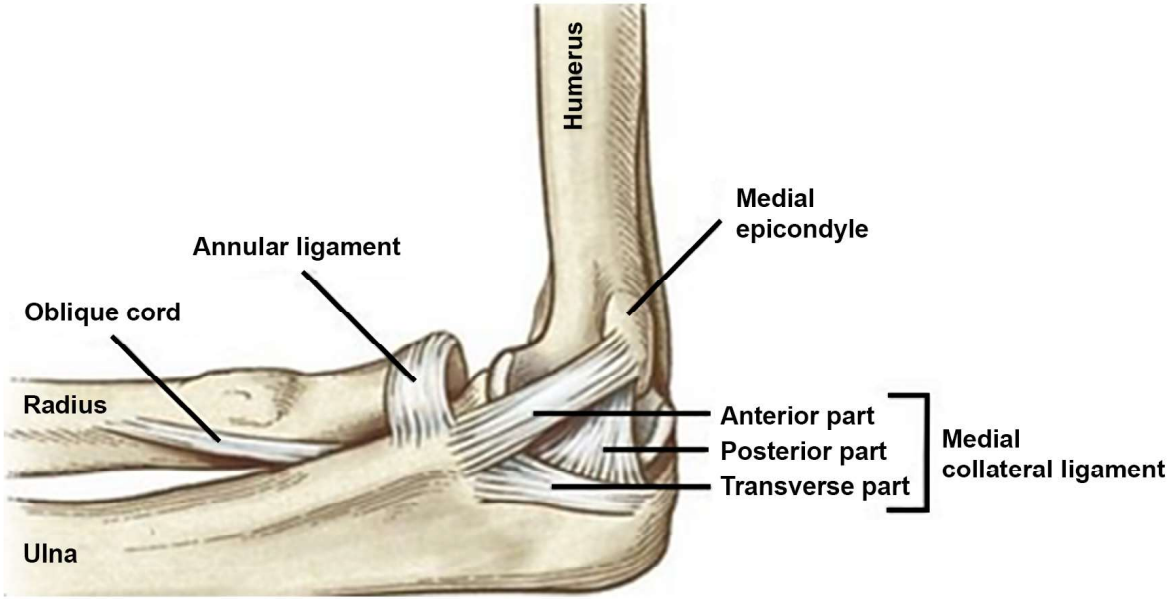
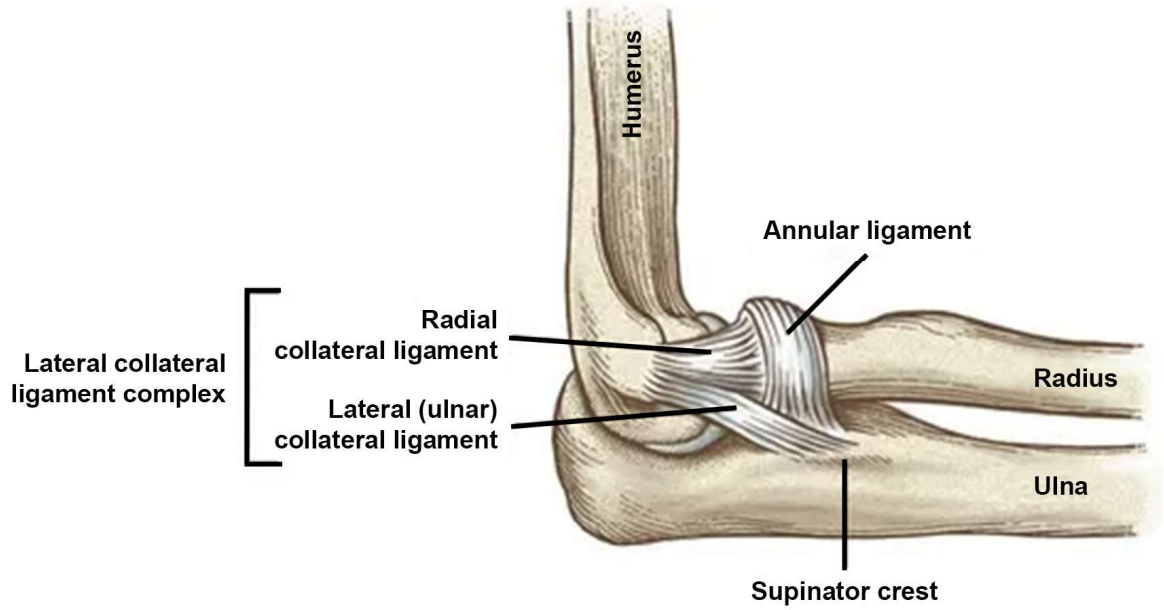
Elbow Anatomy Diagram

The elbow is a complex hinge joint that connects the upper arm to the forearm. It allows for the flexion, extension, and rotation of the forearm, making it essential for a wide range of arm movements.

Joints and ligaments of the elbow



Medial (inner) side ligaments



Lateral (outer) side ligaments

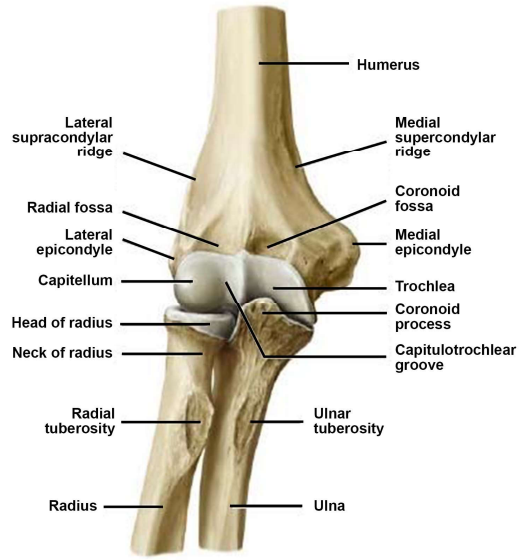
Joints

- **Humeroradial joint:**
  The articulation between the capitulum of the humerus and the head of the radius.
- **Proximal radioulnar joint:**
  The articulation between the head of the radius and the radial notch of the ulna.
- **Humeroulnar joint:**
  The articulation between the trochlea of the humerus and the trochlear notch of the ulna.

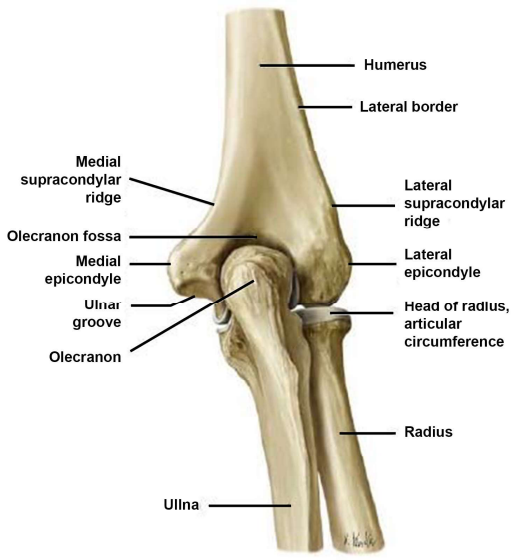
Ligaments

- **Medial collateral ligament:**
  A ligament that stabilizes the medial side of the elbow.
  - **Anterior part:**
    Connects the medial epicondyle to the coronoid process.
  - **Posterior part:**
    Connects the medial epicondyle to the olecranon.
  - **Transverse part:**
    Connects the anterior and posterior parts of the medial collateral ligament.
- **Annular ligament:**
  Encircles the head of the radius and holds it in place within the radial notch of the ulna.
- **Oblique cord:**
  A small ligament that runs from the ulna to the radius just below the radial tuberosity.
- **Lateral collateral ligament complex:**
  A group of ligaments that stabilize the lateral side of the elbow.
  - **Radial collateral ligament:**
    Connects the lateral epicondyle to the annular ligament and radial notch.
  - **Lateral (ulnar) collateral ligament:**
    Connects the lateral epicondyle to the ulna.

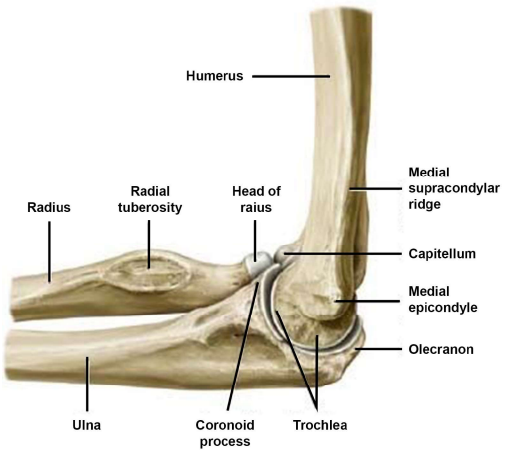
Bones of the elbow



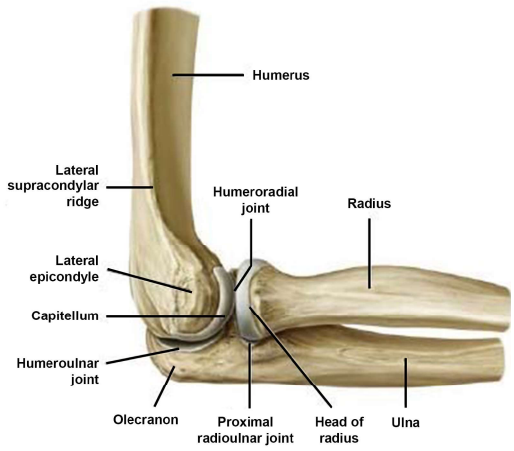
A. Anterior view



B. Posterior view



C. Medial view



D. Lateral view

Humerus

- **Lateral supracondylar ridge:**
  A bony ridge on the lateral side of the humerus.
- **Medial supracondylar ridge:**
  A bony ridge on the medial side of the humerus.
- **Radial fossa:**
  A shallow depression on the anterior humerus that accommodates the radial head during flexion.
- **Coronoid fossa:**
  A depression on the anterior humerus that receives the coronoid process of the ulna during flexion.
- **Lateral epicondyle:**
  A bony prominence on the lateral side of the humerus.
- **Medial epicondyle:**
  A bony prominence on the medial side of the humerus.
- **Capitellum/capitulum:**
  A rounded eminence on the distal humerus that articulates with the head of the radius.
- **Trochlea:**
  A spool-shaped part of the humerus that articulates with the ulna.
- **Lateral border:**
  The outer edge of the humerus.
- **Olecranon fossa:**
  A large depression on the posterior humerus that accommodates the olecranon of the ulna during extension.
- **Ulnar groove:**
  A groove on the posterior aspect of the medial epicondyle through which the ulnar nerve passes.

Radius

- **Head of radius:**
  The proximal end that articulates with the capitulum of the humerus and the radial notch of the ulna.
- **Neck of radius:**
  The narrow part just below the head.
- **Radial tuberosity:**
  A bony prominence below the neck where the biceps tendon attaches.

Ulna

- **Ulnar tuberosity:**
  A roughened area below the coronoid process where the brachialis muscle attaches.
- **Coronoid process:**
  A triangular projection on the anterior ulna that fits into the coronoid fossa of the humerus.
- **Olecranon:**
  The prominent bony projection of the ulna at the elbow.
- **Supinator crest:**
  A ridge on the lateral surface of the ulna where the supinator muscle attaches.

Additional notes

Reminder: Ensure patients understand the importance of each ligament and bone in elbow stability.

Heads-up: Emphasize the role of the medial collateral ligament in preventing valgus stress during patient explanations.

Note: Check for common injuries like lateral epicondylitis (tennis elbow) when patients report lateral elbow pain.

Reminder: Review the anatomy with new staff to ensure everyone is familiar with these key structures.

Heads-up: Use this diagram during patient education sessions to enhance understanding and engagement.

Jadhav, A. (n.d.). Elbow anatomy & problems. Retrieved June 10, 2024, from https://dranandjadhav.in/elbow-anatomy-problems/

Washington University Physicians. (2017). The anatomy of the elbow. Washington University Orthopedics. https://www.ortho.wustl.edu/content/Patient-Care/3151/Services/Shoulder-Elbow/Overview/Elbow-Arthroscopy-Information/The-Anatomy-of-the-Elbow.aspx