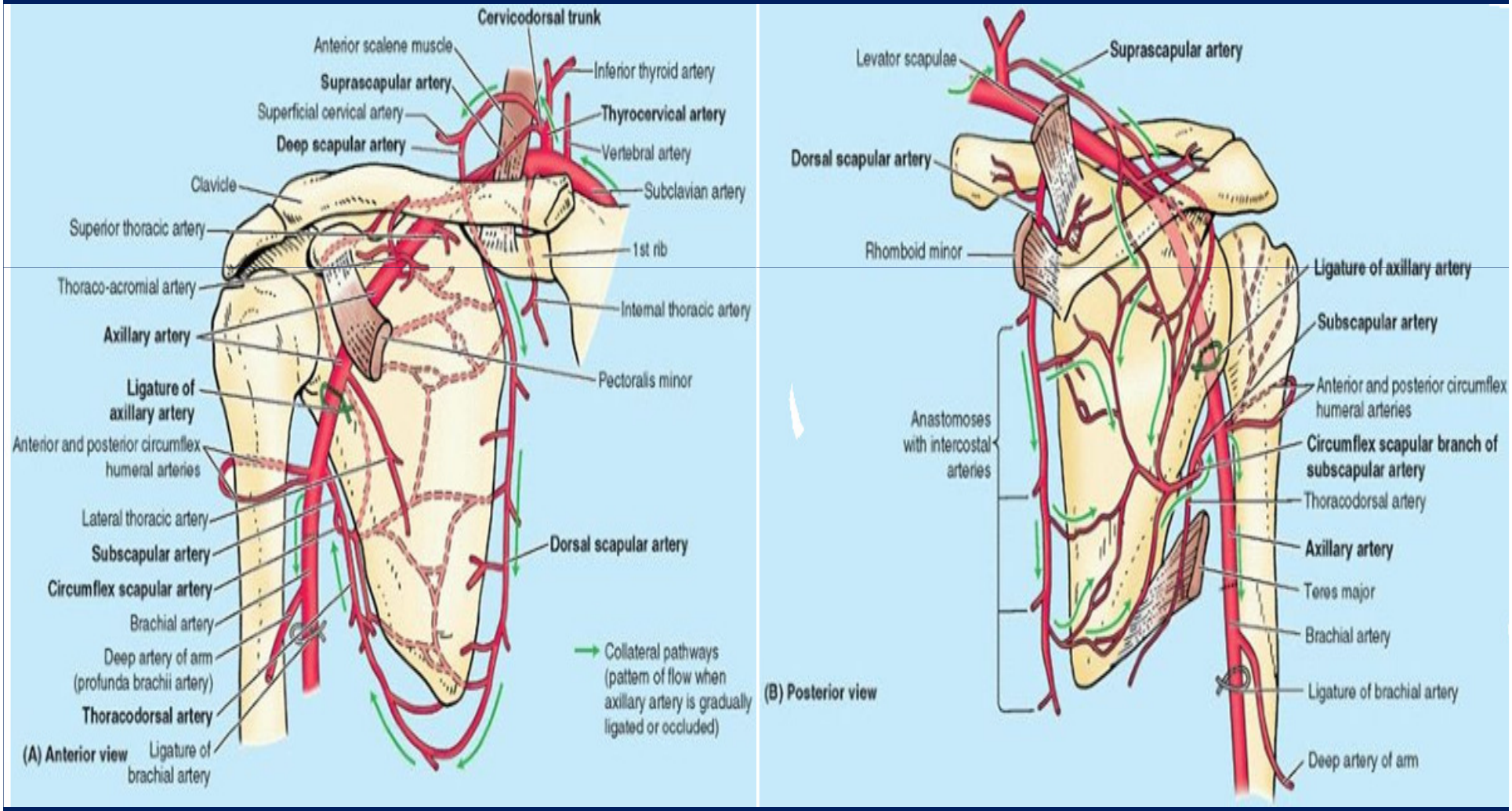
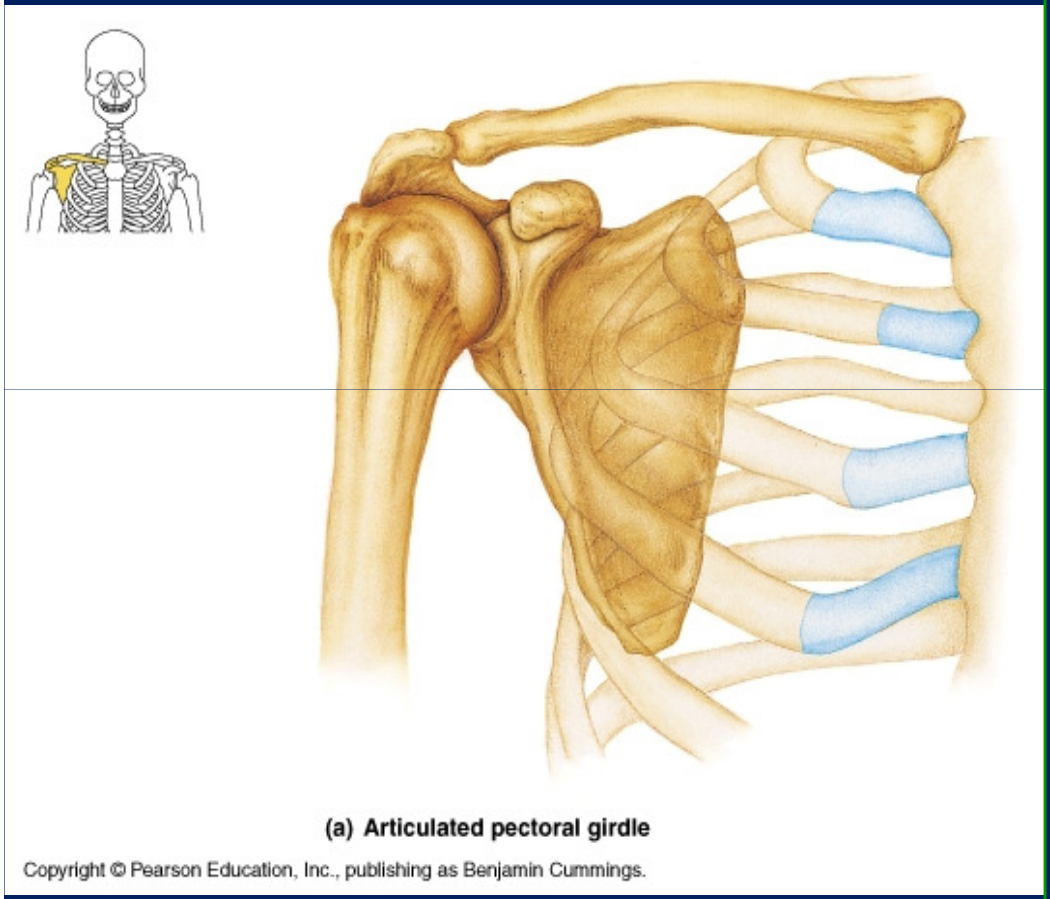
Arterial Anastomosis around the Shoulder Joint



Joints of Upper Extremity



(a) Articulated pectoral girdle

- Sternoclavicular
  - Synovial-saddle
  - Diarthrosis
- Acromioclavicular
  - Synovial-plane
  - Diarthrosis
- Glenohumeral joint
  - Synovial-ball&socket
  - Diarthrosis
  - Many ligaments
  - Muscle reinforcement
  - Great Mobility

Sternoclavicular Joint

Articulation:clavicle, the manubrium sterni, and the 1st costal cartilage

type:synovial **double plane joint**

Ligament: **sternoclavicular ligam.**

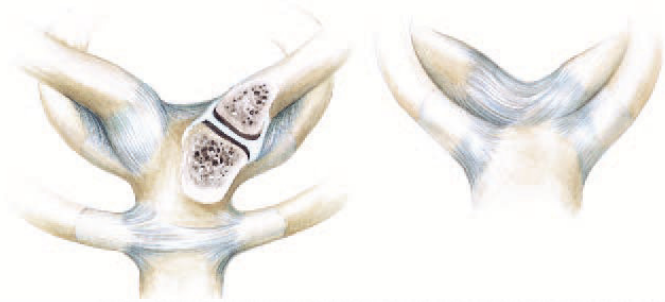
Articular disc:

Accessory ligament:

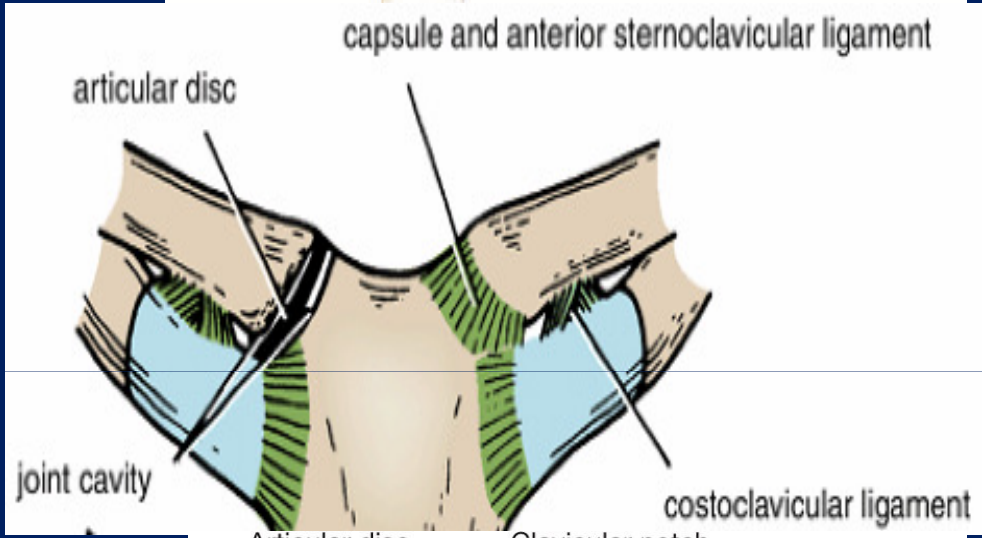
costoclavicular ligament.

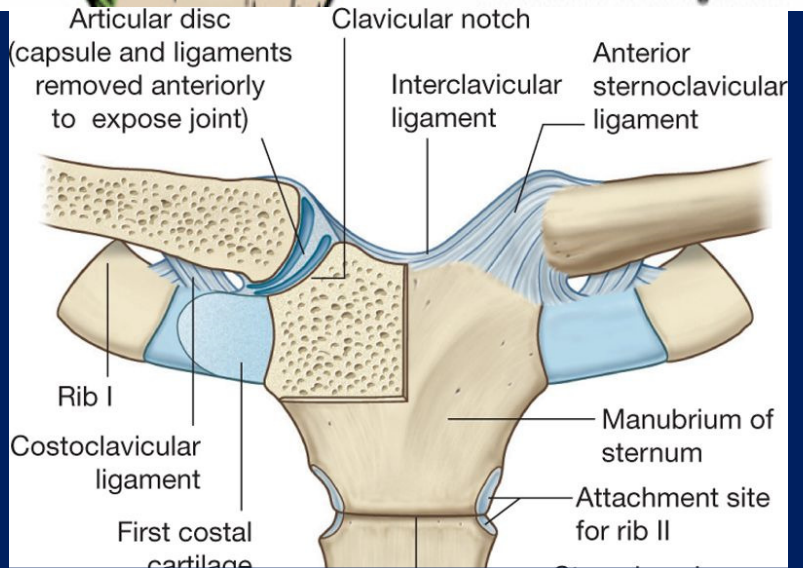
Nerve supply: supraclavicular +subclavian nerves

Movements:Forward and backward movement (medial compartment). Elevation and depression(lateral compartment).



capsule and anterior sternoclavicular ligament





Acromioclavicular Joint

Articulation: acromion of the scapula and the lateral end of the clavicle

type: Synovial plane joint

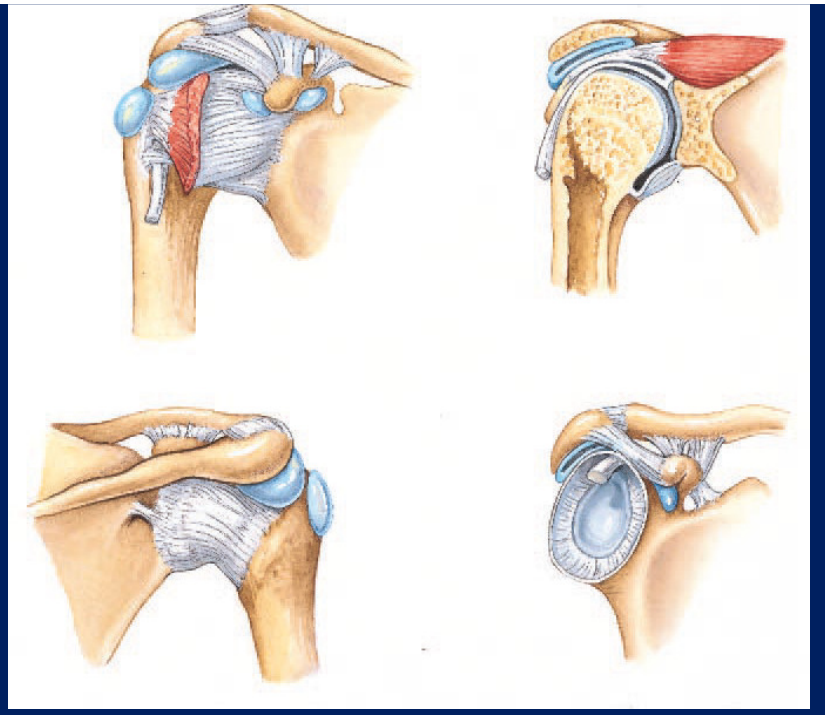
Ligament: **Superior and inferior acromioclavicular ligaments.**

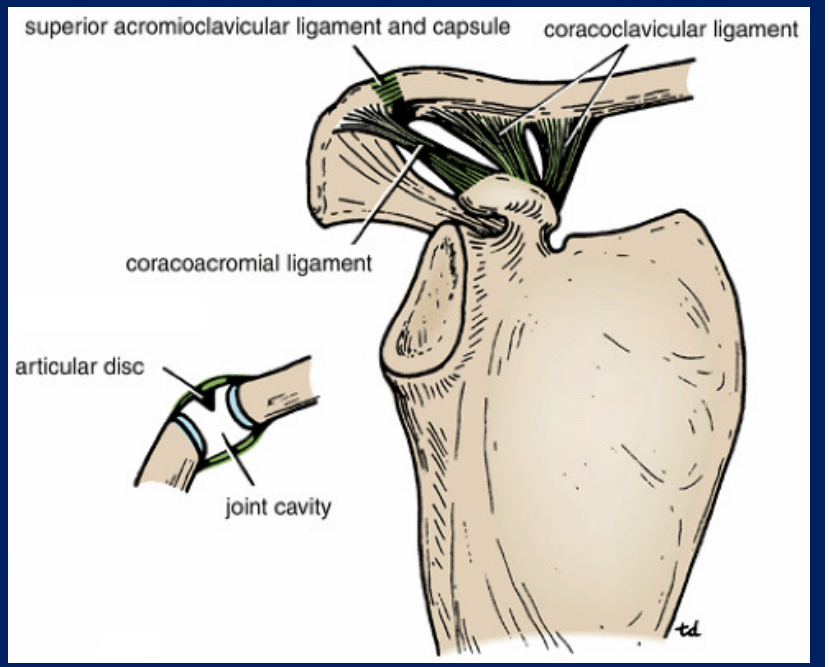
fibrocartilaginous disc:

Accessory ligament: **coracoclavicular ligament .**

Nerve supply: suprascapular nerve.

Movements:A gliding movement takes place when the scapula rotates or when the clavicle is elevated or depressed





Shoulder Joint

Articulation: head of the humerus and glenoid cavity of the scapula.

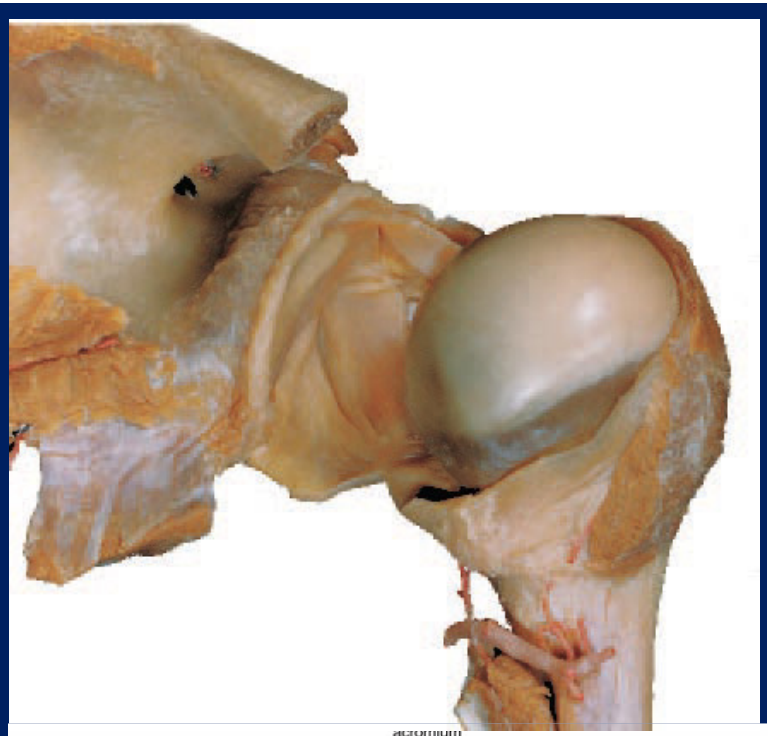
type: Synovial ball-and-socket joint

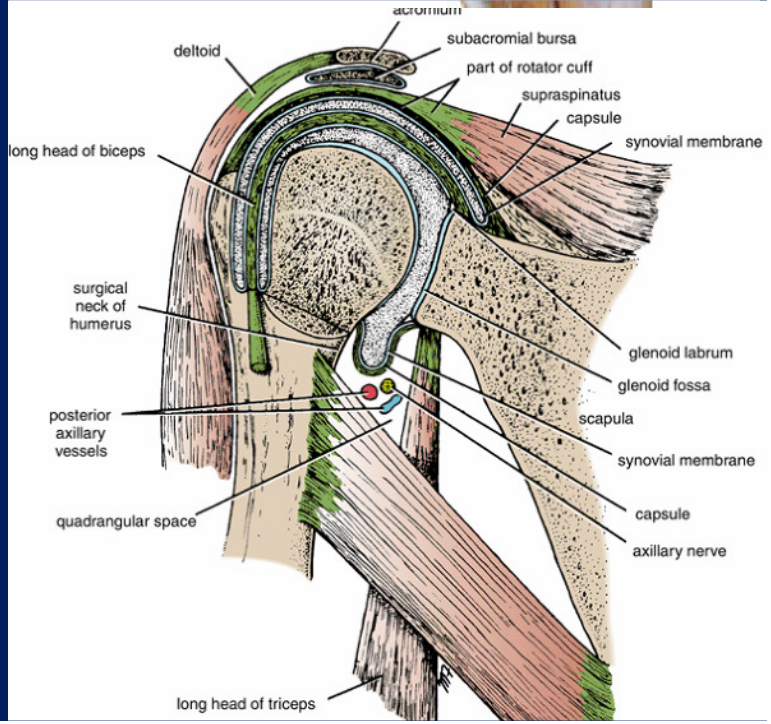
Ligament: **glenohumeral ligaments, transverse humeral ligament and coracohumeral ligament.**

fibrocartilaginous disc:

Accessory ligament: **coracoacromial ligament.**

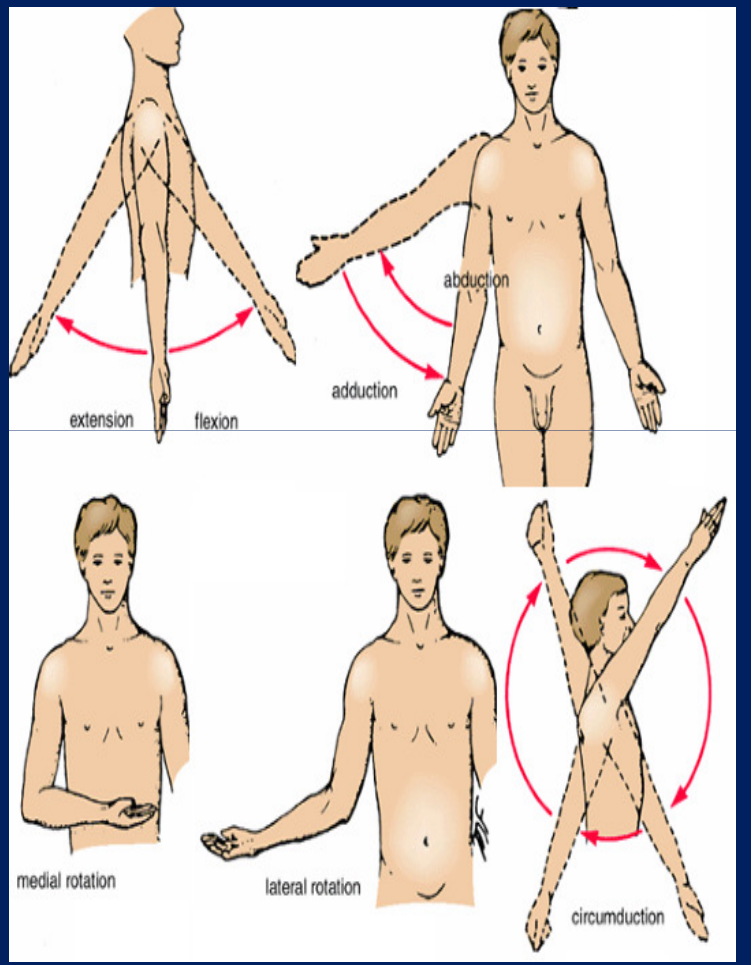
Nerve supply: axillary and suprascapular nerves.





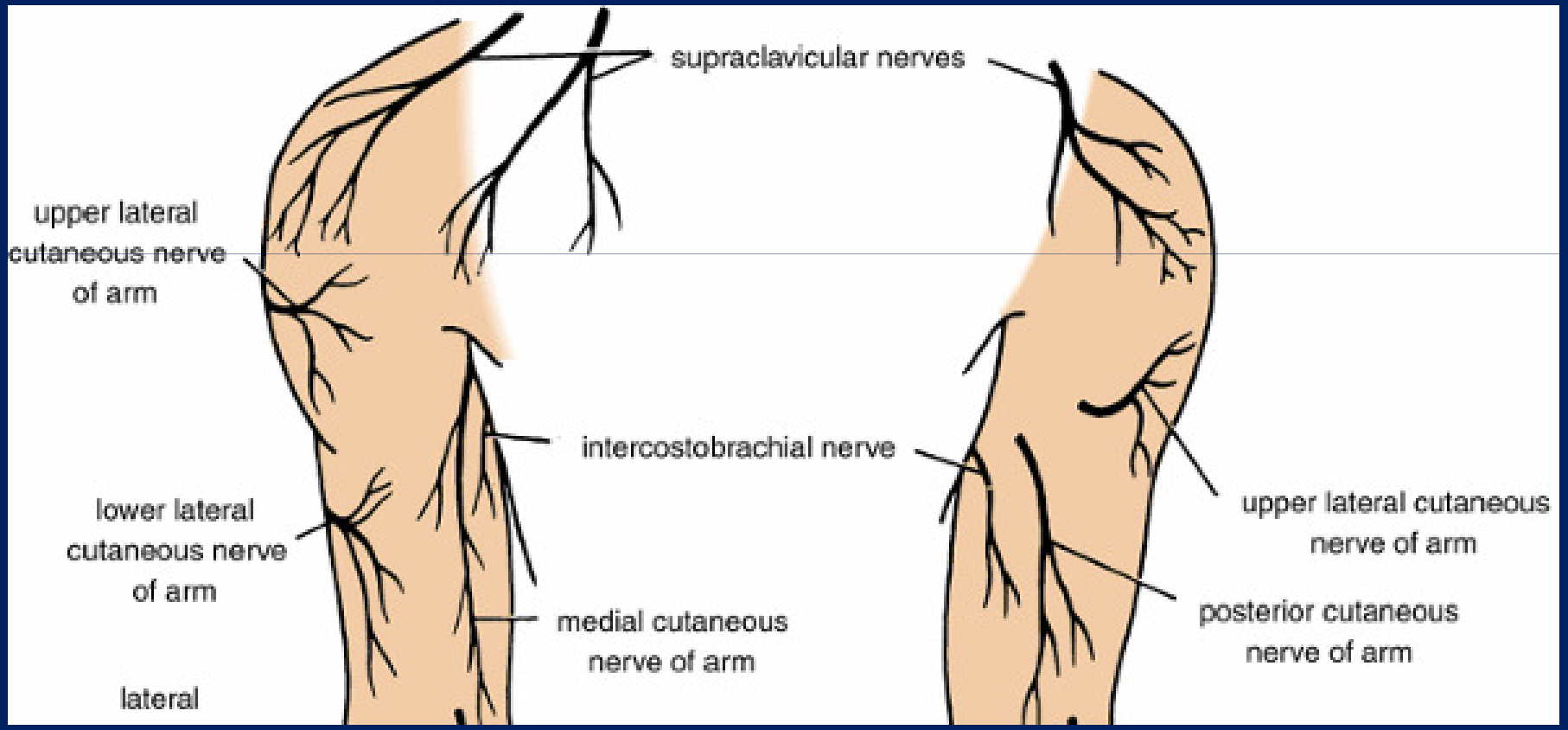
Movements of the shoulder Joint

MOVEMENTS OF THE SHOULDER JOINT			
Movement	**Muscles**	**Movement**	**Muscles**
Flexion	Deltoid Pectoralis major (clavicular part) Short head of biceps Coracobrachialis	**Adduction**	Pectoralis major Latissimus dorsi Teres major
Extension	Deltoid Latissimus dorsi (from flexion) Teres major (from flexion)	**Lateral rotation**	Deltoid Infraspinatus Teres minor
Abduction	Supraspinatus (initiator) Deltoid (completes abduction after 15°)	**Medial rotation**	Deltoid Pectoralis major Latissimus dorsi Teres major Subscapularis

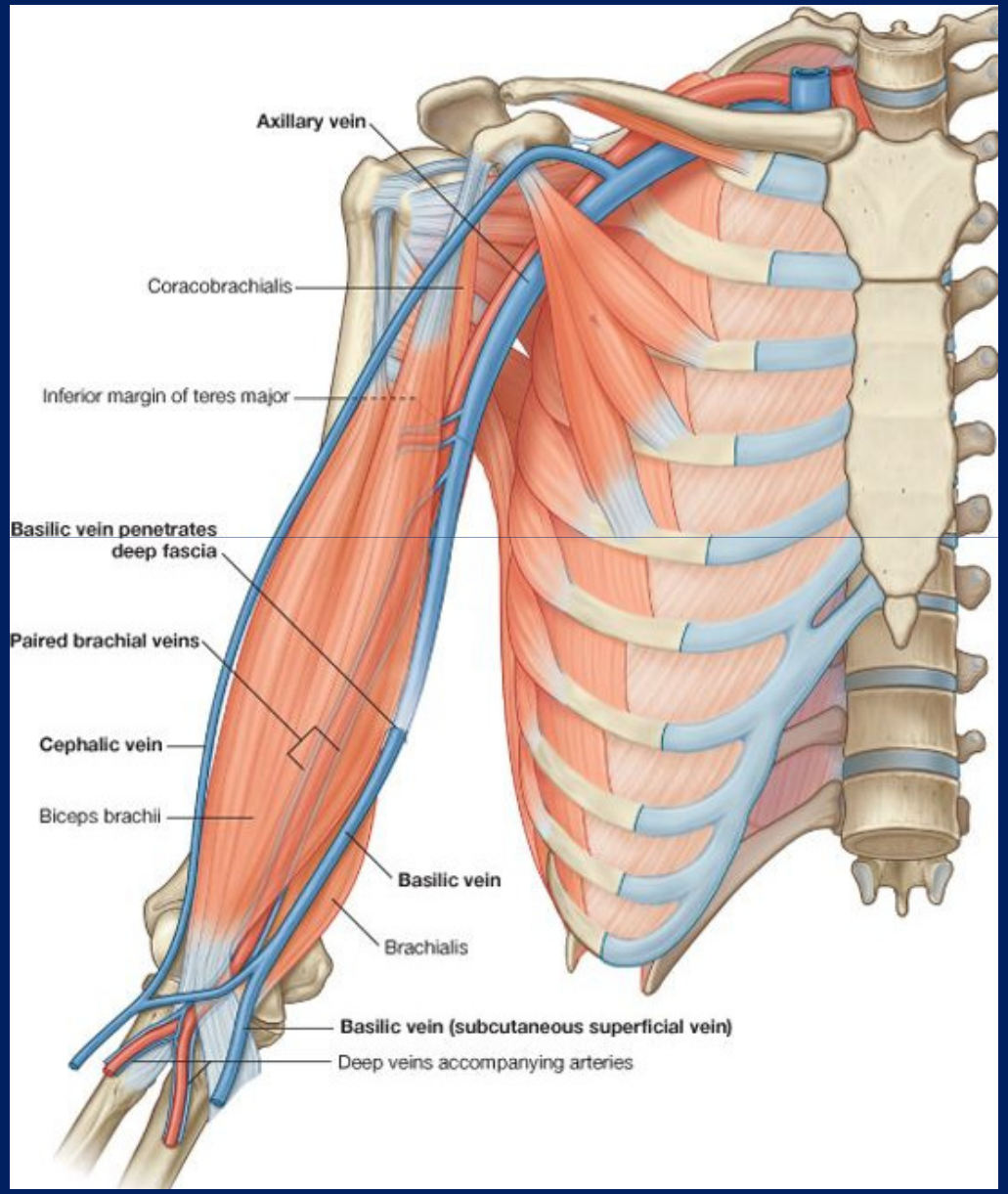


The Upper Arm

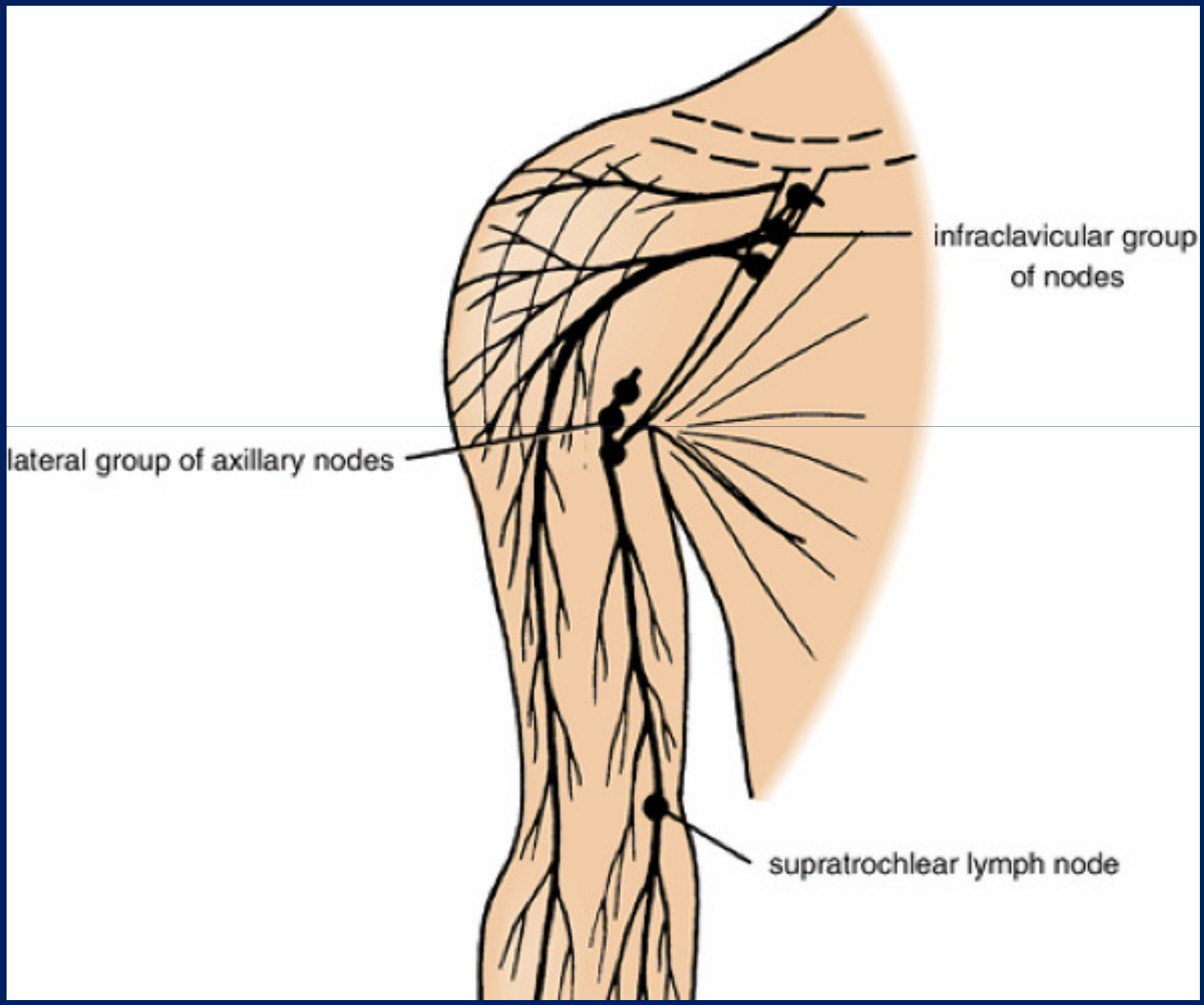
Skin



Superficial Veins



Superficial Lymph Vessels



Fascial Compartments of the Upper Arm

Contents of the Anterior Fascial Compartment of Upper Arm

- **Muscles:** Biceps brachii, coracobrachialis, and brachialis
- **Blood supply:** Brachial artery.
- **Nerve supply to the muscles:** Musculocutaneous nerve
- **Structures passing through the compartment:** Musculocutaneous, median, and ulnar nerves; brachial artery and basilic vein. The radial nerve is present in the lower part of the compartment.

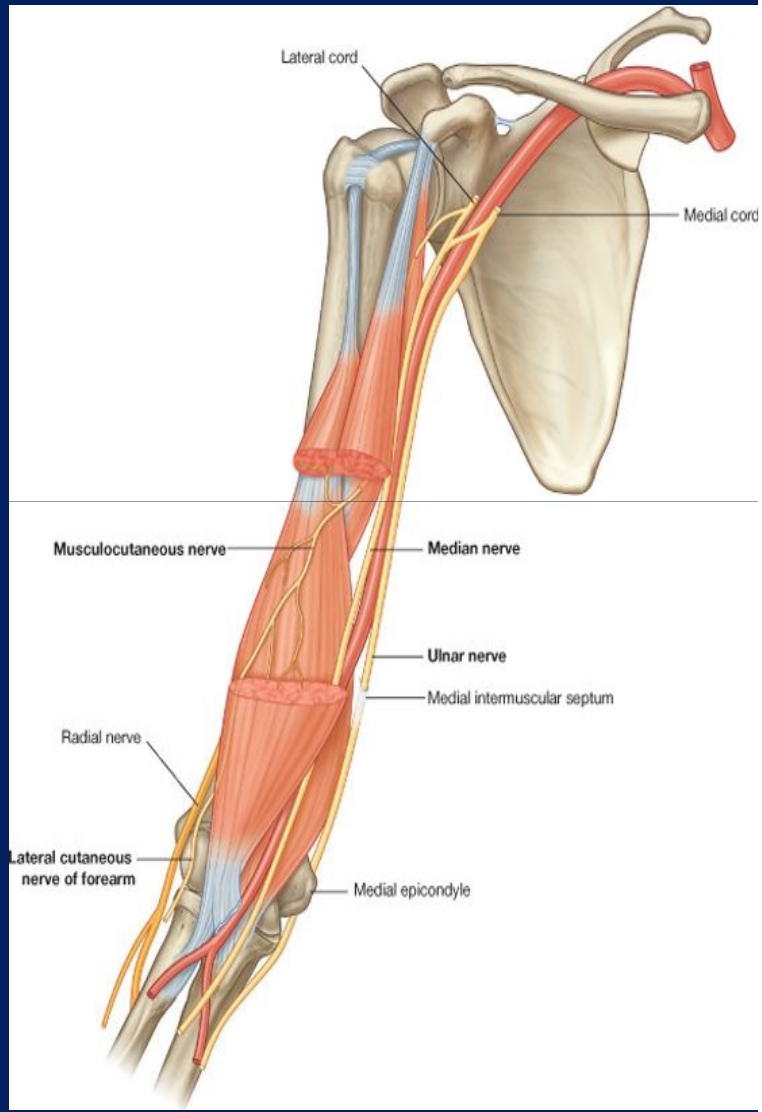


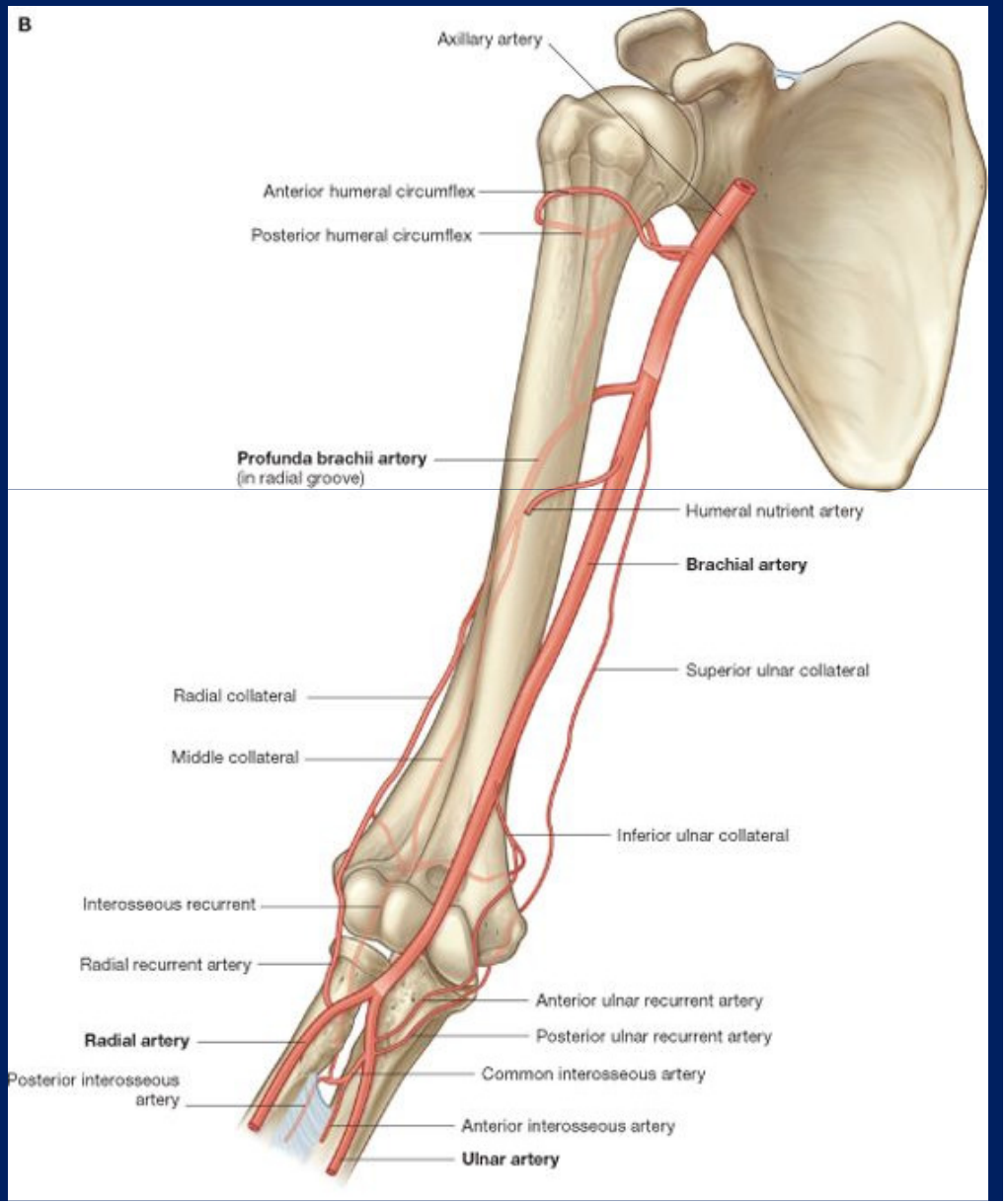
Table 7-8. Muscles of the anterior compartment of the arm (spinal segments in bold are the major segments innervating the muscle)

Muscle	Origin	Insertion	Innervation	Function
Coracobrachialis	Apex of coracoid process	Linear roughening on midshaft of humerus on medial side	Musculocutaneous nerve [**C5**, C6, C7]	Flexor of the arm at the glenohumeral joint
Biceps brachii	Long head-supraglenoid tubercle of scapula; short head-apex of coracoid process	Radial tuberosity	Musculocutaneous nerve [**C5**, C6]	Powerful flexor of the forearm at the elbow joint and supinator of the forearm; accessory flexor of the arm at the glenohumeral joint
Brachialis	Anterior aspect of humerus (medial and lateral surfaces) and adjacent intermuscular septae	Tuberosity of the ulna	Musculocutaneous nerve [C5, **C6**]; (small contribution by the radial nerve [C7] to lateral part of muscle)	Powerful flexor of the forearm at the elbow joint

Brachial Artery

Branches

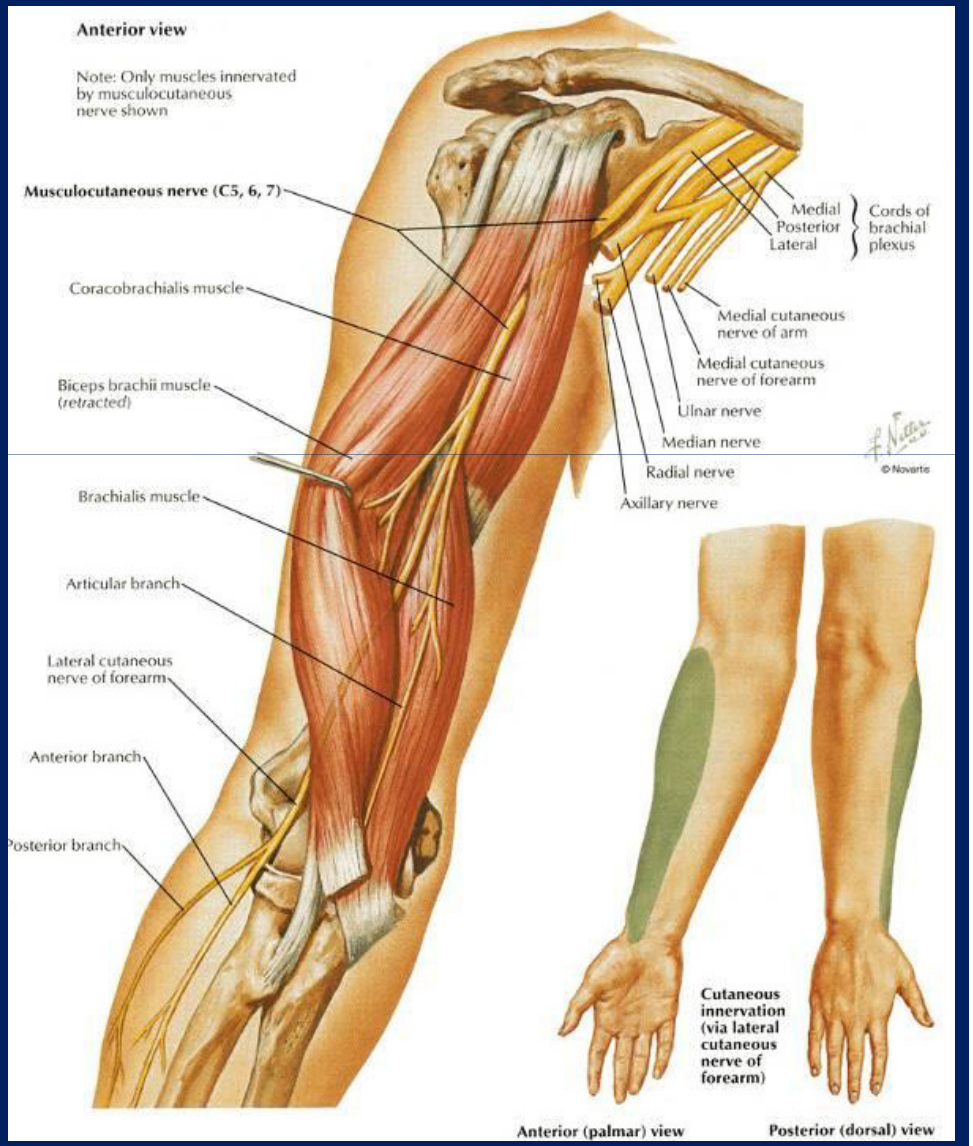
- **Muscular branches** to the anterior compartment of the upper arm
- The **nutrient artery** to the humerus
- The **profunda artery**.
- The **superior ulnar collateral artery**.
- The **inferior ulnar collateral artery**



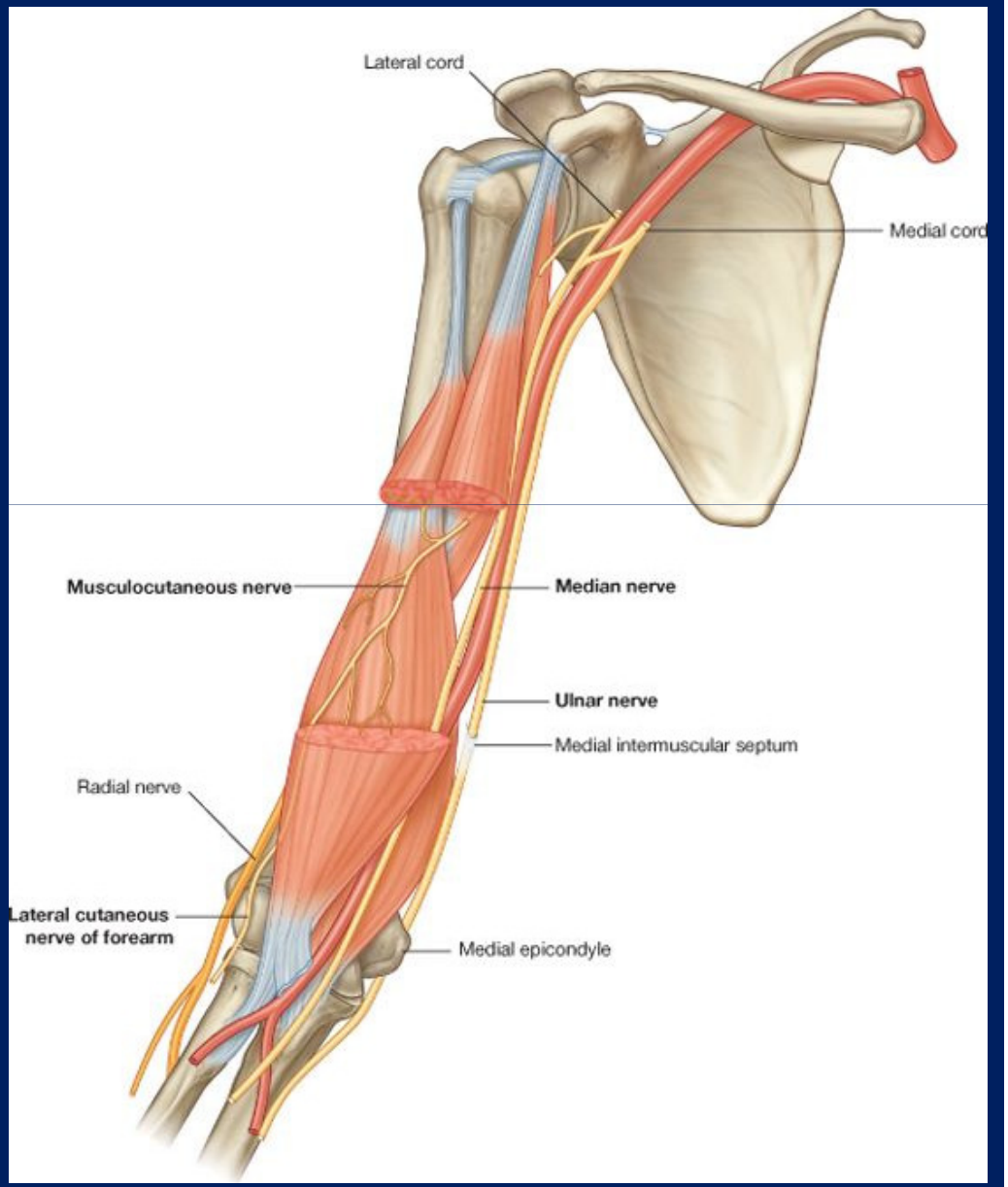
Musculocutaneous Nerve

Branches

- **Muscular branches** to the biceps, coracobrachialis, and brachialis .
- **Cutaneous branches;** the lateral cutaneous nerve of the forearm supplies the skin of the front and lateral aspects of the forearm down as far as the root of the thumb.
- **Articular branches** to the elbow joint



- **Median Nerve**
- **Ulnar Nerve**
- **Radial Nerve**



Contents of the Posterior Fascial Compartment of the Upper Arm

- **Muscle:** The three heads of the triceps muscle
- **Nerve supply:**

  Radial nerve
- **Blood supply:** Profunda brachii and ulnar collateral arteries
- **Structures passing through the compartment:**

  Radial nerve and ulnar nerve

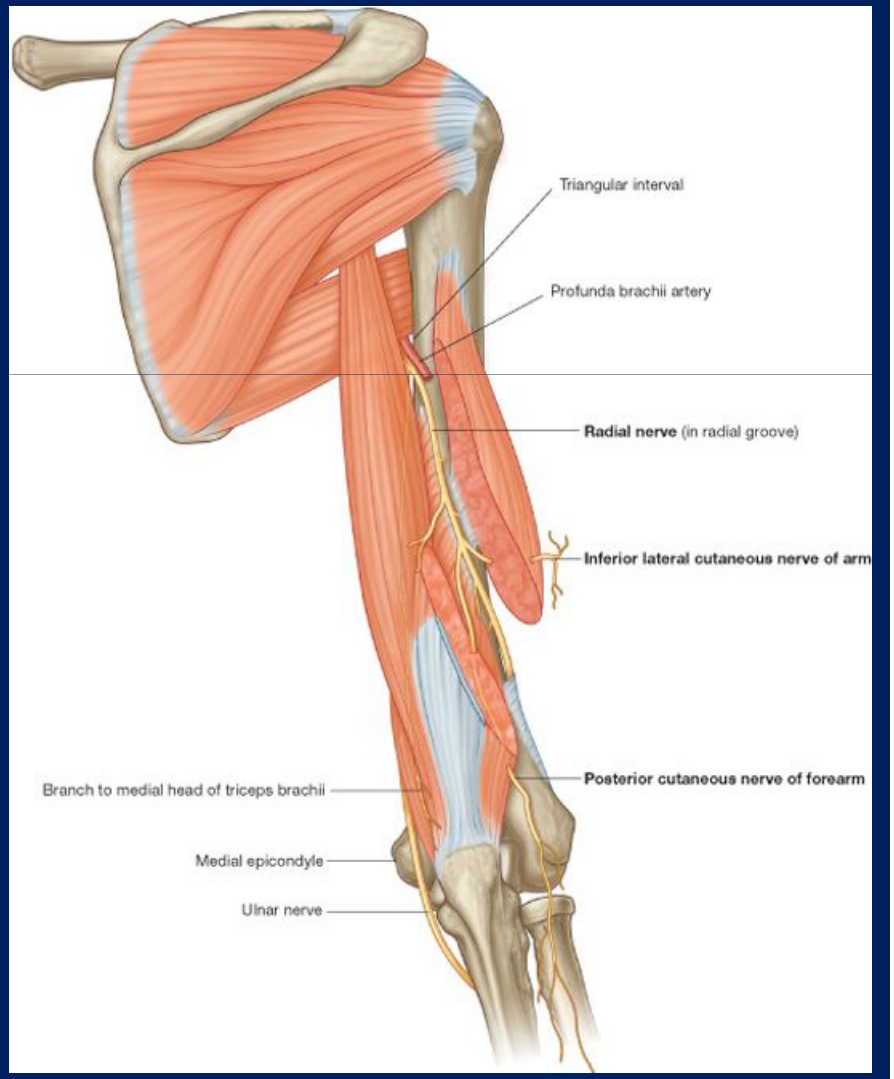
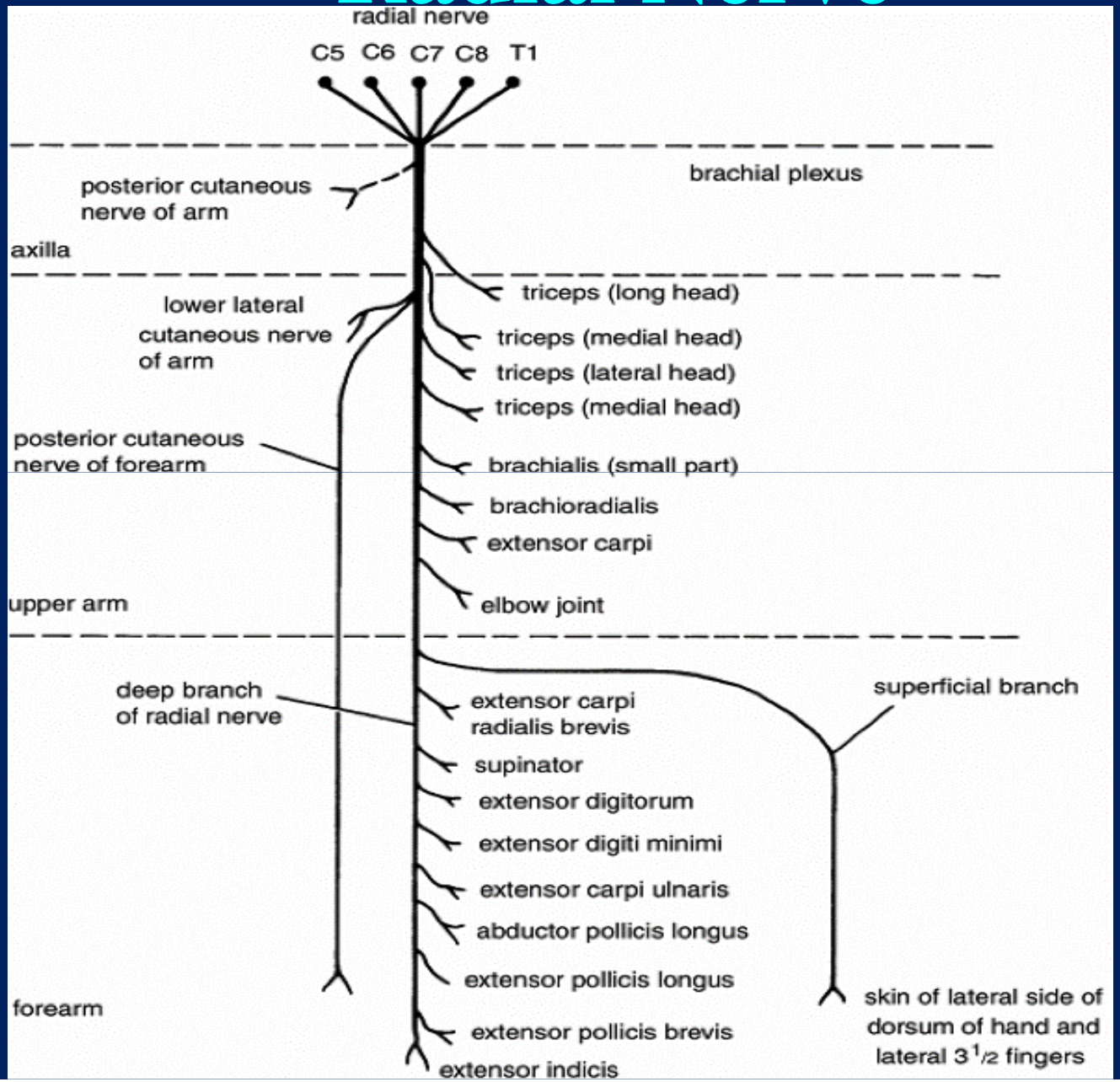


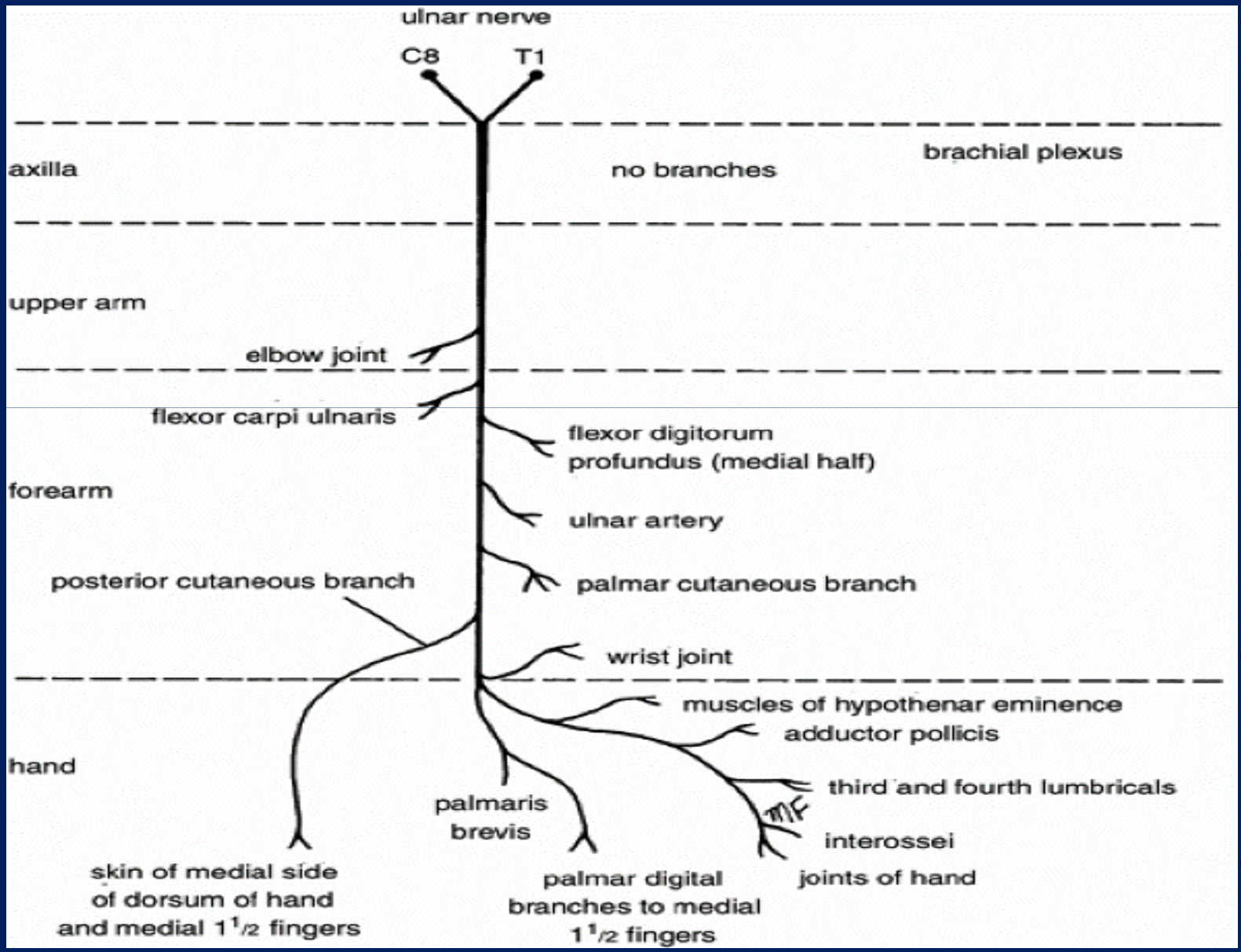
TABLE 9.5 Muscles of the Arm

Muscle	Origin	Insertion	Nerve Supply	Nerve Roots[a]	Action
Posterior Compartment					
Triceps					
Long head	Infraglenoid tubercle of scapula				
Lateral head	Upper half of posterior surface of shaft of humerus	Olecranon process of ulna	Radial nerve	C6, 7, 8	Extensor of elbow joint
Medial head	Lower half of posterior surface of shaft of humerus				

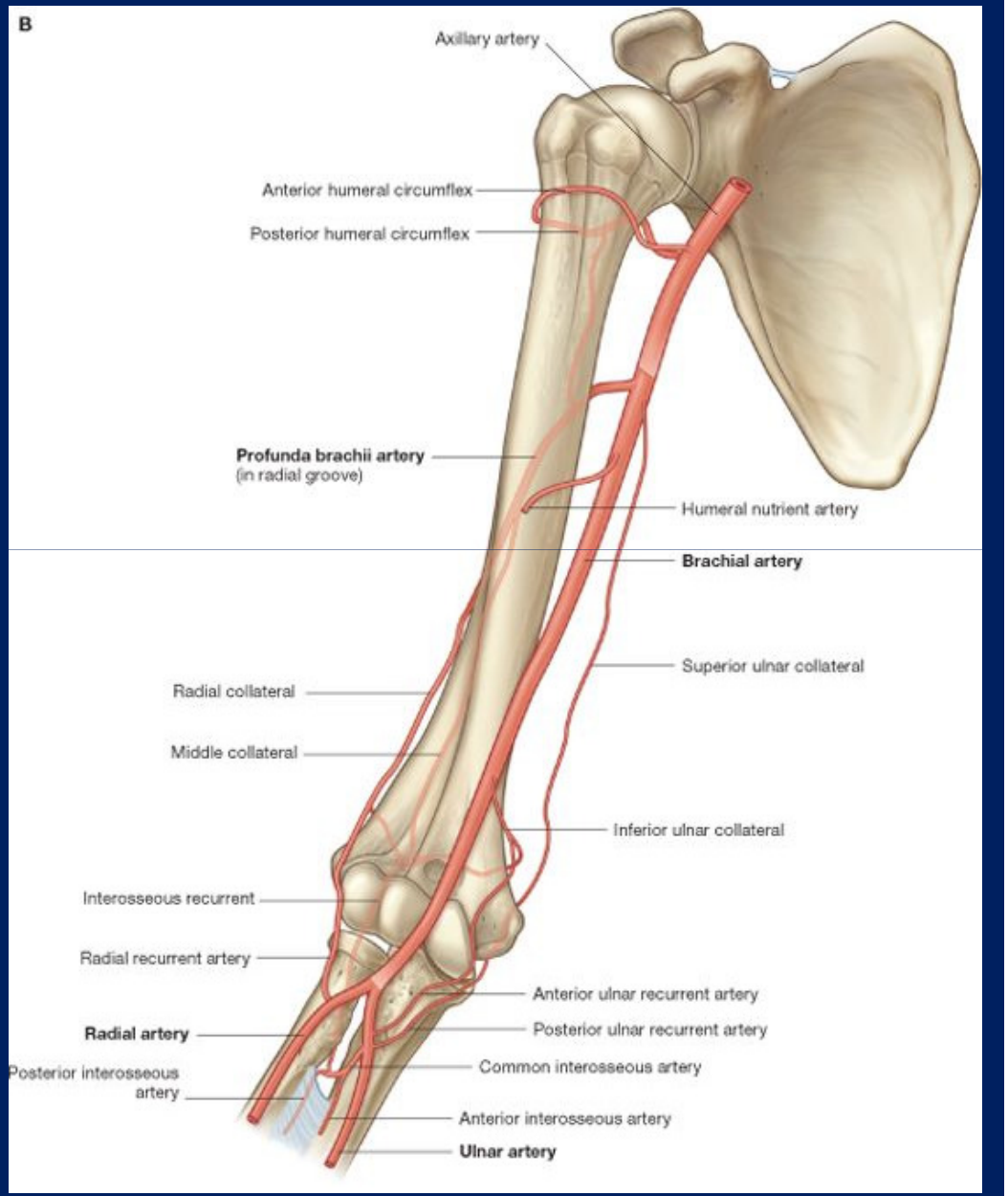
Radial Nerve



Ulnar Nerve


ulnar nerve
C8
T1
axilla
no branches
brachial plexus
upper arm
elbow joint
flexor carpi ulnaris
flexor digitorum
profundus (medial half)
forearm
ulnar artery
posterior cutaneous branch
palmar cutaneous branch
wrist joint
muscles of hypothenar eminence
adductor pollicis
hand
third and fourth lumbricals
palmaris
brevis
interossei
joints of hand
skin of medial side
of dorsum of hand
and medial 1 1/2 fingers
palmar digital
branches to medial
1 1/2 fingers

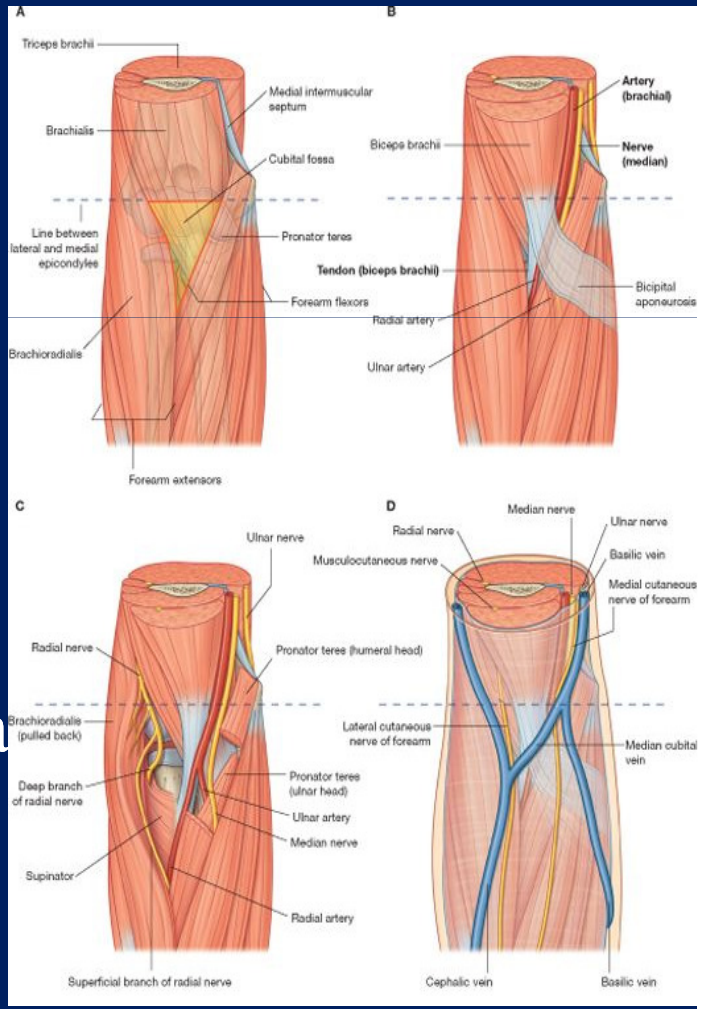
- **Profunda Brachii Artery**
- **Superior and Inferior Ulnar Collateral Arteries**



The Cubital Fossa

Boundaries

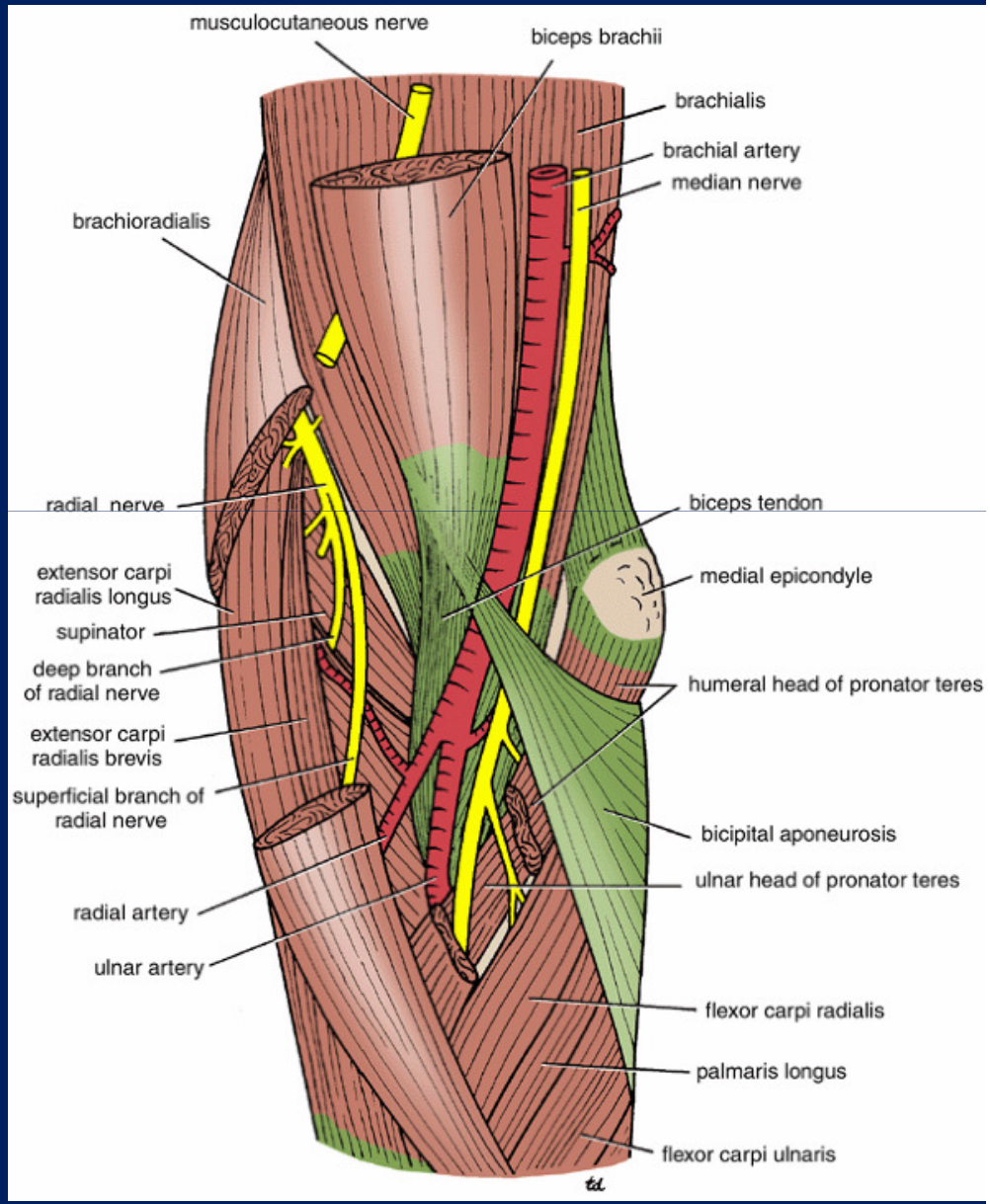
- **Laterally:** The brachioradialis muscle
- **Medially:**The pronator teres muscle
- The **base** of the triangle is formed by an imaginary line drawn between the two epicondyles of the humerus.
- The **floor** of the fossa is formed by the supinator muscle laterally and the brachialis muscle medially.
- The **roof** is formed by skin and fascia and is reinforced by the bicipital aponeurosis.



The Cubital Fossa

Contents

The cubital fossa contains the following structures enumerated from the medial to the lateral side: the median nerve, the bifurcation of the brachial artery into the ulnar and radial arteries, the tendon of the biceps muscle and the radial nerve and its deep branch.The supratrochlear lymph node.



Thank You & Good Luck