CUBITAL FOSSA

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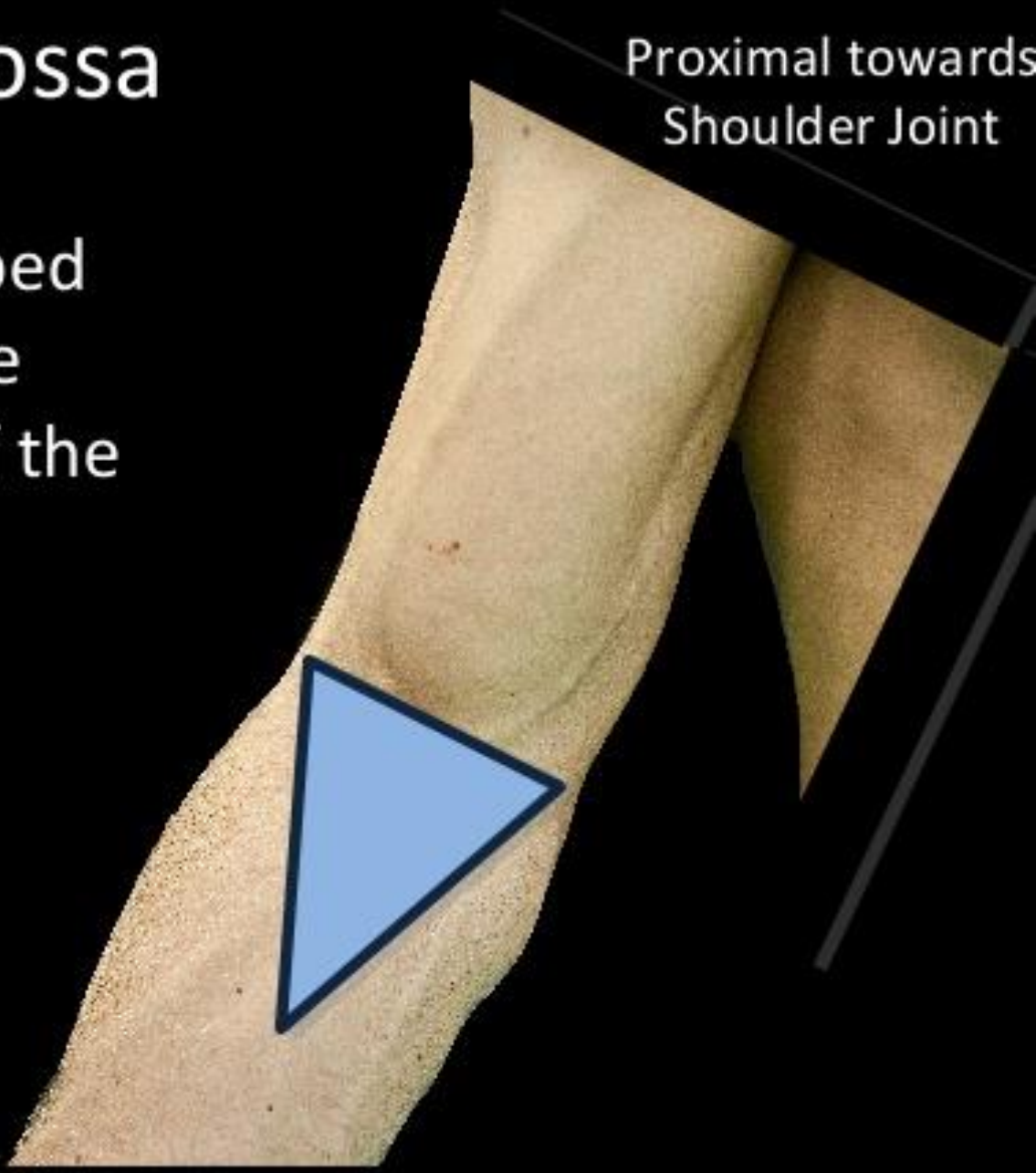
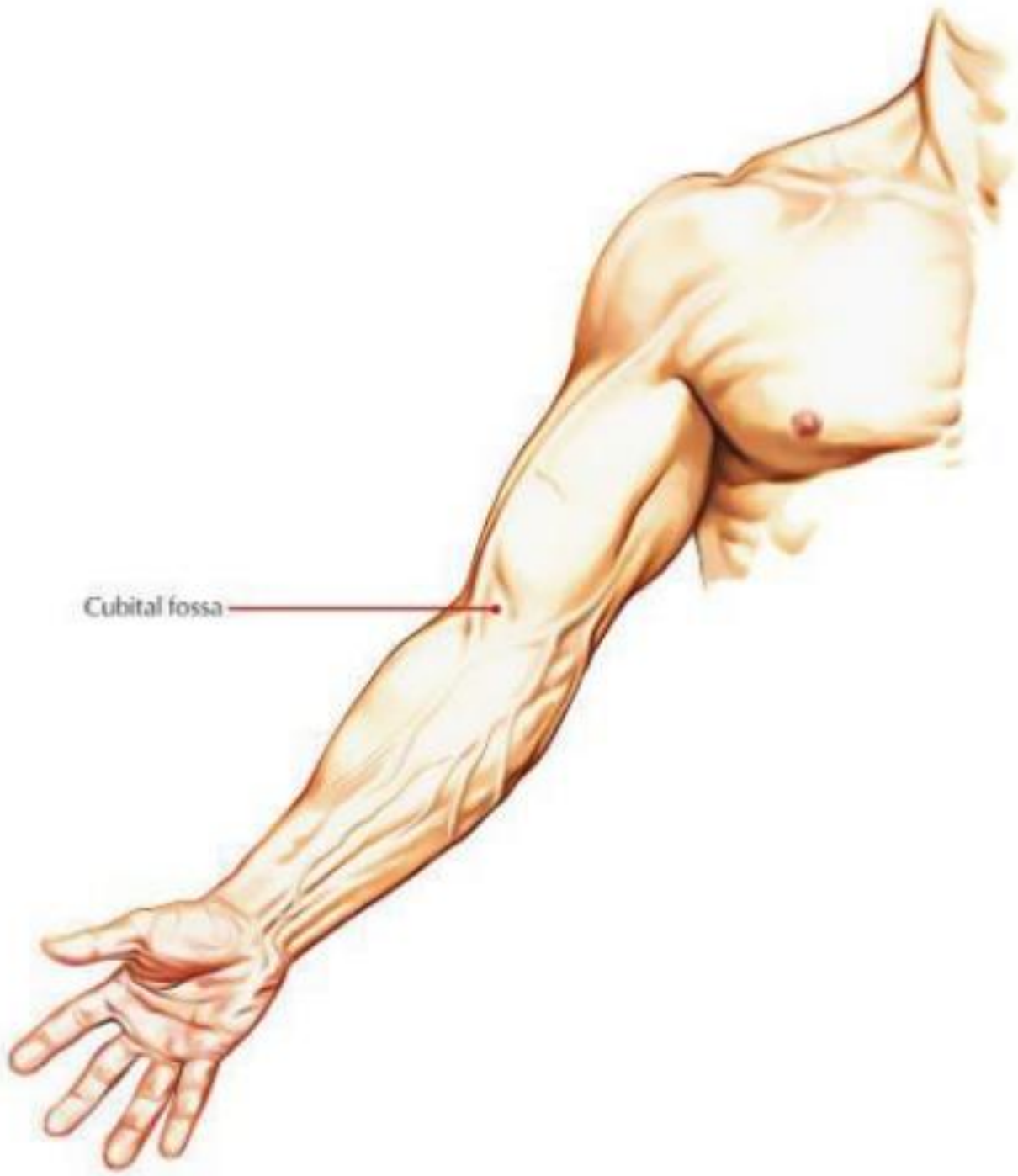
The **cubital fossa**

- This is an area of transition between the anatomical arm and the forearm.
- It is located as a depression on the anterior surface of the elbow joint.

The Cubital Fossa

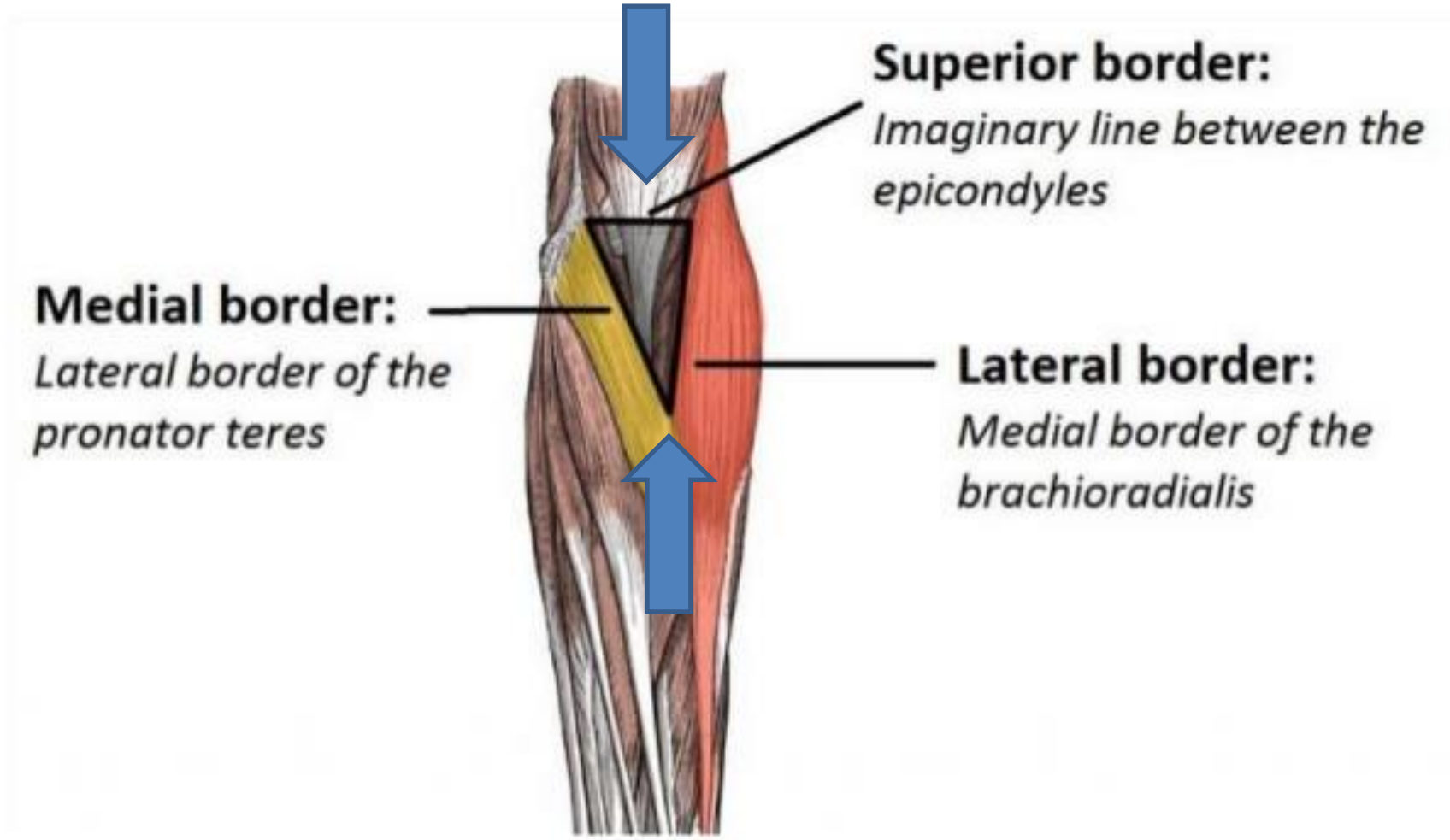
A triangular shaped region over the anterior aspect of the elbow joint




Cubital fossa

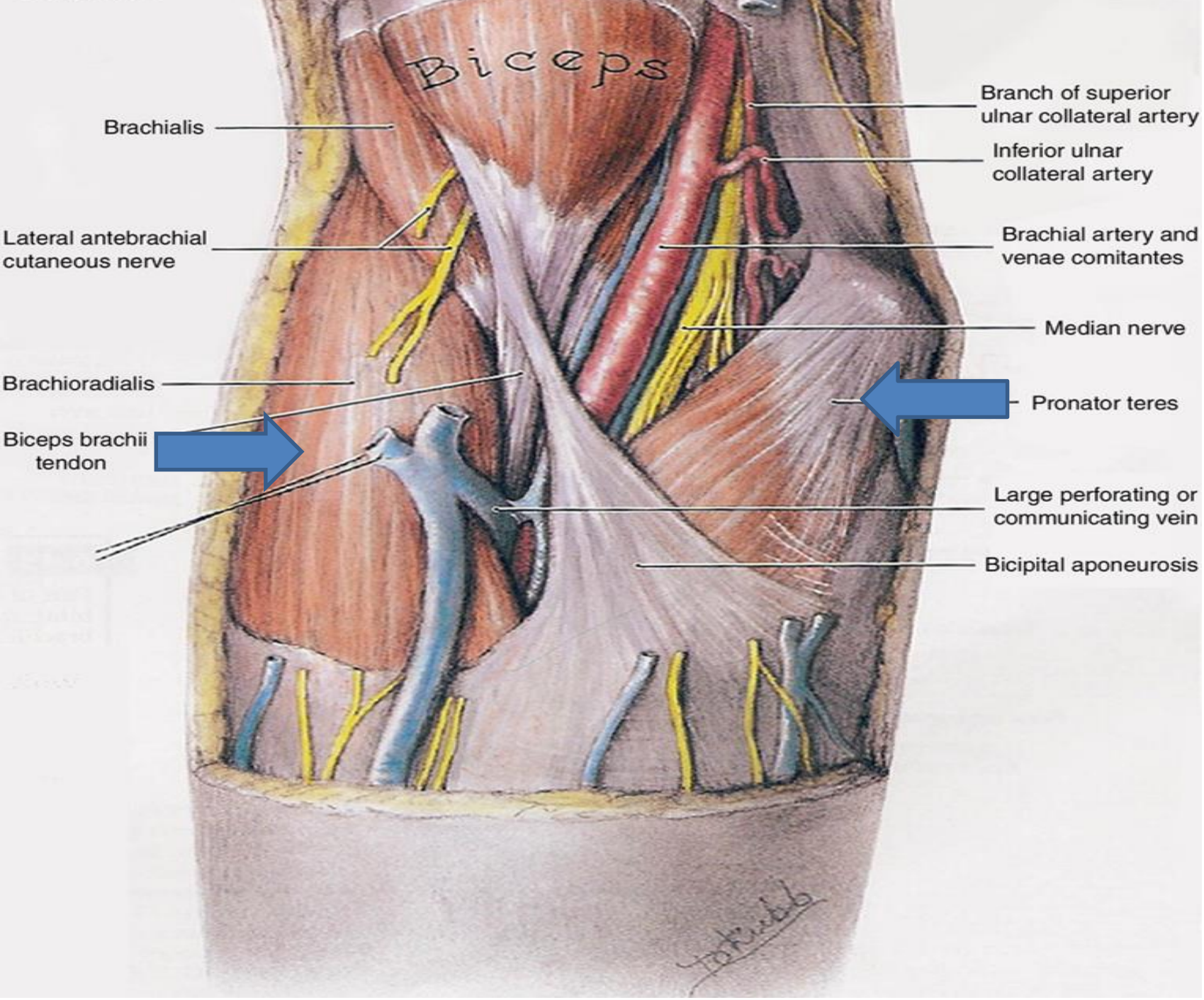
BOUNDARIES

- Boundaries:
- Base:(SUPERIOR BORDER)…imaginary line joining the epicondyles of the humerus
- Medial border: pronator teres muscle
- Lateral border: brachioradialis muscle
- Apex: pronator teres and brachioradialis muscles
- Roof: skin, fascia of forearm, bicipital aponeurosis
- Floor: brachialis muscle, supinator muscle


Superior border:
Imaginary line between the epicondyles
Medial border:
Lateral border of the pronator teres
Lateral border:
Medial border of the brachioradialis

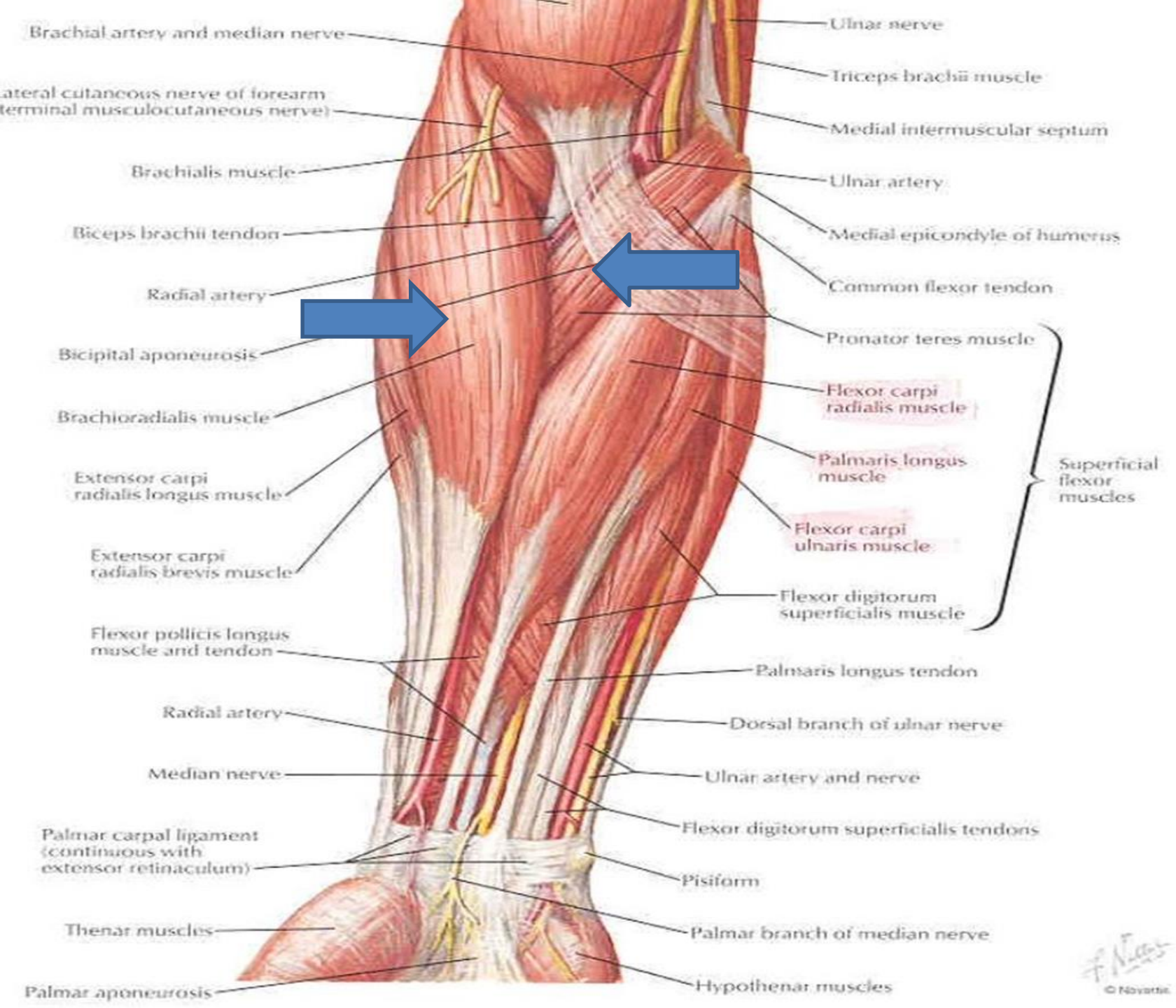
Anterior Forearm

Pronator Teres	
Origin	Humeral head from medial epicondyle and supracondylar ridge of humerus. Ulnar head from medial border of coronoid process of ulna
Insertion	Middle of lateral surface of radius
Action	Pronates and flexes forearm (at elbow)
Nerve Supply	Median nerve (C6 and C7)
Blood Supply	Ulnar artery, anterior recurrent ulnar artery


Biceps
Brachialis
Branch of superior ulnar collateral artery
Inferior ulnar collateral artery
Lateral antebrachial cutaneous nerve
Brachial artery and venae comitantes
Median nerve
Brachioradialis
Pronator teres
Biceps brachii tendon
Large perforating or communicating vein
Bicipital aponeurosis

Posterior Forearm

Brachioradialis	
Origin	Proximal 2/3 of lateral supracondylar ridge of humerus
Insertion	Lateral surface of distal end of radius (base of styloid process)
Action	Flexes forearm
Nerve Supply	Radial nerve (C5, C6 and C7)
Blood Supply	Radial recurrent artery


Brachial artery and median nerve
ateral cutaneous nerve of forearm
terminal musculocutaneous nerve)
Brachialis muscle
Biceps brachii tendon
Radial artery
Bicipital aponeurosis
Brachioradialis muscle
Extensor carpi radialis longus muscle
Extensor carpi radialis brevis muscle
Flexor pollicis longus muscle and tendon
Radial artery
Median nerve
Palmar carpal ligament (continuous with extensor retinaculum)
Thenar muscles
Palmar aponeurosis
Ulnar nerve
Triceps brachii muscle
Medial intermuscular septum
Ulnar artery
Medial epicondyle of humerus
Common flexor tendon
Pronator teres muscle
Flexor carpi radialis muscle
Palmaris longus muscle
Flexor carpi ulnaris muscle
Flexor digitorum superficialis muscle
Superficial flexor muscles
Palmaris longus tendon
Dorsal branch of ulnar nerve
Ulnar artery and nerve
Flexor digitorum superficialis tendons
Pisiform
Palmar branch of median nerve
Hypothenar muscles

Anterior Arm

Biceps Brachii

Origin	Short head: tip of coracoid process of scapula; Long head: supraglenoid tubercle of scapula
Insertion	Tuberosity of radius and fascia of forearm via bicipital aponeurosis
Action	Supinates and flexes forearm
Nerve Supply	Musculocutaneous nerve (C5 and C6)
Blood Supply	Muscular branches of brachial artery

Supinator

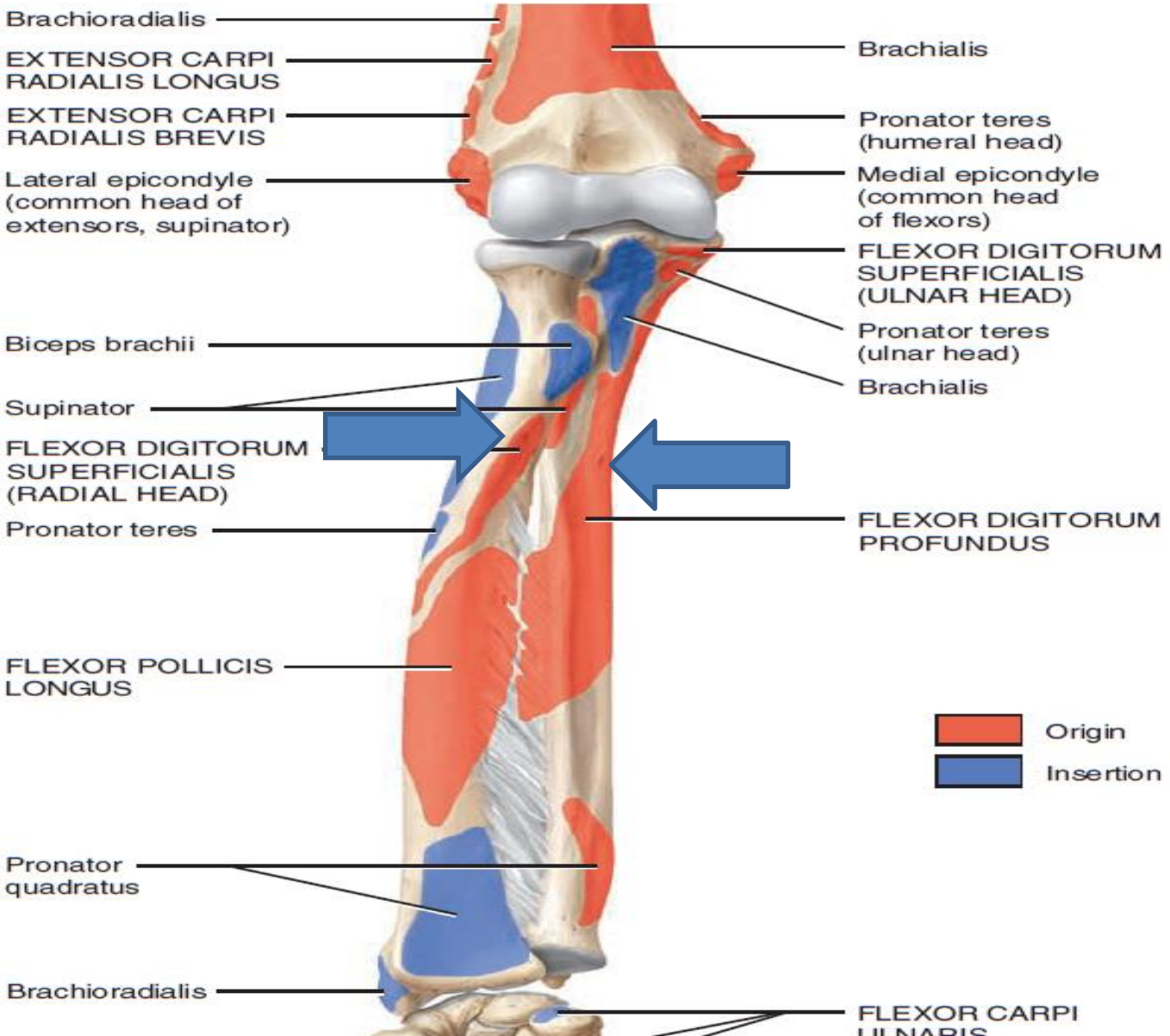
Deep part attaches to the supinator crest and ulna tuberosity

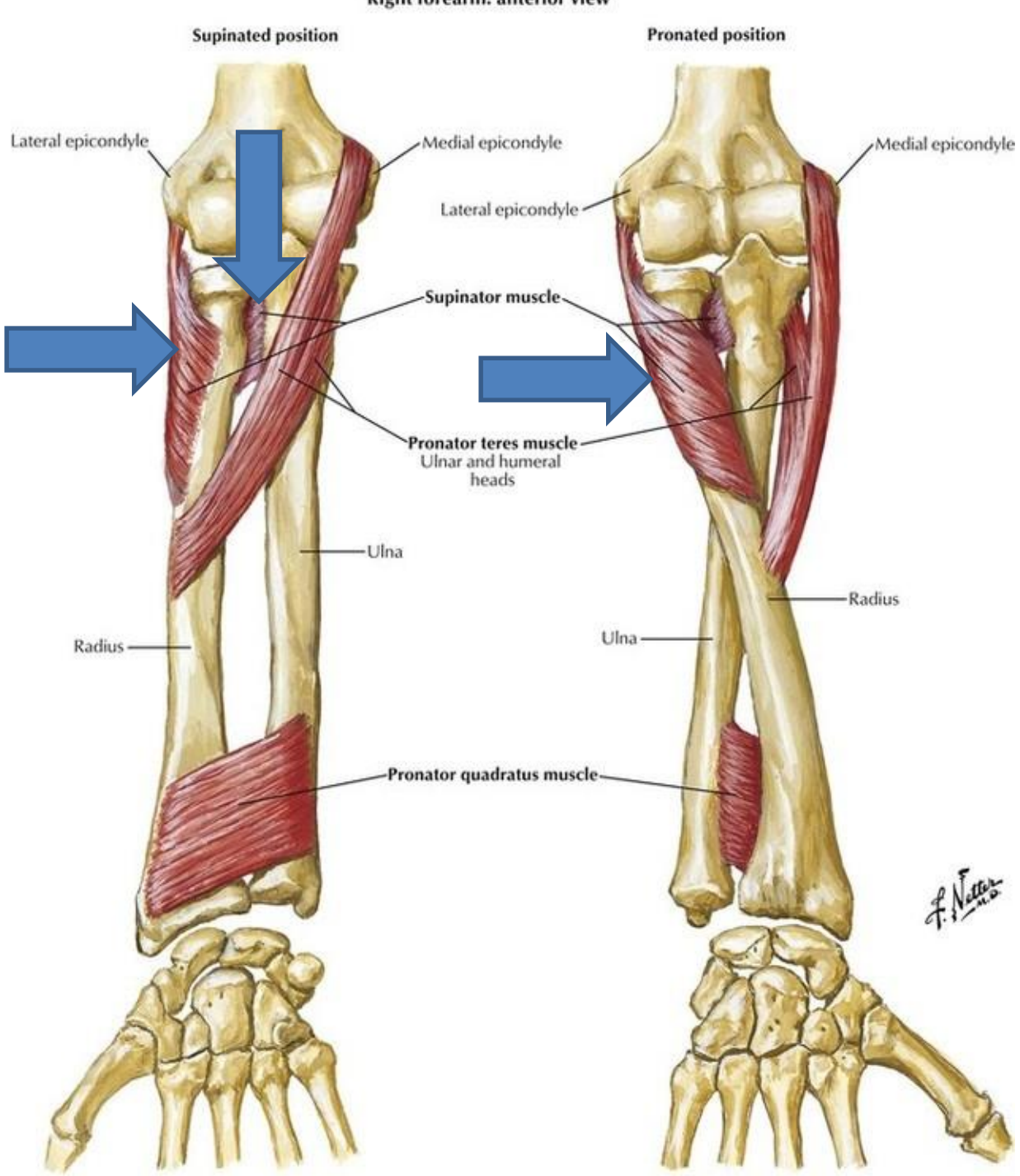
Posterior View
Forearm

Proximal Ulna
Lateral View

Supinates the forearm

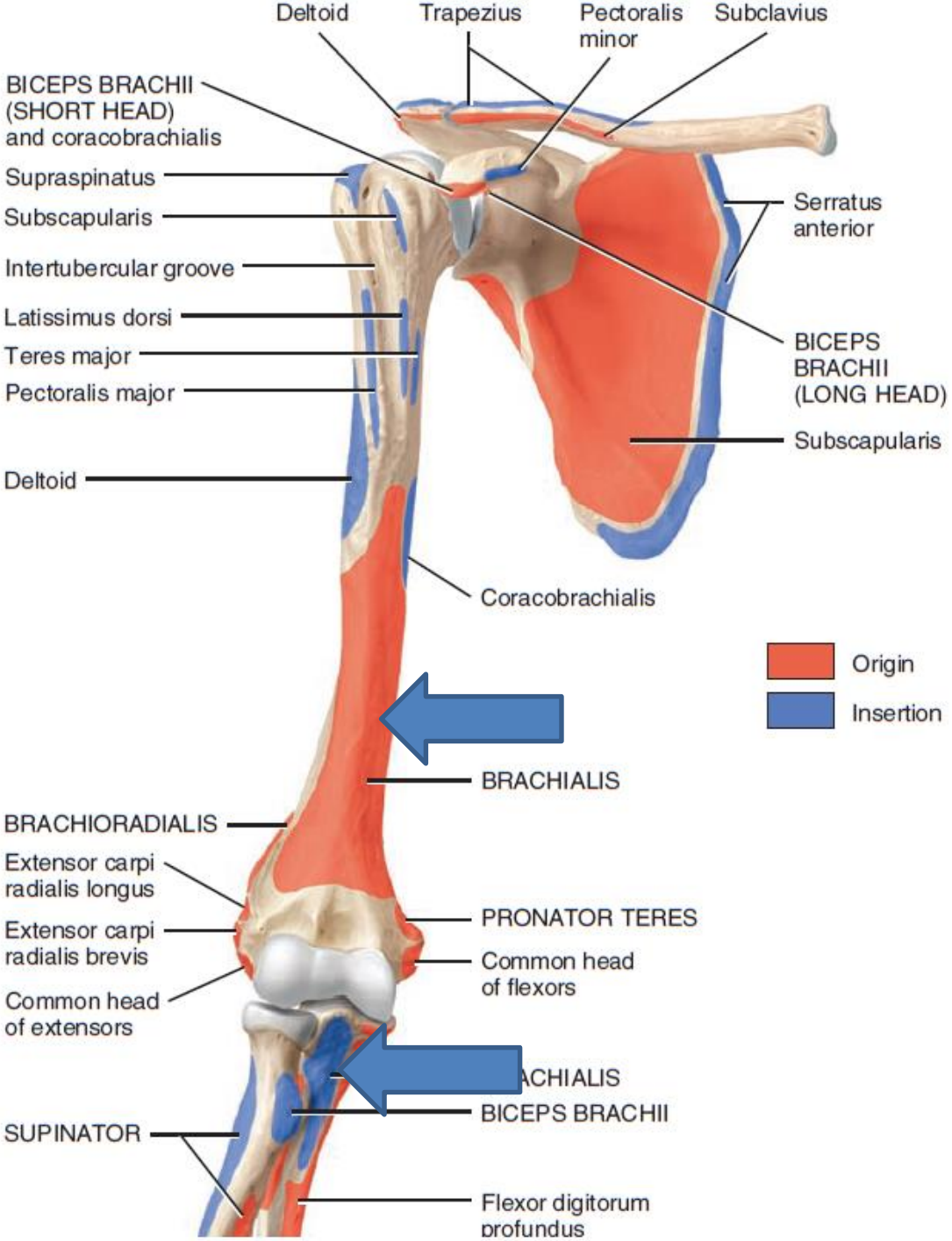
SUPINATOR MUSCLE

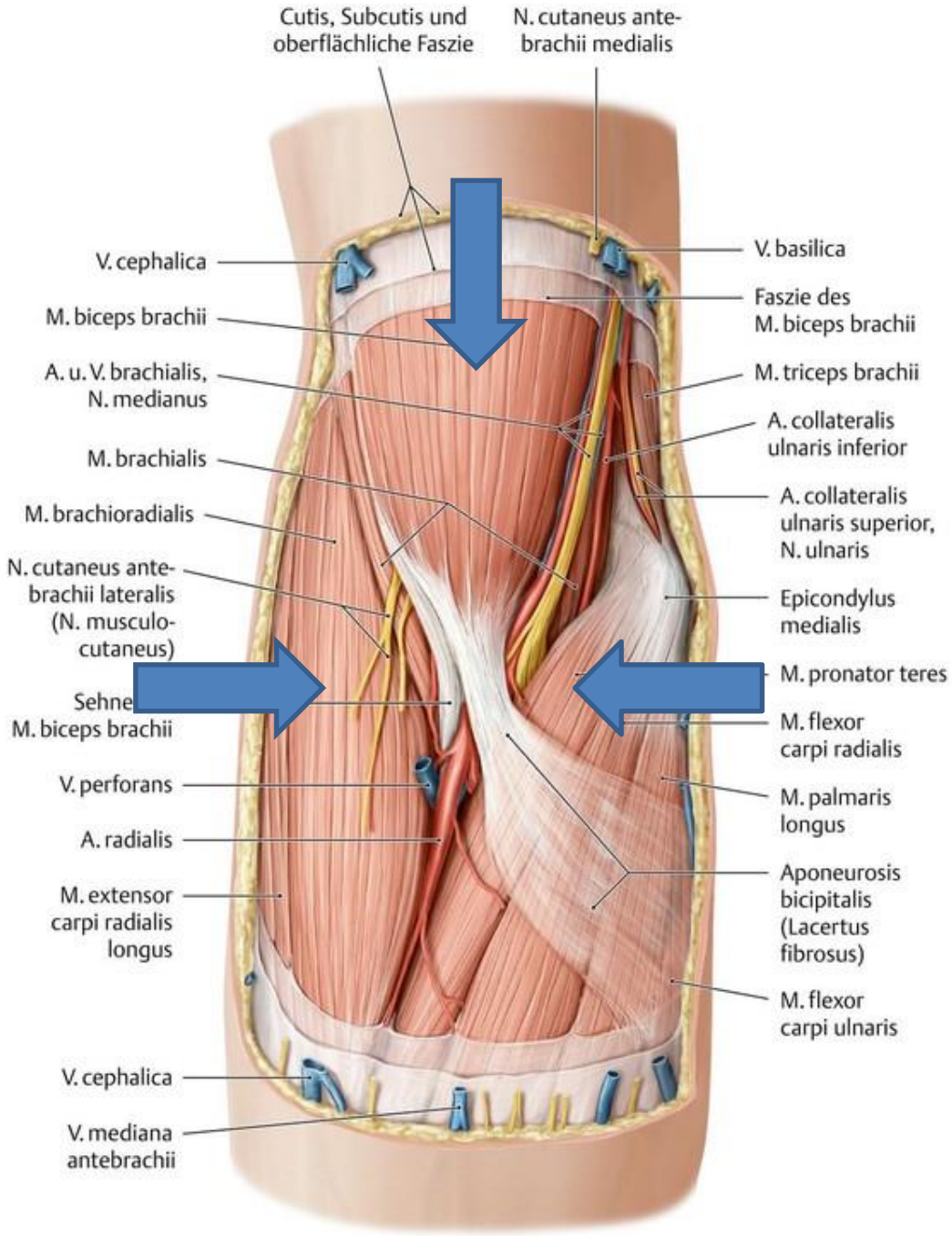



Supinated position
Pronated position
Lateral epicondyle
Medial epicondyle
Supinator muscle
Pronator teres muscle
Ulnar and humeral heads
Ulna
Radius
Pronator quadratus muscle
F. Netter M.D.

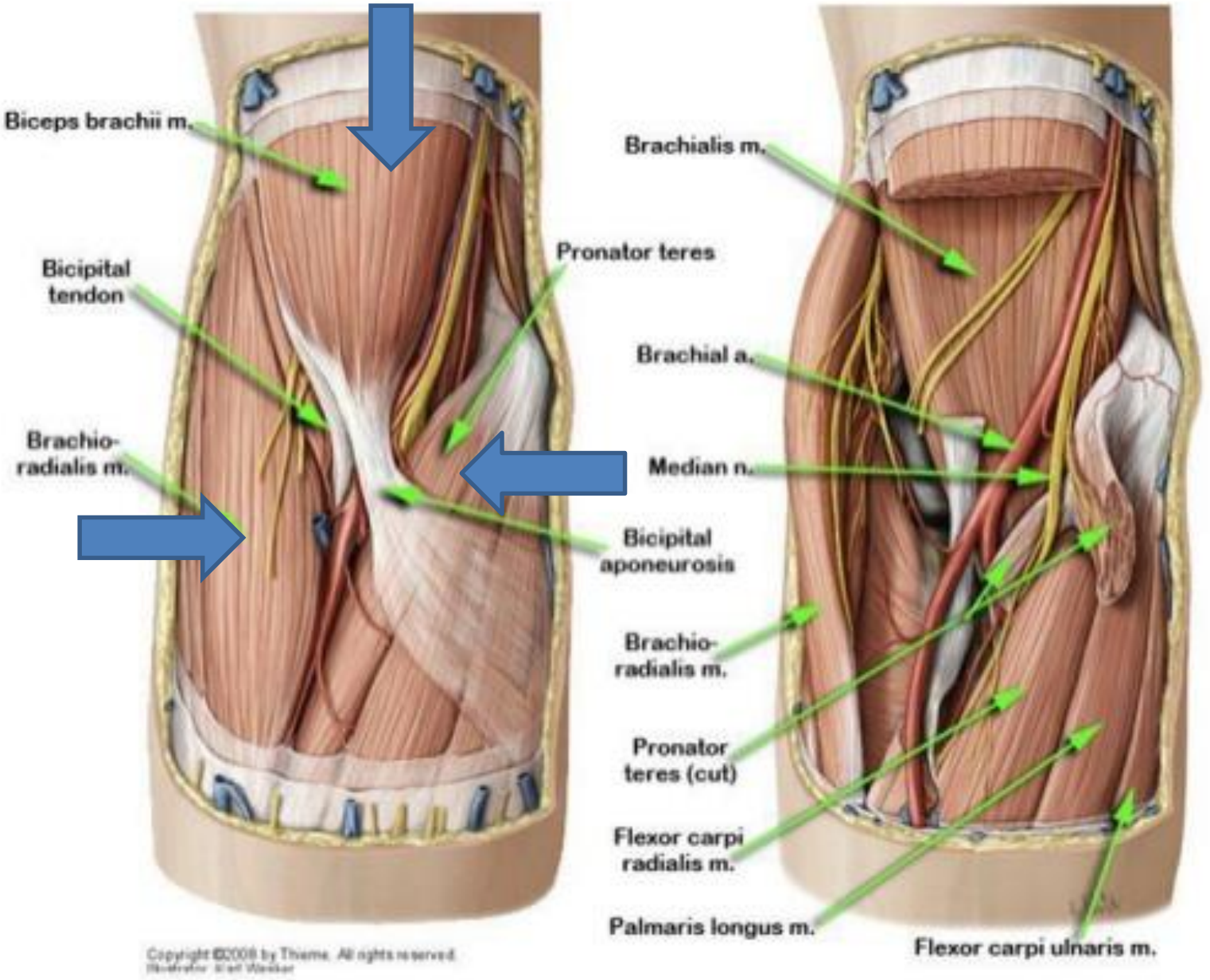
Brachialis muscle

- **Origin:**
- From the lower half of the anterior surface of the shaft of the humerus.
- **Insertion:** Into the anterior surface of the coronoid process of the ulna.
- **Nerve Supply:**
- Majority of the muscle from musculocutaneous nerve.
- Small lateral part from the radial nerve.
- **Action:** Strong flexion of the elbow joint.


Deltoid
Trapezius
Pectoralis minor
Subclavius
BICEPS BRACHII (SHORT HEAD) and coracobrachialis
Supraspinatus
Subscapularis
Intertubercular groove
Latissimus dorsi
Teres major
Pectoralis major
Deltoid
Serratus anterior
BICEPS BRACHII (LONG HEAD)
Subscapularis
Coracobrachialis
Origin
Insertion
BRACHIALIS
BRACHIORADIALIS
Extensor carpi radialis longus
Extensor carpi radialis brevis
Common head of extensors
PRONATOR TERES
Common head of flexors
ACHIALIS
BICEPS BRACHII
SUPINATOR
Flexor digitorum profundus


Cutis, Subcutis und oberflächliche Faszie
N. cutaneus antebrachii medialis
V. cephalica
V. basilica
M. biceps brachii
Faszie des M. biceps brachii
A. u. V. brachialis, N. medianus
M. triceps brachii
A. collateralis ulnaris inferior
M. brachialis
A. collateralis ulnaris superior, N. ulnaris
M. brachioradialis
N. cutaneus antebrachii lateralis (N. musculocutaneus)
Epicondylus medialis
M. pronator teres
Sehne M. biceps brachii
M. flexor carpi radialis
V. perforans
M. palmaris longus
A. radialis
Aponeurosis bicipitalis (Lacertus fibrosus)
M. extensor carpi radialis longus
M. flexor carpi ulnaris
V. cephalica
V. mediana antebrachii

Cubital Fossa

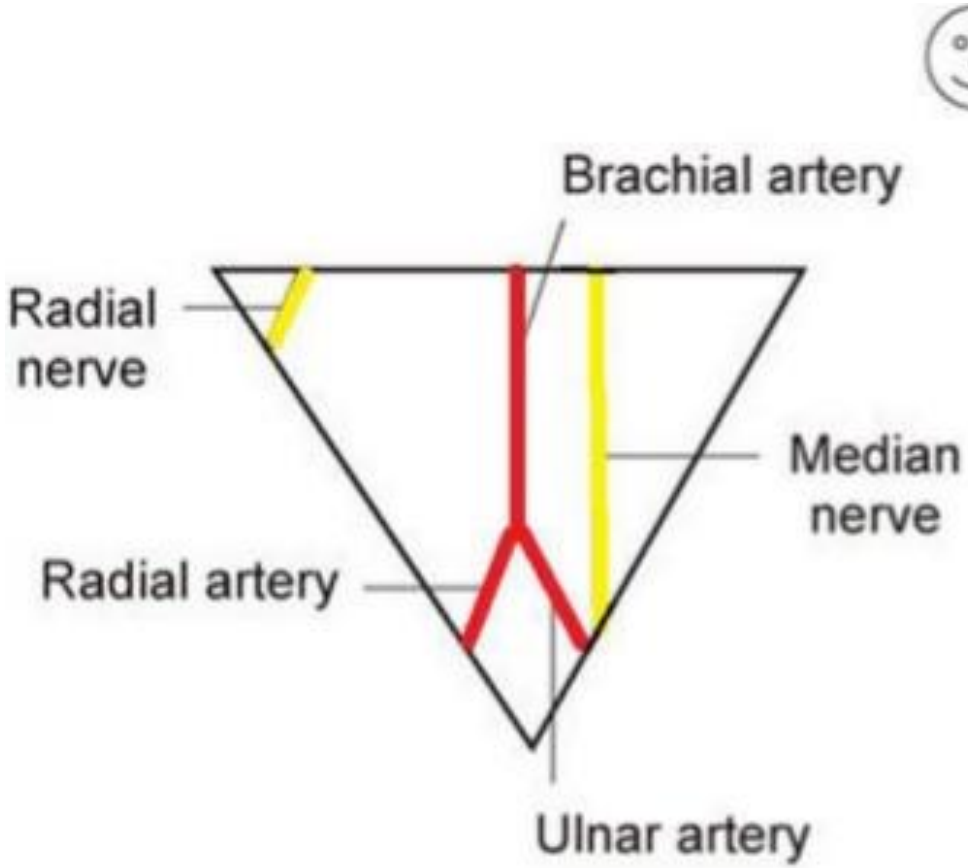


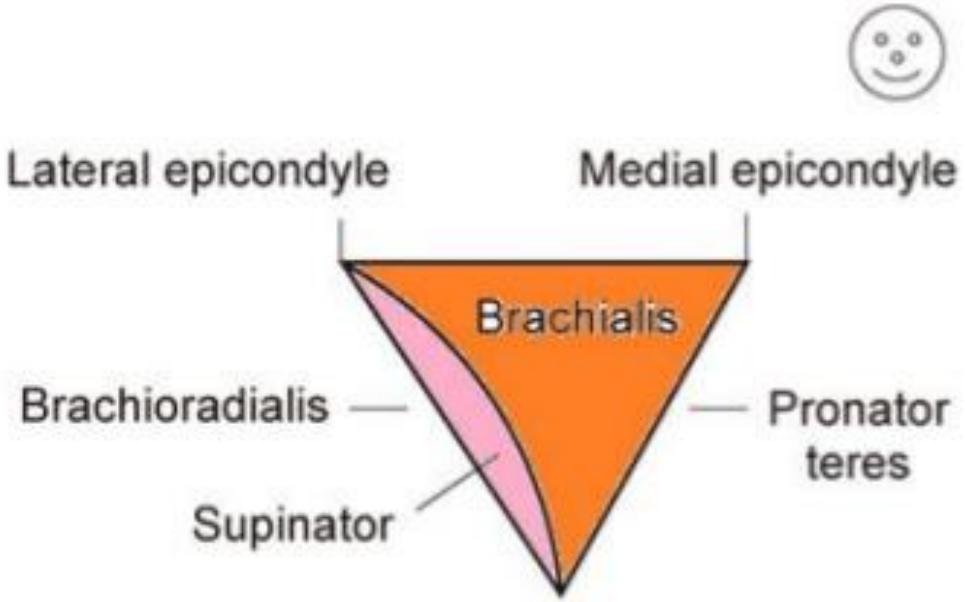
CONTENTS OF CUBITAL FOSSA

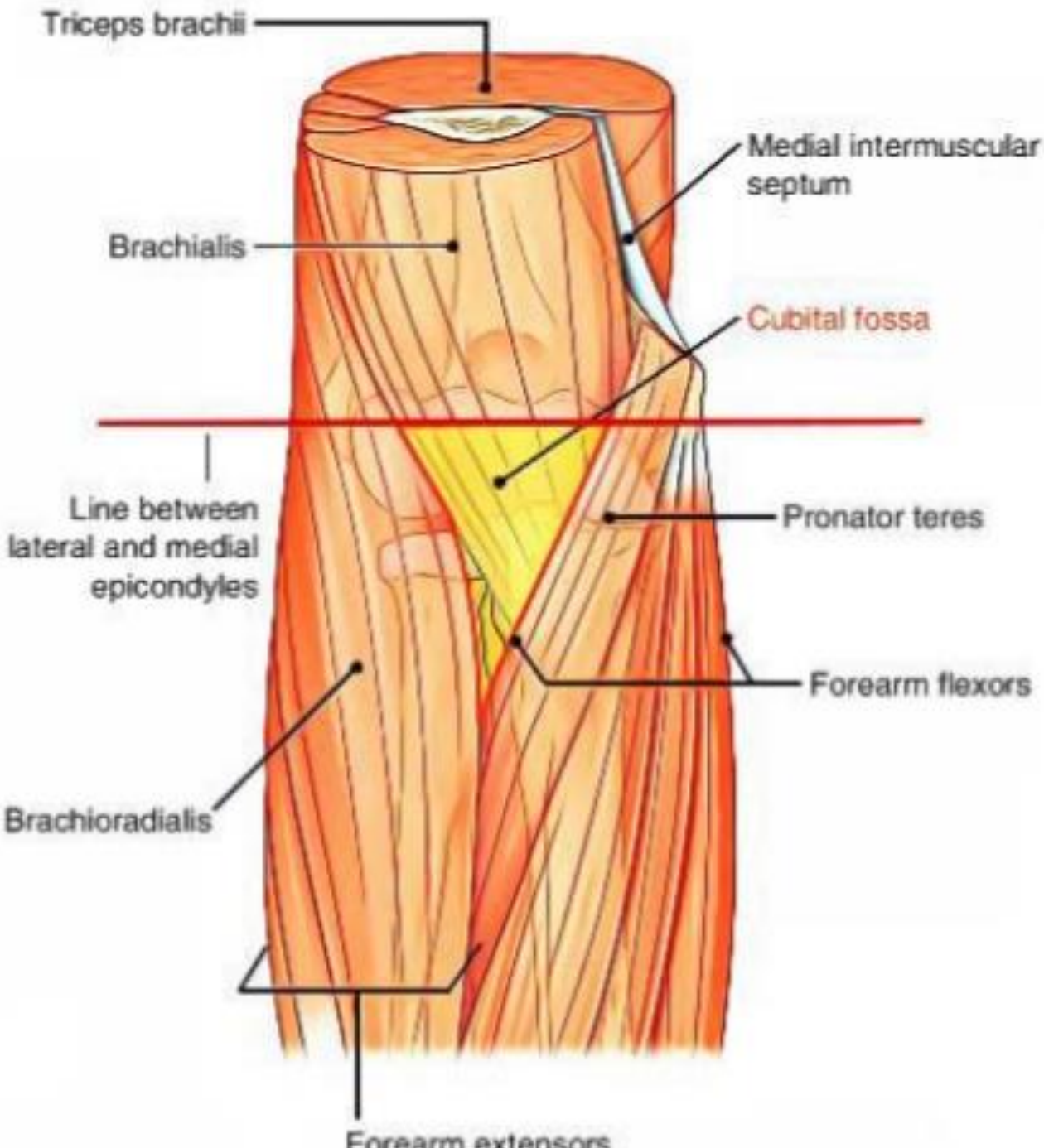
- Contents Median nerve, Brachial artery, Tendon of biceps brachii, Radial nerve
- Mnemonic: My Blood Turns Red

- Median nerve
- Brachial artery
- Tendon of biceps
- Radial nerve

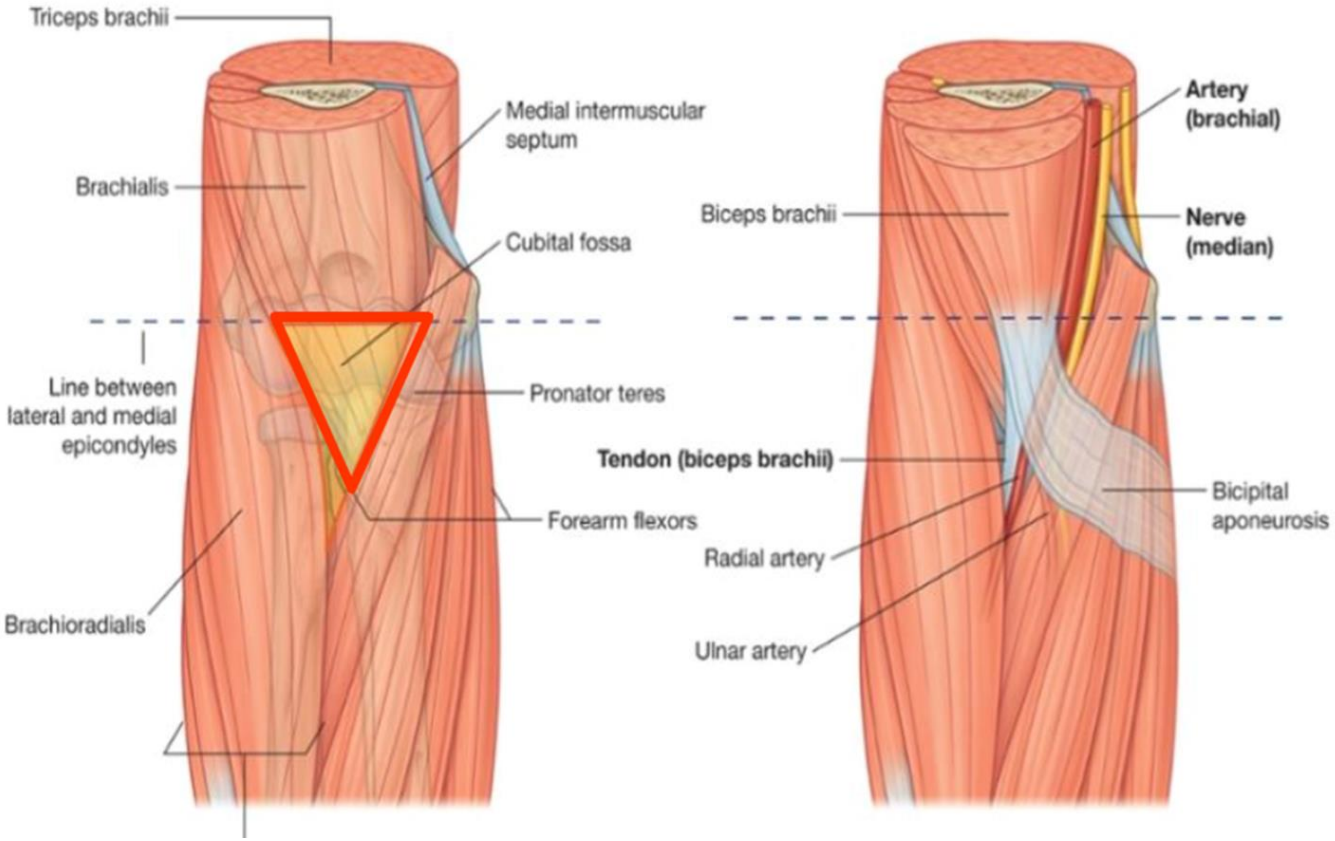
- Clinical points Venipuncture, blood pressure measurements


Brachial artery
Radial nerve
Median nerve
Radial artery
Ulnar artery


Lateral epicondyle
Medial epicondyle
Brachialis
Brachioradialis
Pronator teres
Supinator

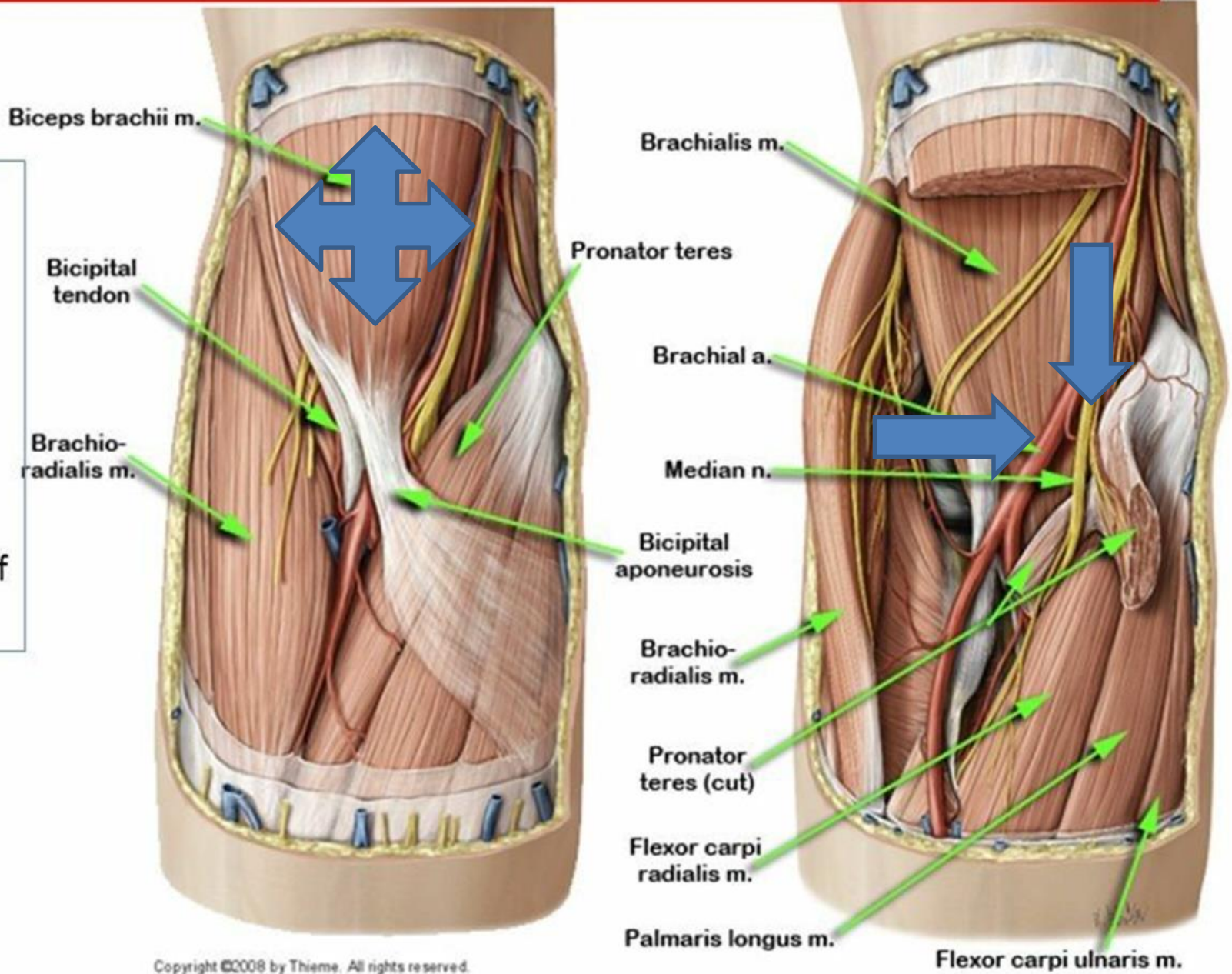

Triceps brachii
Medial intermuscular septum
Brachialis
Cubital fossa
Line between lateral and medial epicondyles
Pronator teres
Forearm flexors
Brachioradialis
Forearm extensors

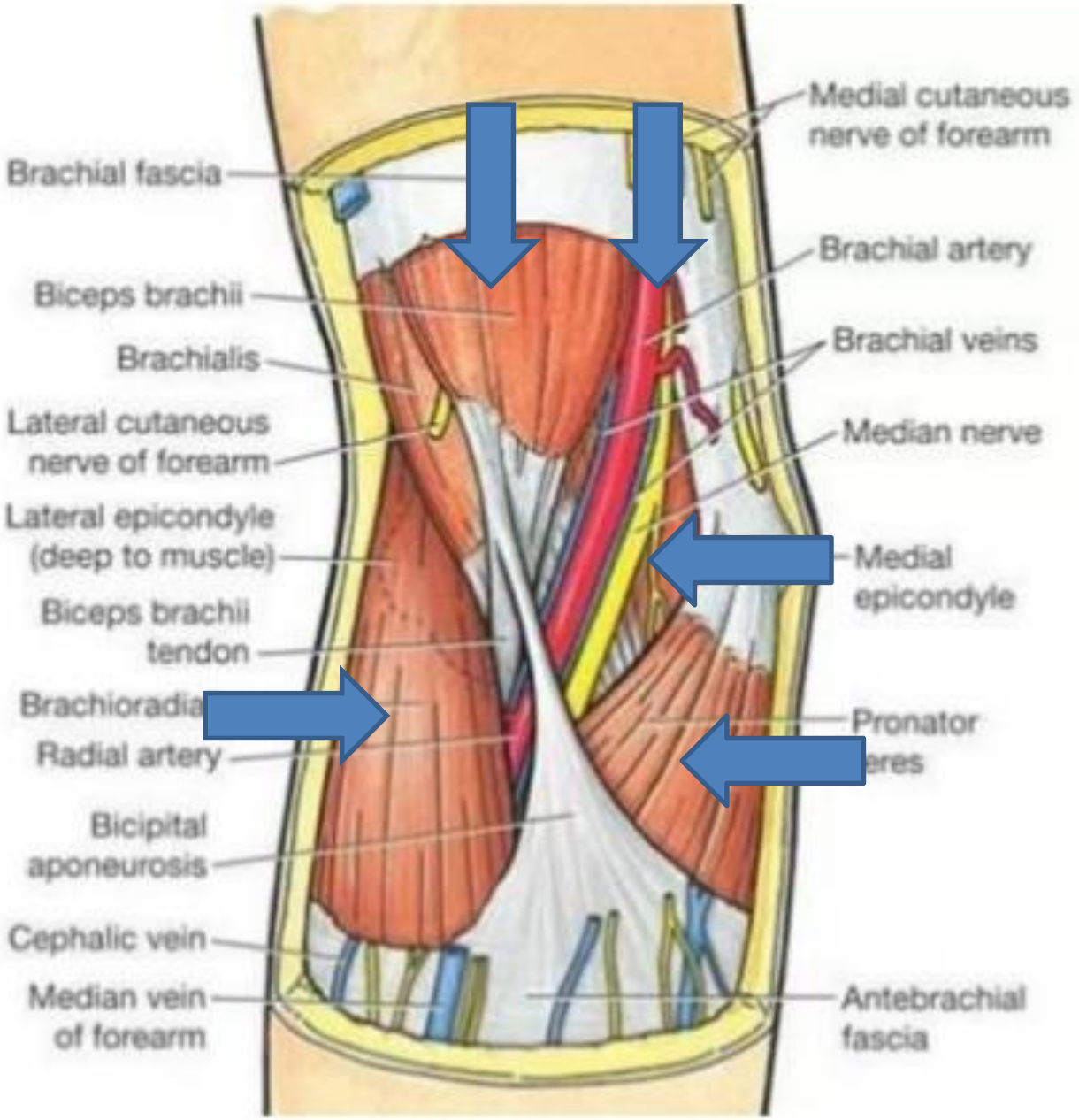
Cubital fossa

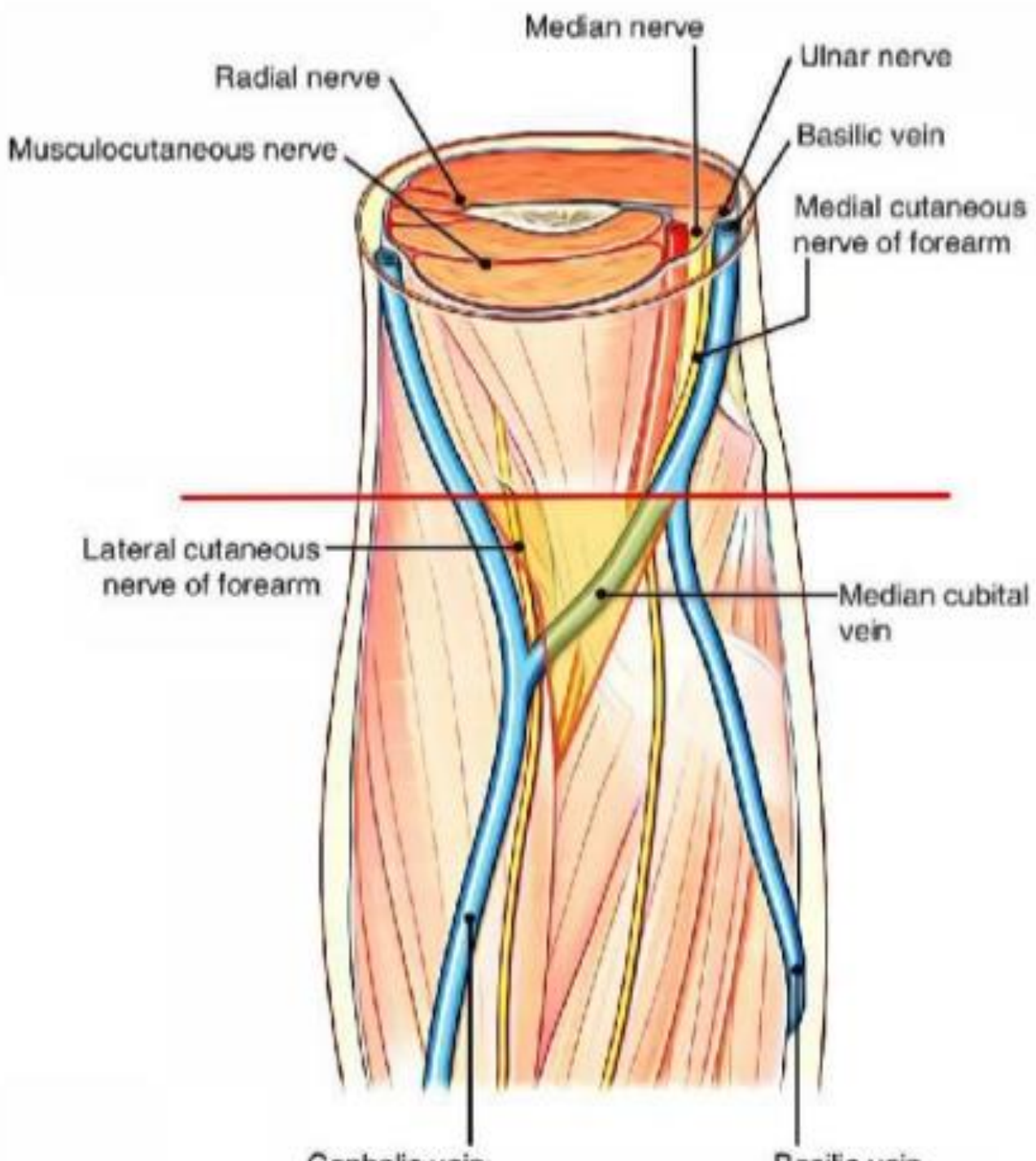


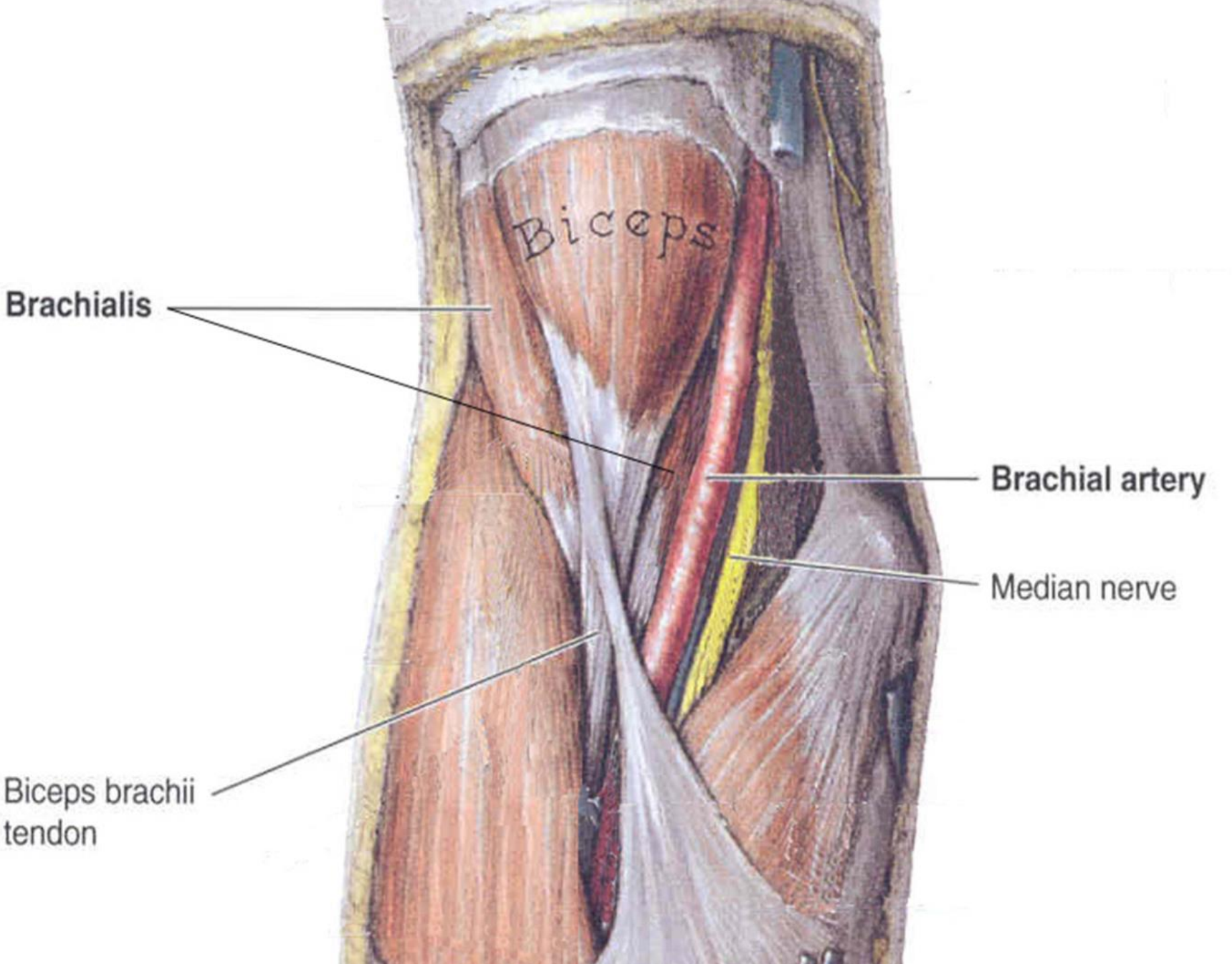
Cubital Fossa

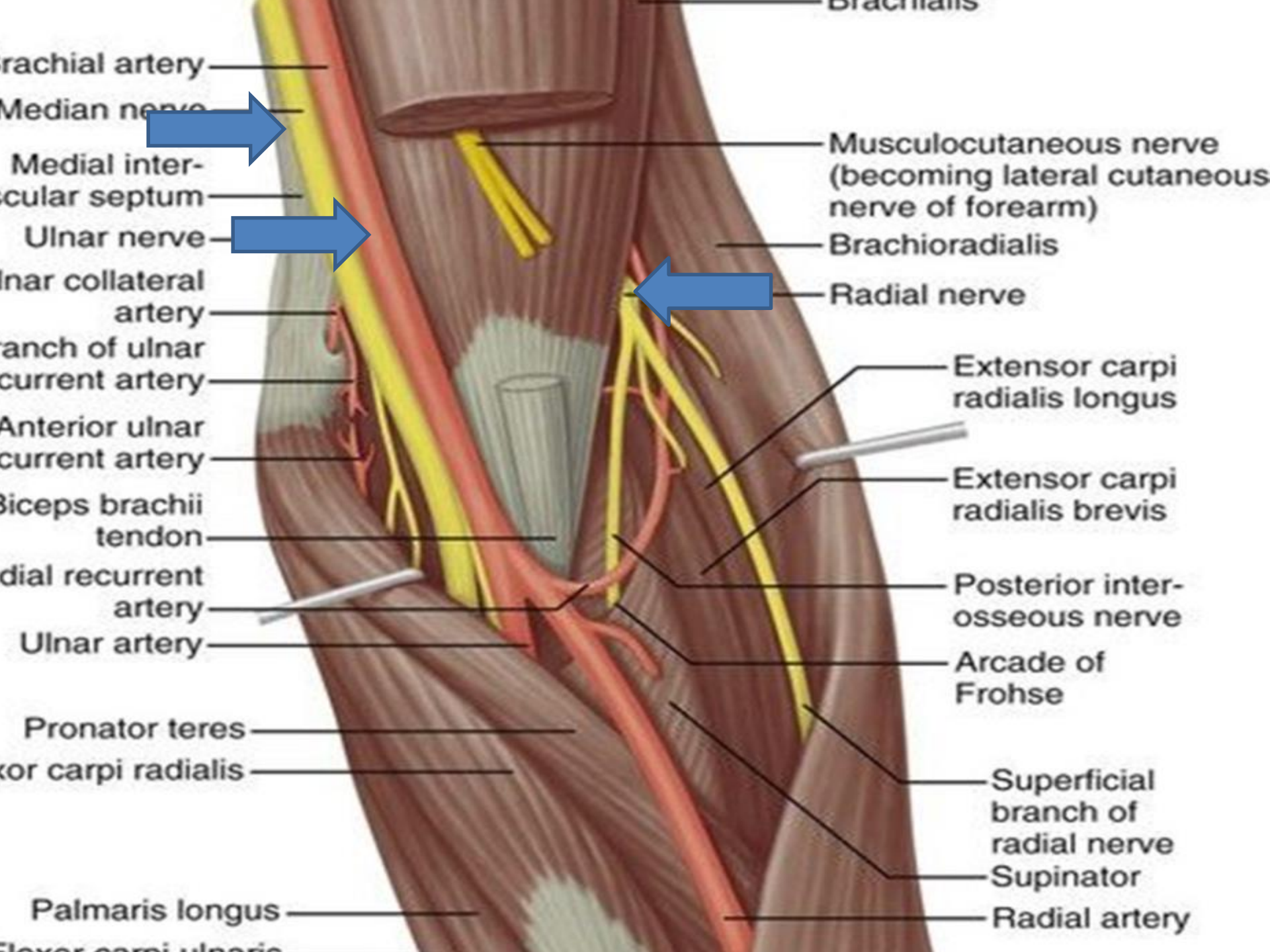
entify the
orders of the
bital fossa:
achioradialis
. laterally,
onator teres
edially and
achialis which
rms the floor of
e fossa.

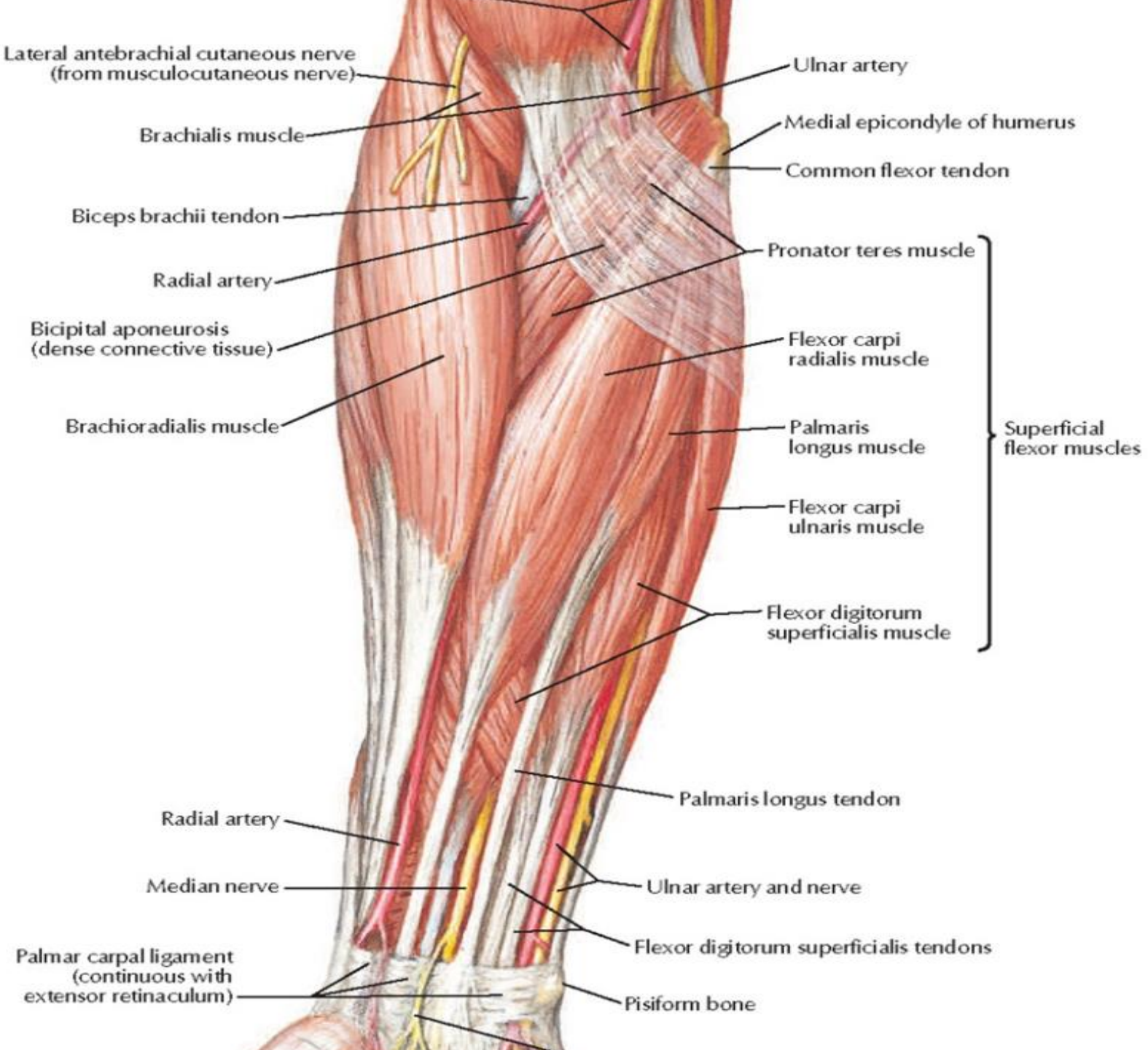


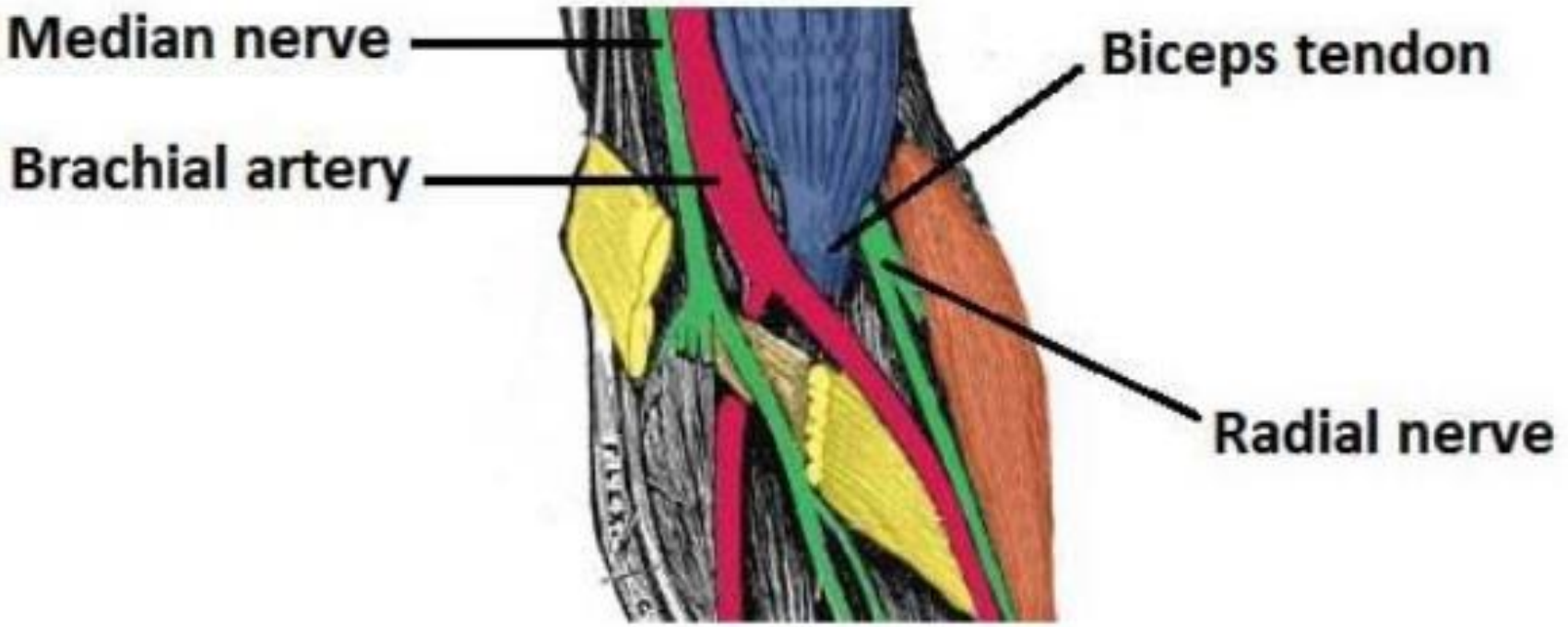

Brachial fascia
Biceps brachii
Brachialis
Lateral cutaneous nerve of forearm
Lateral epicondyle (deep to muscle)
Biceps brachii tendon
Brachioradialis
Radial artery
Bicipital aponeurosis
Cephalic vein
Median vein of forearm
Medial cutaneous nerve of forearm
Brachial artery
Brachial veins
Median nerve
Medial epicondyle
Pronator teres
Antebrachial fascia


Median nerve
Ulnar nerve
Radial nerve
Basilic vein
Musculocutaneous nerve
Medial cutaneous nerve of forearm
Lateral cutaneous nerve of forearm
Median cubital vein


Biceps
Brachialis
Brachial artery
Median nerve
Biceps brachii tendon


rachial artery
Median nerve
Medial inter-
cular septum
Ulnar nerve
lnar collateral
artery
anch of ulnar
current artery
Anterior ulnar
current artery
Biceps brachii
tendon
dial recurrent
artery
Ulnar artery
Pronator teres
xor carpi radialis
Palmaris longus
Brachialis
Musculocutaneous nerve
(becoming lateral cutaneous
nerve of forearm)
Brachioradialis
Radial nerve
Extensor carpi
radialis longus
Extensor carpi
radialis brevis
Posterior inter-
osseous nerve
Arcade of
Frohse
Superficial
branch of
radial nerve
Supinator
Radial artery


Lateral antebrachial cutaneous nerve (from musculocutaneous nerve)
Brachialis muscle
Biceps brachii tendon
Radial artery
Bicipital aponeurosis (dense connective tissue)
Brachioradialis muscle
Ulnar artery
Medial epicondyle of humerus
Common flexor tendon
Pronator teres muscle
Flexor carpi radialis muscle
Palmaris longus muscle
Flexor carpi ulnaris muscle
Flexor digitorum superficialis muscle
Superficial flexor muscles
Palmaris longus tendon
Radial artery
Median nerve
Ulnar artery and nerve
Flexor digitorum superficialis tendons
Palmar carpal ligament (continuous with extensor retinaculum)
Pisiform bone

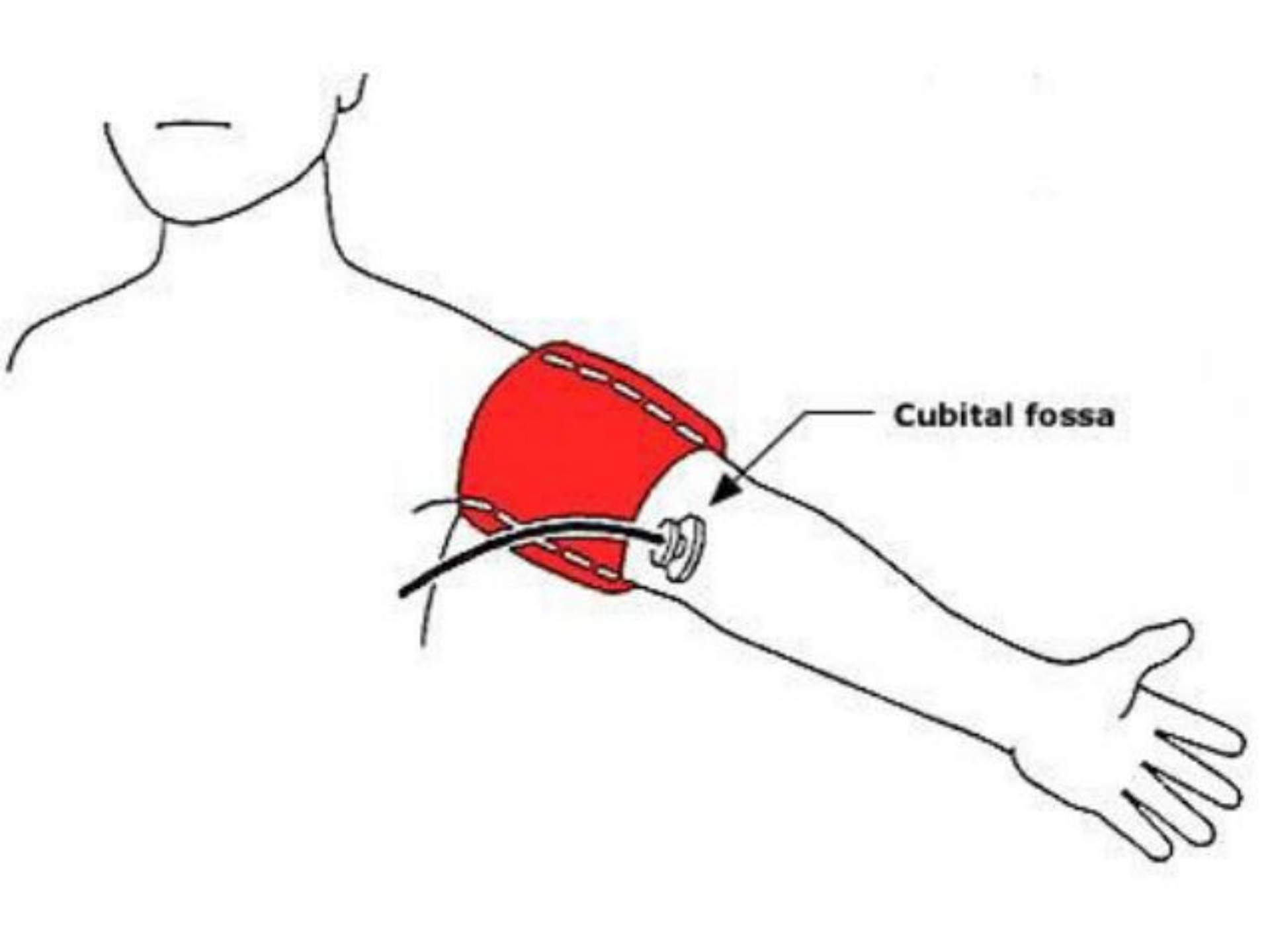

Median nerve
Brachial artery
Biceps tendon
Radial nerve

CLINICAL RELEVANCE

- The median cubital vein in this region is the vein of selection for gathering blood samples and giving intravenous injections.
- The brachial pulse in this region is easily felt medial to biceps tendon, for recording the **blood pressure**.
- To take care of the **fractures** around elbow, viz. **supracondylar fracture** of the **humerus**.
- The contents of cubital fossa notably the brachial artery and median nerve are exposed in supracondylar fracture of the humerus.

Brachial Pulse and Blood Pressure

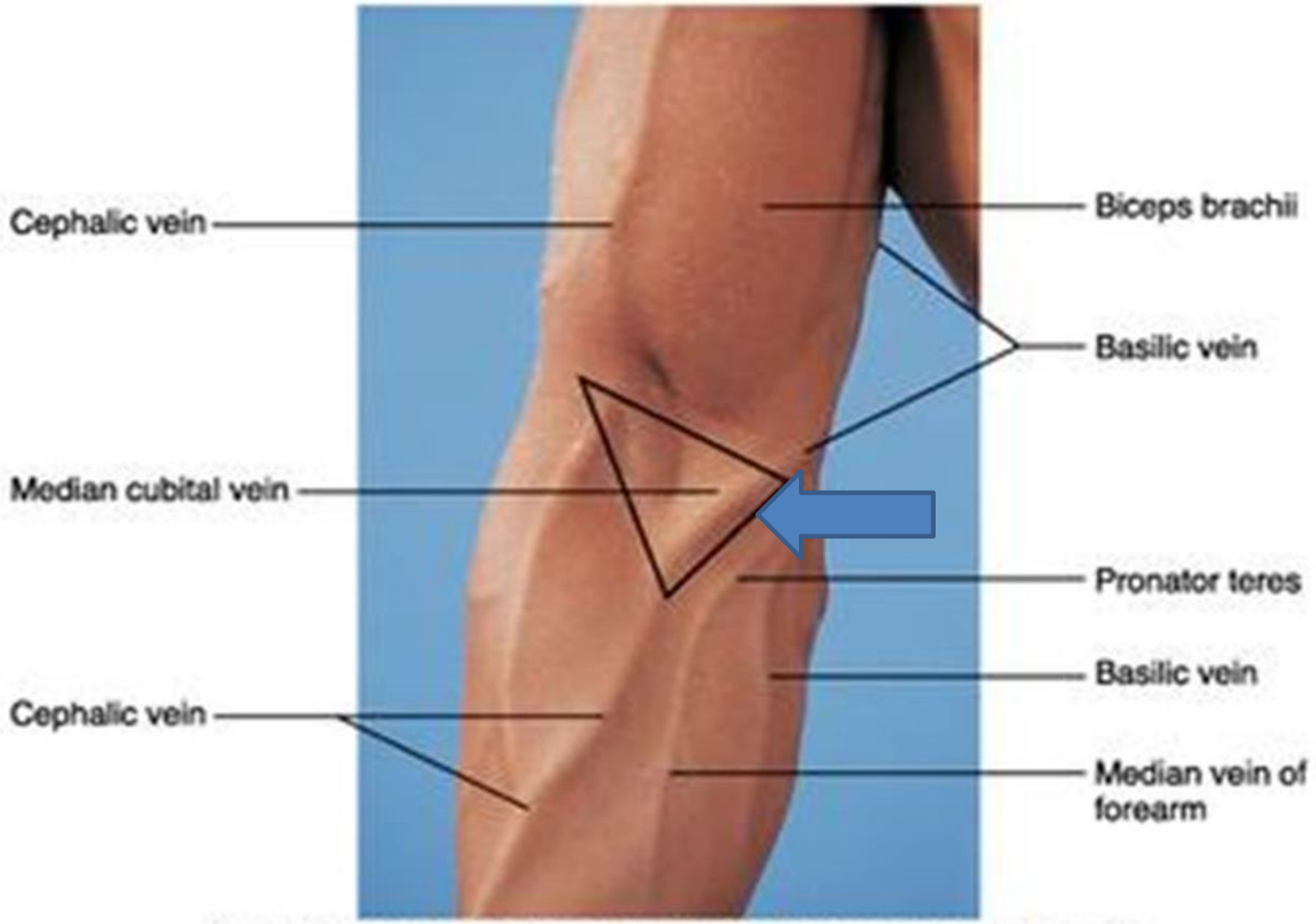
- The brachial pulse can be felt by palpating immediately medial to the **biceps tendon** in the cubital fossa.
- When measuring **blood pressure**, this is also the location in which the stethoscope must be placed, to hear the korotkoff sounds.


Cubital fossa

Venepuncture

- The median cubital vein is located superficially within the roof of the cubital fossa.
- It connects the **basilic** and **cephalic** veins, and can be accessed easily – this makes it a common site for venepuncture.

Cubital Fossa (Site for IV injection)



Supracondylar Fractures

- A supracondylar fracture is a common fracture in the young, and usually occurs by falling onto a **hyper-extended** elbow. It is a transverse fracture, spanning between the two epicondyles. It can also occur by falling onto a **flexed** elbow, but this accounts for <5% of cases.
- The displaced fracture fragments may impinge and damage the contents of the cubital fossa.
- Direct damage, or post-fracture swelling can cause interference to the blood supply of the forearm from the **brachial artery**. The resulting ischaemia can cause **Volkmann's ischaemic contracture** – uncontrolled flexion of the hand, as flexors muscles become fibrotic and short.
- There also can be damage to the median or radial nerves.

THANK YOU