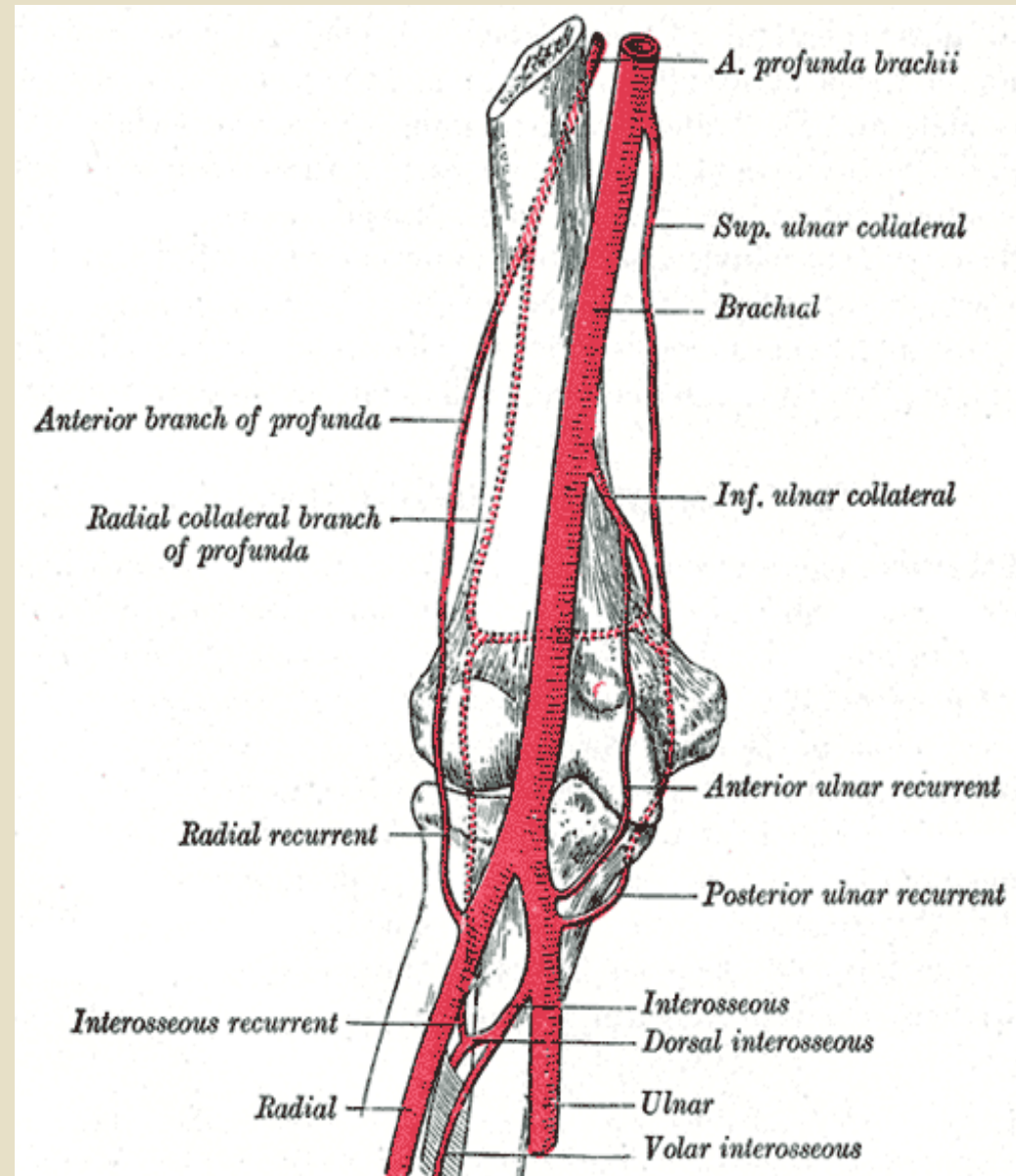
Cubitus valgus



# Blood supply

## Anastomosis around elbow joint

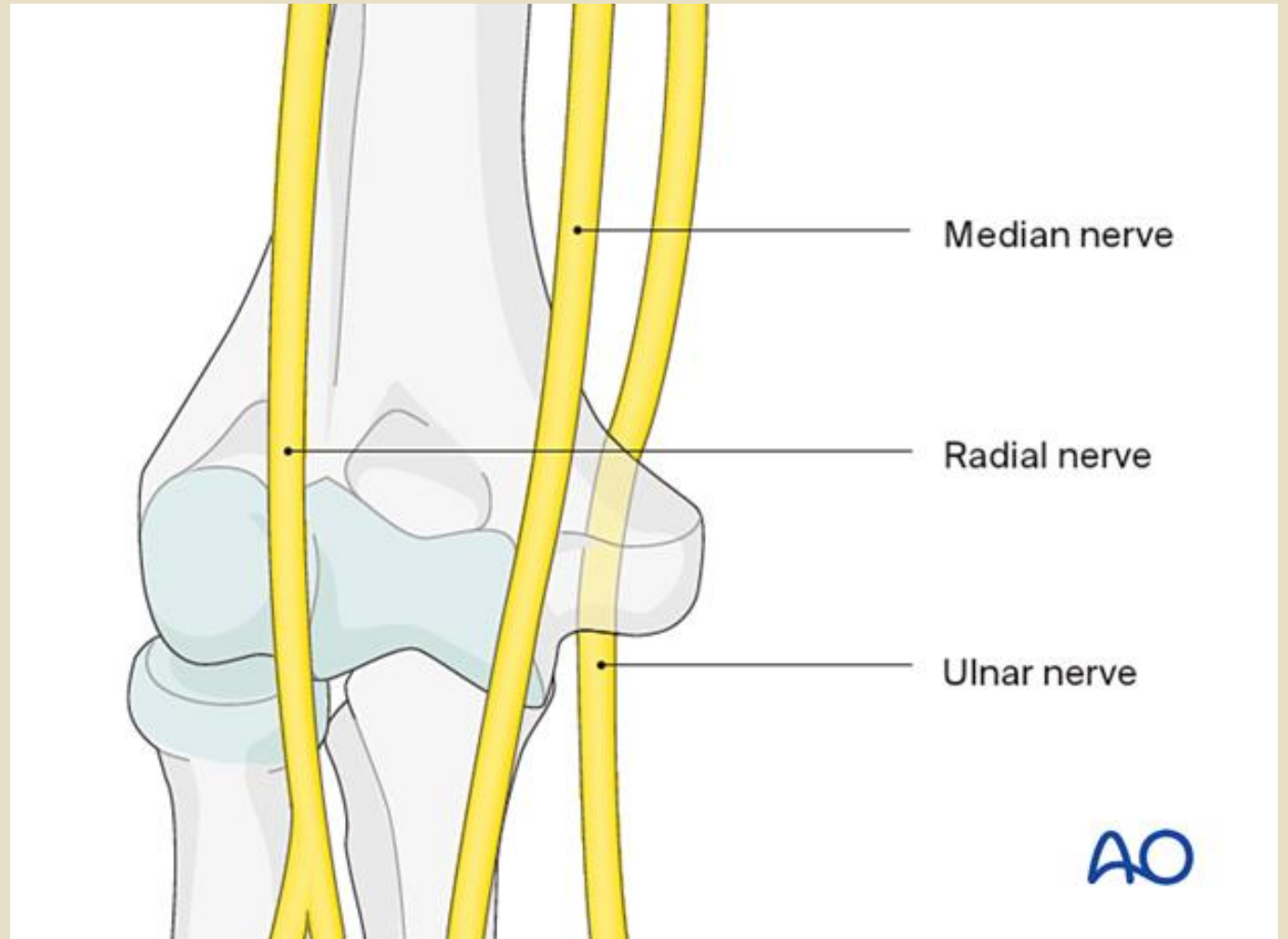
- -brachial artery
- -radial artery
- -ulnar artery





# Nerve supply

- Articular branches from
  - Radial nerve
  - Ulnar nerve
  - Median nerve
  - Musculocutaneous nerve

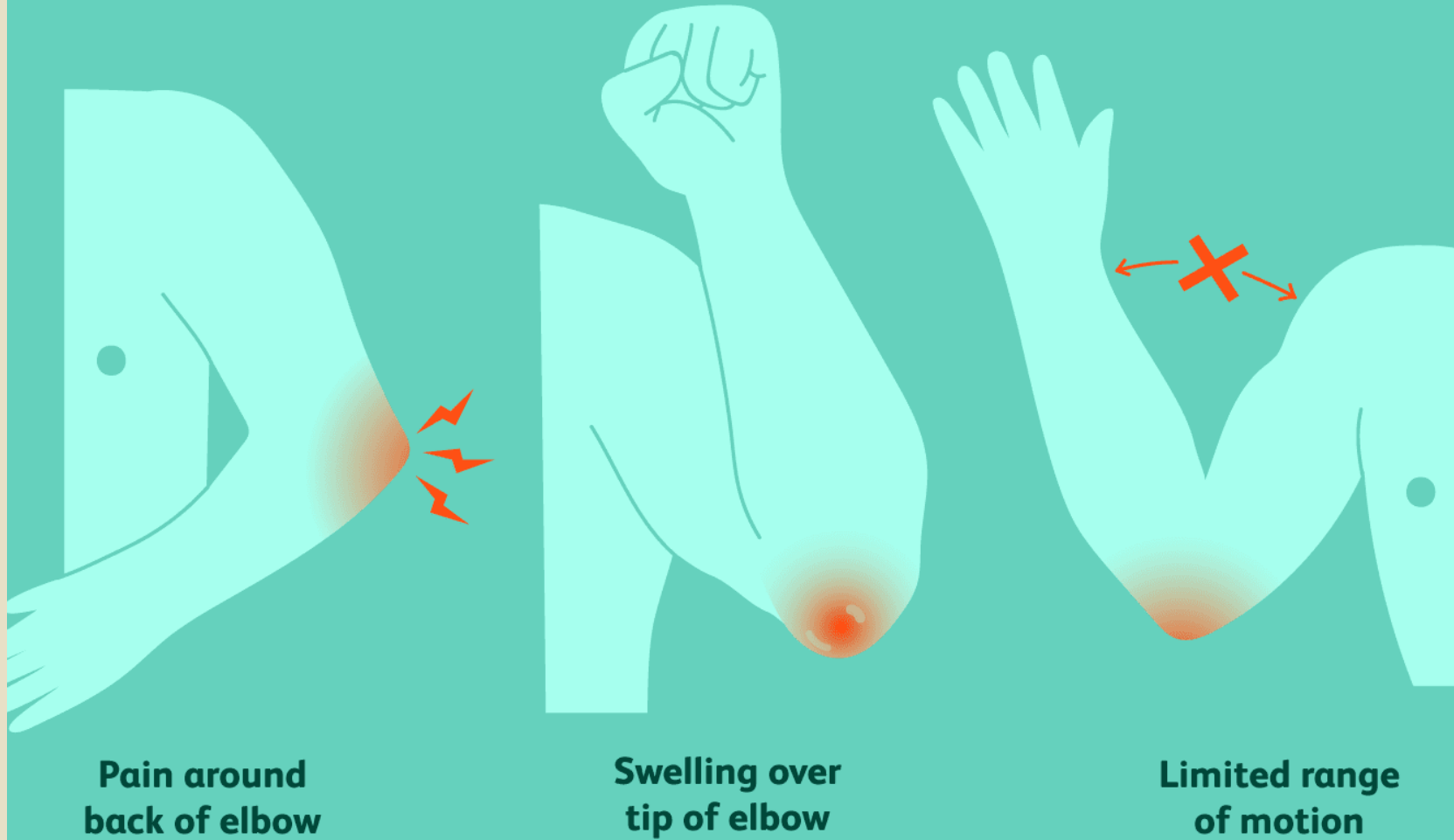


# Bursae related to elbow joint

1. Subtendinous olecranon bursa
2. Subcutaneous olecranon bursa
3. Bicipitoradial bursa
4. Bursa separating biceps tendon from oblique cord



# Common Symptoms of Elbow Bursitis

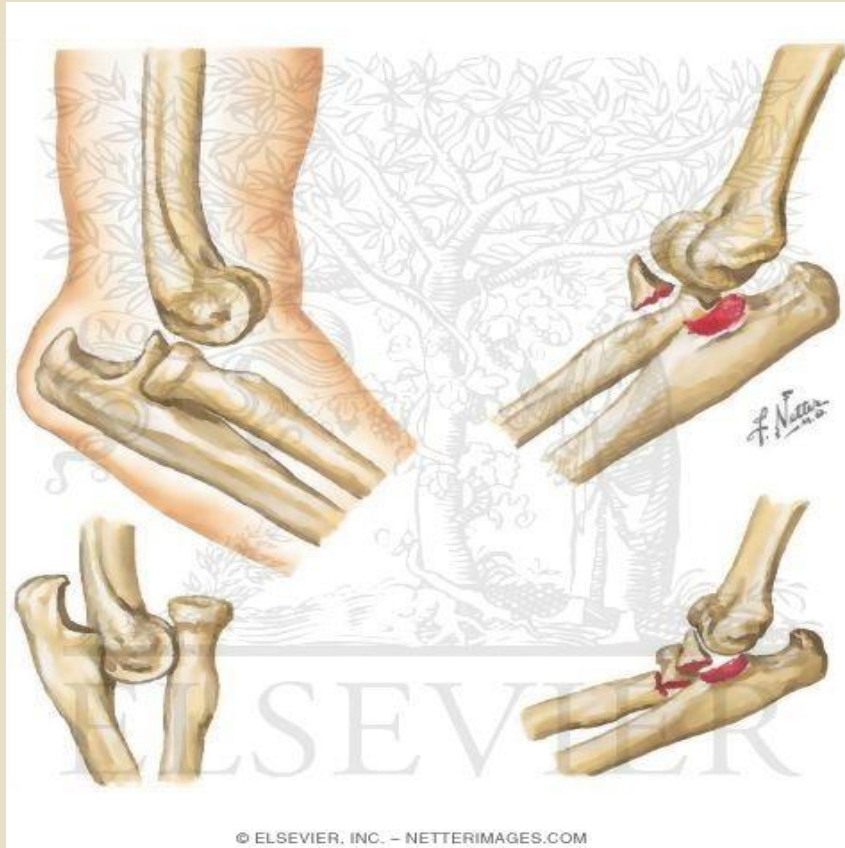


# Student's elbow



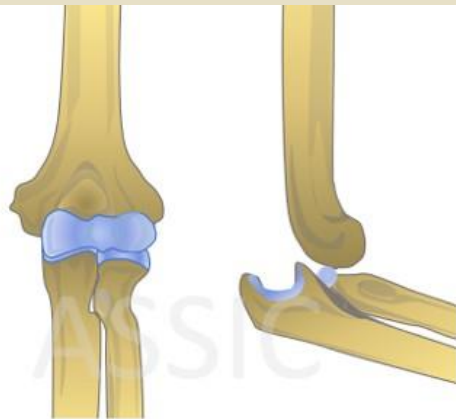
# Applied

- Posterior dislocation of elbow

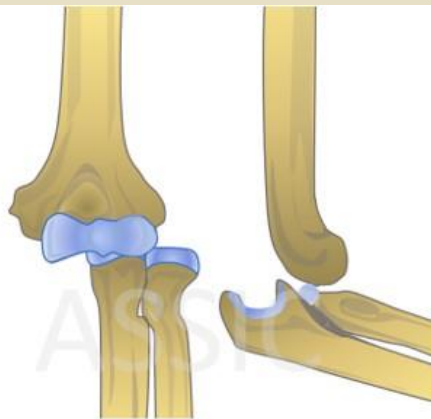




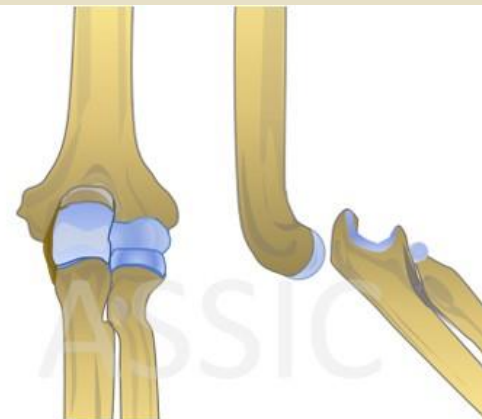
# Elbow dislocations



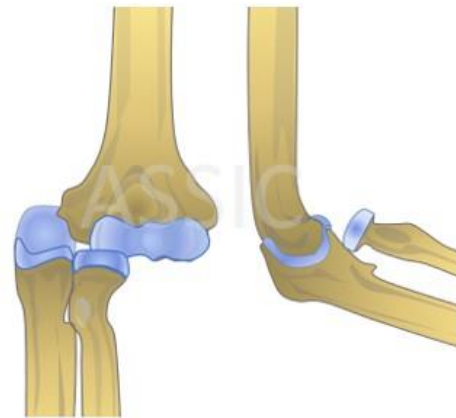
Posterior



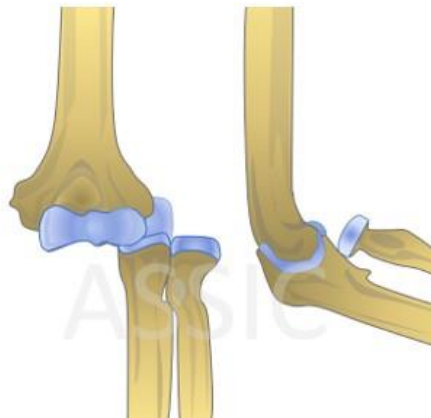
Posterolateral



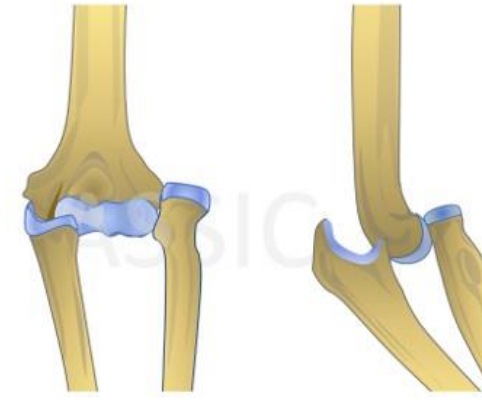
Anterior



Ulnar

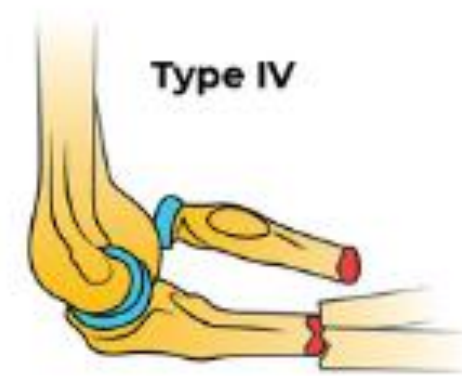
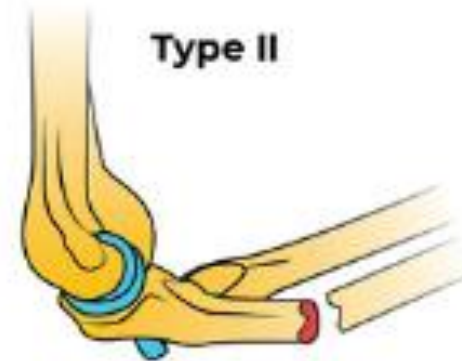
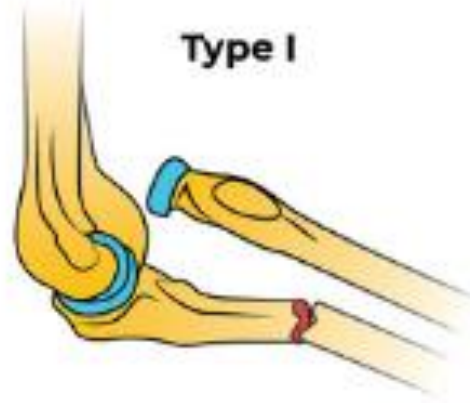


Radial

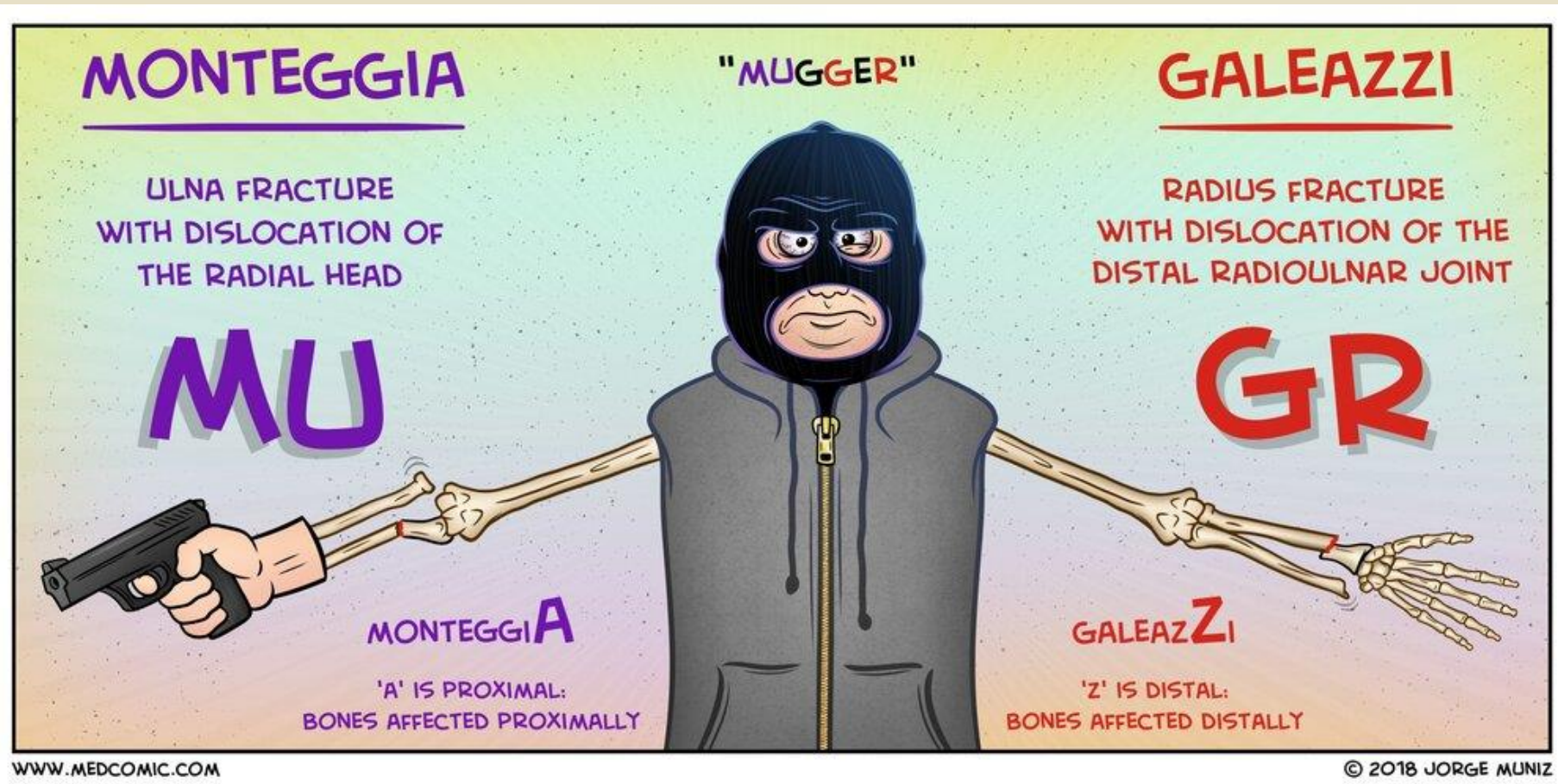


Divergent

# Monteggia fracture



# Monteggia fracture vs. Galeazzi



- GOLFER'S ELBOW (Medial epicondylitis)



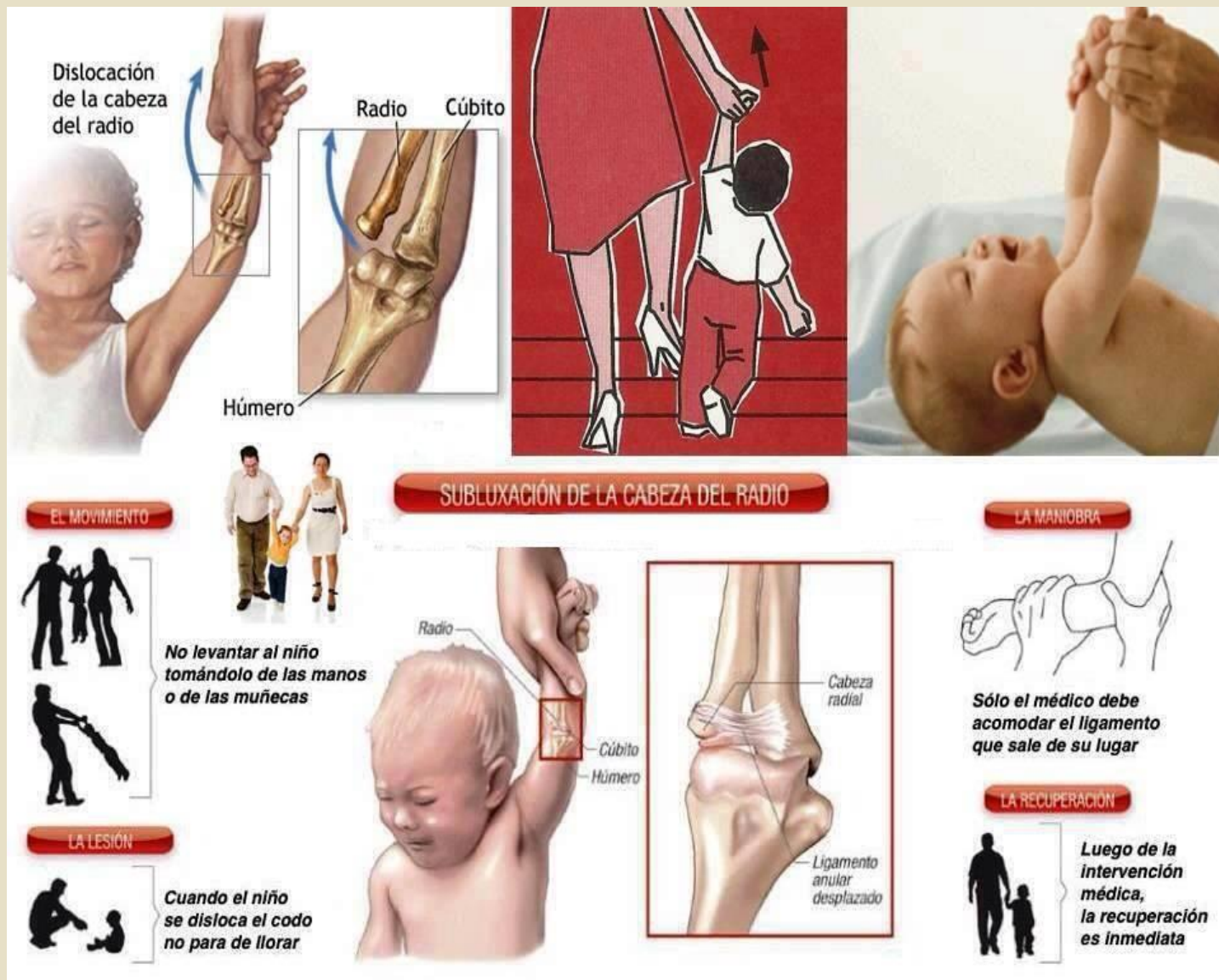
# Tennis elbow

(Lateral epicondylitis)

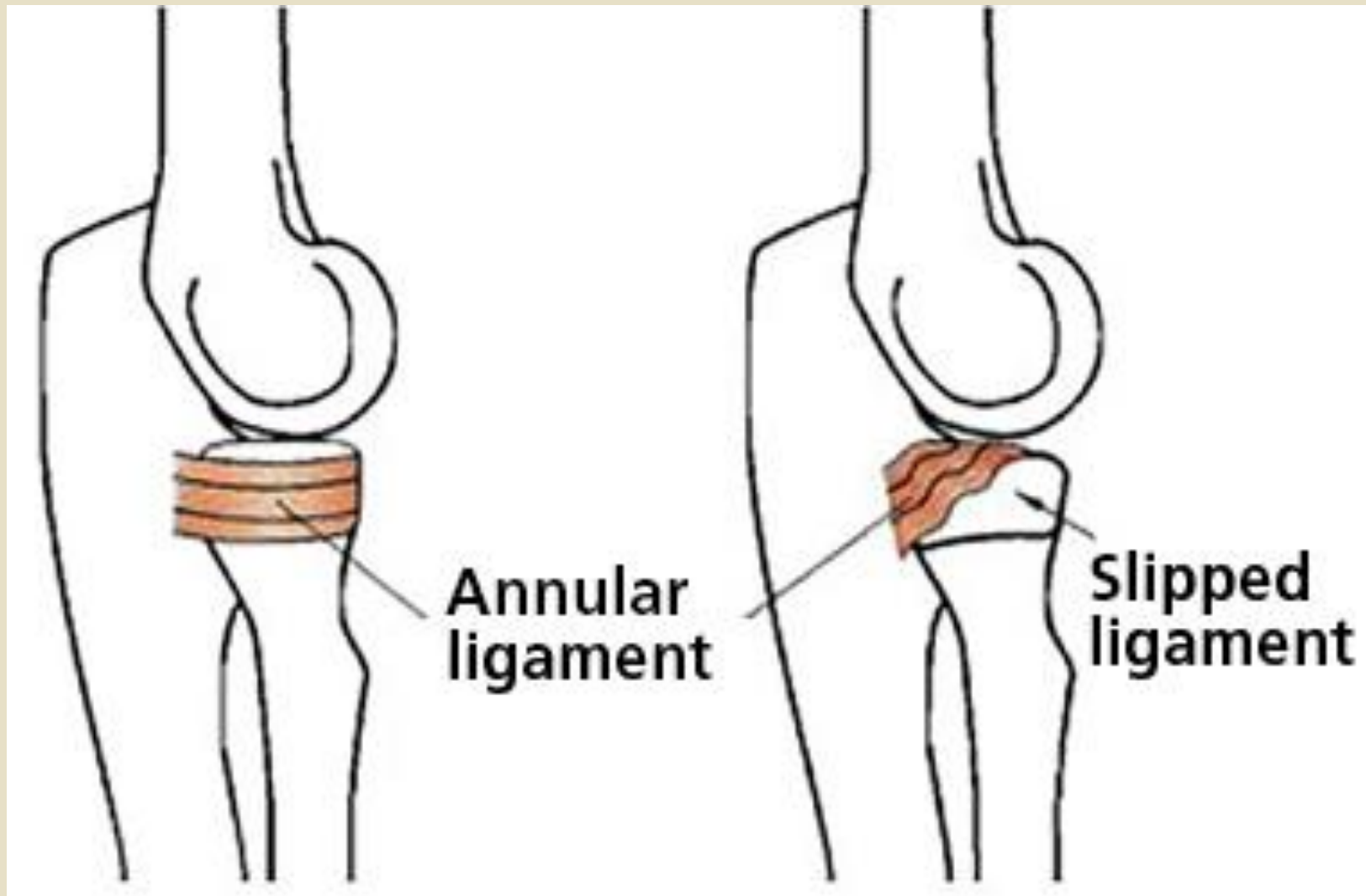




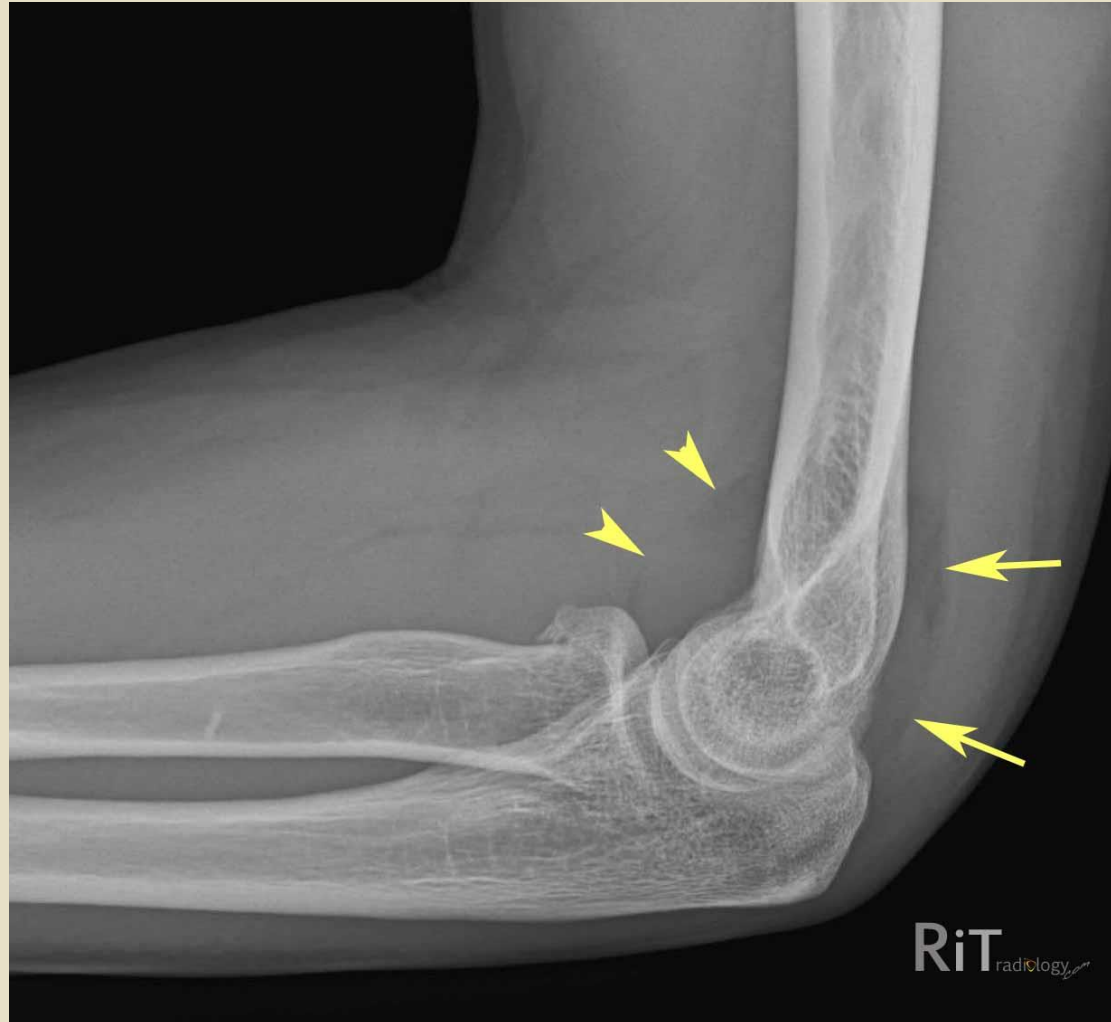
# Pulled elbow



# Pulled elbow



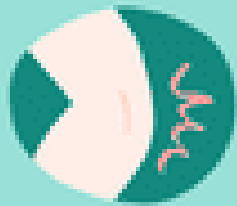
# Distension (effusion) of elbow joint



## Common Symptoms of Joint Effusion



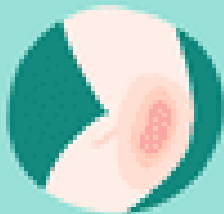
Swelling, ranging from mild puffiness to severe inflammation



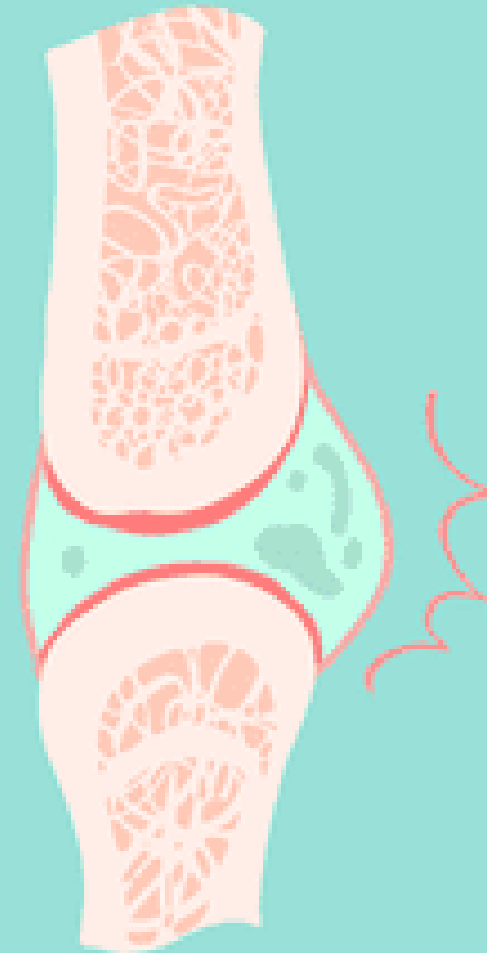
Pain, ranging from dull throbs to immobilizing pain



Stiffness



Redness and warmth



Thank you