

Name: sadaf

Roll number:17663

Anatomy assignment

JOINTS OF UPPER LIMBS

JOINTS:

A joints is a point where two bones make contact.

There are 6 main joints in upper limbs:

1. Sternoclavicular joints

2. Acromioclavicular joints
 3. Shoulder joints
 4. Elbow joints
 5. Radioulnar joints
 6. Joints of hands and fingers
1. **sternoclavicular joint:** that connects the sternum with the clavicles.
 - It is the only true **joint** which connects the appendicular skeleton of the upper limb with the axial skeleton of the trunk.
 2. **acromioclavicular joint, or AC joint :** joint at the top of the shoulder. It is the junction between the and the clavicle. It is a plane synovial **joint**.
 3. **Shoulder joint:** The **shoulder joint (glenohumeral joint)** is a ball and socket **joint** between the scapula and the humerus.

ARTICULATION OF SHOULDER JOINT:

- **This occurs between the rounded head of humerus and shallow, pear-shaped glenoid cavity of the scapula.**
- **Covered by hyaline articular cartilage**
- **Type: synovial ball and socket joint**

CAPSULE: capsule surround the joint and attached medially and laterally.

- **Medially**→margin of the glenoid cavity outside the labrum
- **laterally**→anatomic neck of humerous
- capsule is thin and lax which allow wide range of movement.

LIGAMENTS:

- **GLENOHUMERAL LEGAMENTS:** Three weak bands of fibrous tissues that strenghthen the front of capsule.
- **TRANSVERSE HUMERAL LIGAMEN:** strenghthen the capsule and fill the gap between two tuberosities
- **CORACOHUMERAL LIGAMENT:** strenghthen the capsule above.

ACCESDDORY LIGAMENTS:

- **THE CORACOCROMIAL LIGAMENT:** extends between the coracoid process and the acromion

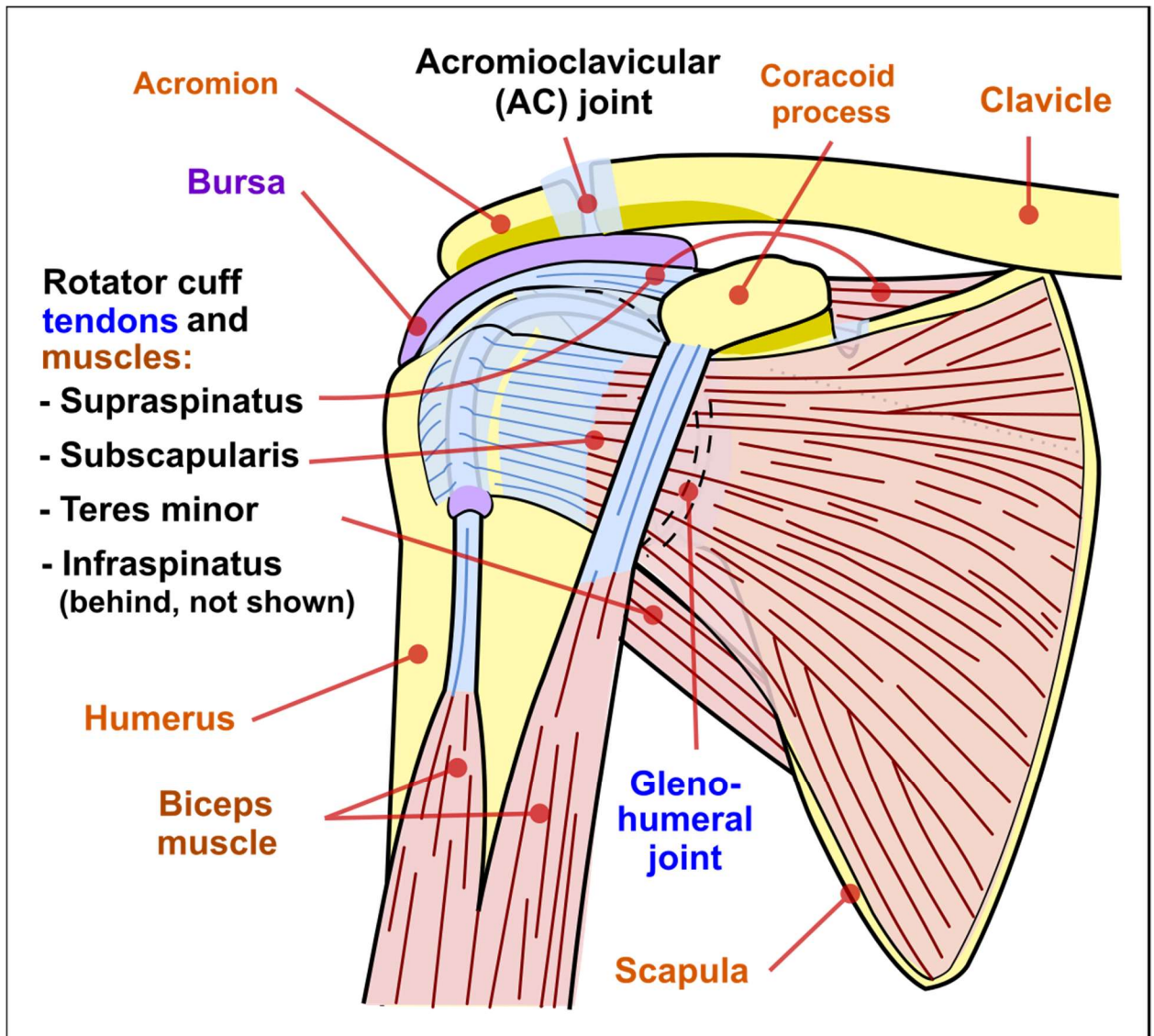
FUNCTION: Protect the superior aspect of the joint.

Synovial membrane:

- **Attached to the margins of the cartilage covering the articular surface.**
- **It forms a tubular sheath around the tendon of the long head of the biceps brachii.**

NERVE SUPPLY:

- **AXILLARY nerve**
- **Supra scapular nerve**



Joints of shoulder

4. **ELBOW JOINT**: The elbow joint is a synovial joint found in the upper limb between the arm and the forearm.

ARTICULATION:

This occur between:

- Trochlea and capitellum of the humerus .
- And the trochlear notch of ulna and head of the radius.
- Articular surfaces are covered with hyaline cartilage.

TYPE: Synovial hinge joint.

CAPSULE:

Anteriorly, it is attached:

Above: To the humerus along the upper margins of the coronoid and radial fossae.

To the front: of the medial and lateral epicondyles.

Below: To the margin of the coronoid process of the ulna and to the annular ligament, which surrounds the head of the radius

Posteriorly, it is attached:

Above: To the margins of the olecranon fossa of the humerus.

Below: to the upper margin and sides of the olecranon process of the ulna and to the annular ligament.

Ulnar/medial collateral

ligaments:

- The **medial ligament** is also triangular and consists principally of three strong bands:

The anterior band, which passes from the medial epicondyle of the humerus to the medial margin of the coronoid process;

The posterior band, which passes from the medial epicondyle of the humerus to the medial side of the olecranon process.

The transverse band, which passes between the ulnar attachments of the two preceding bands.

NERVE SUPPLY:

- Branches from:
- Median nerve,
 - Ulnar nerve
 - Musculocutaneous nerve
 - Radial nerves

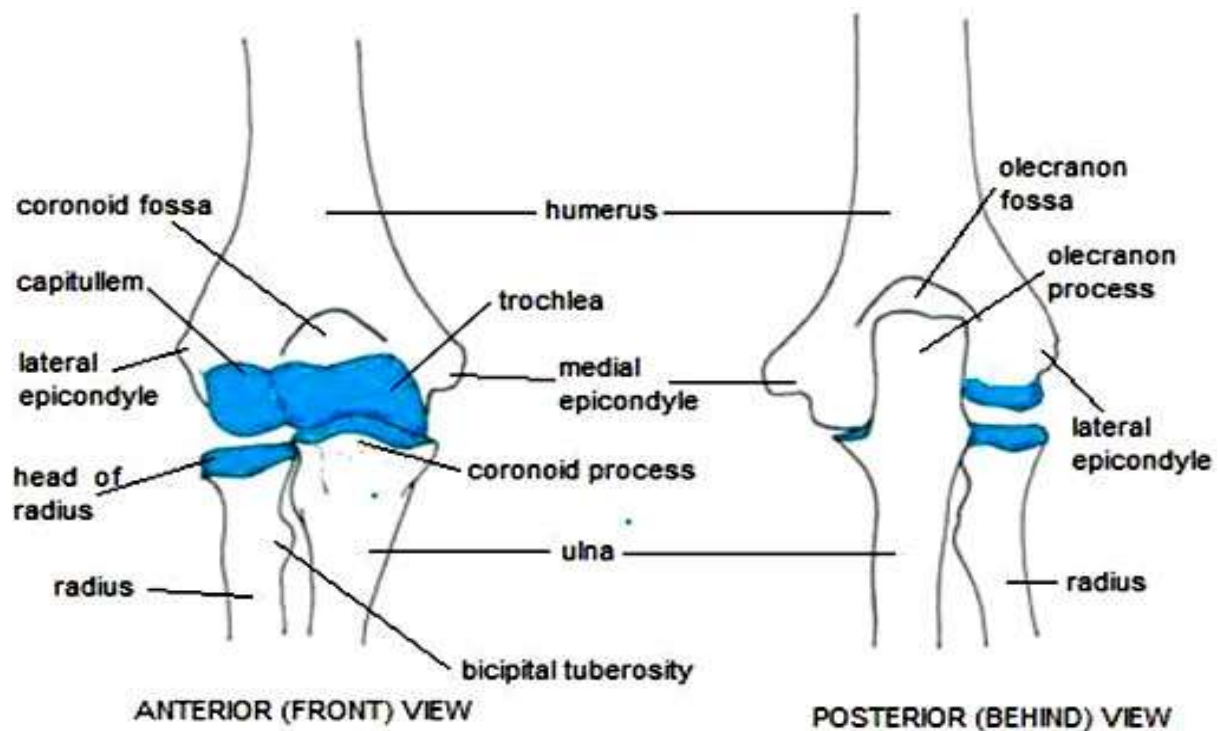


FIG: elbow joint

5. RADIOULNAR JOINT AND WRIST JOINT

ARTICULATION:

Above: The distal end of the radius and the articular disc.

Below: The scaphoid, lunate, and triquetral bones.

Capsule: The capsule encloses the joint and is attached:

Above: To the distal ends of the radius and ulna

Below: To the proximal row of carpal bones.

Type: Synovial ellipsoid joint

LIGAMENTS:

- **The medial ligament:**
 - **Origin:** ulnar styloid process
 - **Insertion:** Triquetrum dorsally & pisiform palmary
 - Provide medial stability
- **The lateral ligament:**
 - **Origin:** styloid process of the radius
 - **Insertion:** scaphoid & trapezium
 - Provide lateral stability

- **Synovial membrane:** This lines the capsule and is attached to the margins of the articular surfaces. The joint cavity does not communicate with that of the distal radioulnar joint or with the joint cavities of the intercarpal joints.
- **Nerve supply:**
 - ✓ Anterior interosseous nerve
 - ✓ Deep branch of the radial nerve

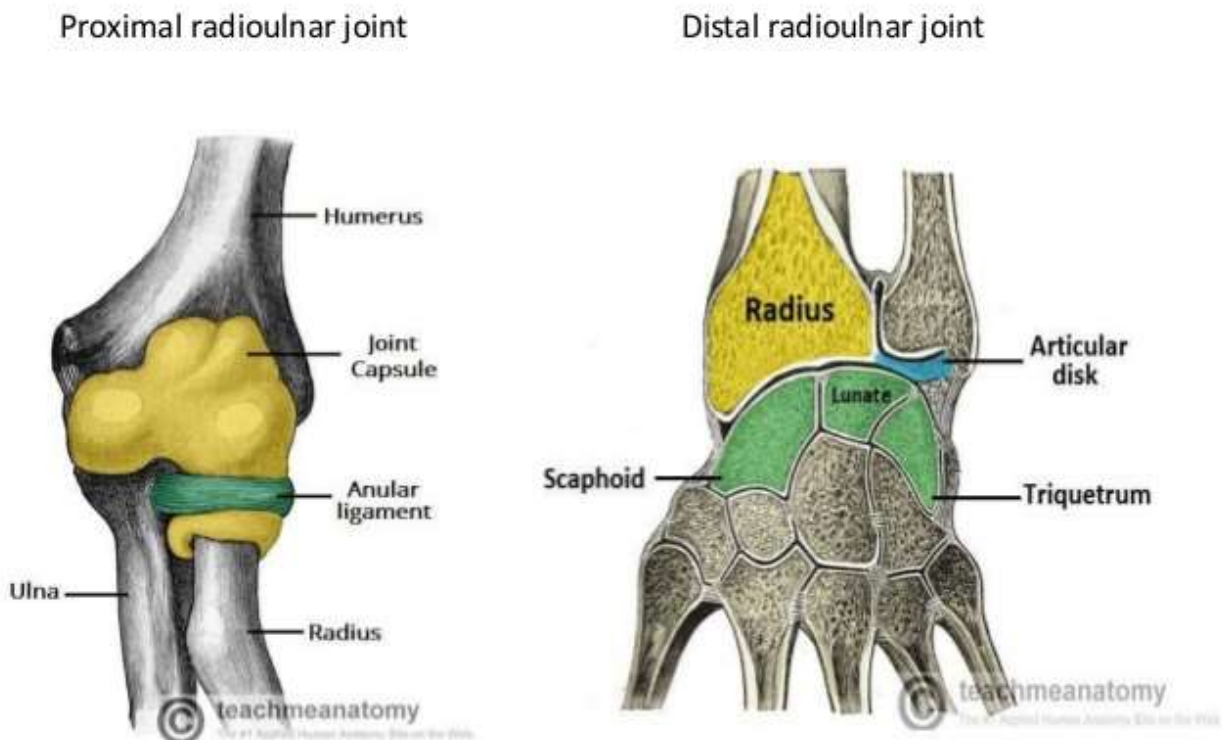


FIG: RADIO ULNAR JOINT

6. JOINTS OF HAND AND WRIST:

INTERCARPAL JOINTS:

Articulation:

- Between the individual bones of the proximal row of the carpus;
- Between the individual bones of the distal row of the carpus;
- And finally, the midcarpal joint, between the proximal and distal rows of carpal bones.

Capsule: The capsule surrounds each joint.

Ligaments: The bones are united by strong **anterior**, **posterior**, and **interosseous ligaments**.

Synovial membrane: This lines the capsule and is attached to the margins of the articular surfaces.

Nerve supply: Anterior interosseous nerve, deep branch of the radial nerve, and deep branch of the ulnar nerve.

- Type: Synovial plane joints

- Movements:

A small amount of gliding movement is possible.

Carpometacarpal Joint:

Articulation: Between the trapezium and the saddle shaped base of the first metacarpal bone.

Type: Synovial saddle-shaped joint

Capsule: The capsule surrounds the joint.

Synovial membrane: This lines the capsule and forms a separate joint cavity

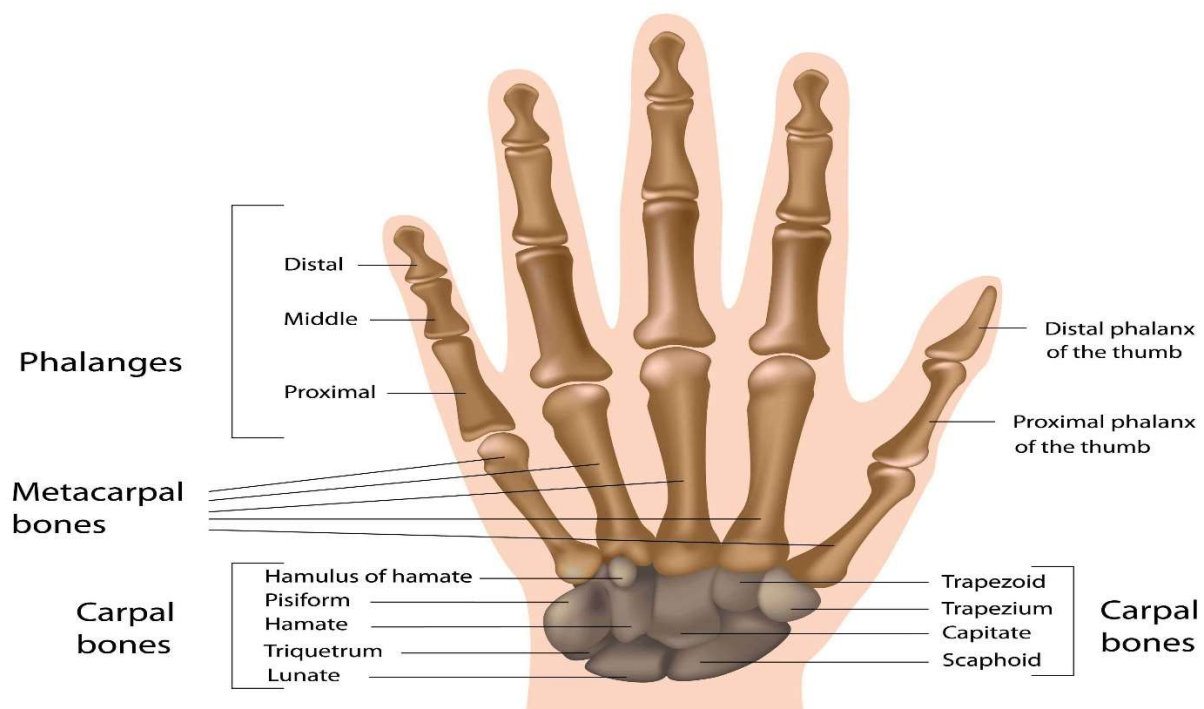
Interphalangeal Joints:

- Interphalangeal joints are synovial hinge joints that have a structure similar to that of the metacarpophalangeal joints

They are:

- Proximal interphalangeal joint
- Distal interphalangeal joint

Bones of human hand and wrist



FINISH
FINISH