

# Elbow Joint

## Type of joint

typical synovial hinge joint

## Articulating surfaces

Trochlea of humerus articulates with the trochlear notch of the ulna

Capitulum of the humerus articulates with the head of radius  
the surfaces are most congruent when the arm is halfway pronated, and the elbow is flexed to a right angle

## Articular capsule

laterally and medially, just attaches to the margins of the articular surfaces

Anteriorly and posteriorly, the capsule comes up more proximally, to enclose the coronoid fossa and the olecranon fossa

Distally, it blends with the capsule of the proximal radioulnar joint

## Ligaments

all are intrinsic- thickened parts of the joint capsule  
the lateral one is the Radial Collateral ligament

- blends distally with the annular ligament of the radius; attaches to radial notch margins

the medial one is the Ulnar Collateral ligament

- triangular, fan-like

- the ANTERIOR band is the STRONGEST

- the POSTERIOR band is the weakest

- the slender and feeble OBLIQUE band merely serves to deepen the socket for the trochlea of the humerus

## Stability factors

**Major stability factor: bony alignment;** The bones articulate well, the olecranon fossa limits hyperextension, and the coronoid fossa limits hyperflexion. The medial and lateral collateral ligaments serve to limit abduction and adduction- a **minor stability factor**

## Movements

It is PERMANENTLY ABDUCTED to 17 degrees:

- = The "carrying angle"

- = this angle is 10 degrees greater in women

- = it DISAPPEARS when the arm is PRONATED

..but the elbow only allows flexion and extension

FLEXORS: biceps brachii, brachialis, brachioradialis

EXTENSORS: Triceps Brachii, Anconeus

- o when the forearm is supinated, the biceps brachii helps flex it

- o when the forearm is pronated, the pronator teres helps flex it.

- o major flexor is the brachialis; minor flexor is brachioradialis

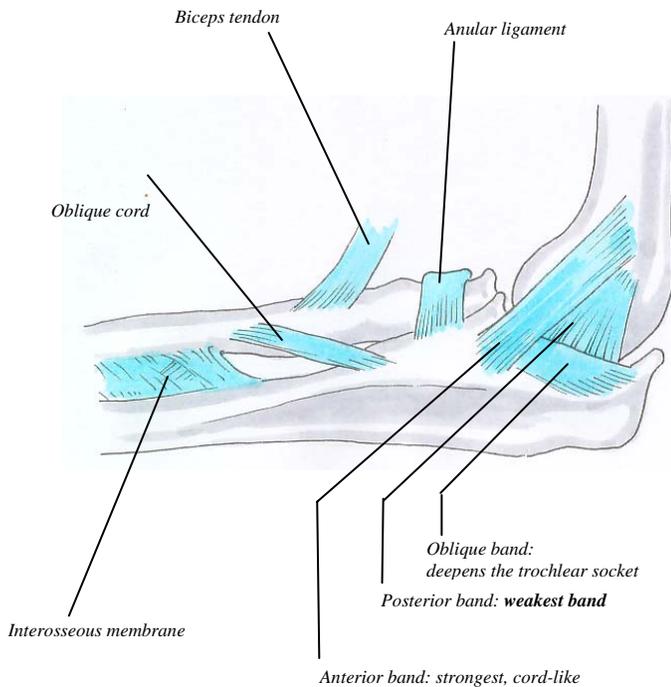
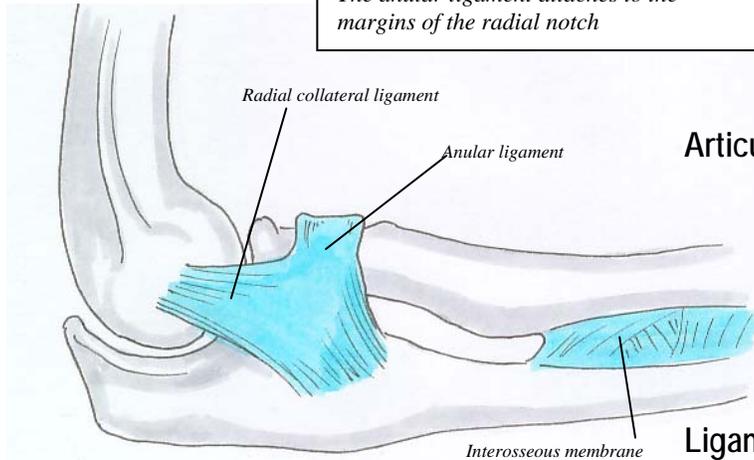
## Blood supply

Derived from the anastomosis around the elbow joint

## Nerve supply

Musculocutaneous, ulnar and median nerve

The annular ligament attaches to the margins of the radial notch



**BURSAE:** under every muscle attachment... the most important are:

- **Intratendinous olecranon bursa** sometimes inside the tendon of the triceps
- **Subtendinous olecranon bursa** between the olecranon and the triceps tendon
- **Subcutaneous olecranon bursa** in the subcutaneous tissue over the olecranon