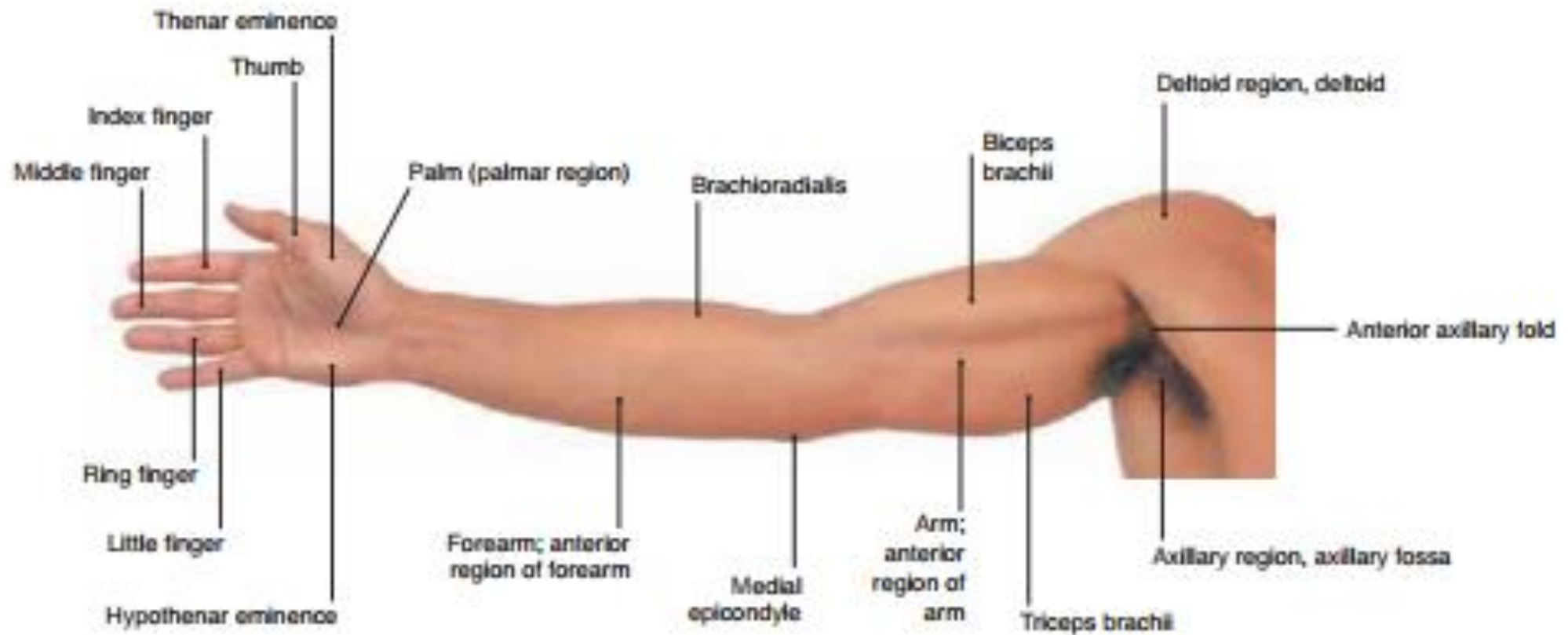
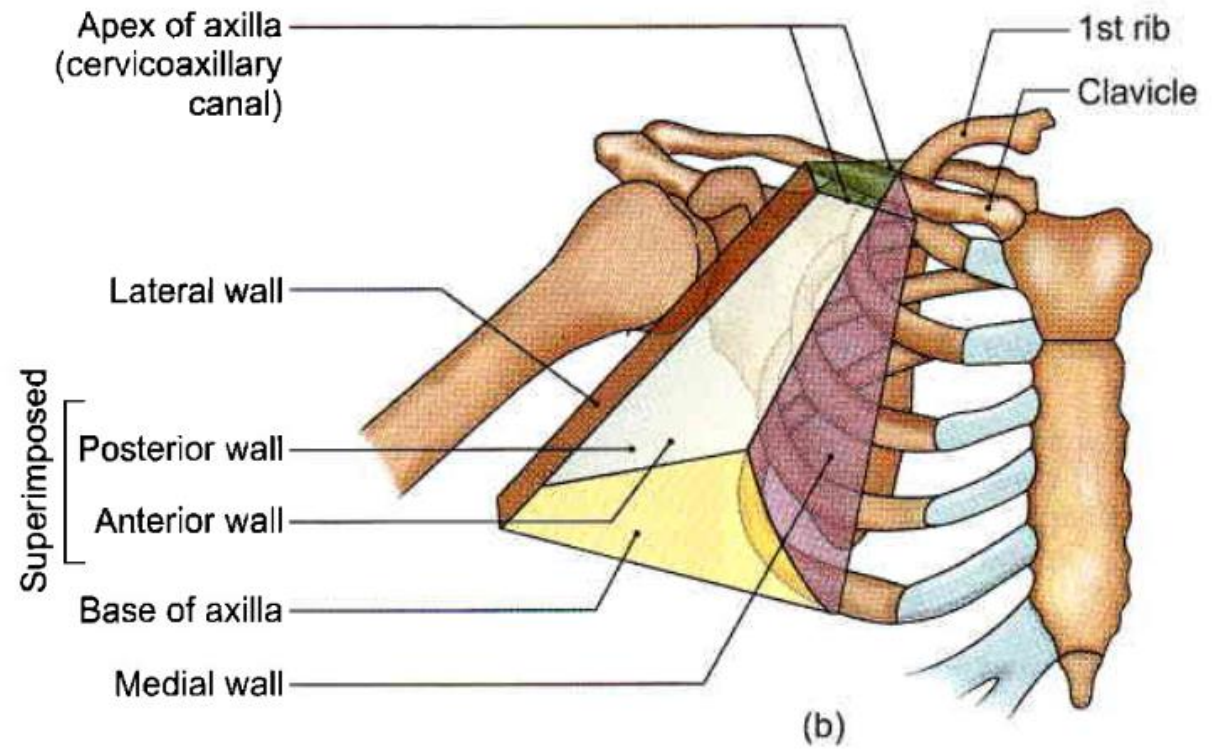
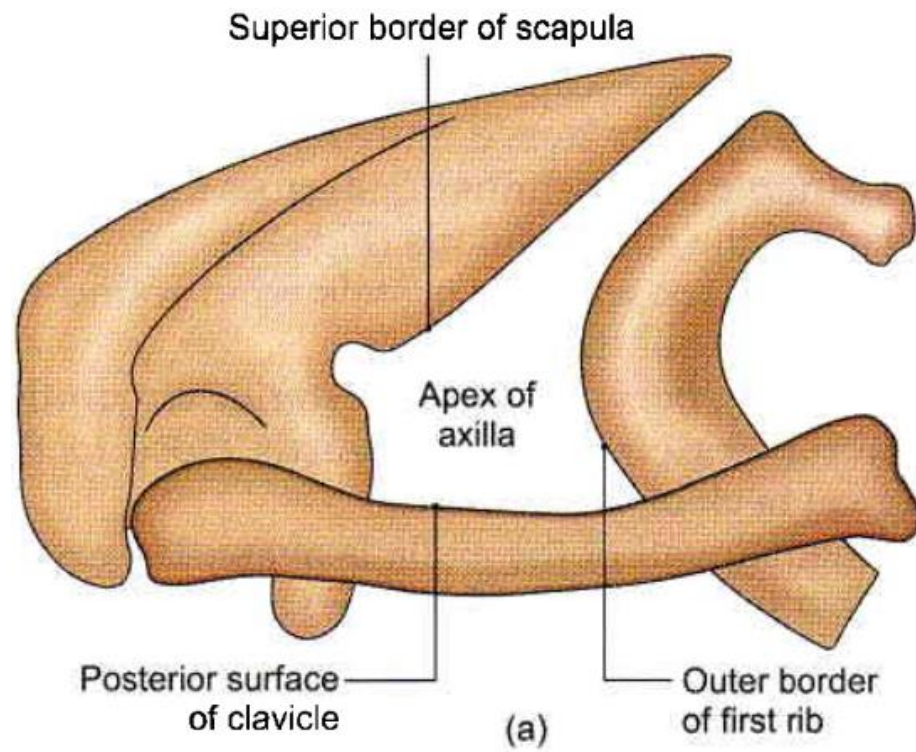


# Axilla

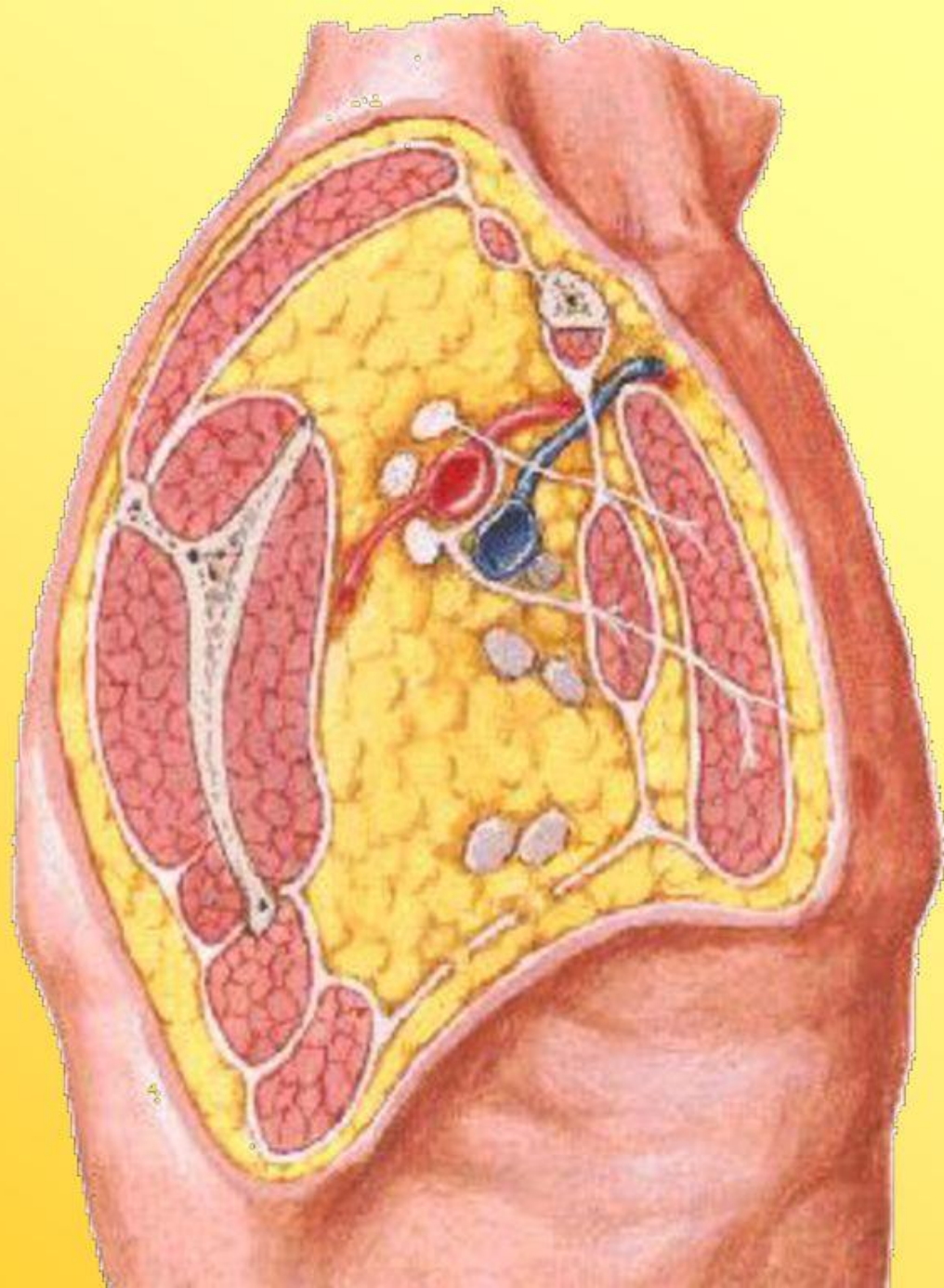
# Axillary fossa



# Axilla



# THE AXILLA



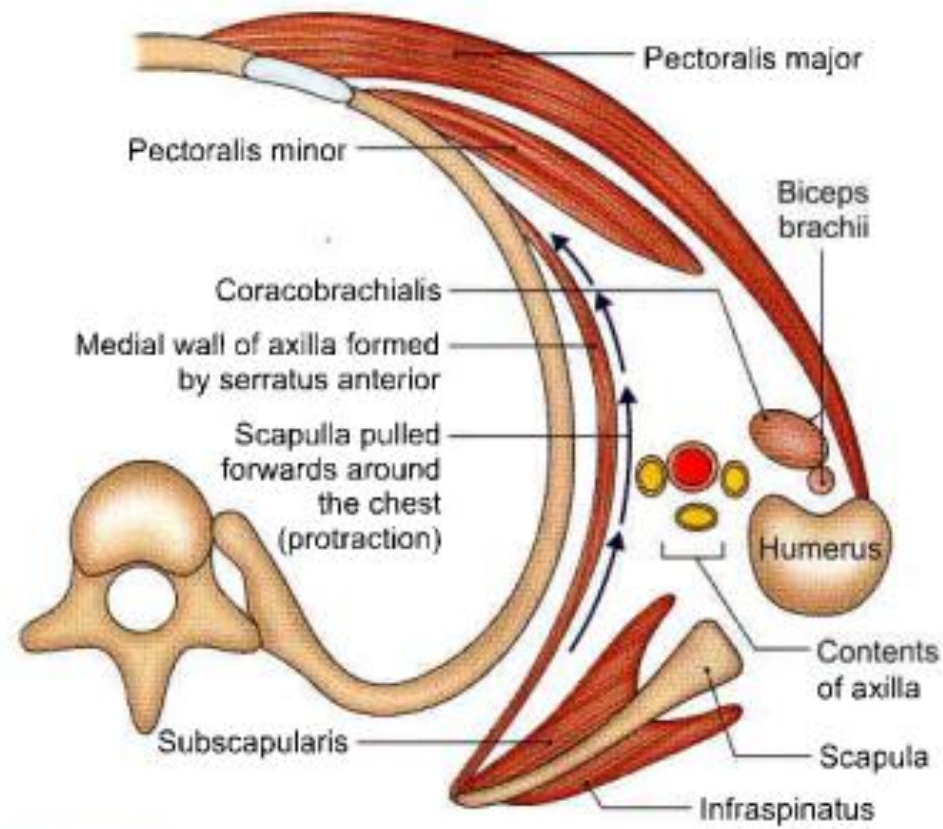
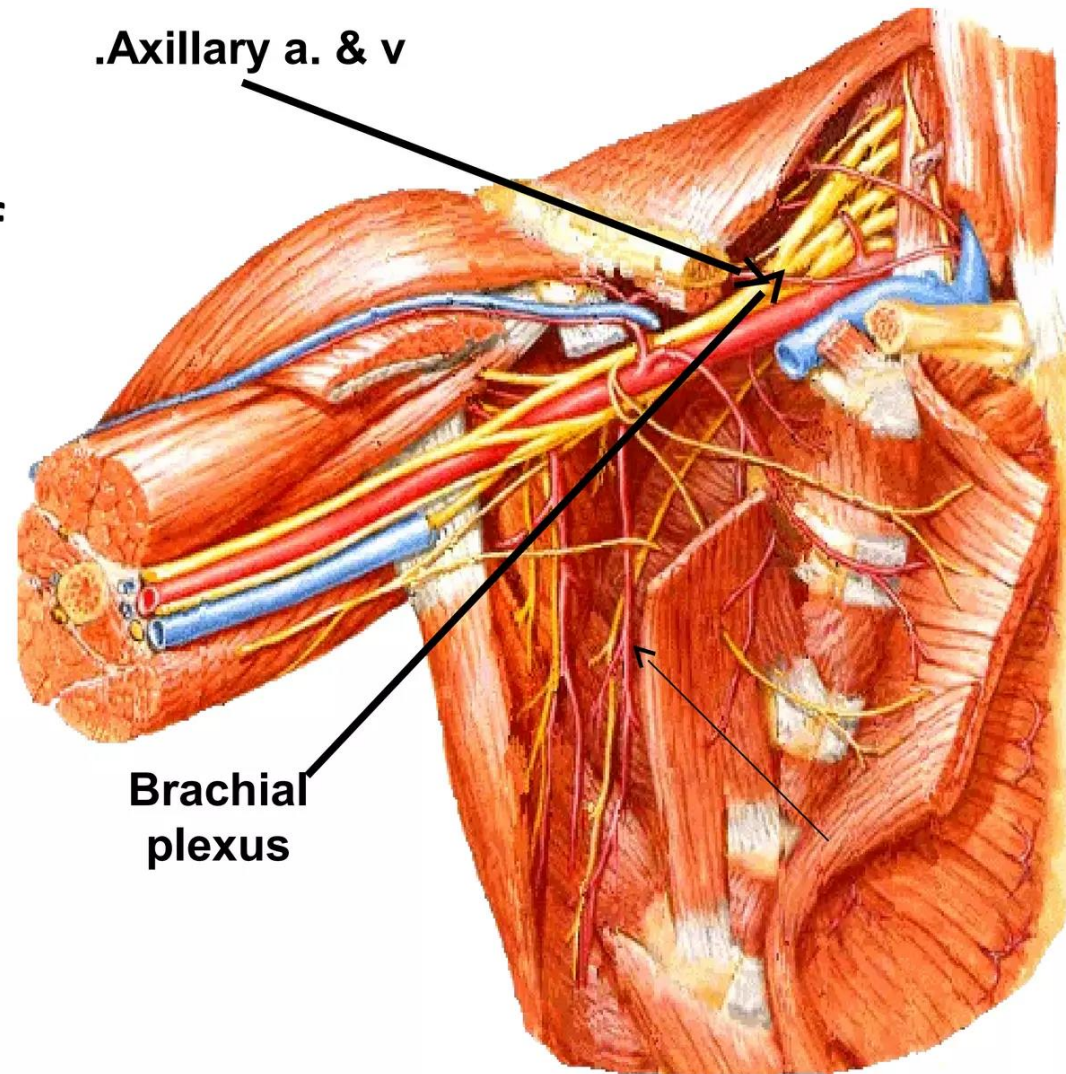


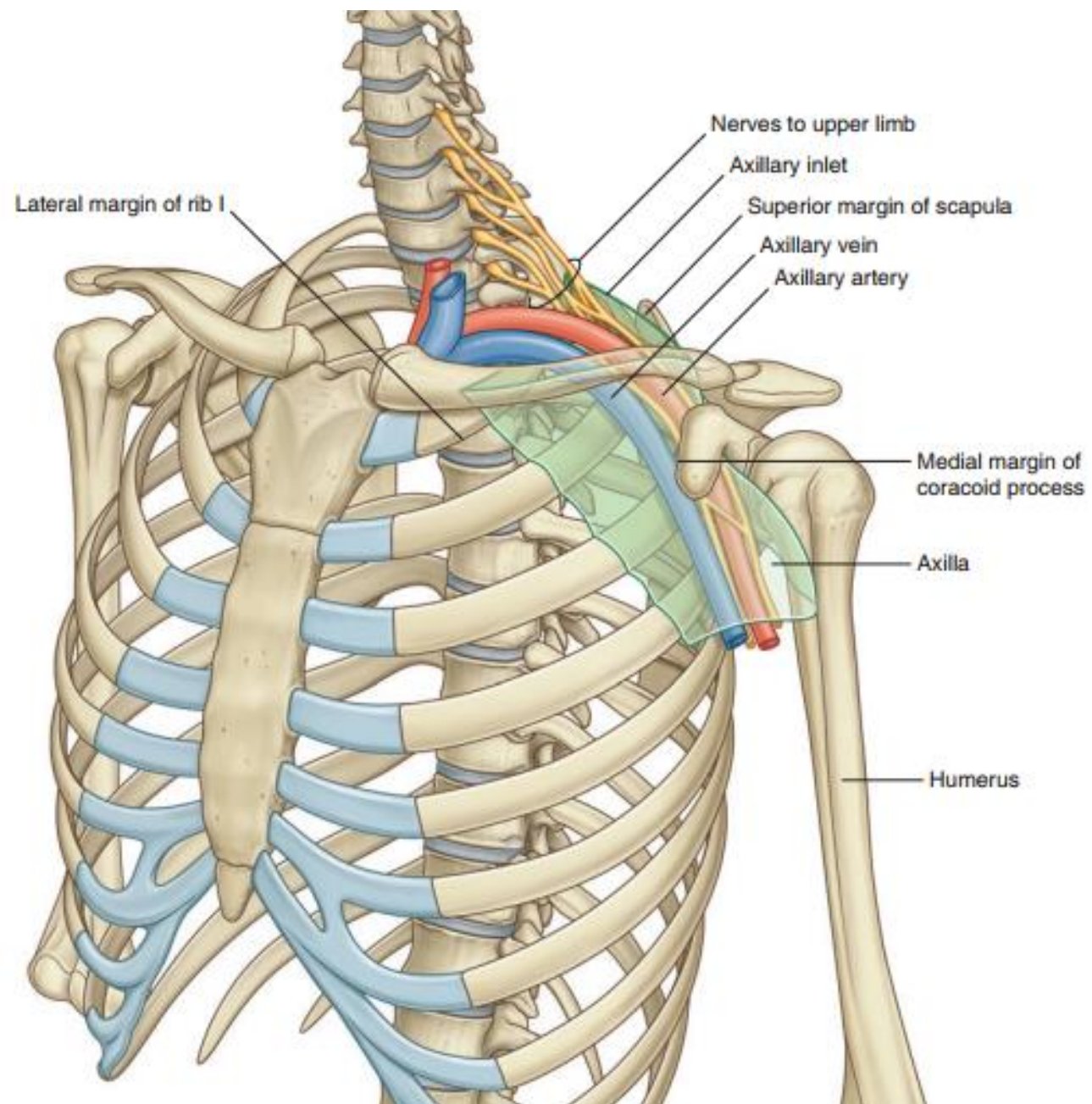
Fig. 9.27: Horizontal section through the axilla showing the

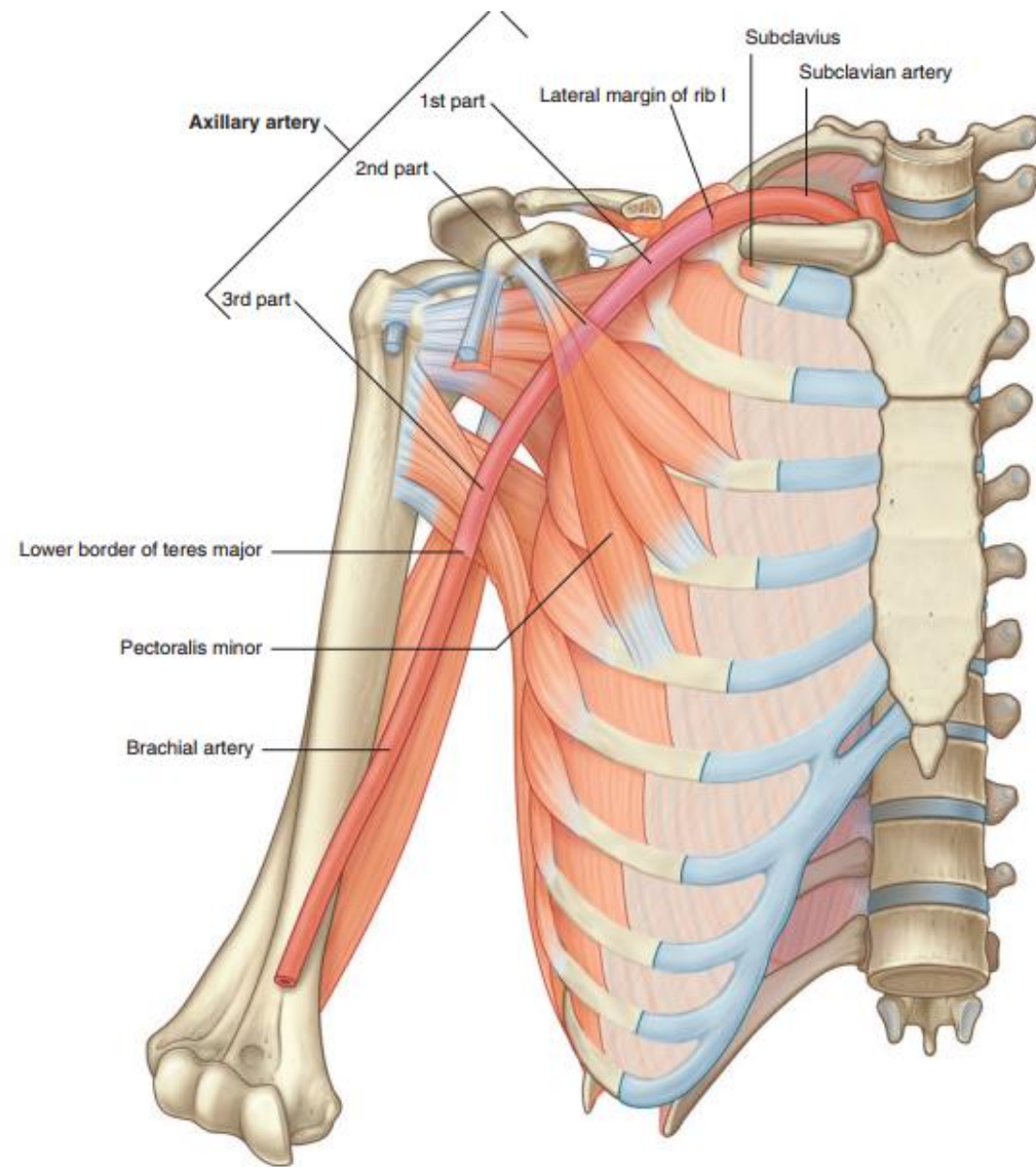
## Contents of The Axilla

- Cords and branches of the brachial plexus
- Axillary artery and its branches.
- Axillary vein and its tributaries.
- Axillary lymph nodes.
- Axillary lymphatic vessels
- Axillary fat.
- Loose connective tissue.

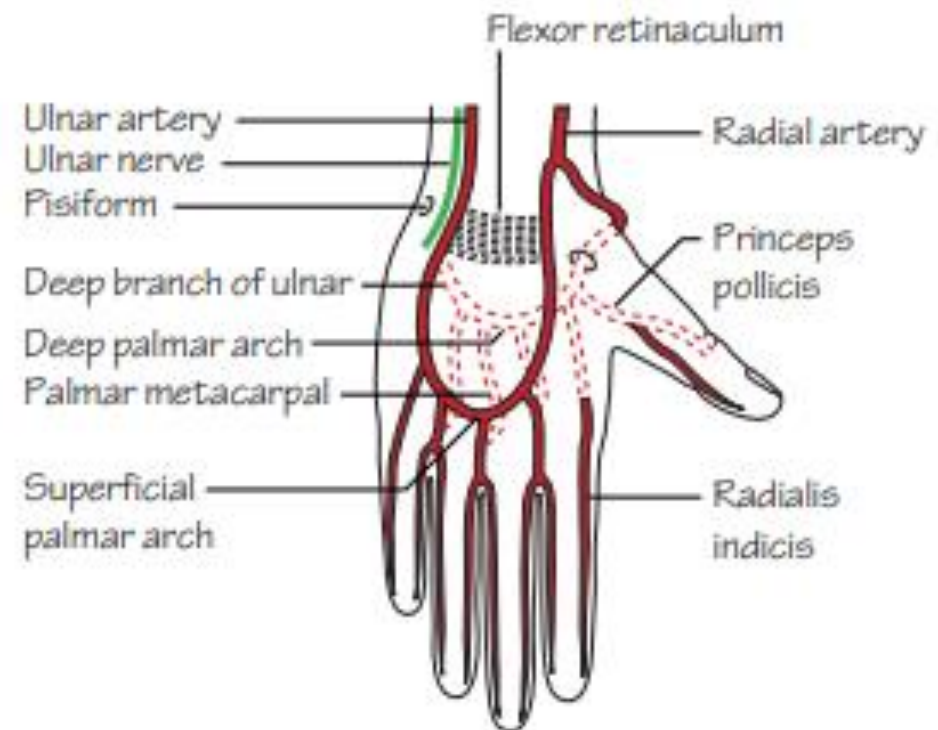
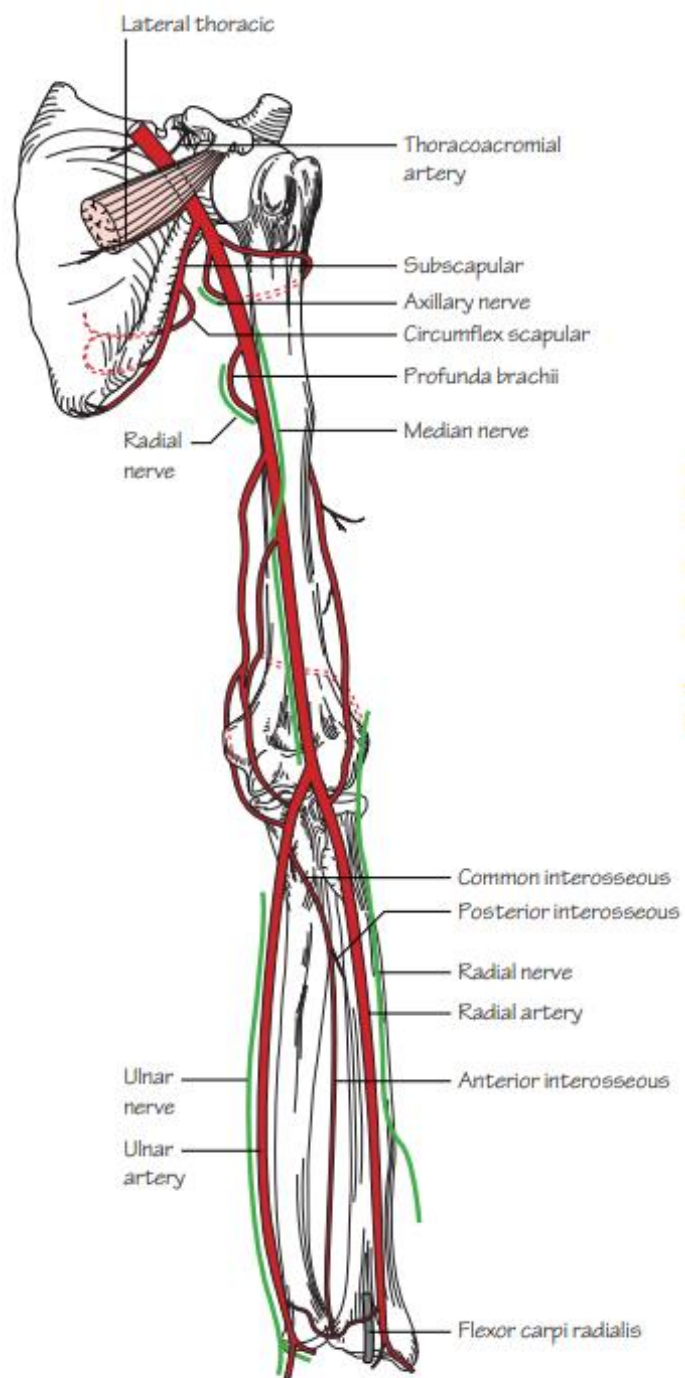


The neurovascular bundle is enclosed in connective tissue sheath, called '**axillary sheath**'

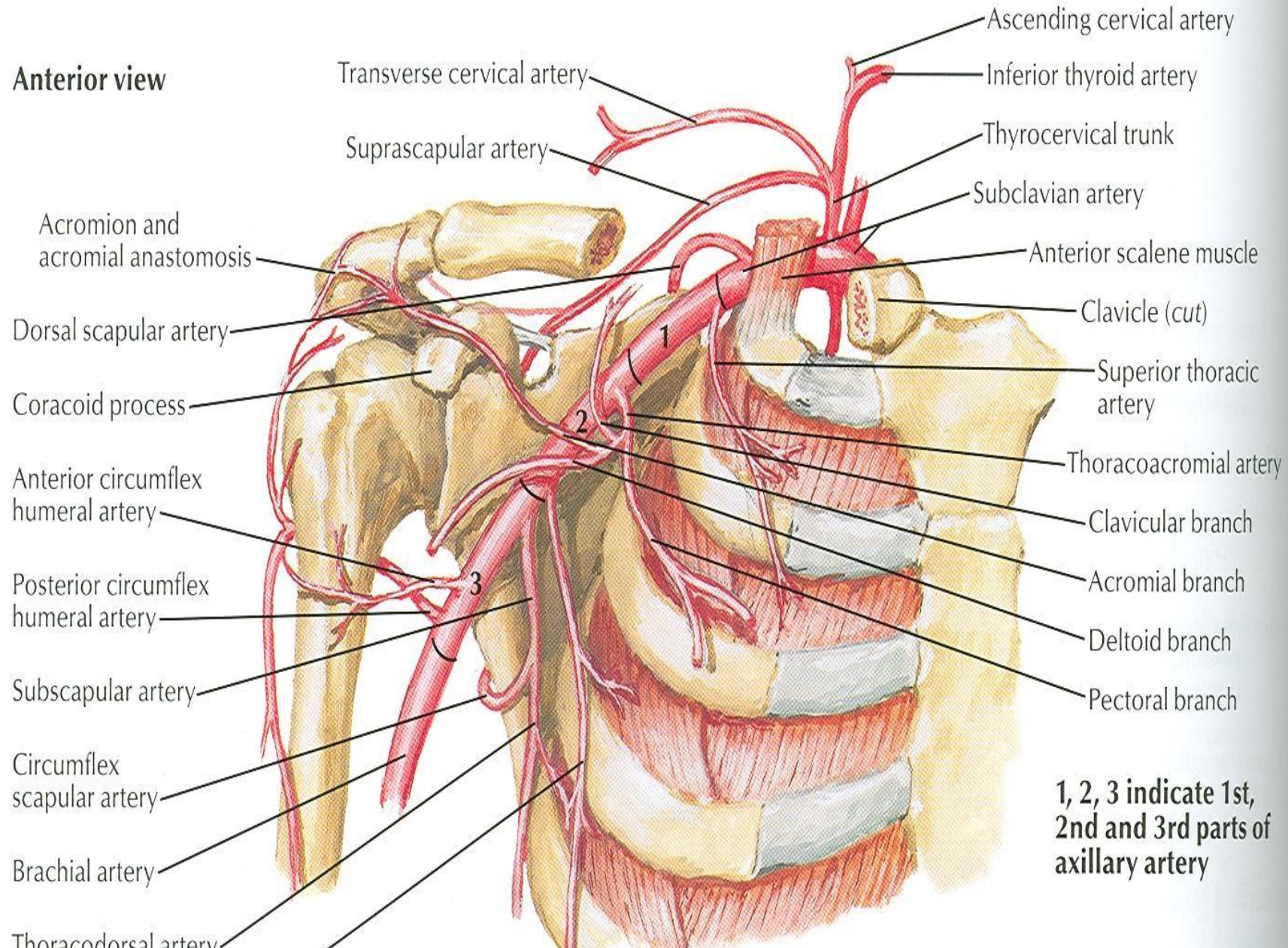




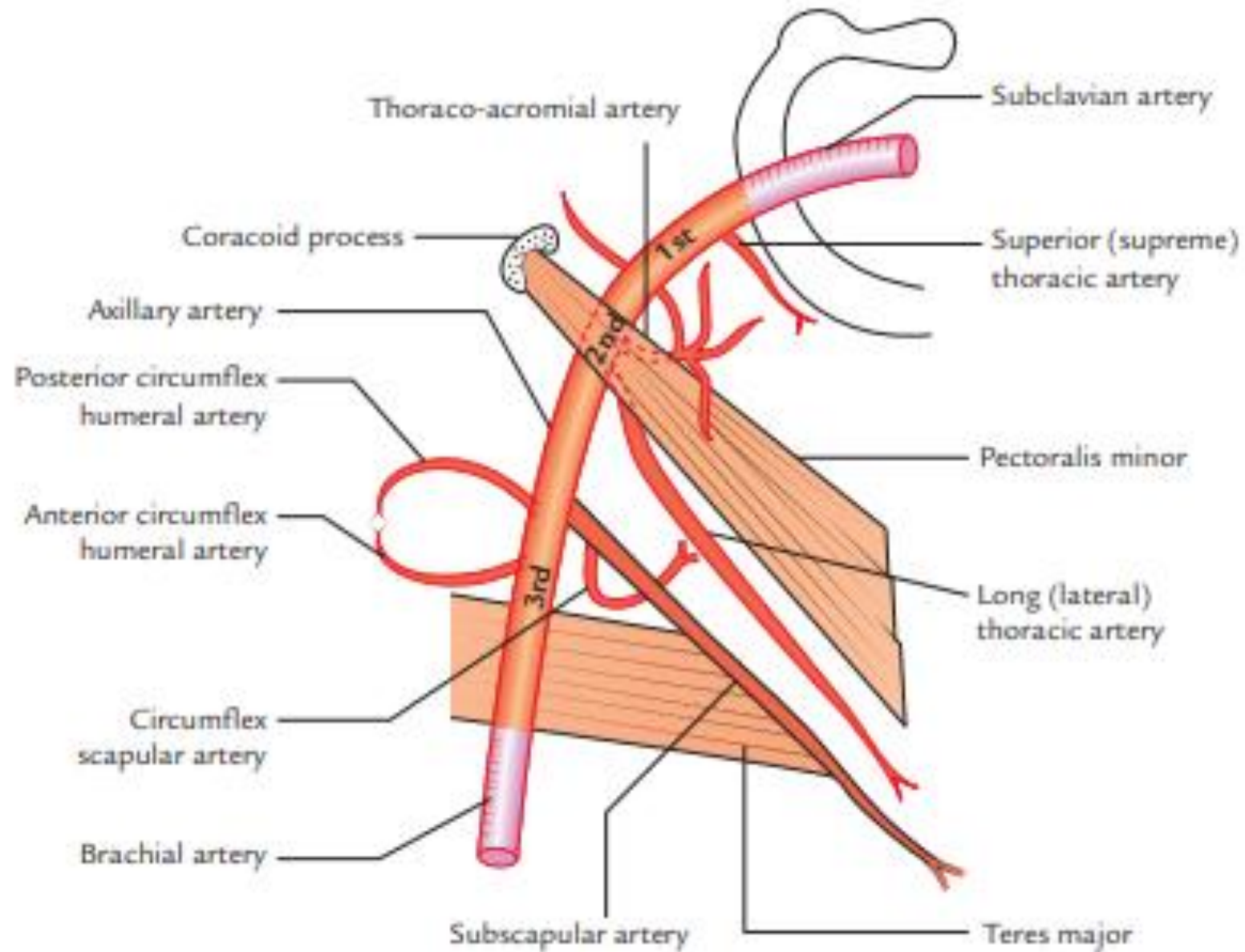
**Fig. 7.49** Contents of the axilla: the axillary artery.

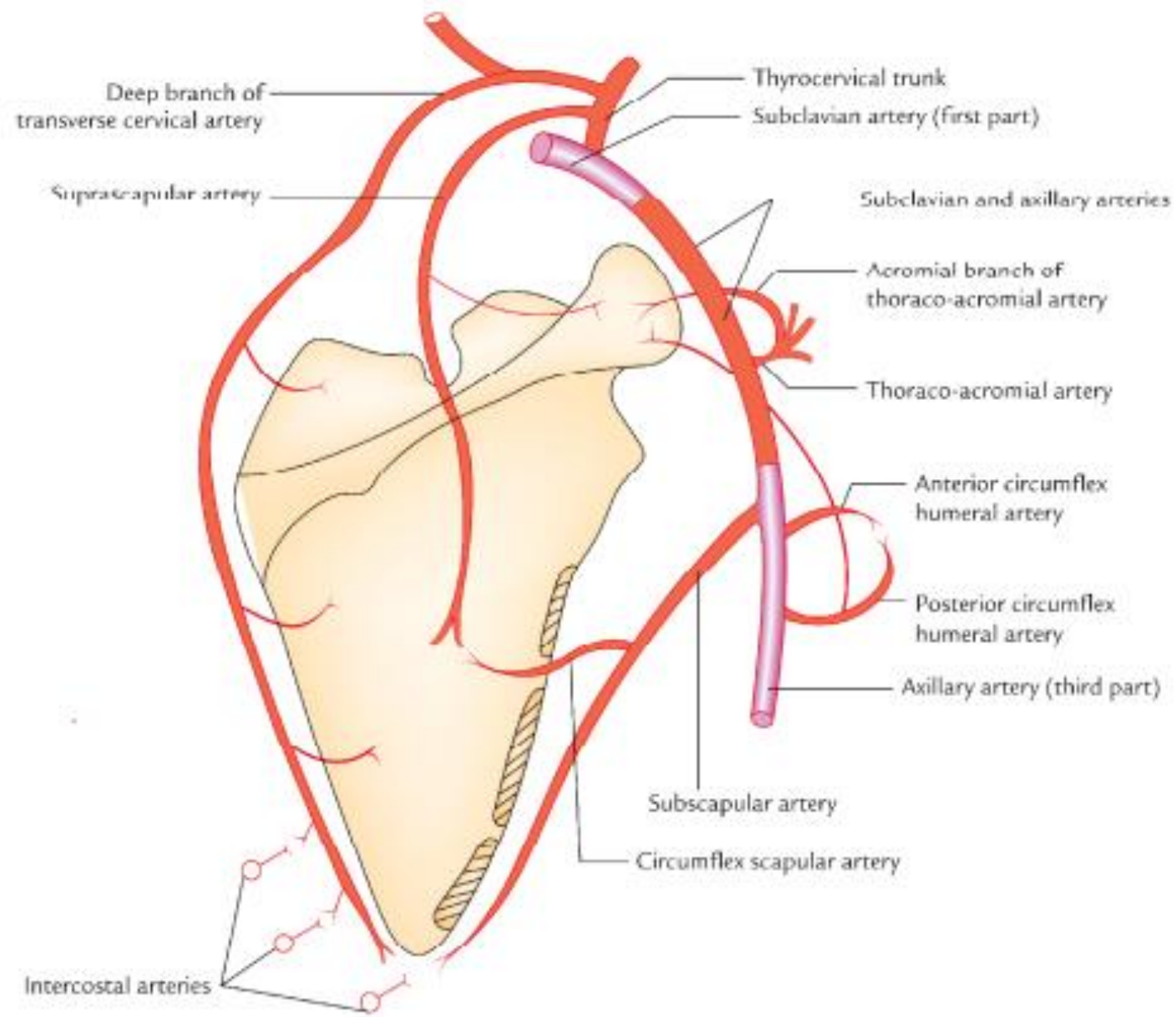


## Anterior view

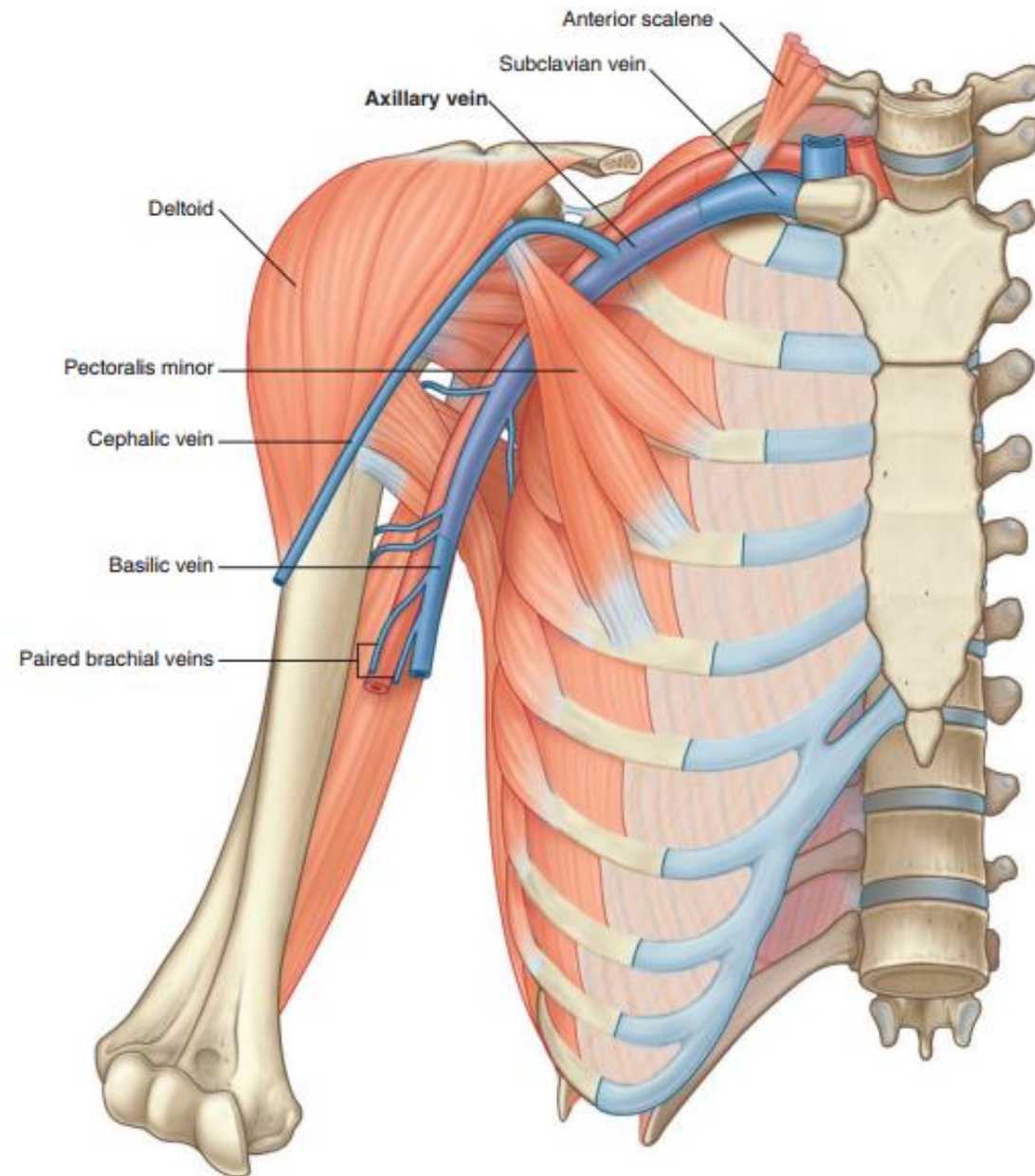


# Axillary artery

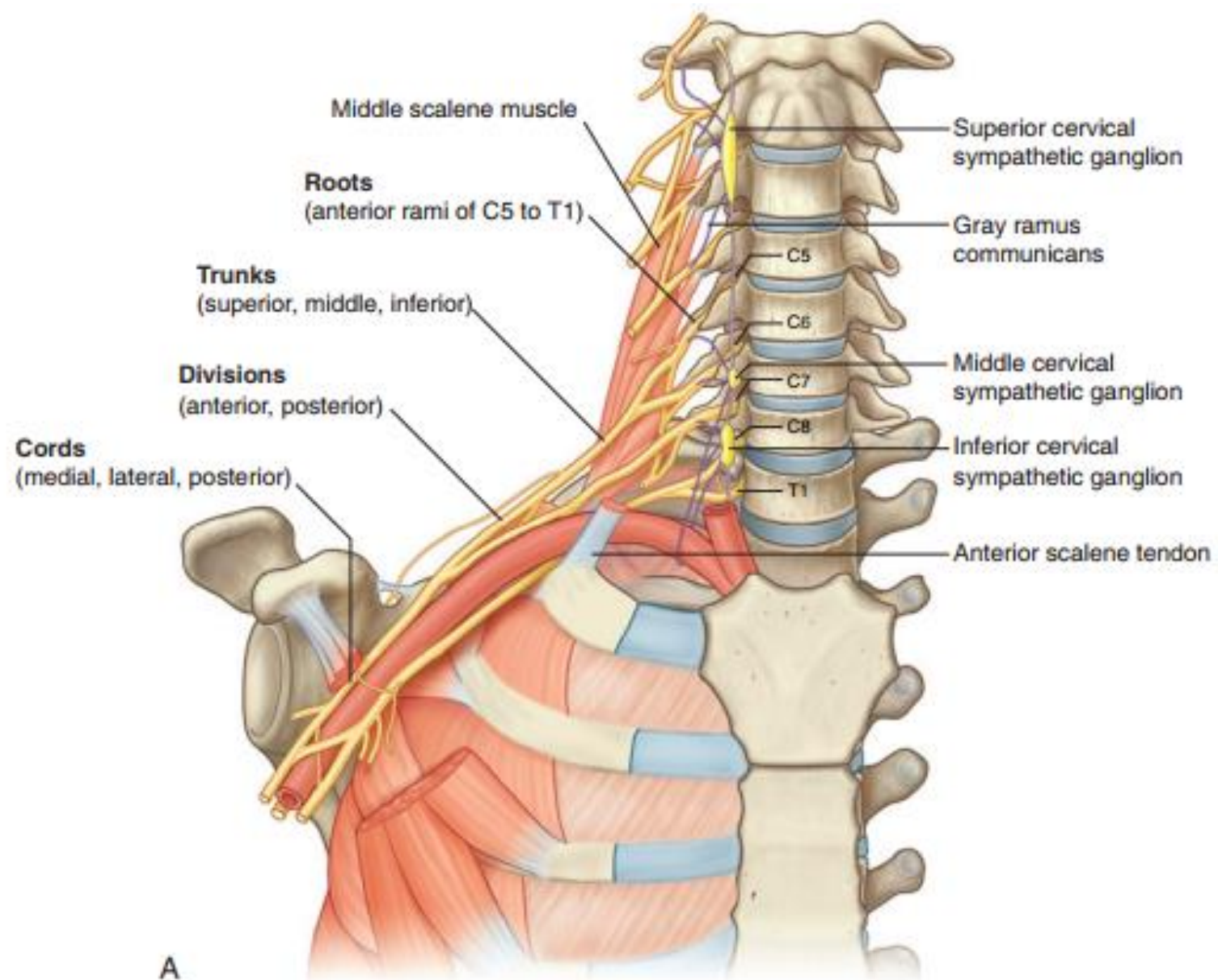


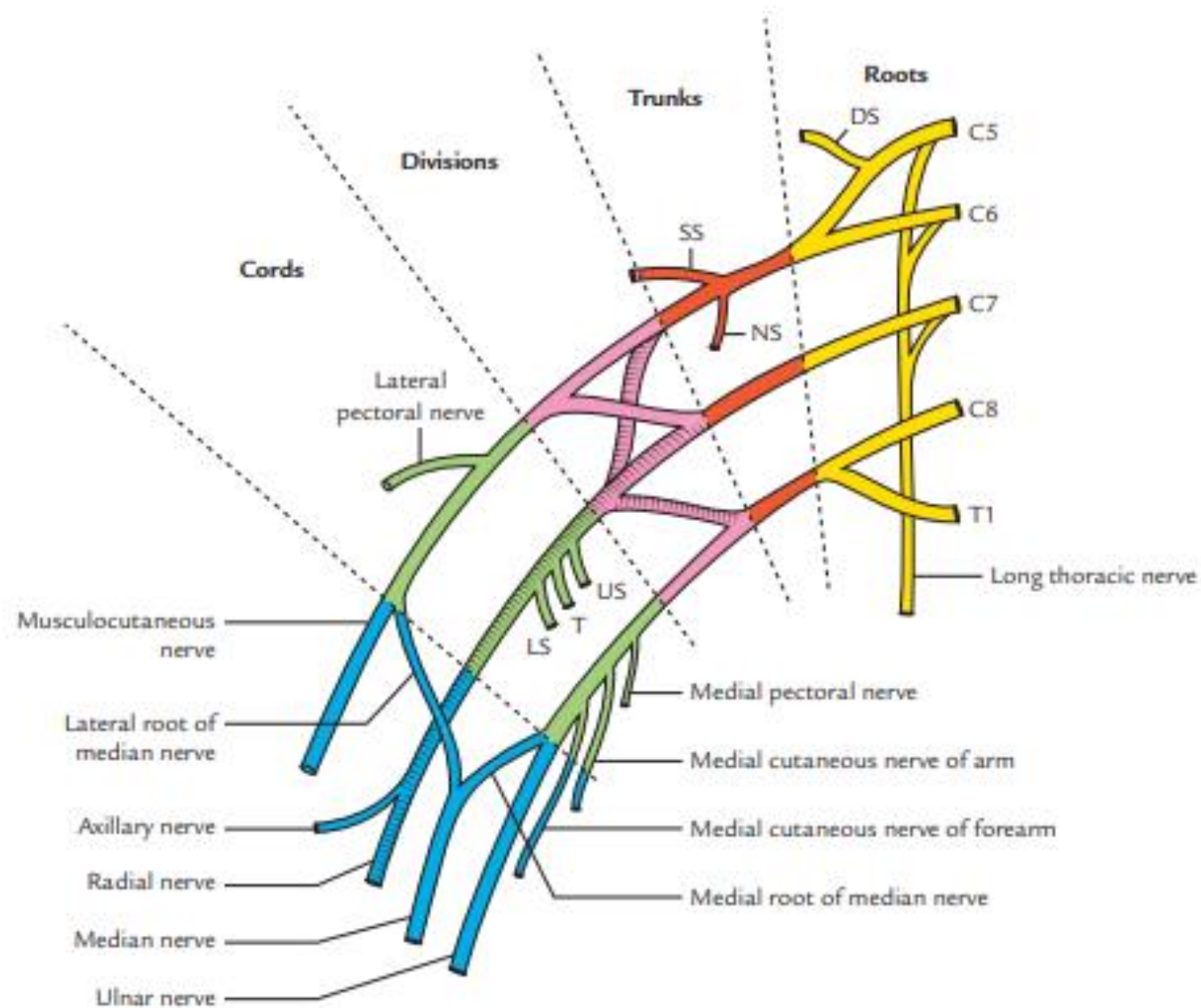


**Fig. 4.7** Anastomosis around the scapula (scapular anastomosis).



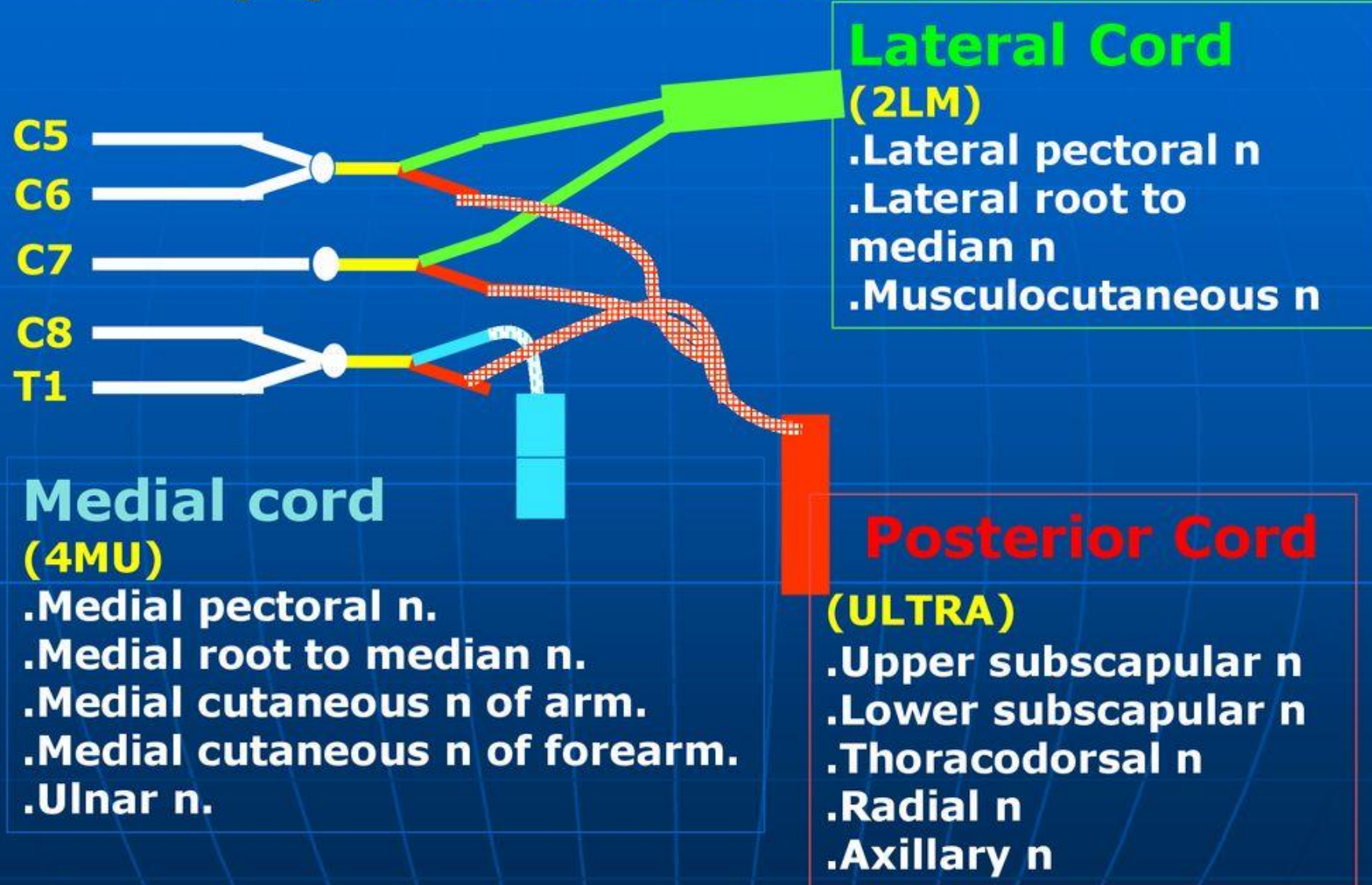
**Fig. 7.51** Axillary vein.

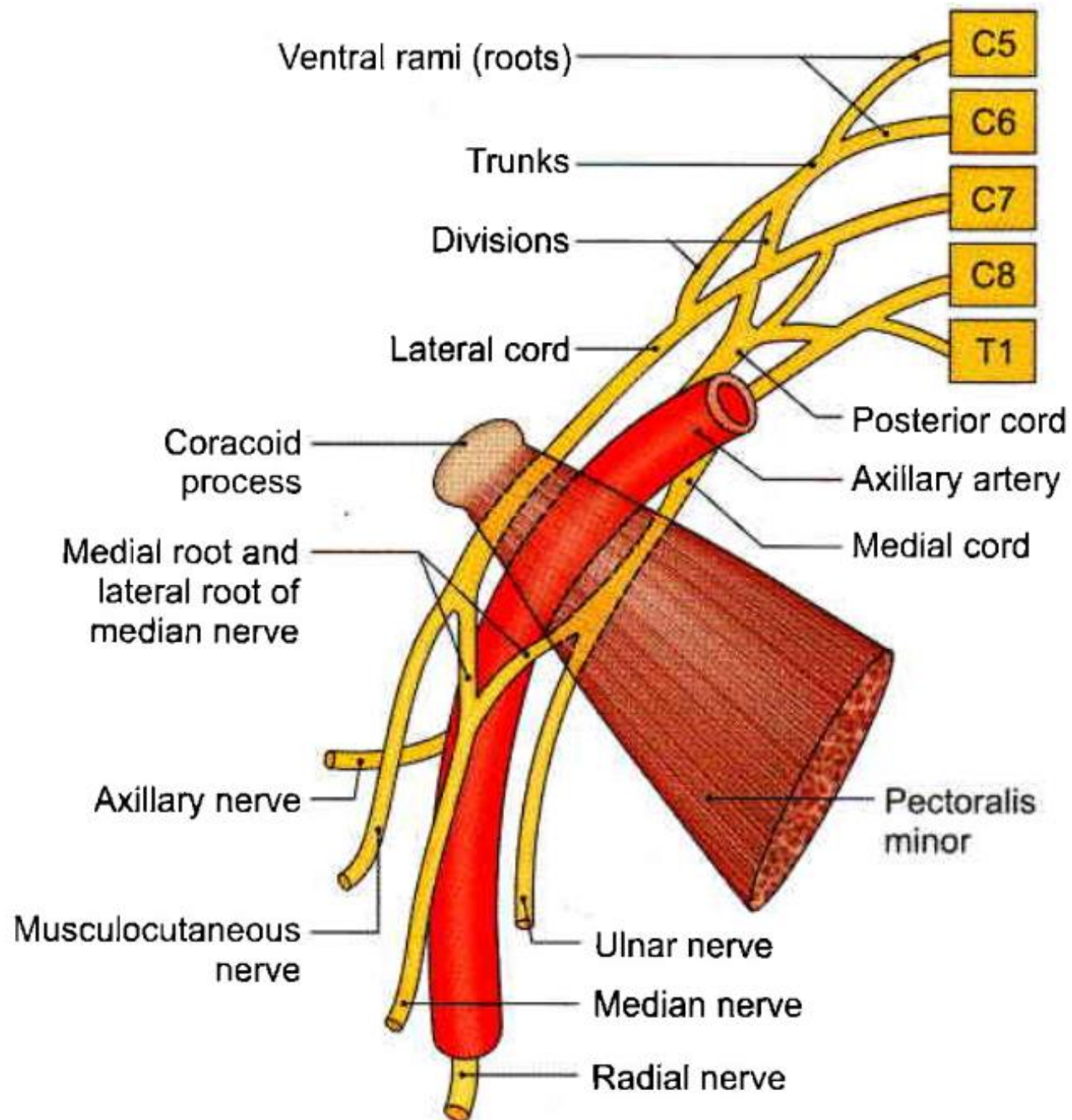


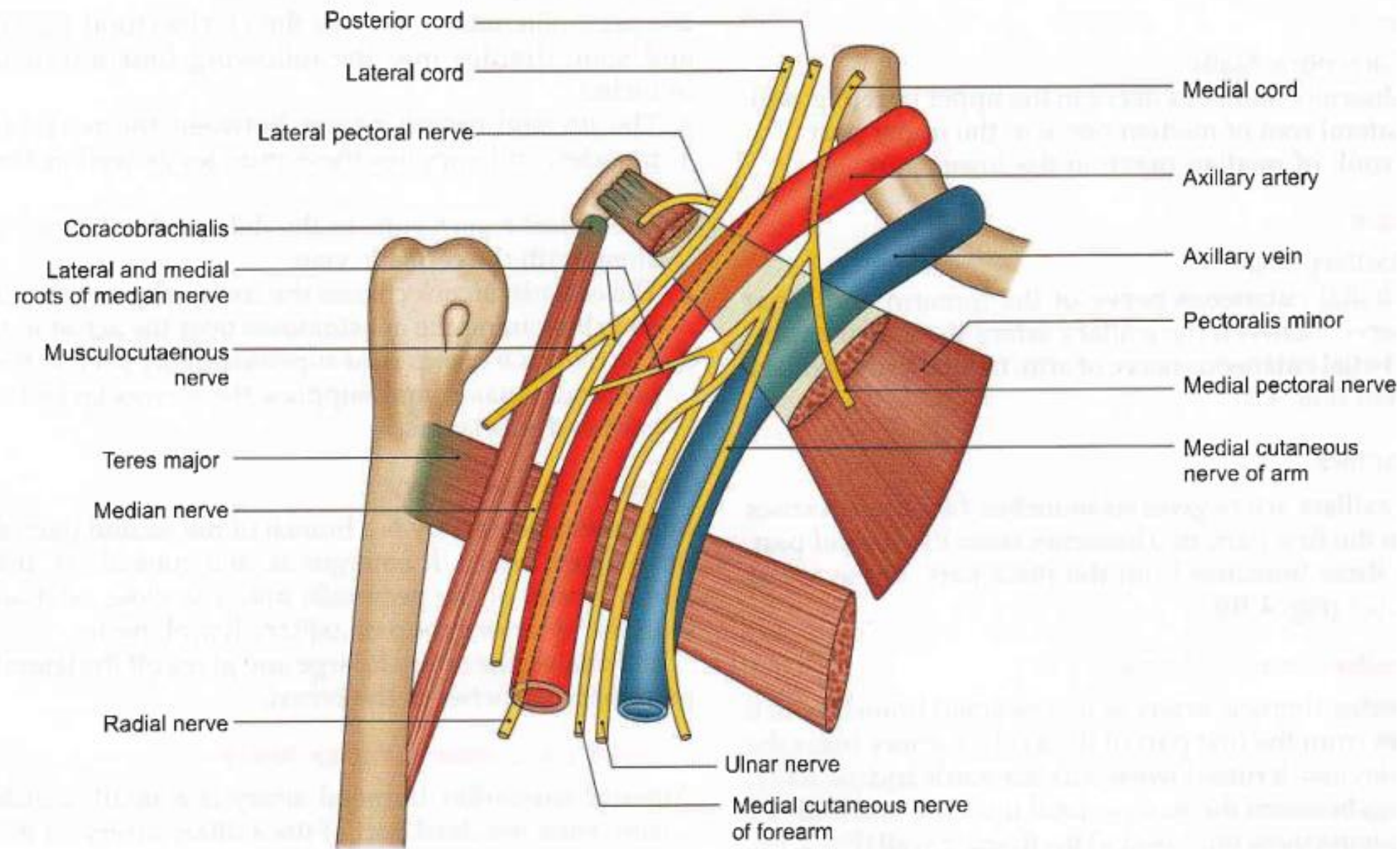


**Fig. 4.10** Brachial plexus and its branches (SS = suprascapular nerve, NS = nerve to subclavius, US = upper subscapular nerve, LS = lower subscapular nerve, T = thoraco-dorsal nerve, DS = dorsal scapular nerve).

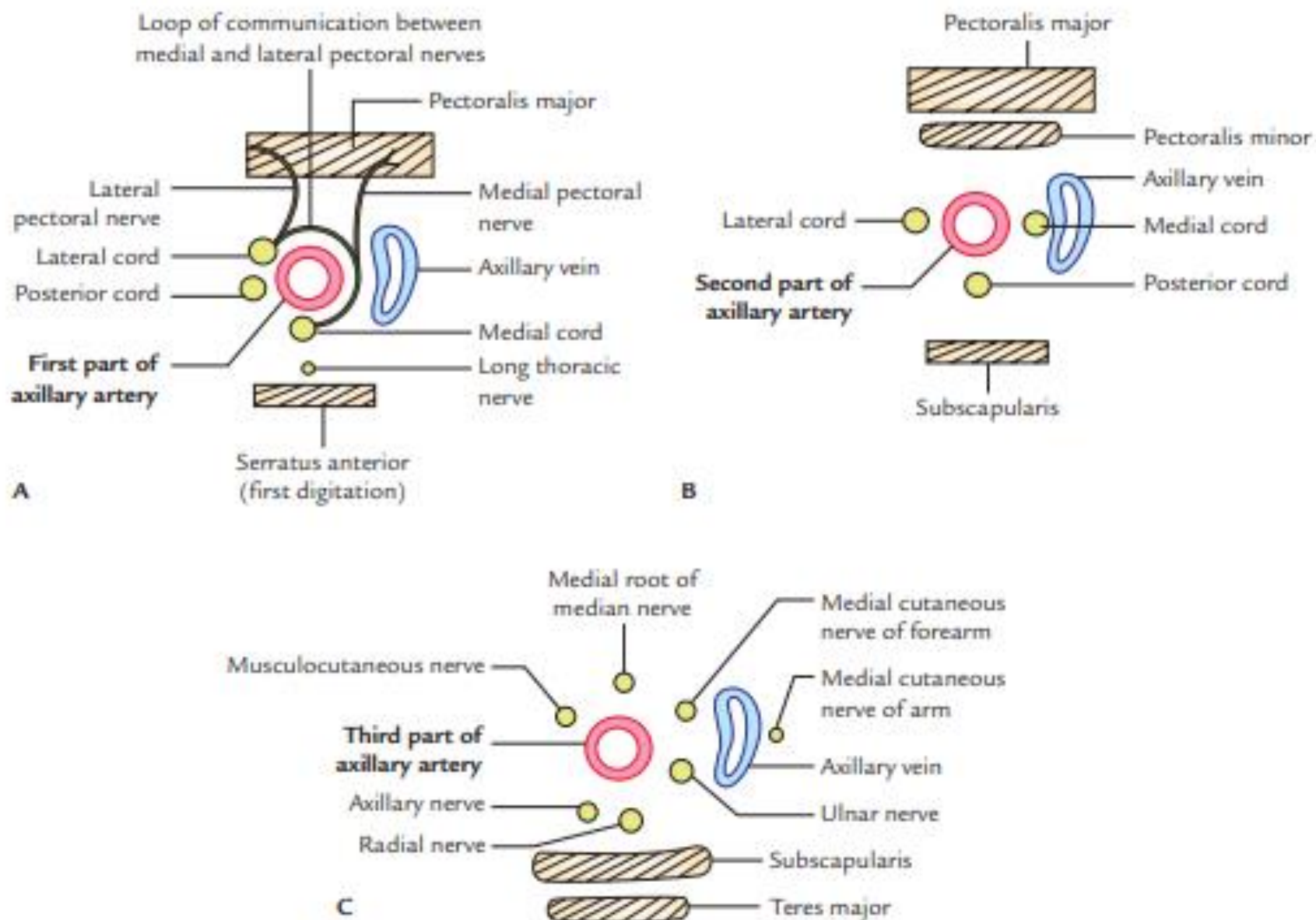
## (C) Branches from Cords







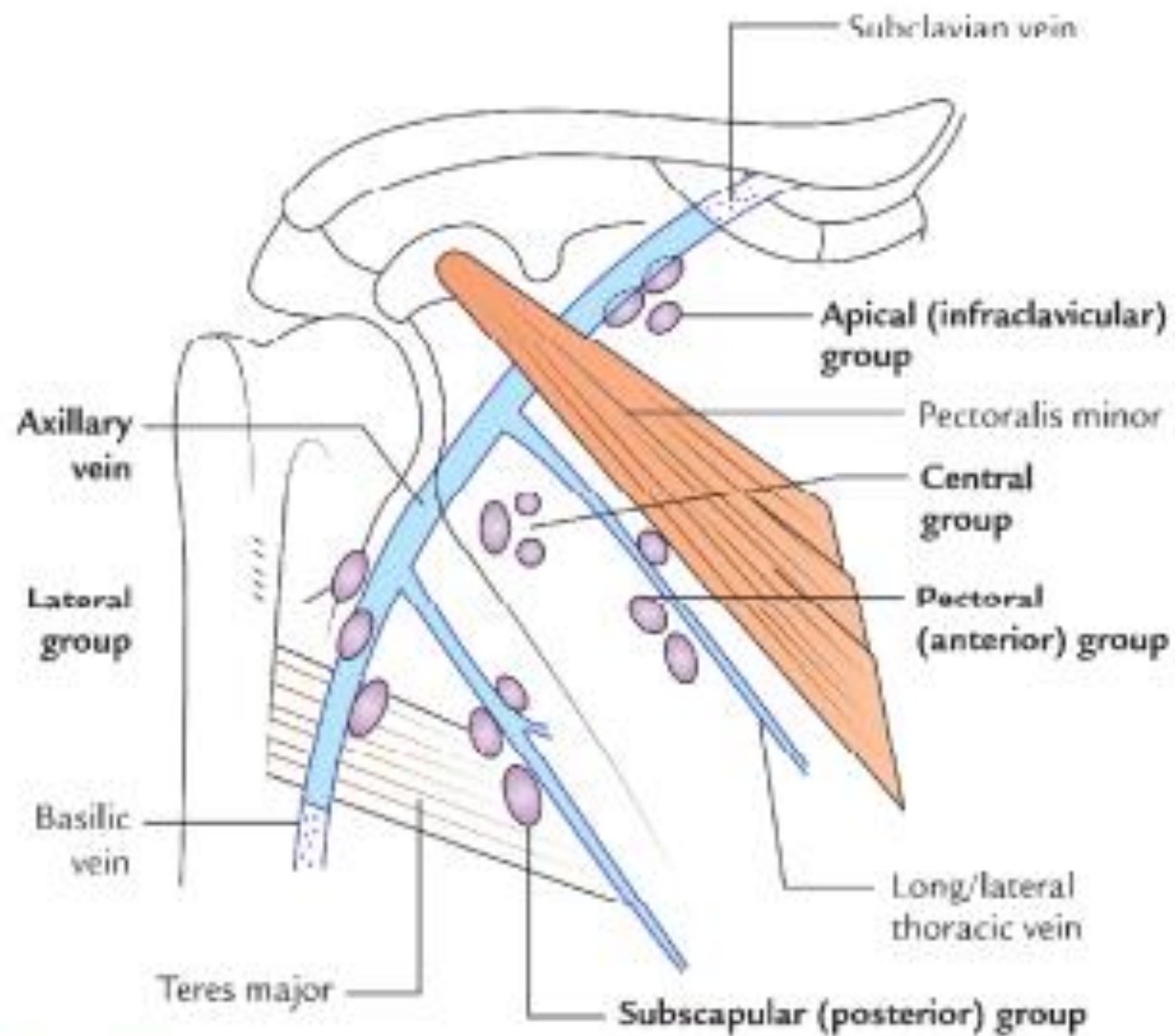
**Fig. 4.9:** Relations of branches of brachial plexus to the axillary vessels



.6 Relations of the axillary artery: A, first part; B, second part; C, third part.



Abadis Dictionary



**Fig. 4.8** Axillary lymph nodes.

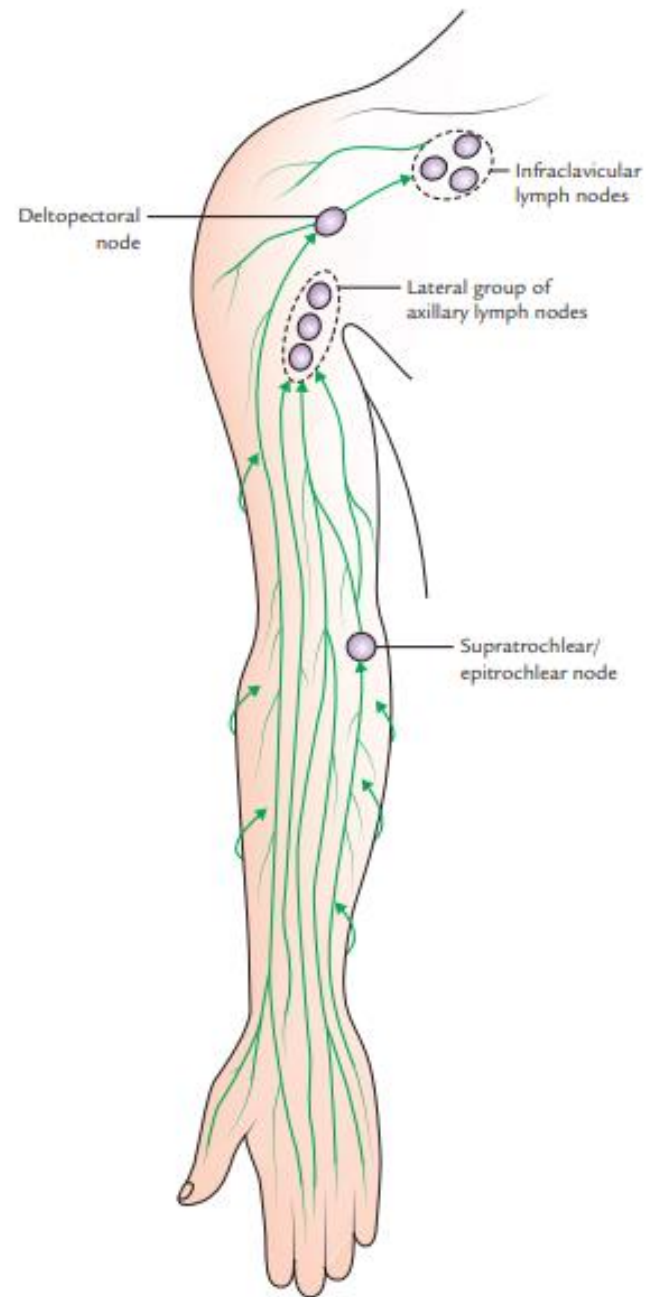
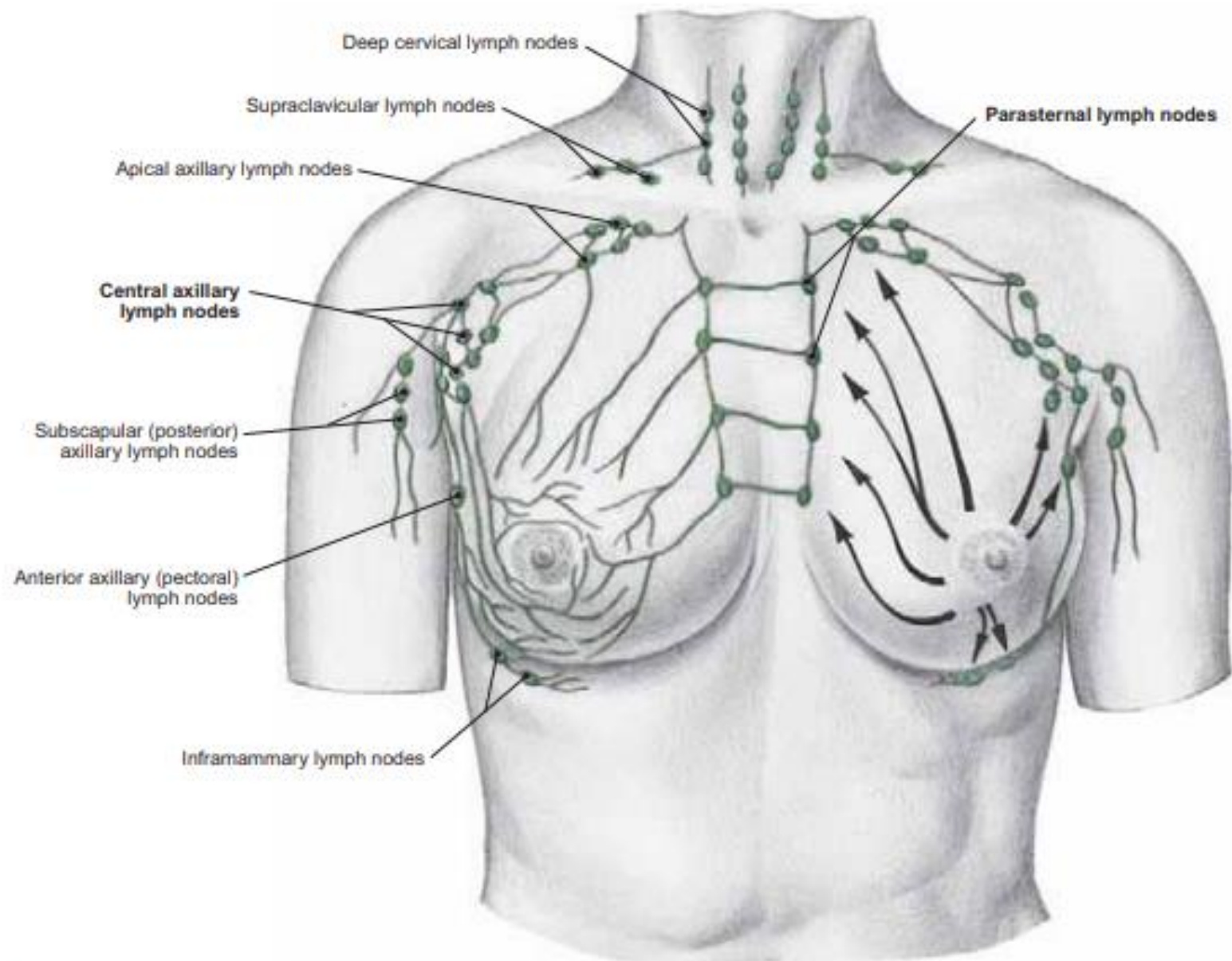


Fig. 7.7 Lymphatic drainage of the upper limb.

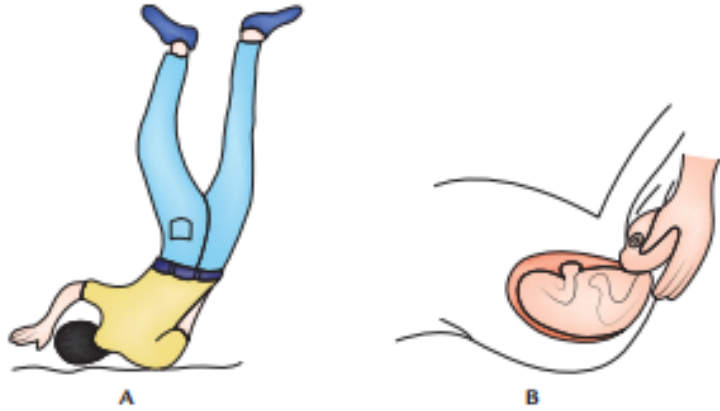


**FIGURE 8.1** Lymphatic Drainage from the Adult Female Breast

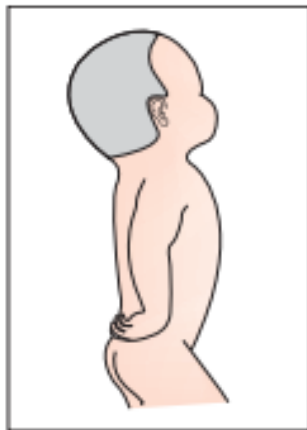
# Edema after Mastectomy



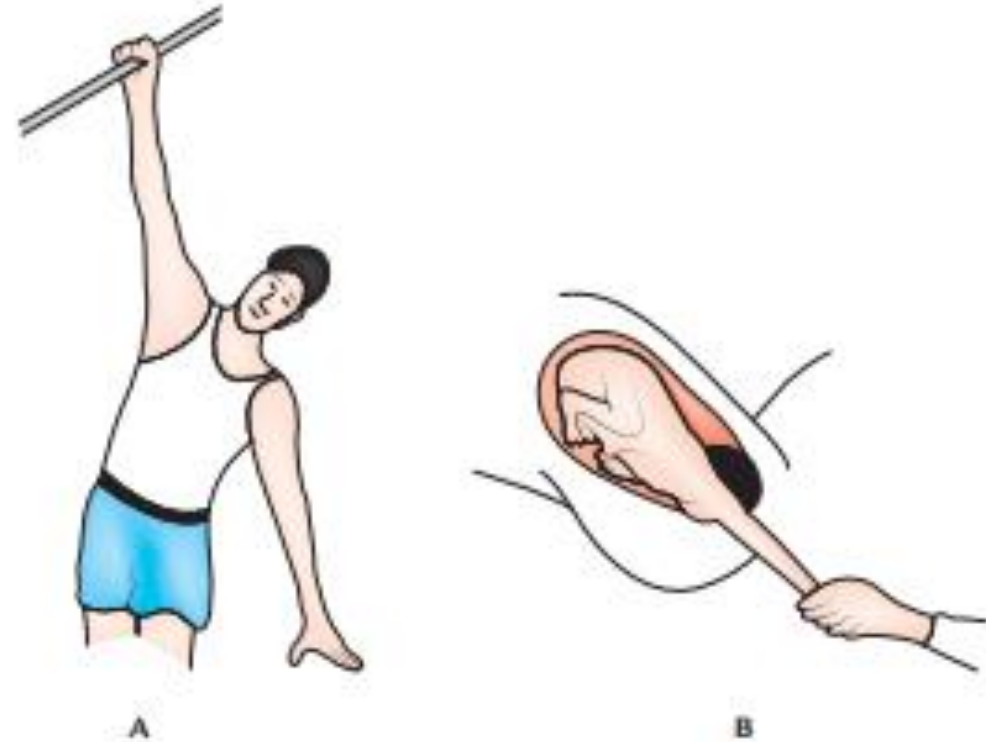
# Erb's palsy & Klumpke's Paralysis



**Fig. 4.12** Injury of the upper brachial plexus leading to excessive increase in the angle between the head and shoulder: A, fall from the height and landing on a shoulder; B, Traction of the arm and hyperextension of the neck.

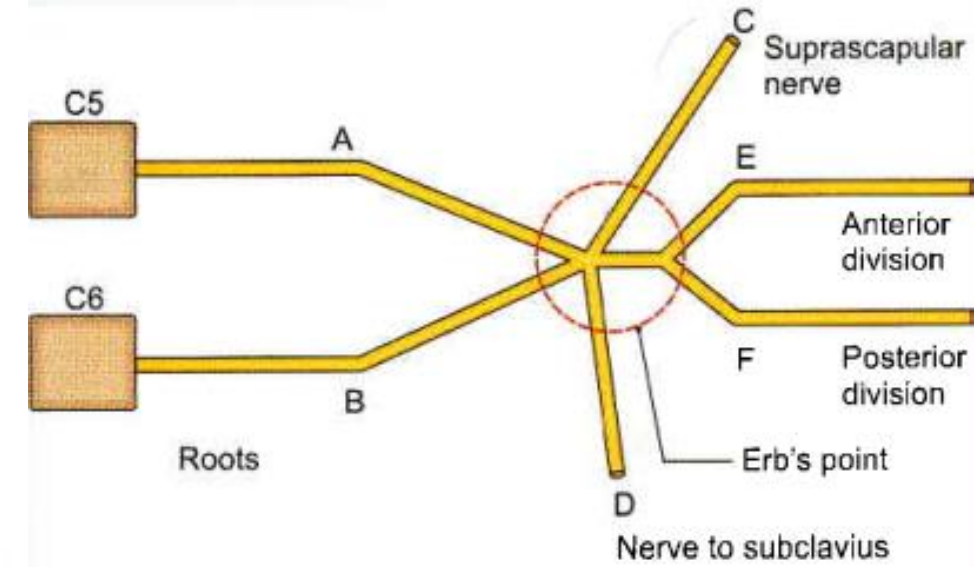


**Fig. 4.13** Policeman receiving a tip position of the upper limb in Erb's paralysis.

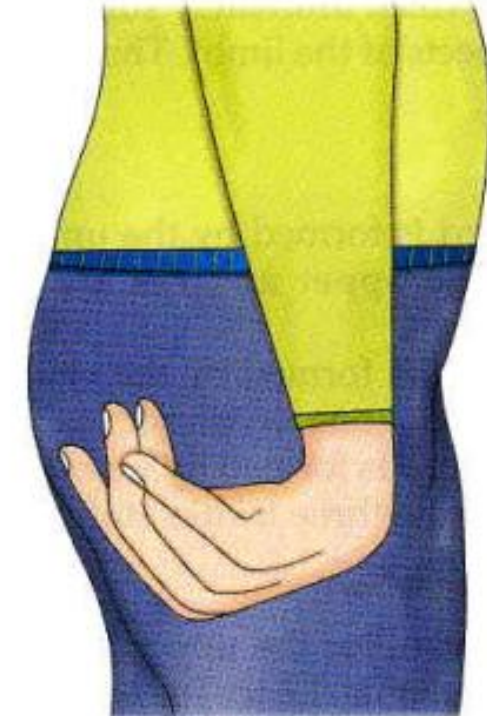


**Fig. 4.14** Injury of the lower brachial plexus leading to excessive increase in the angle between the trunk and shoulder: A, sudden upward pull of the arm; B, arm pulled during delivery.

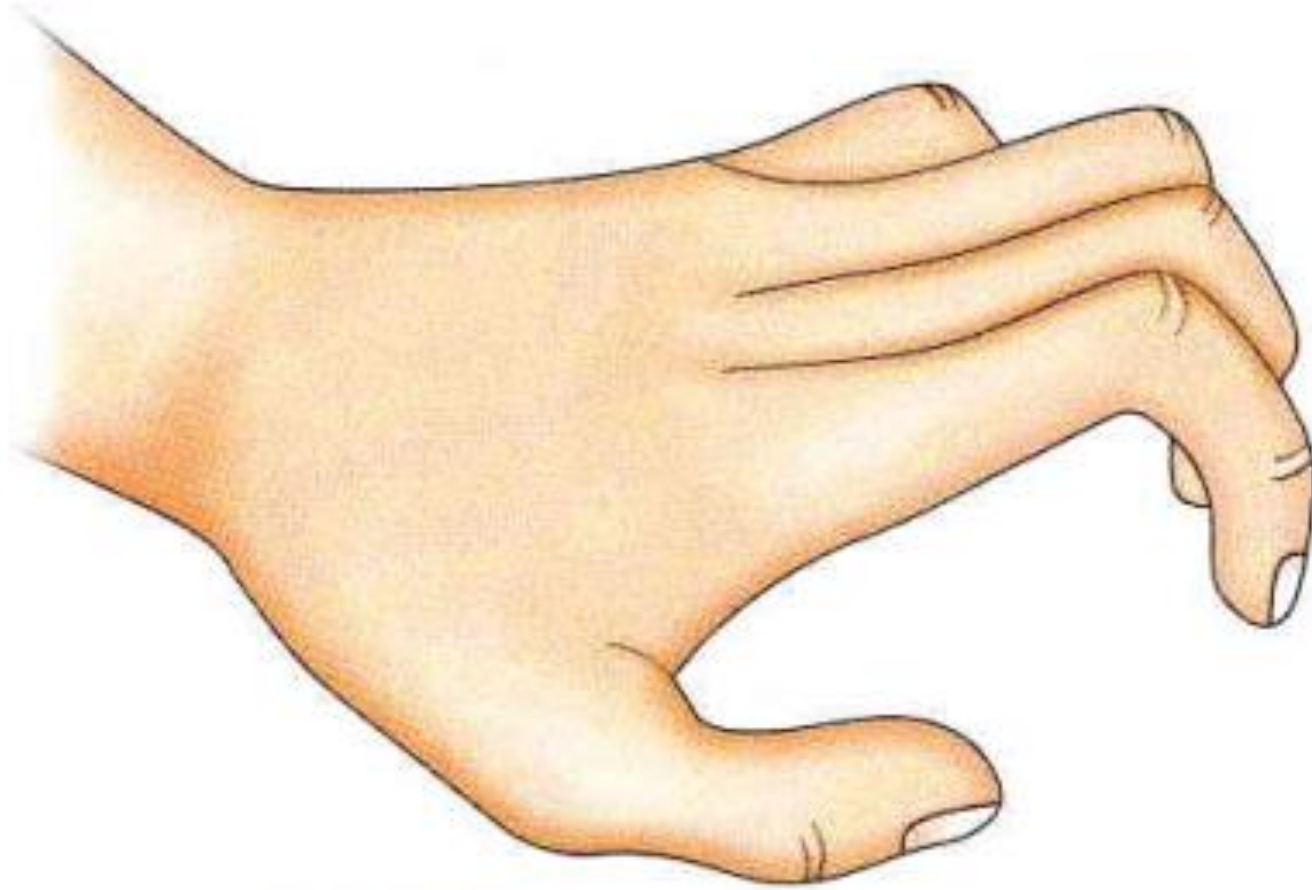
Erb's palsy is muscle weakness in the arm or shoulder that can occur as a result of an injury sustained during birth or later in life. It's most common in infants who injured their shoulders during delivery.



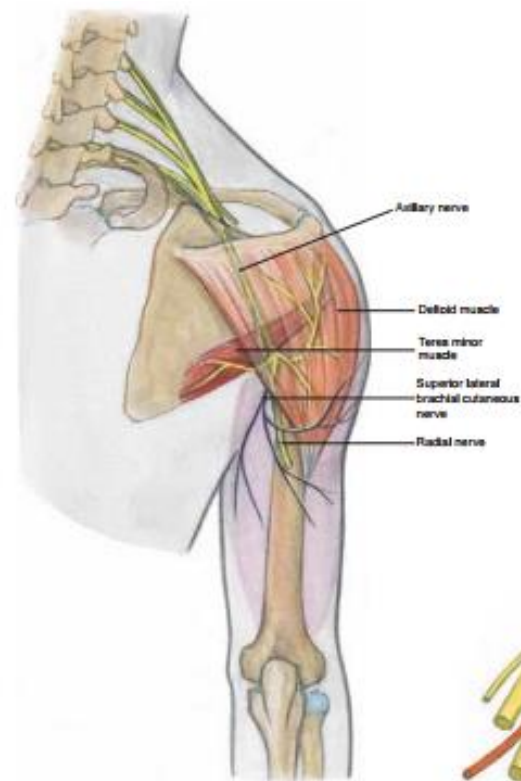
**Fig. 4.15:** Erb's point



# Klumpke's Paralysis

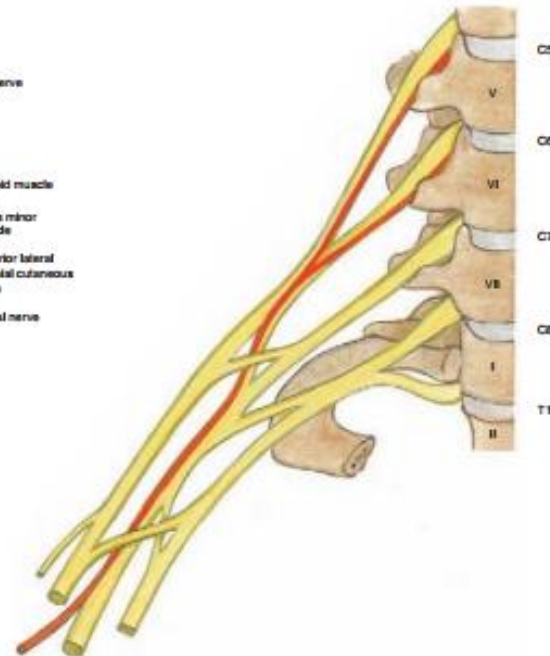


**Fig. 4.17:** Complete claw-hand



**FIGURE 52.1** Axillary Nerve Distribution in the Arm and Shoulder

NOTE that the axillary nerve supplies the deltoid and teres minor muscles. It also gives sensory fibers to the shoulder joint and to the skin over the inferior part of the shoulder joint.



**FIGURE 52.2** Spinal Segments Forming the Axillary Nerve

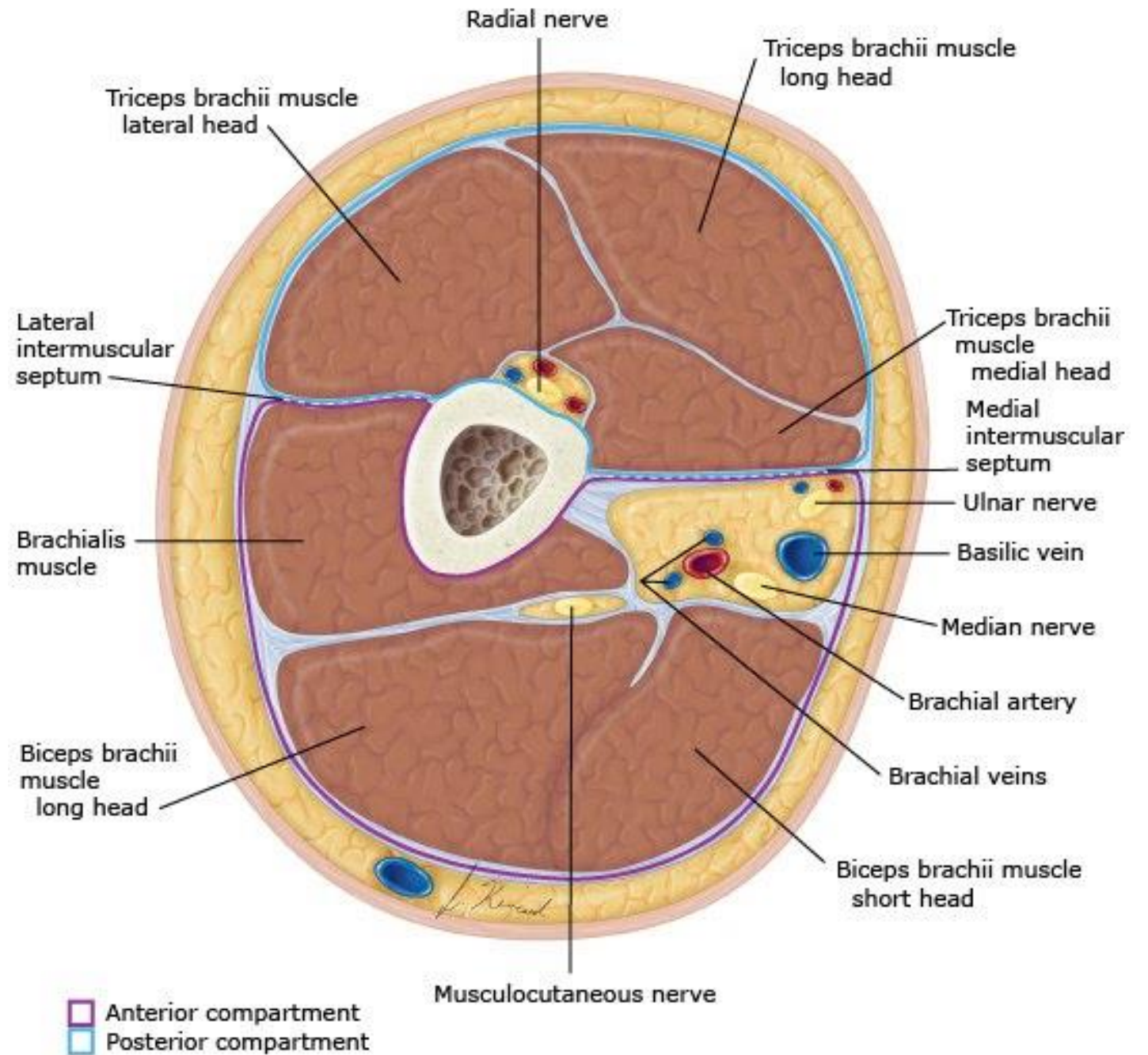
NOTE that spinal segments C5 and C6 contribute nerve fibers to form the axillary nerve.

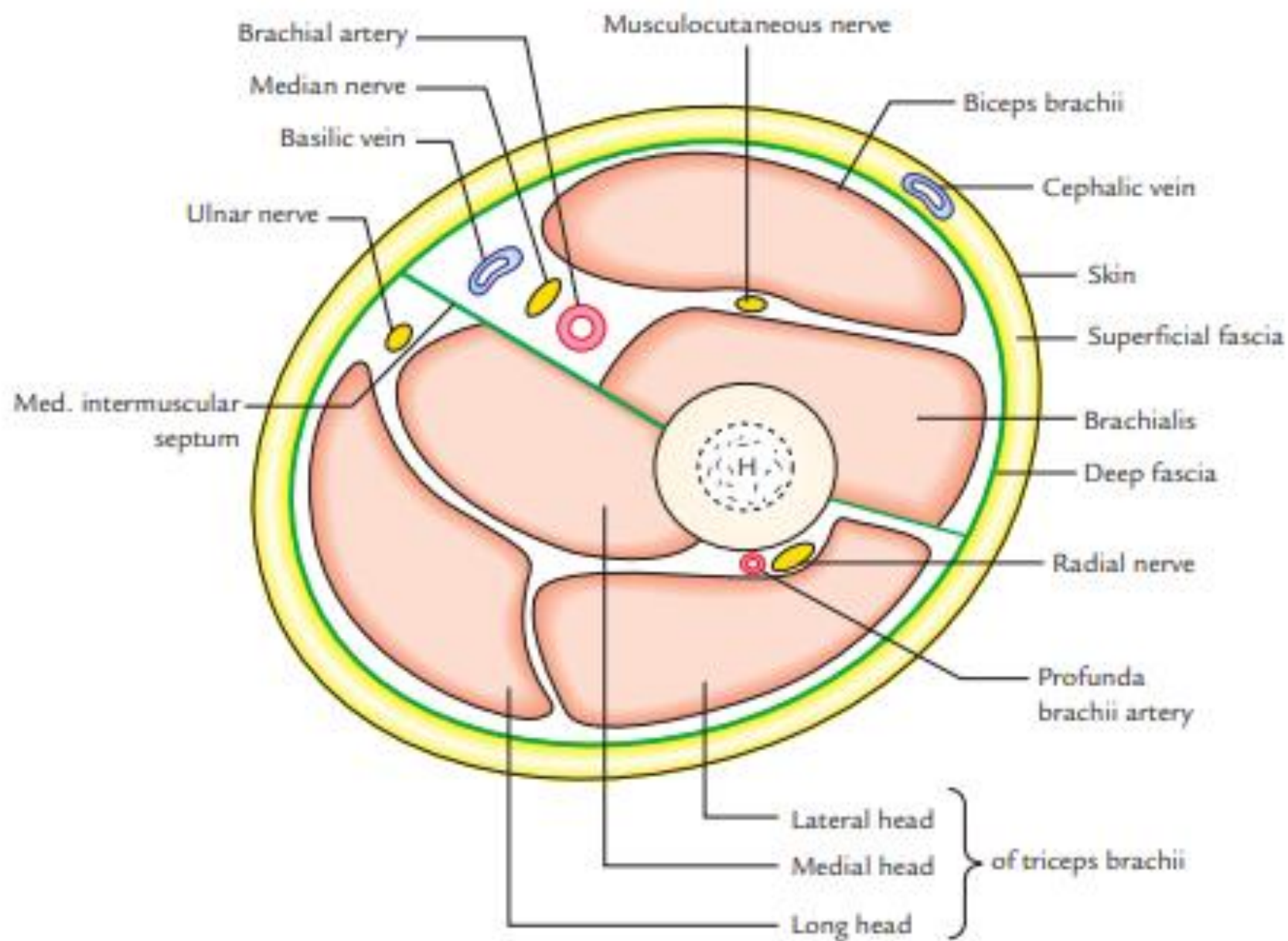
**FIGURE 52.3** Ulnar Nerve Palsy

NOTE that lesions of the axillary nerve result in atrophy of the deltoid muscle that overlies the shoulder region. The teres minor muscle is also denervated. Loss of the deltoid results in a protrusion of the bony structures on the lateral aspect of the shoulder, as seen in this figure.

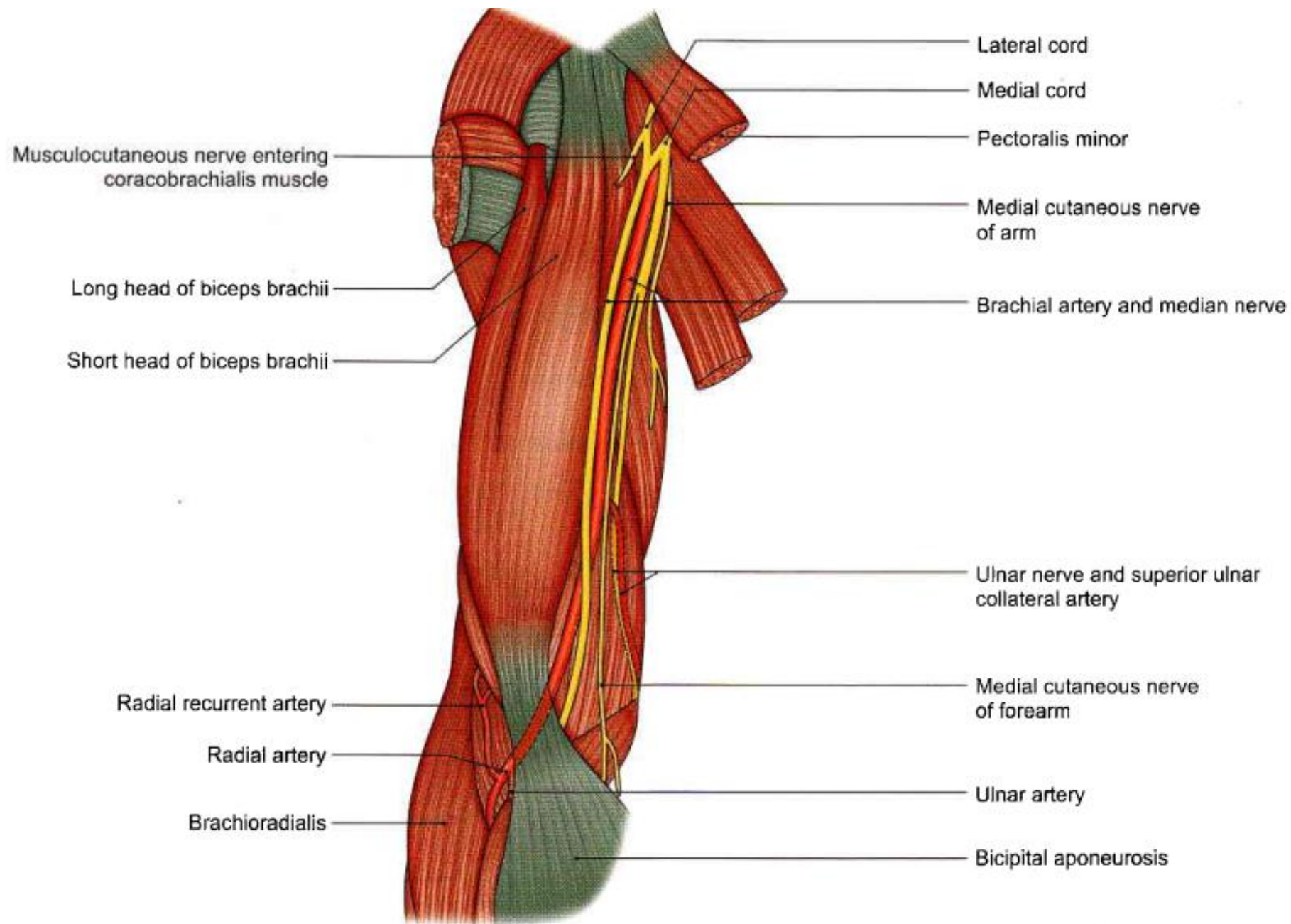


# Transverse section of the arm





**Fig. 8.1** Transverse section of the arm just below the level of insertion of deltoid muscle (H = humerus).



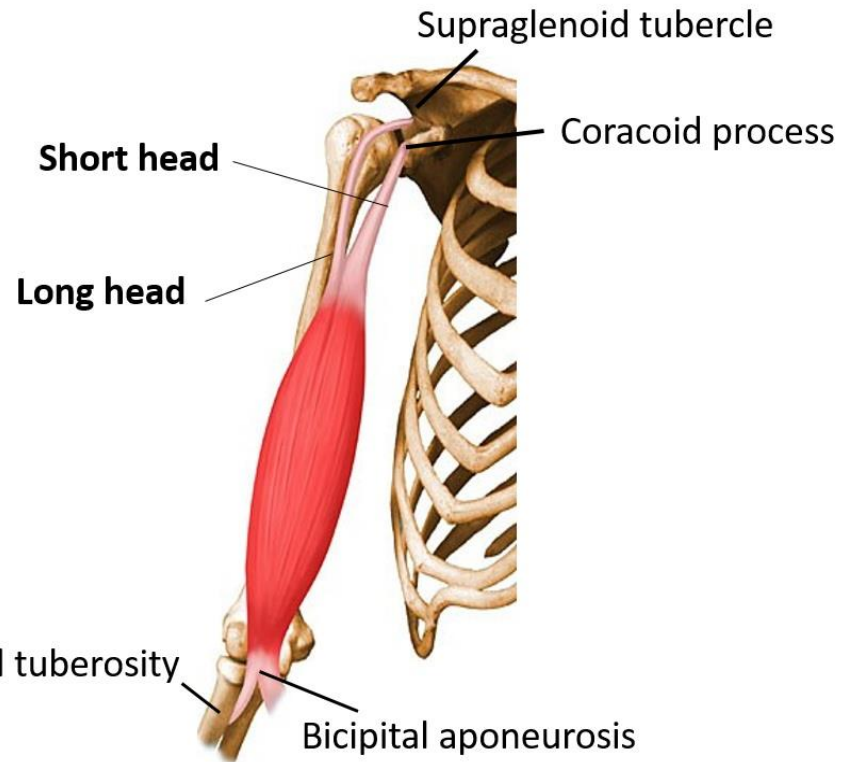
**Fig. 8.9:** The course and relations of the brachial artery

# Anterior compartment of Arm

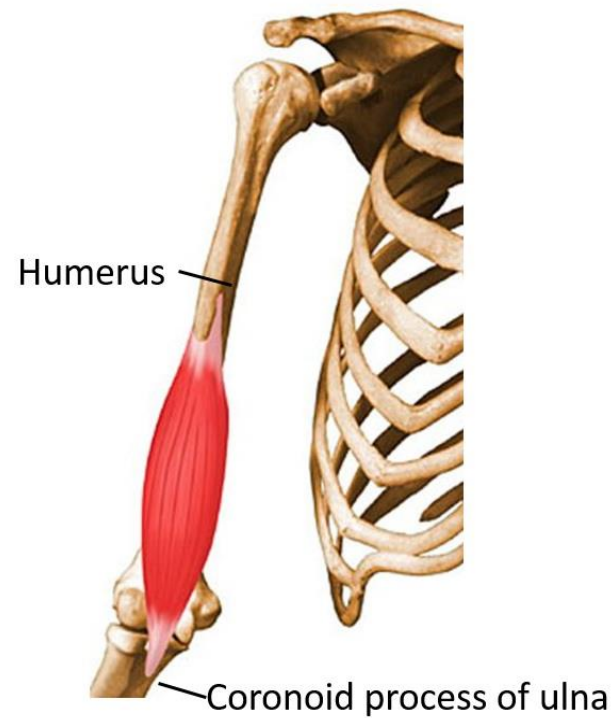


# Muscles of Anterior Compartment of Arm

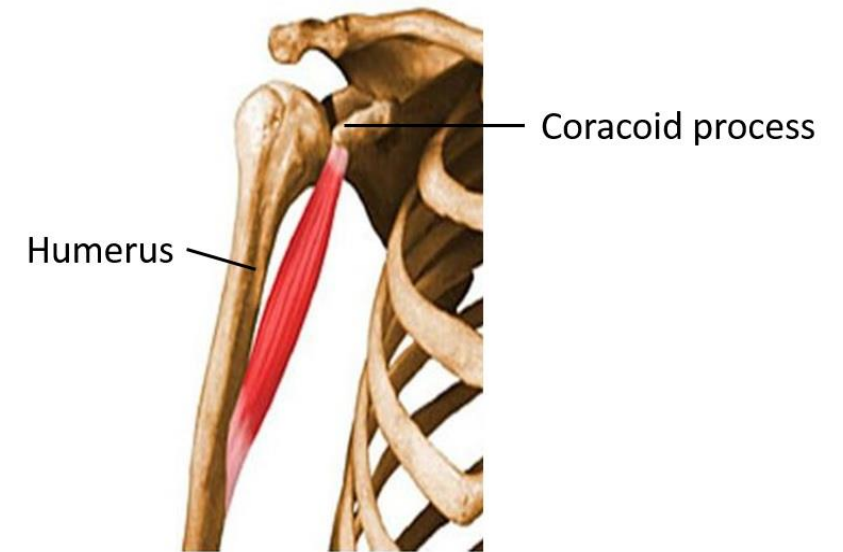
**Biceps Brachii**



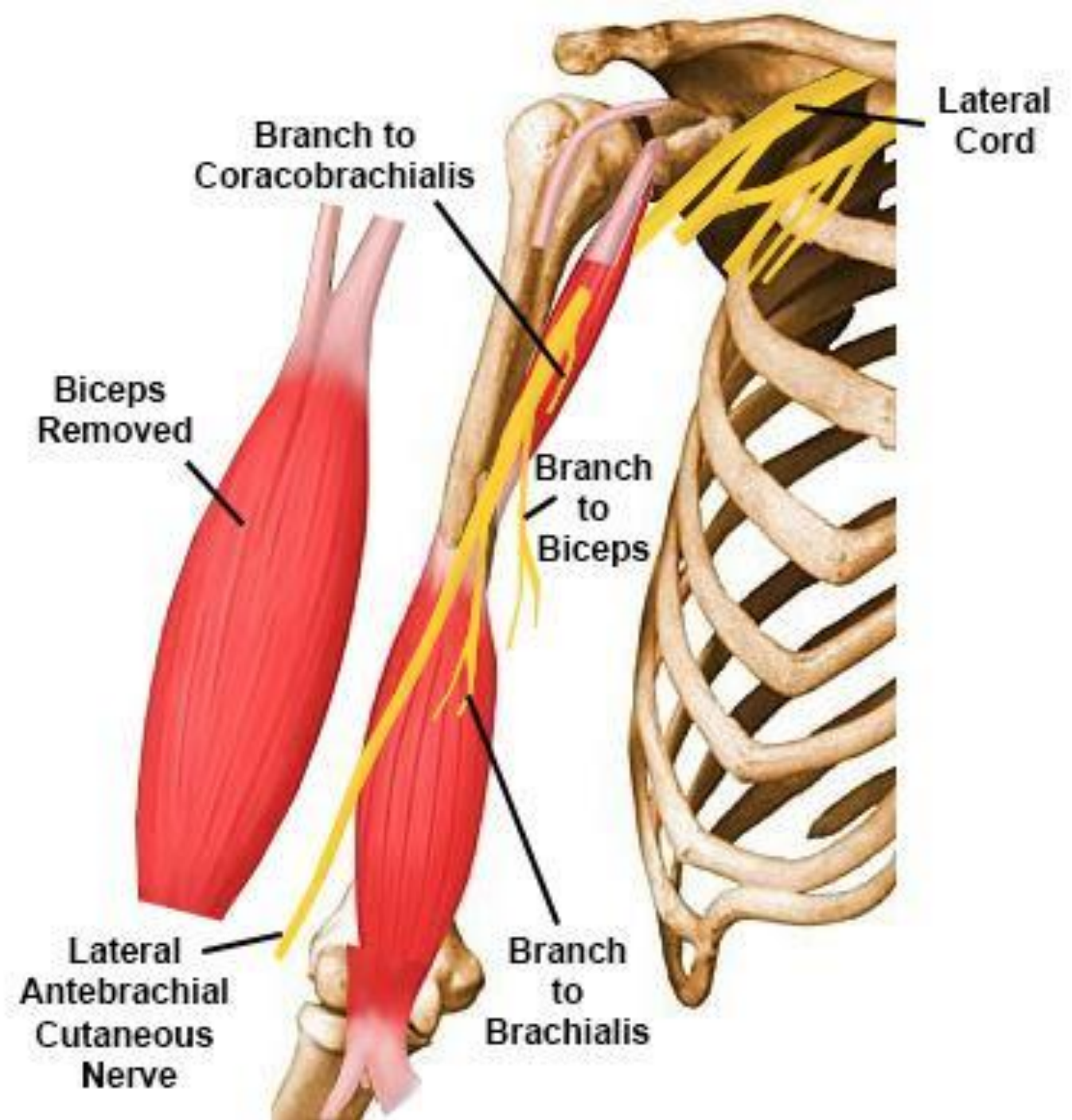
**Brachialis**



**Coracobrachialis**



# Musculocutaneous nerve



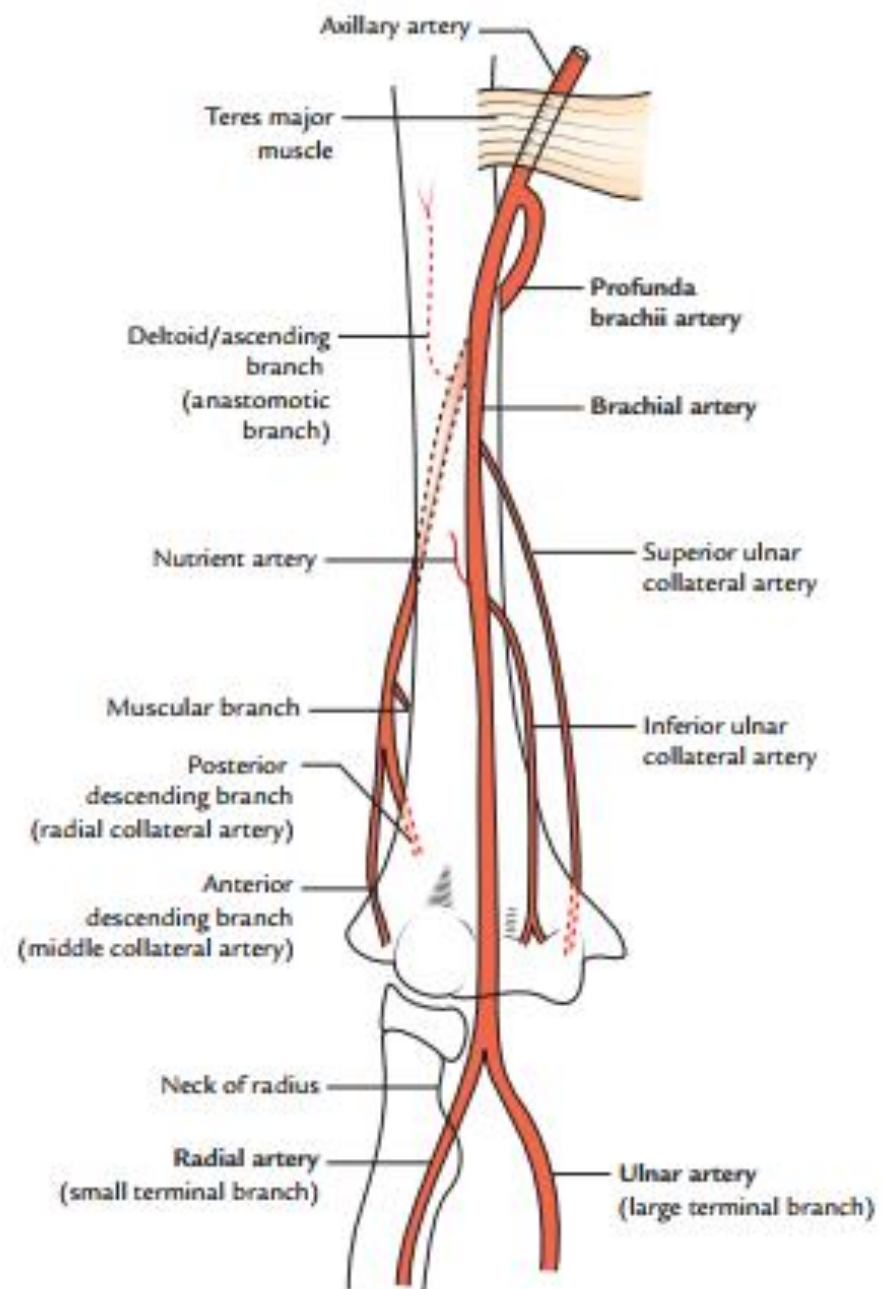
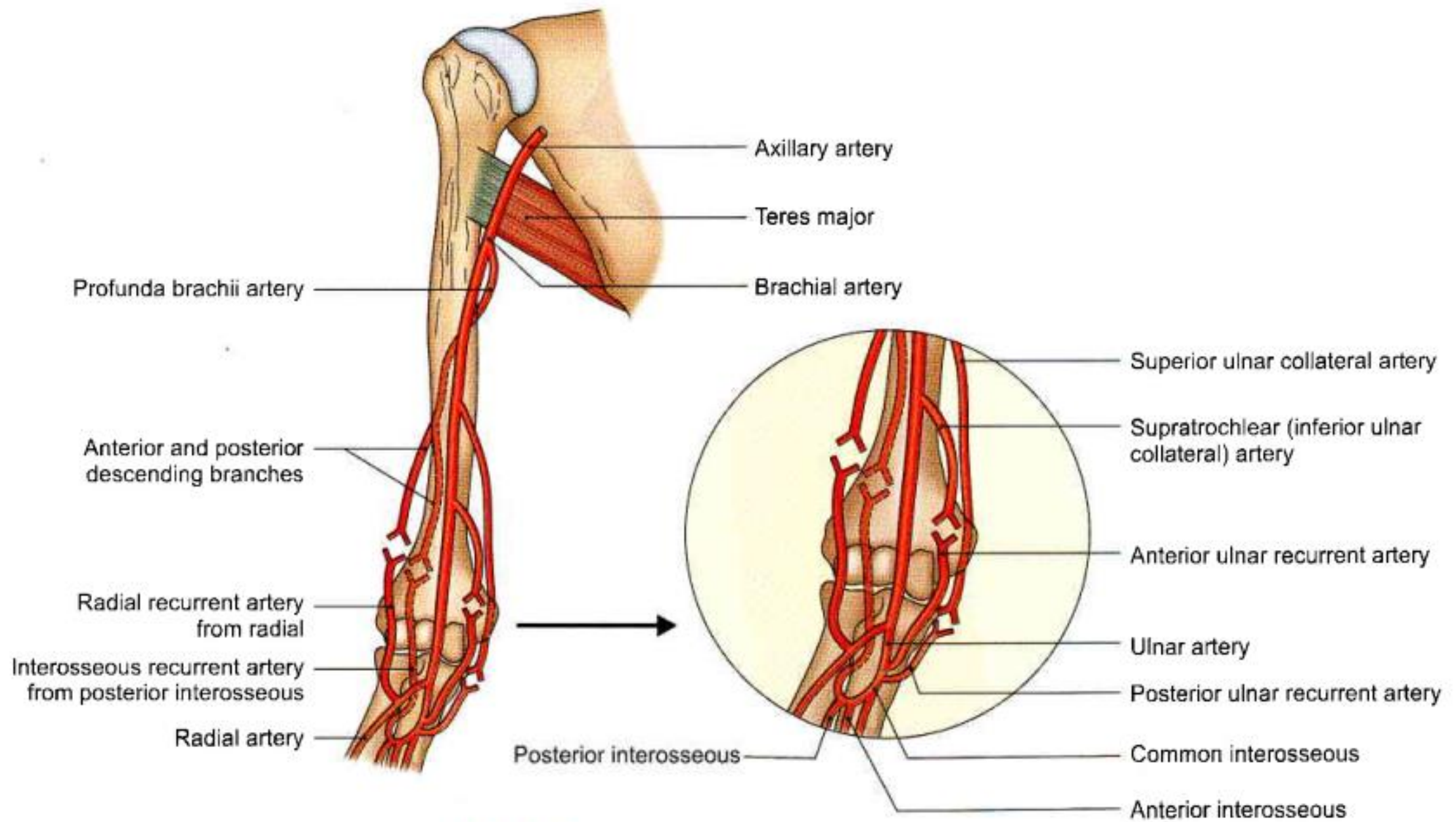
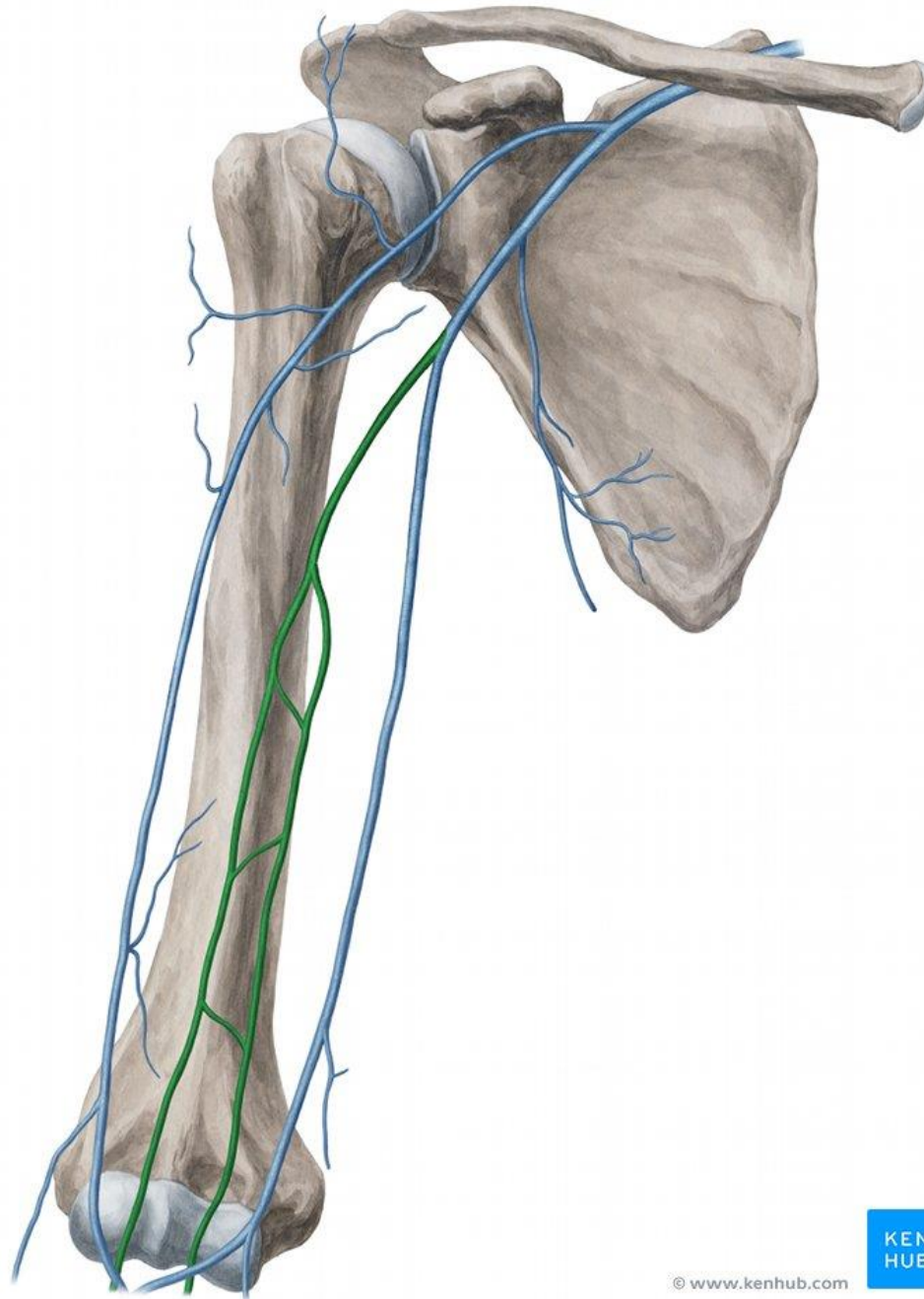


Fig. 8.7 Brachial artery.

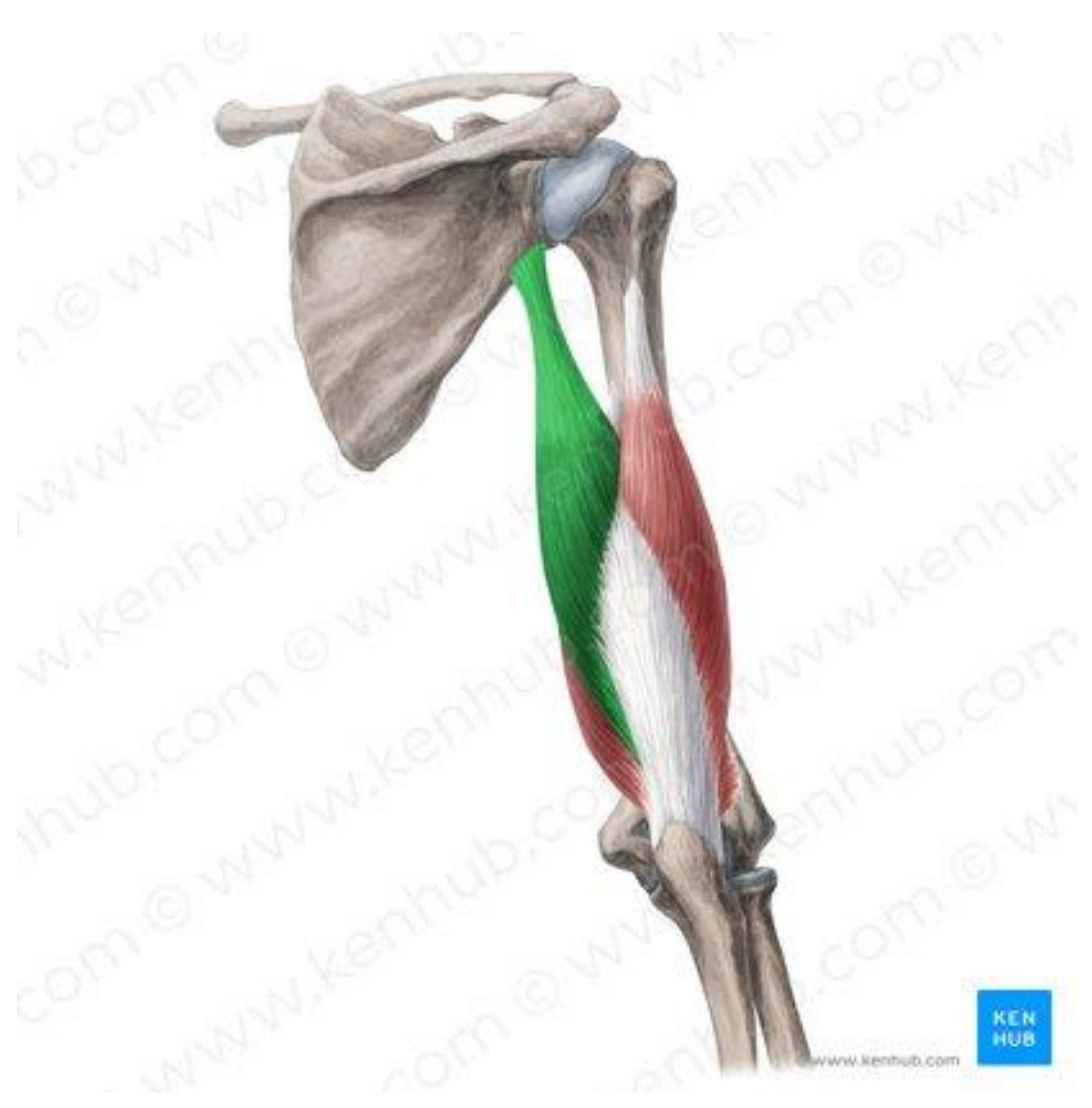


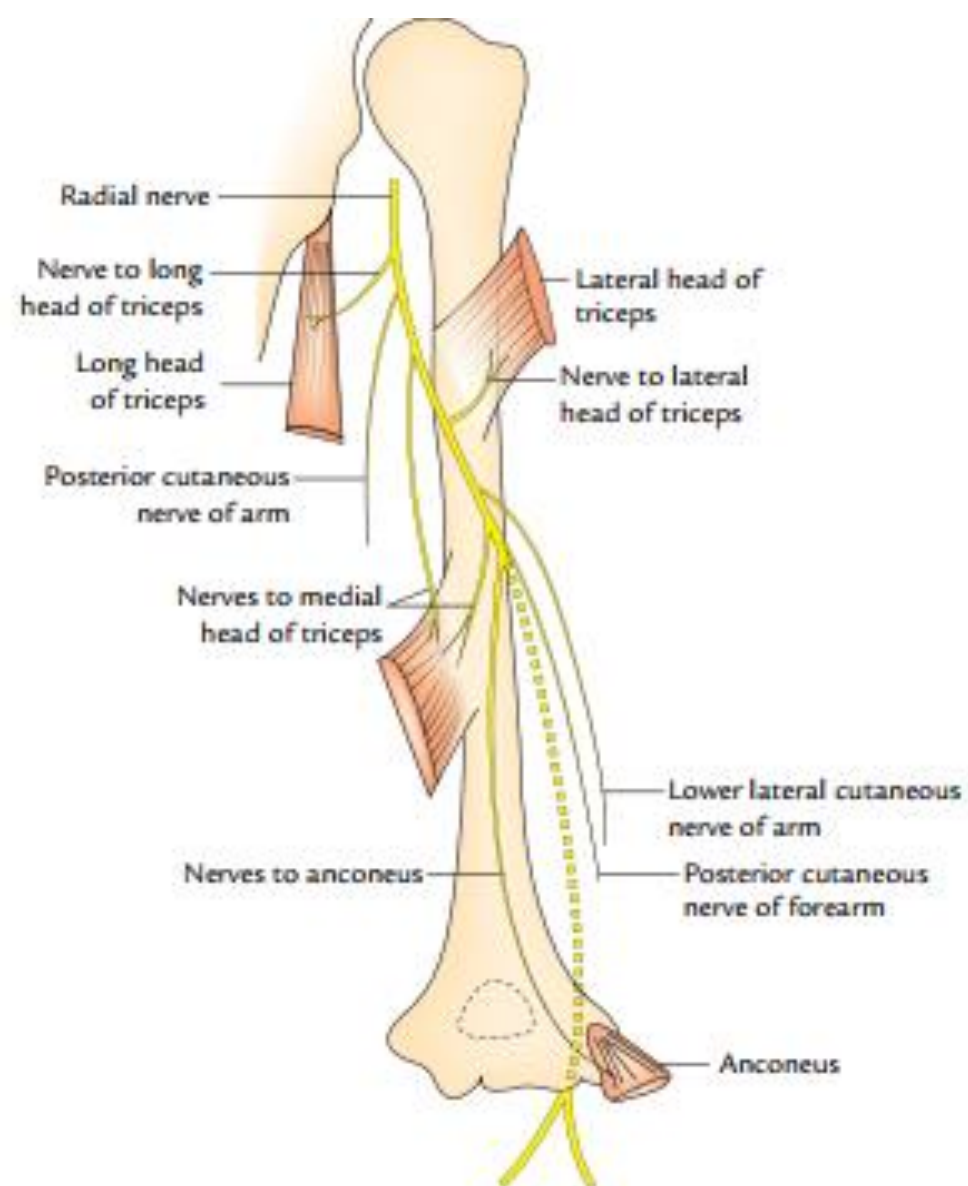
**Fig. 8.10:** Anastomoses around the elbow joint

# Brachial vein

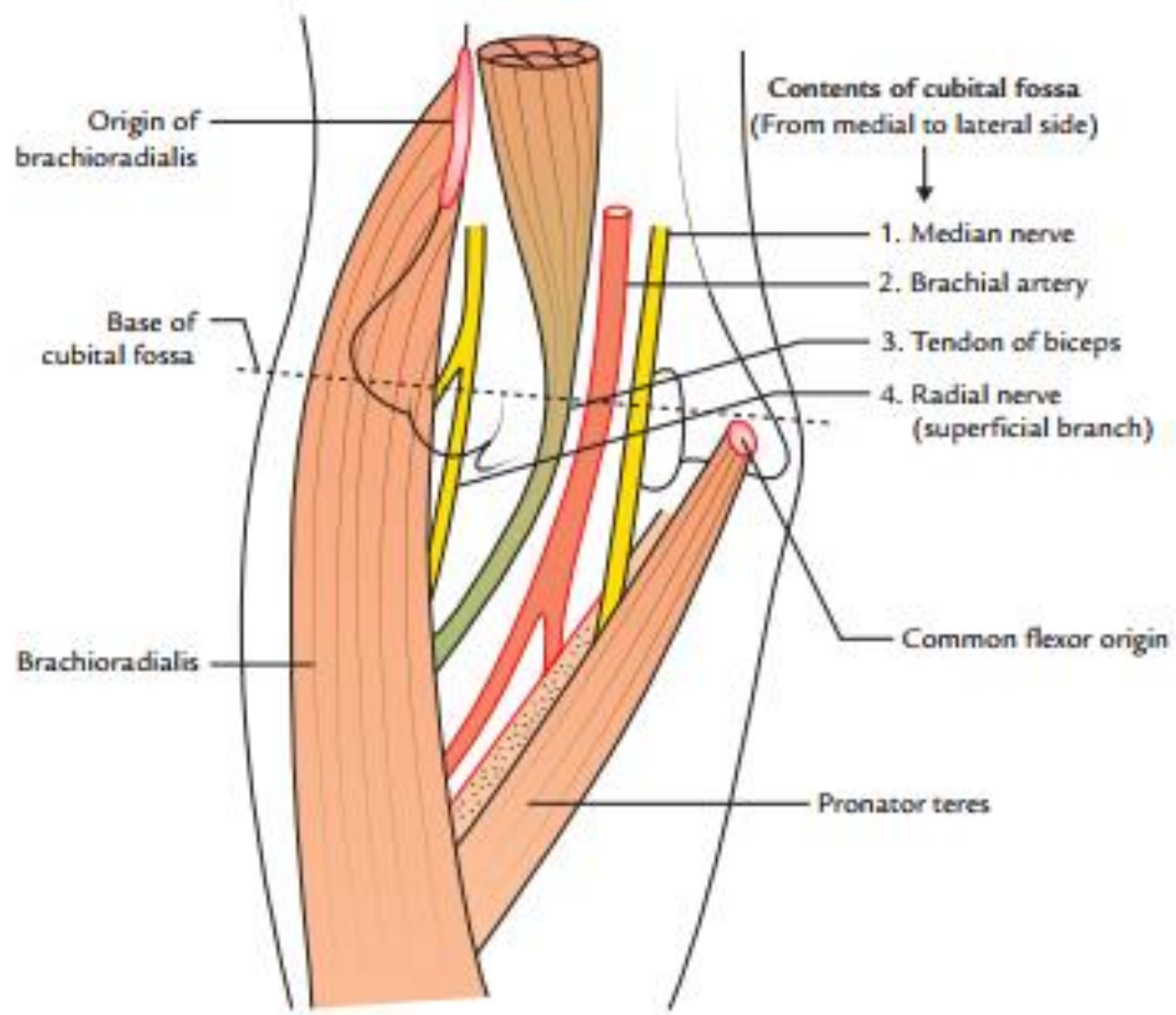


# Triceps Brachii

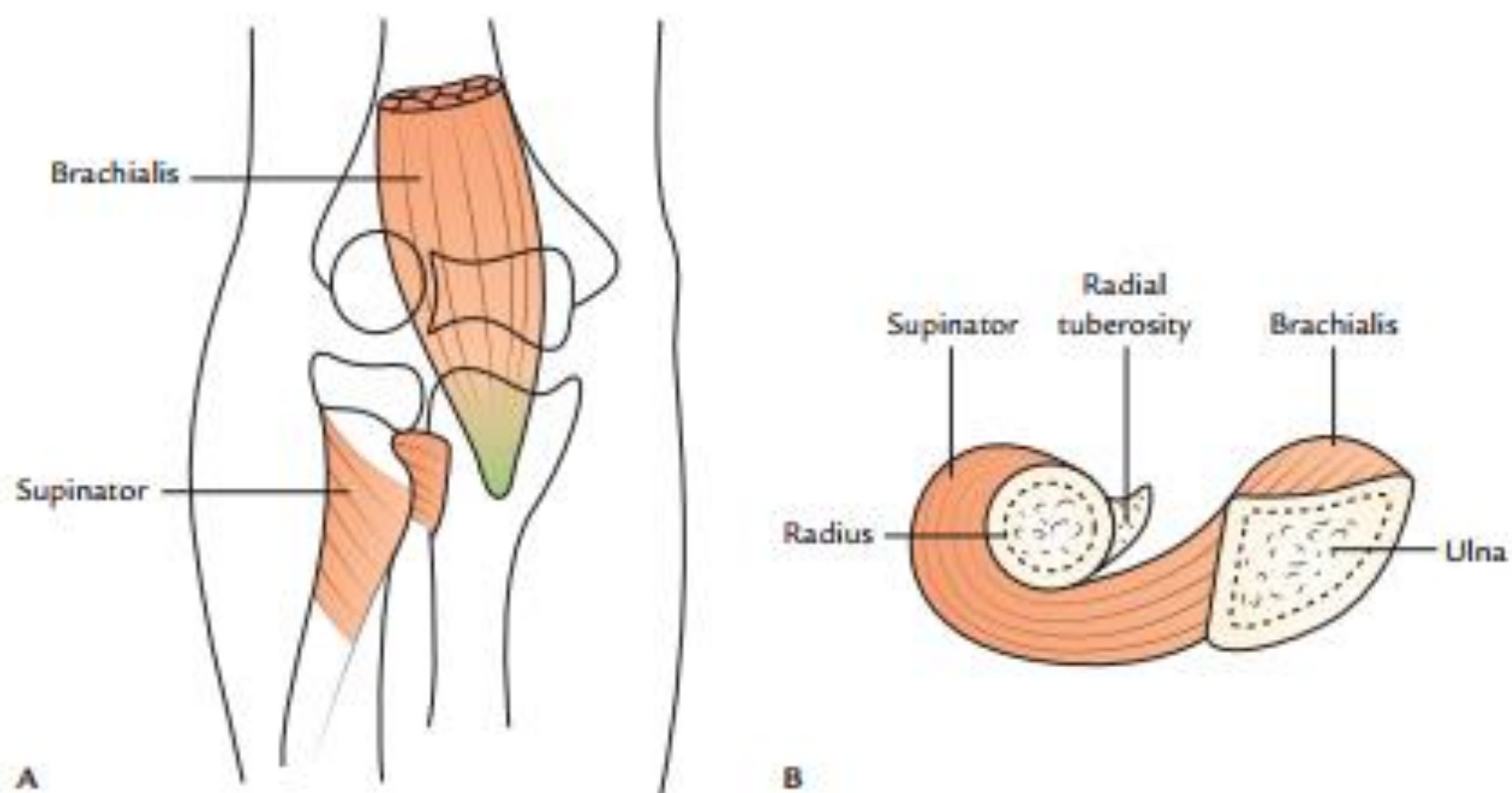




**Fig. 8.12** Course, relations, and branches of the radial nerve in the arm.

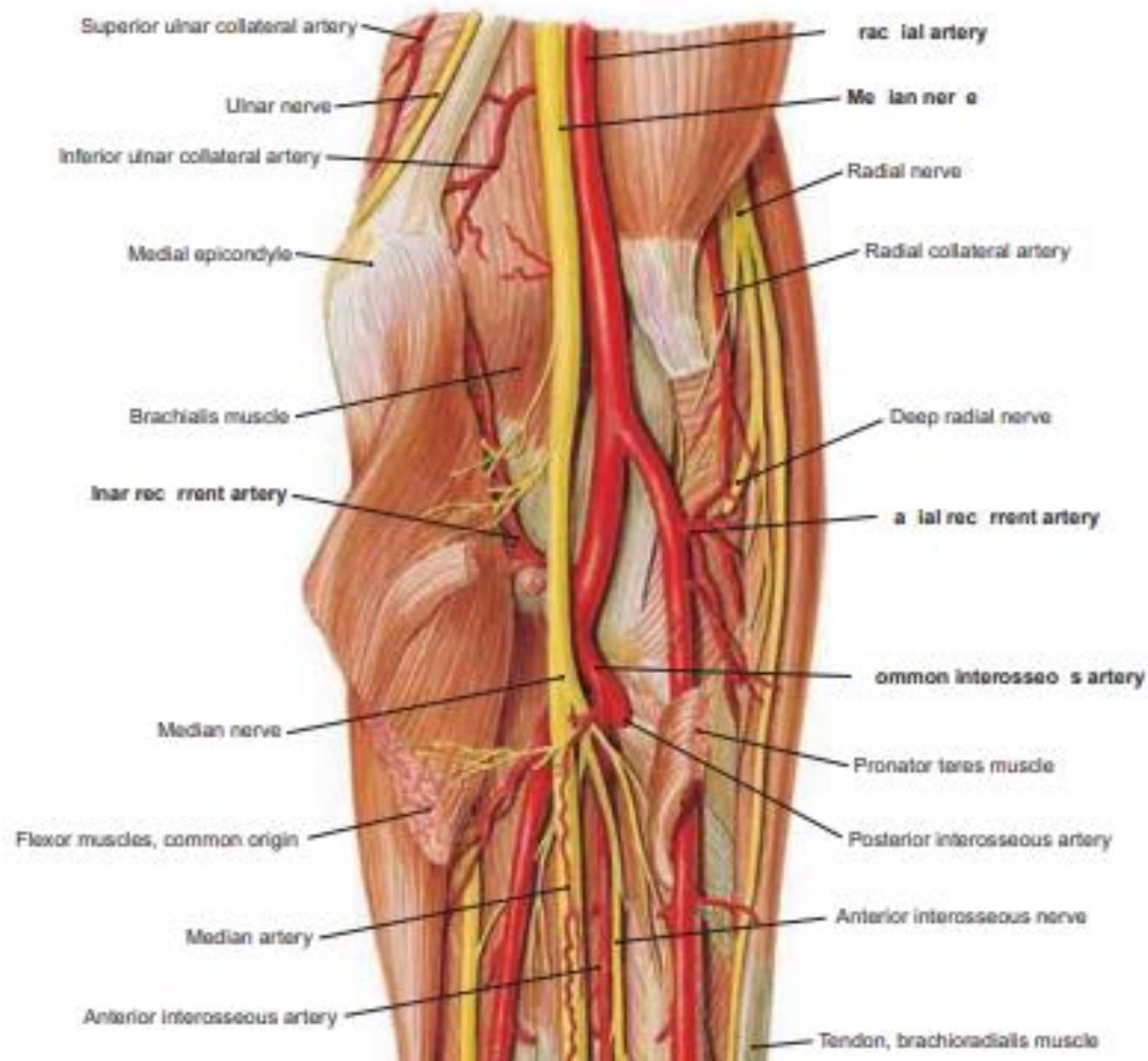


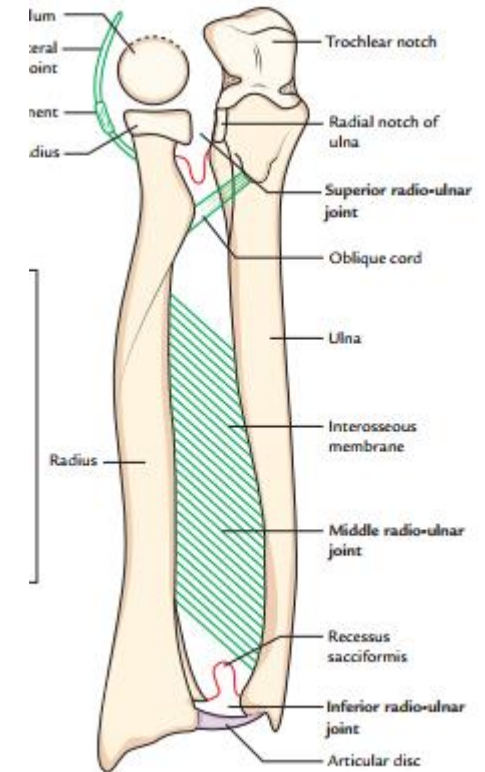
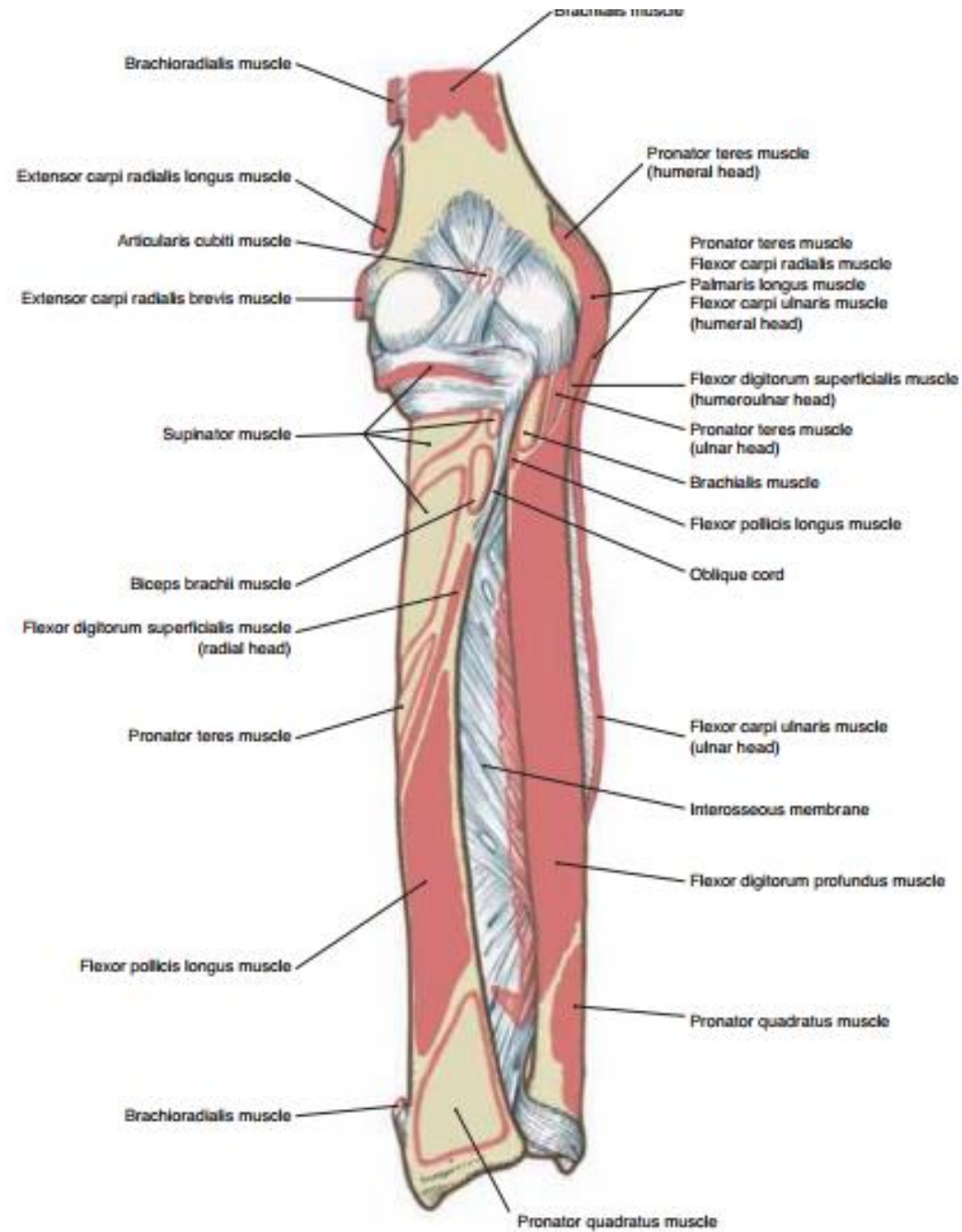
**Fig. 8.13** Boundaries and contents of the cubital fossa.



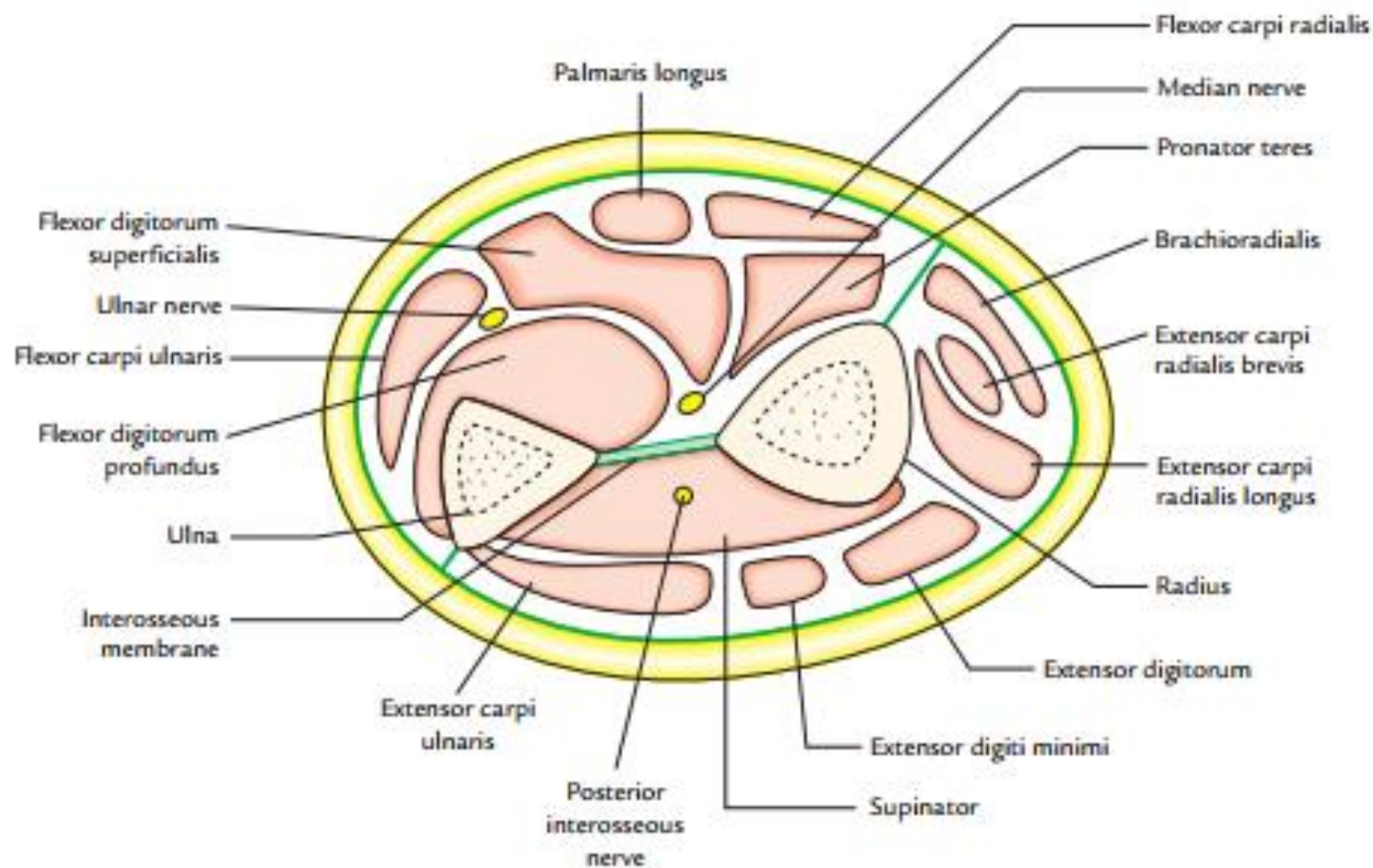
**Fig. 8.14** Muscles forming the floor of cubital fossa: A, anterior view; B, cross-sectional view.

# Cubital fossa contents

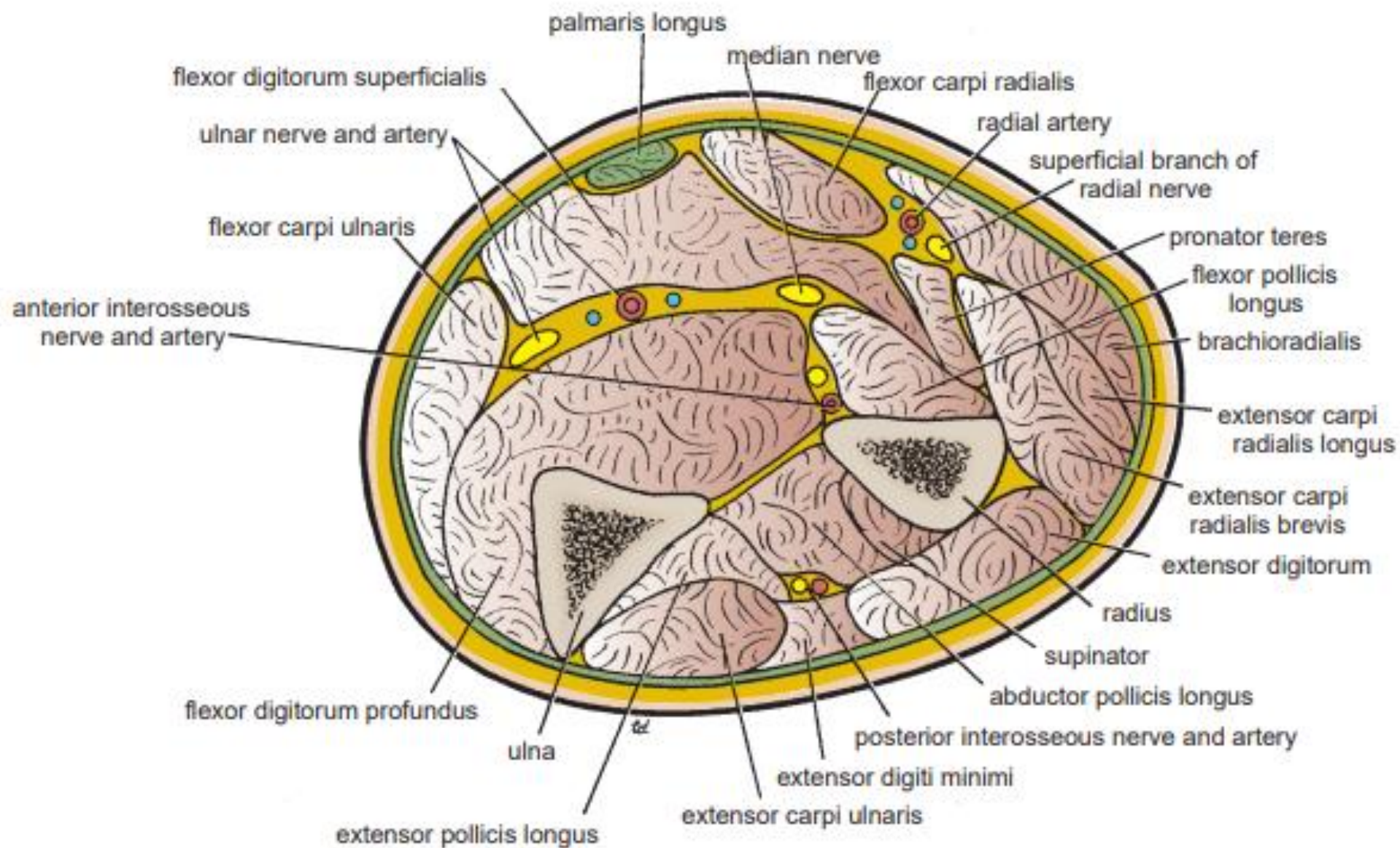




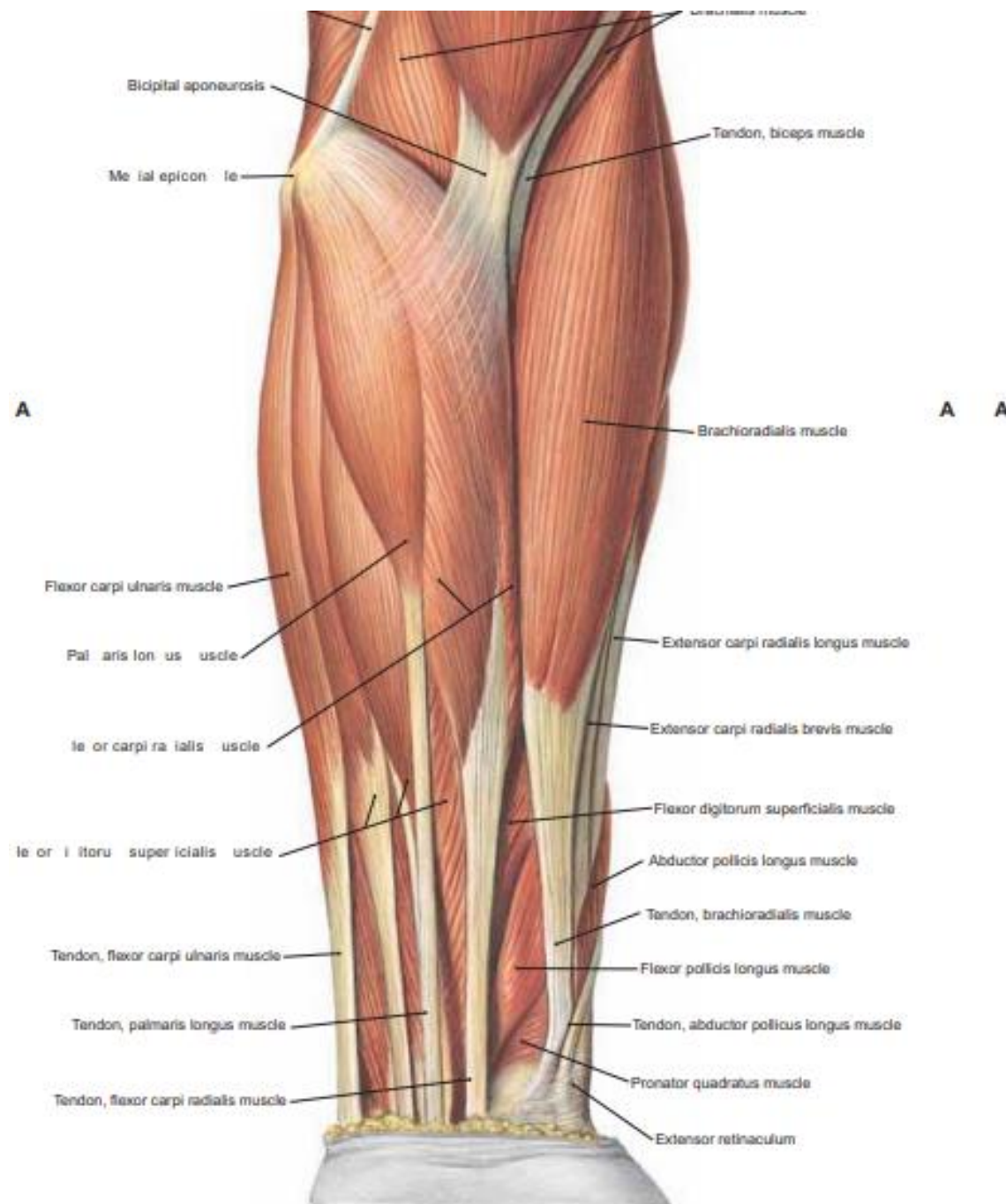
**FIGURE 74** Muscle Attachments on the Anterior Surface of the Radius and Ulna



**Fig. 9.1** Fascial compartments of the forearm. Cross section through the upper third of the forearm.

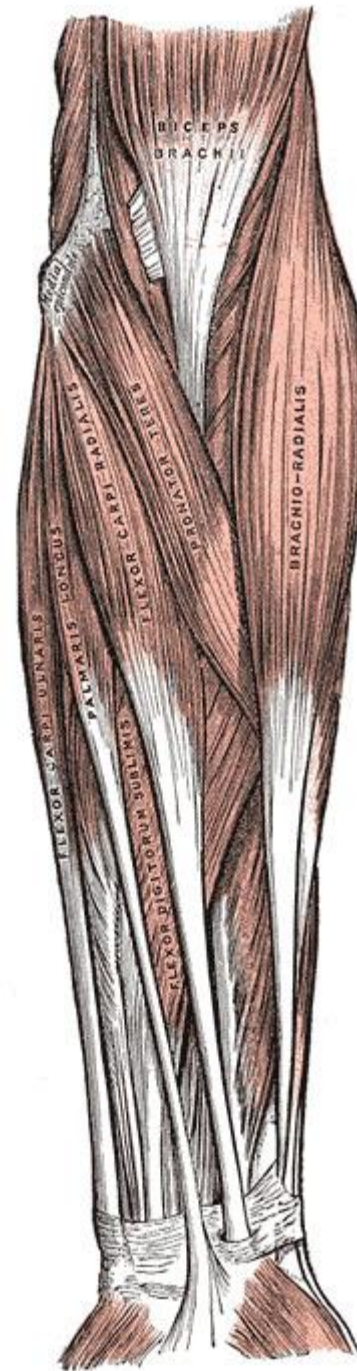


**FIGURE 9.53** Cross section of the forearm at the level of insertion of the pronator teres muscle.



**Left Anterior Forearm Muscles, Superficial Group**

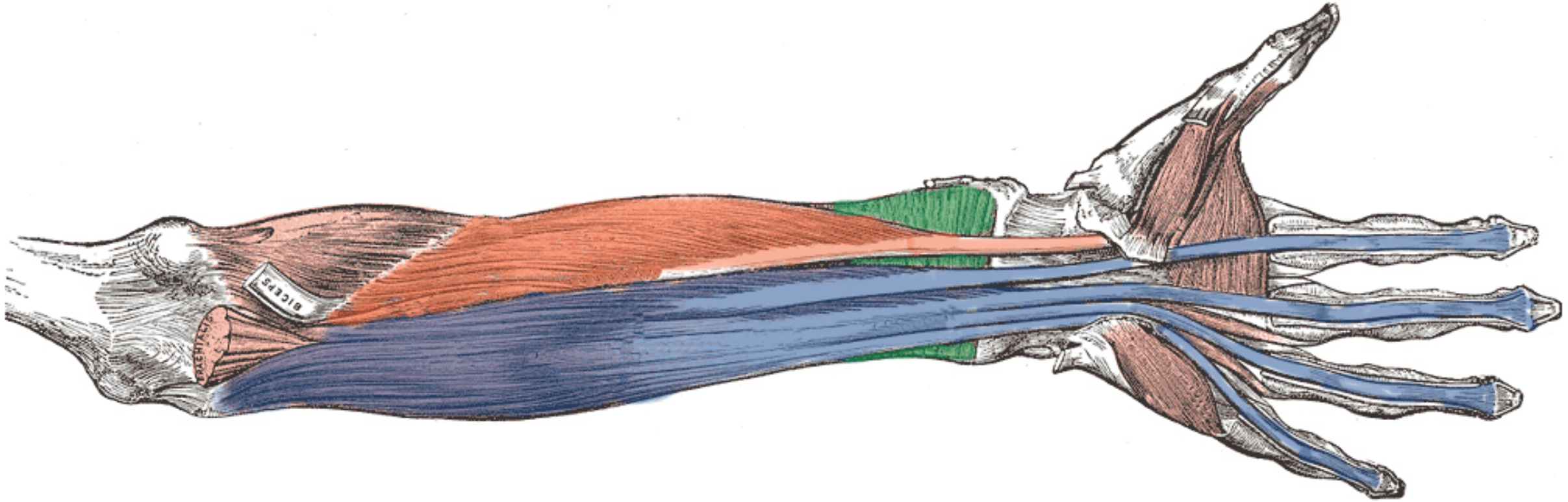
Superficial layer  
of anterior  
compartment



# Flexor digitorum superficialis

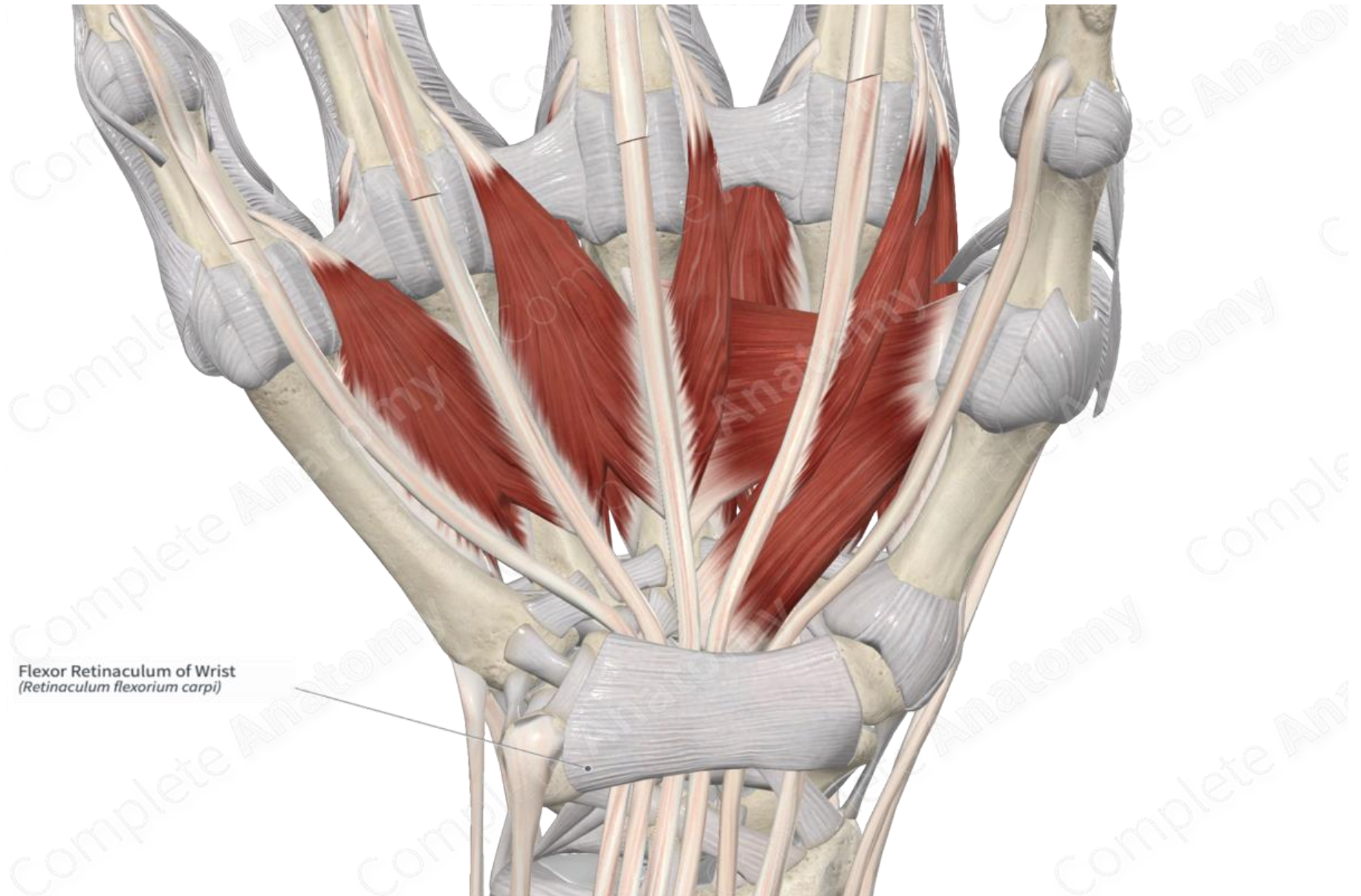


# Deep layer of anterior compartment





# Flexor retinaculum



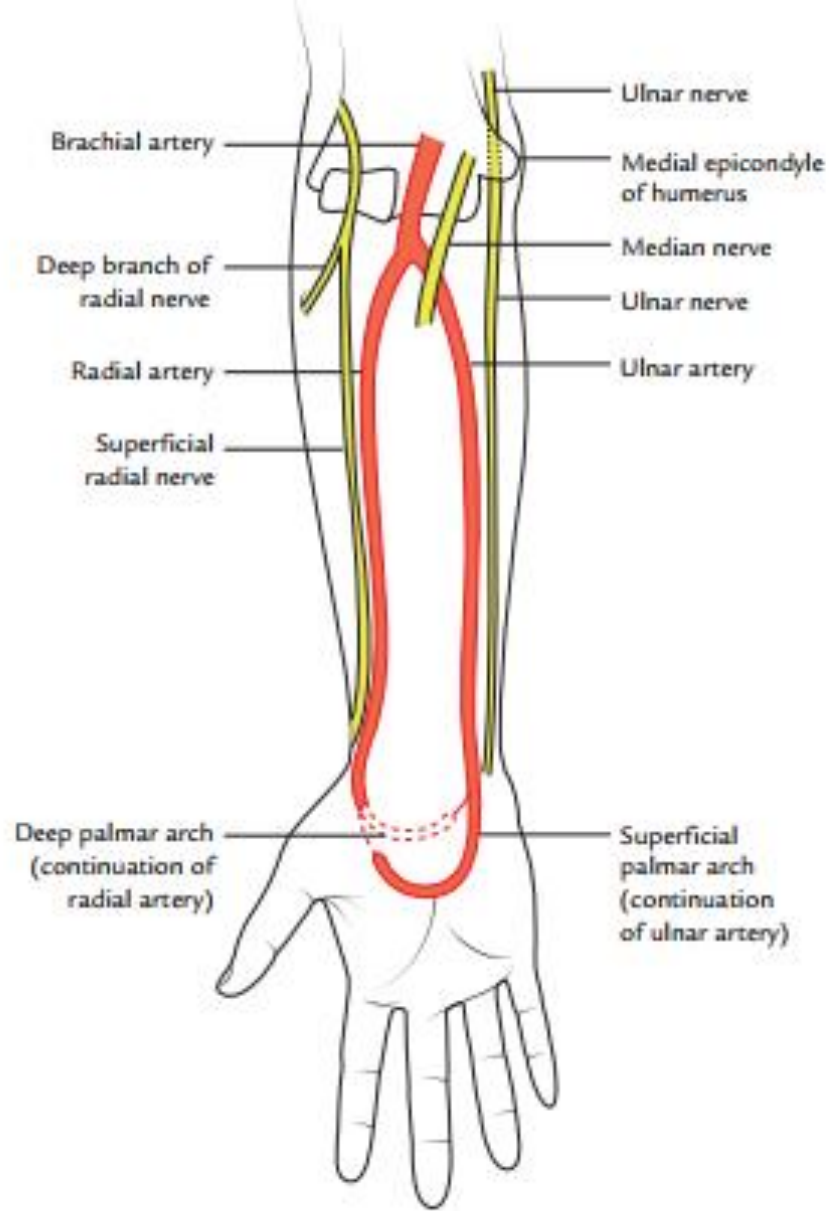


Fig. 9.10 Arteries of the front of the forearm.

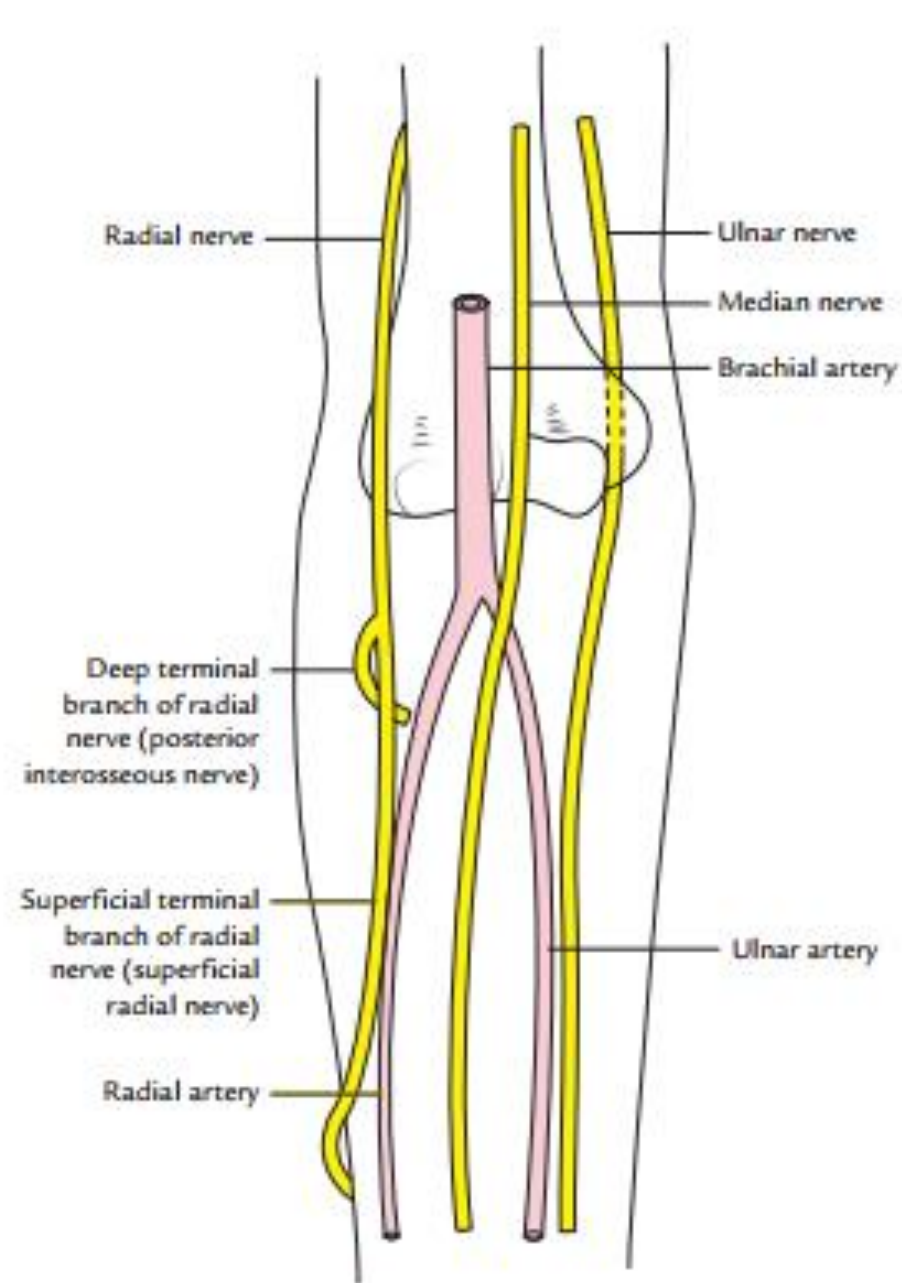
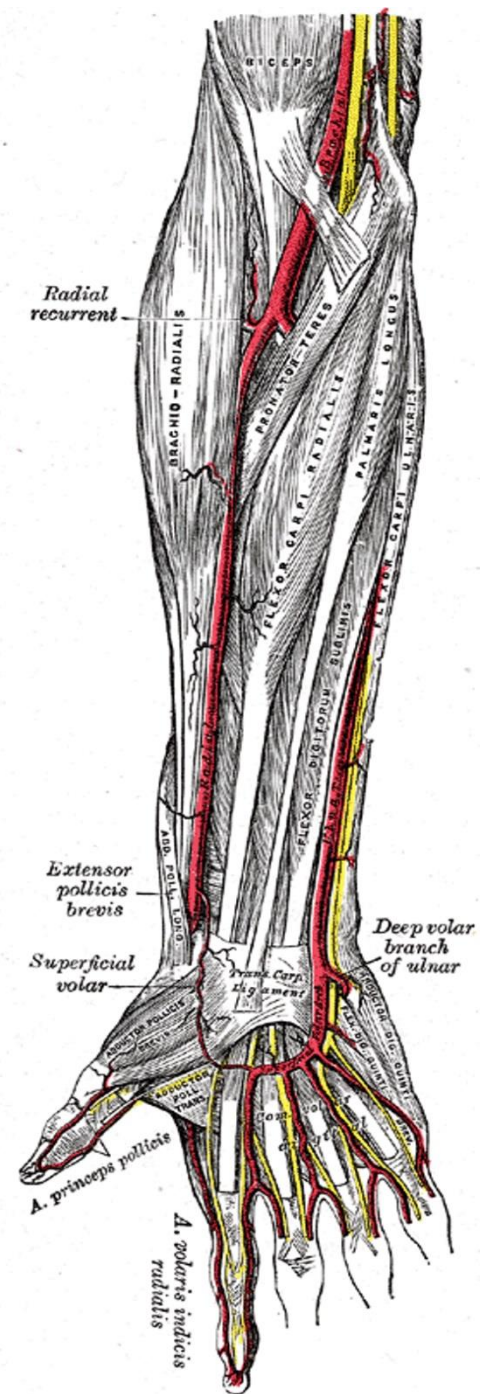
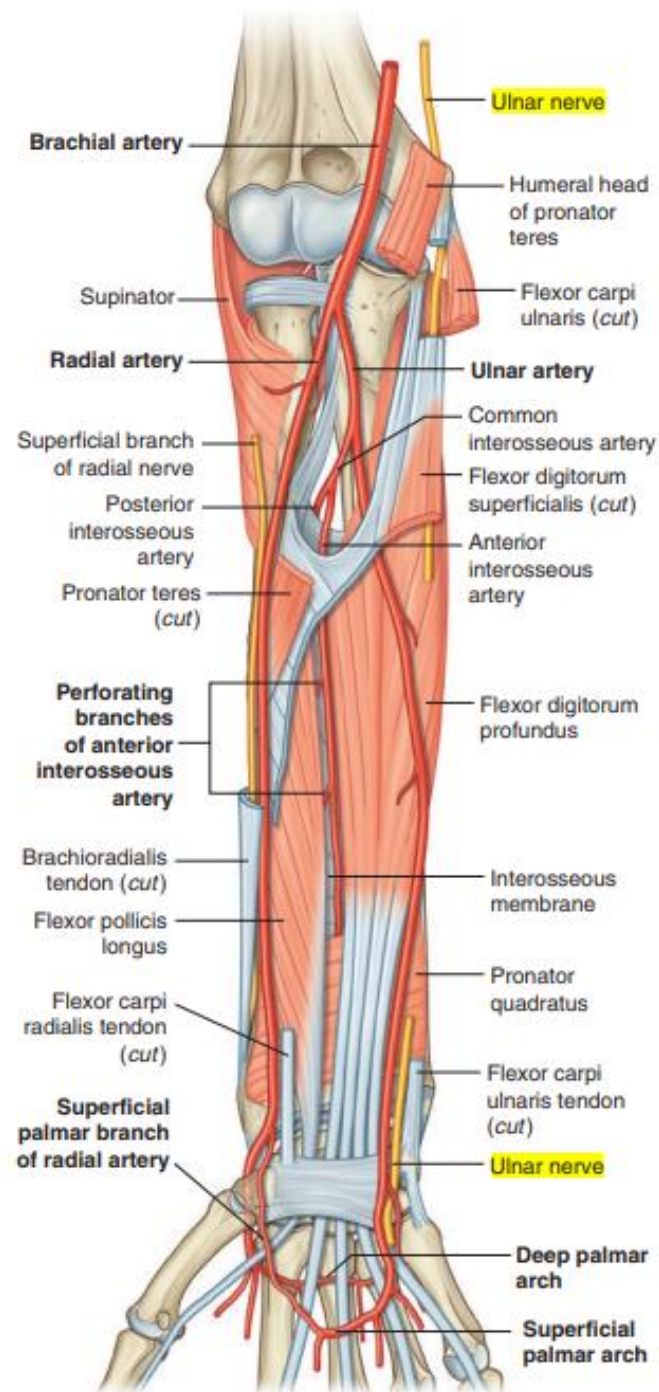
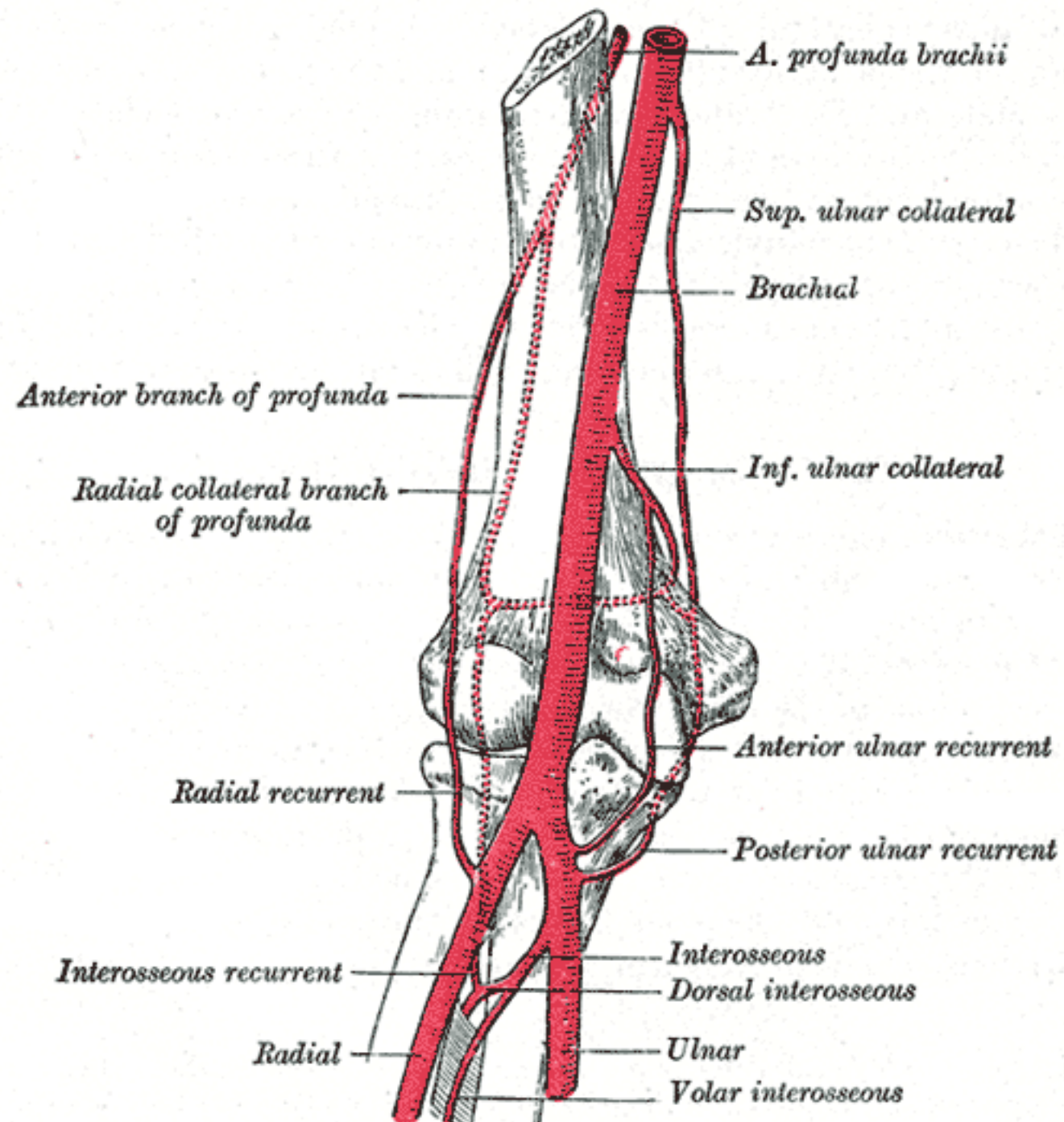


Fig. 9.11 Nerves on the front of the forearm.

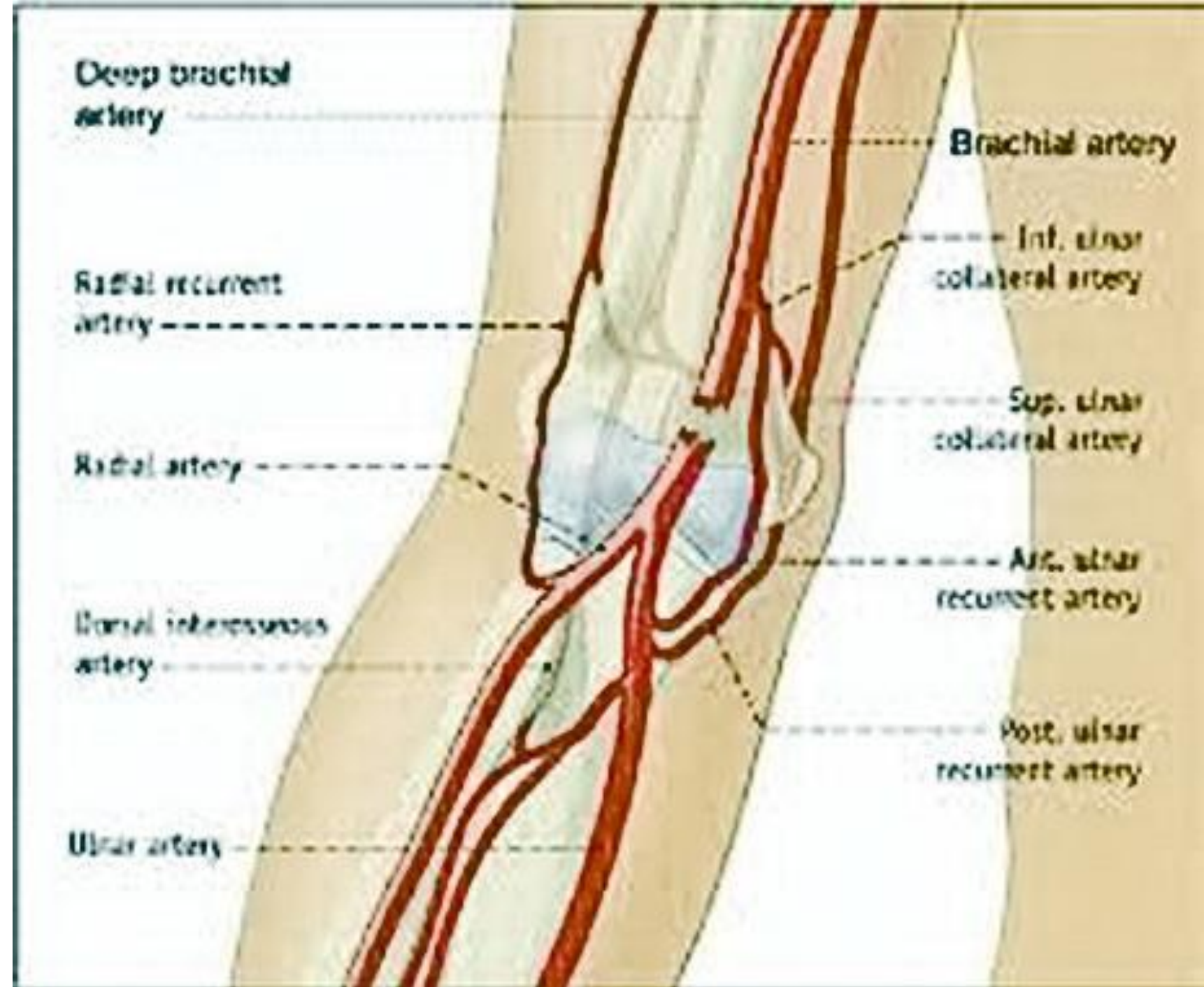
# Radial and Ulnar arteries

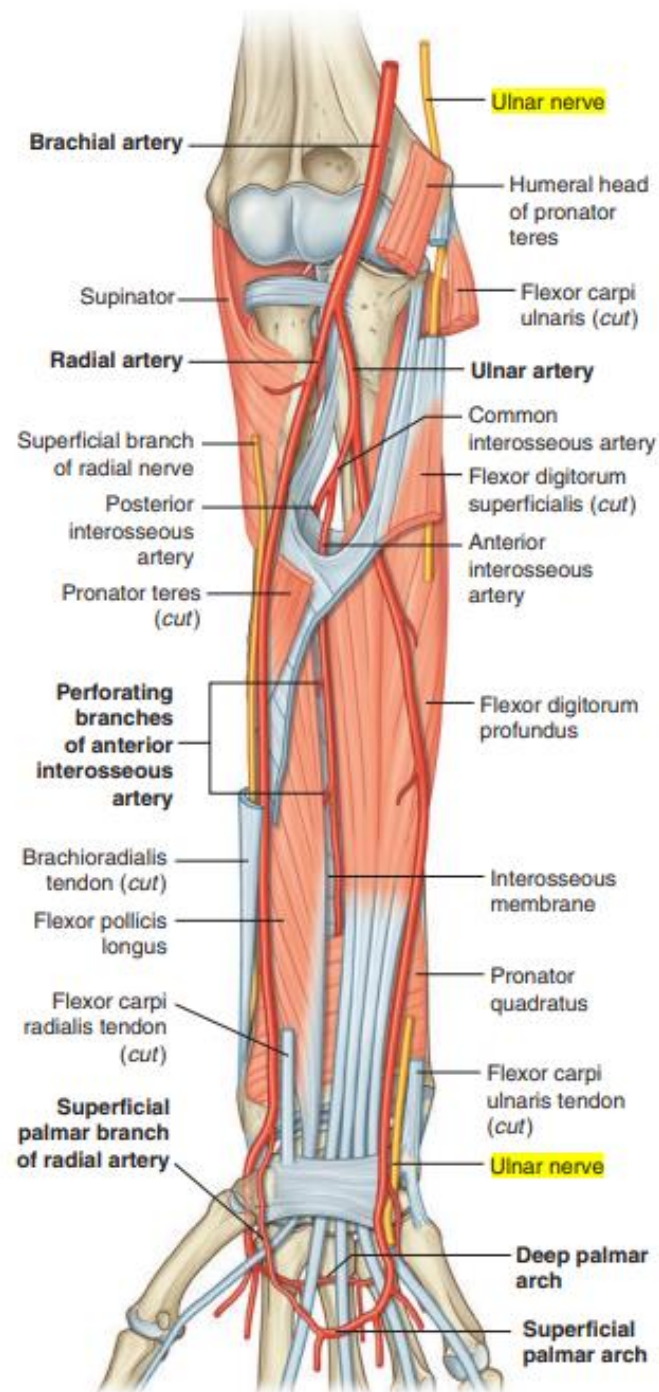




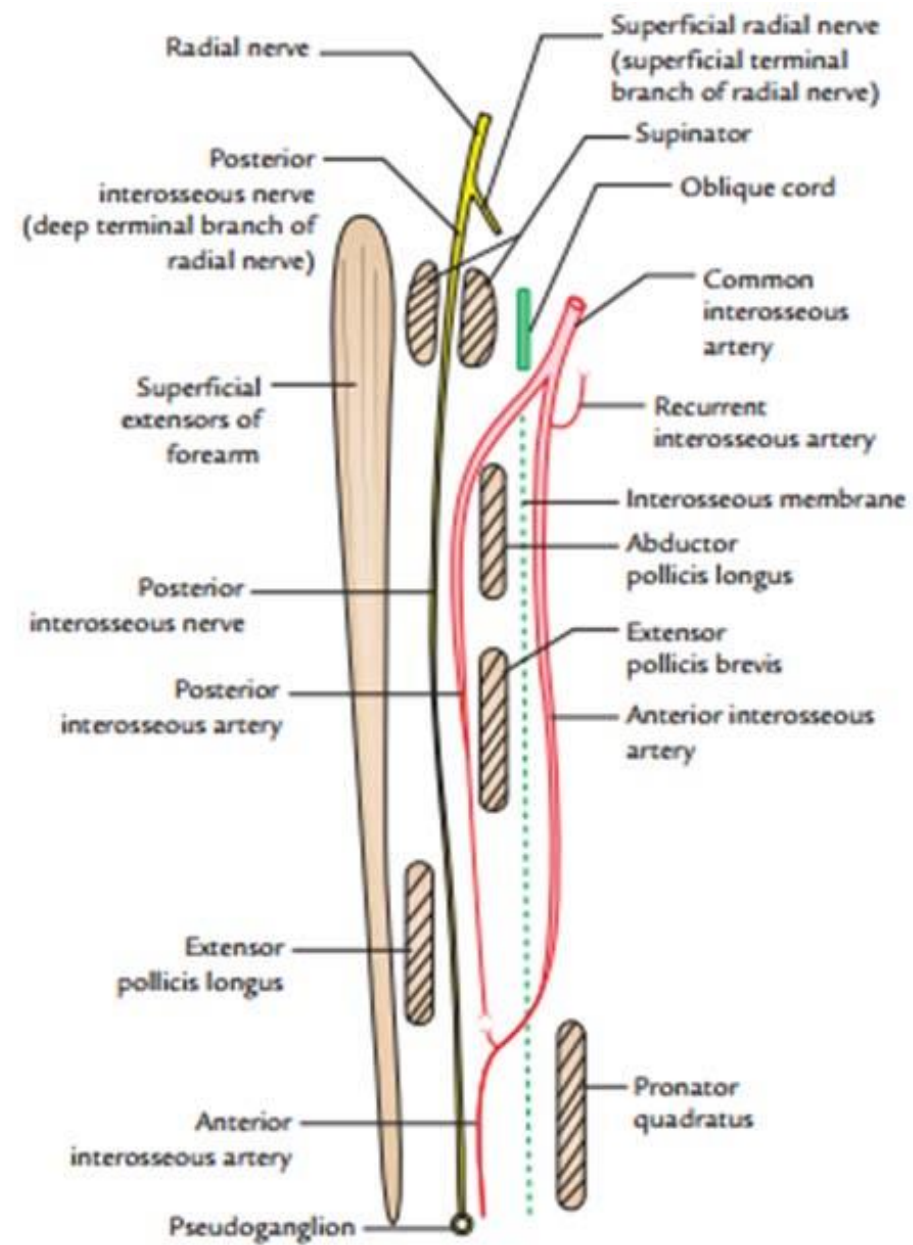


# Radial & ulnar arteries branches





# Anterior & posterior interosseous arteries

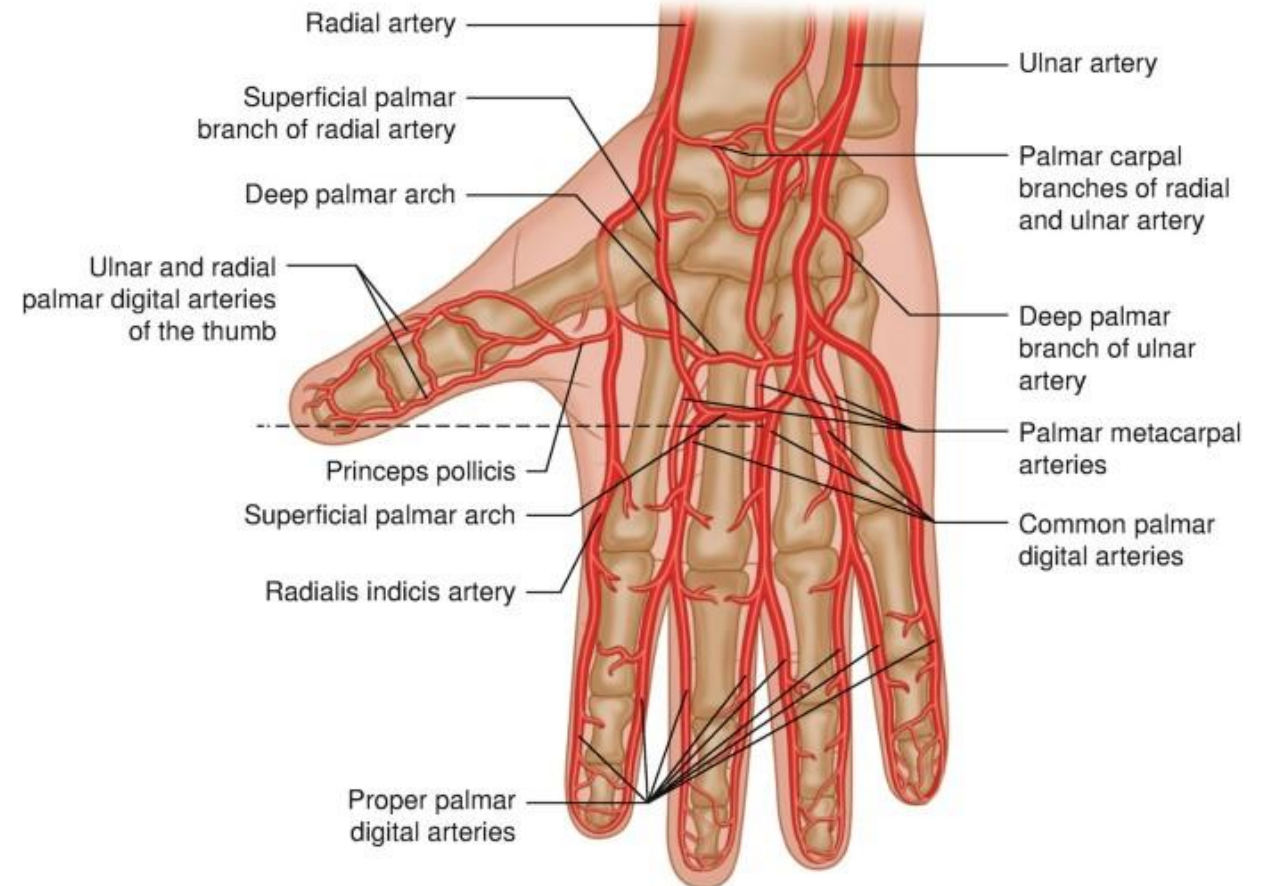


**Fig. 9.24** Course and relations of the posterior interosseous artery.

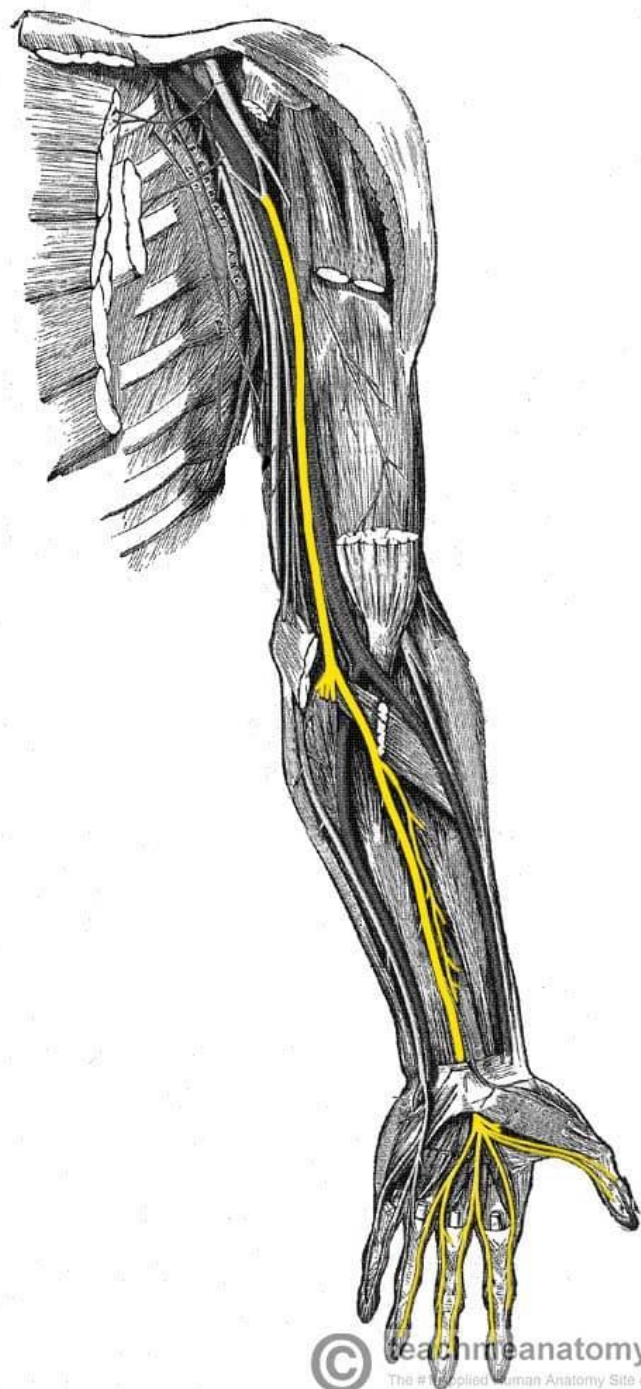
# Palmar & dorsal carpal branches of the radial & ulnar arteries



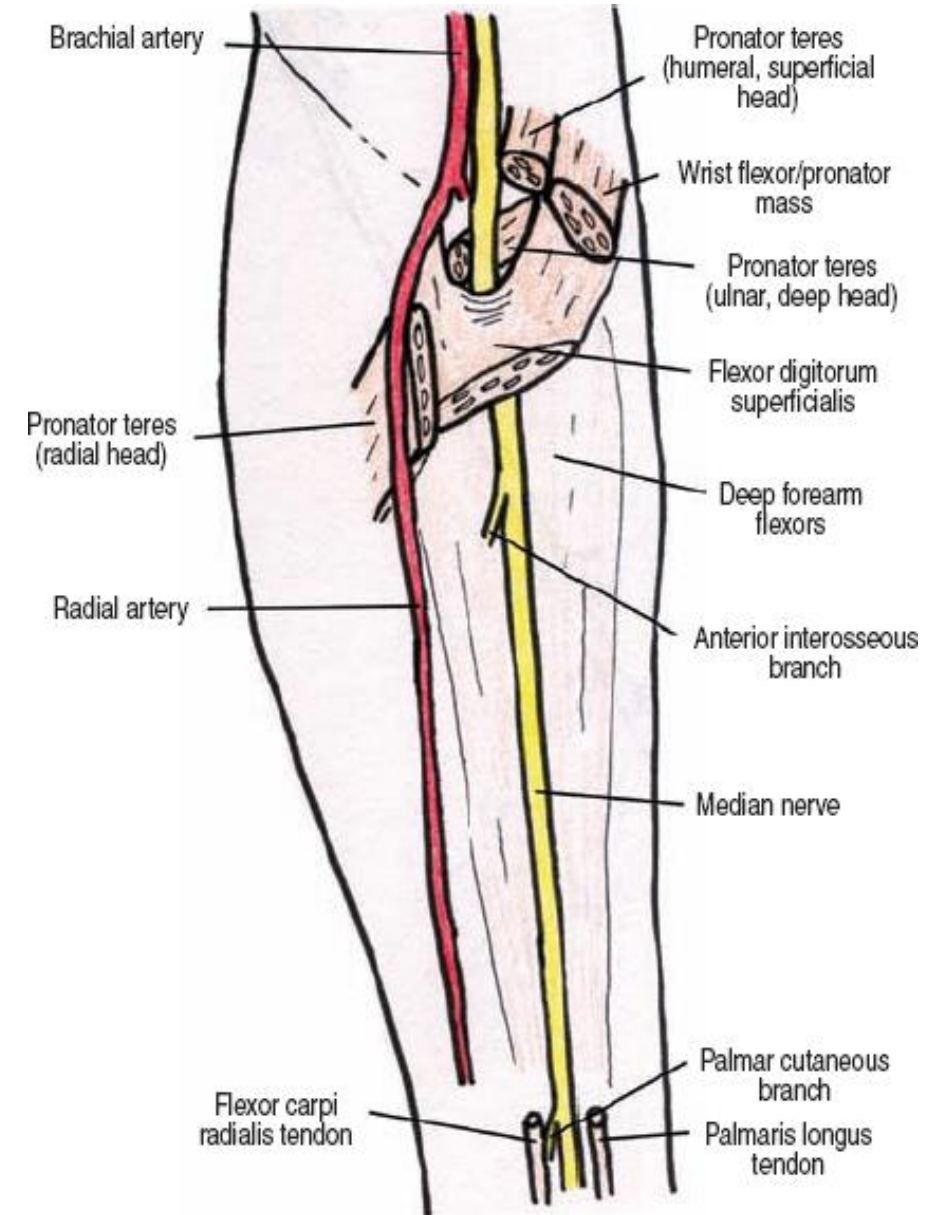
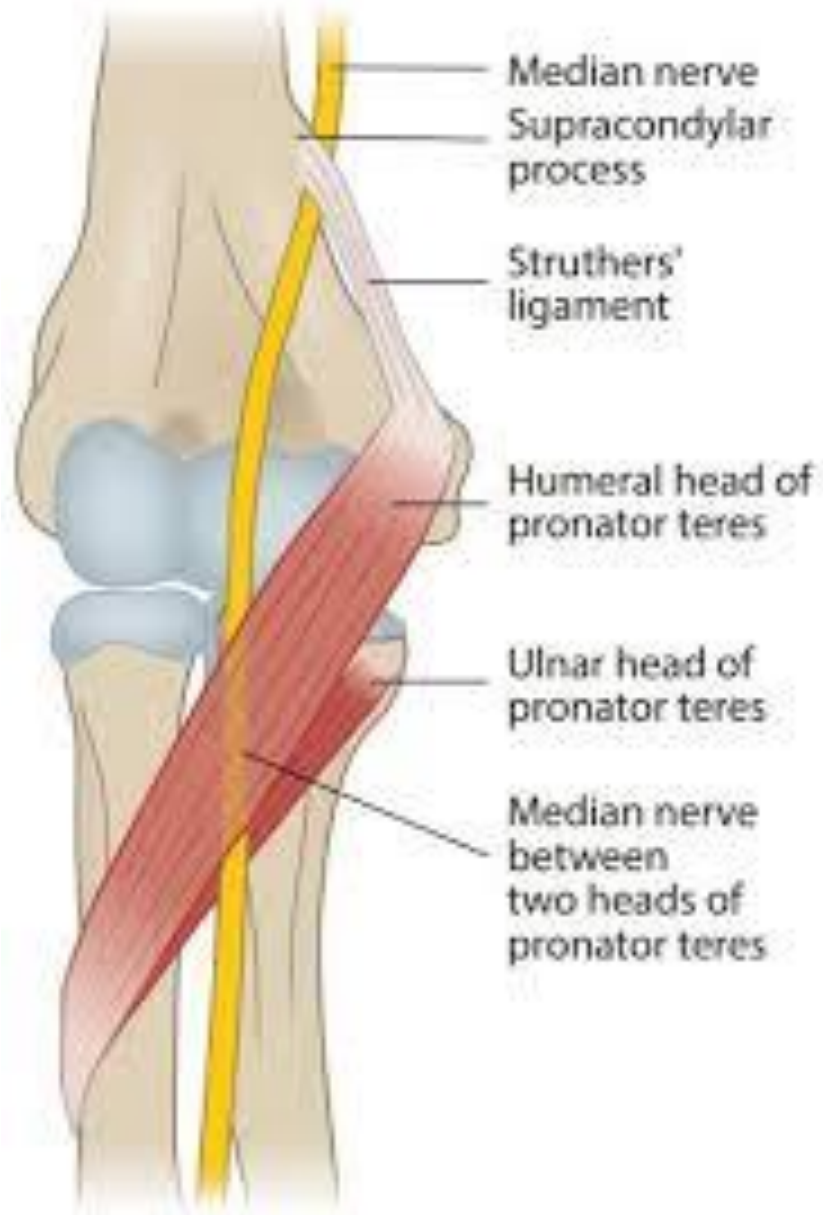
Posterior view



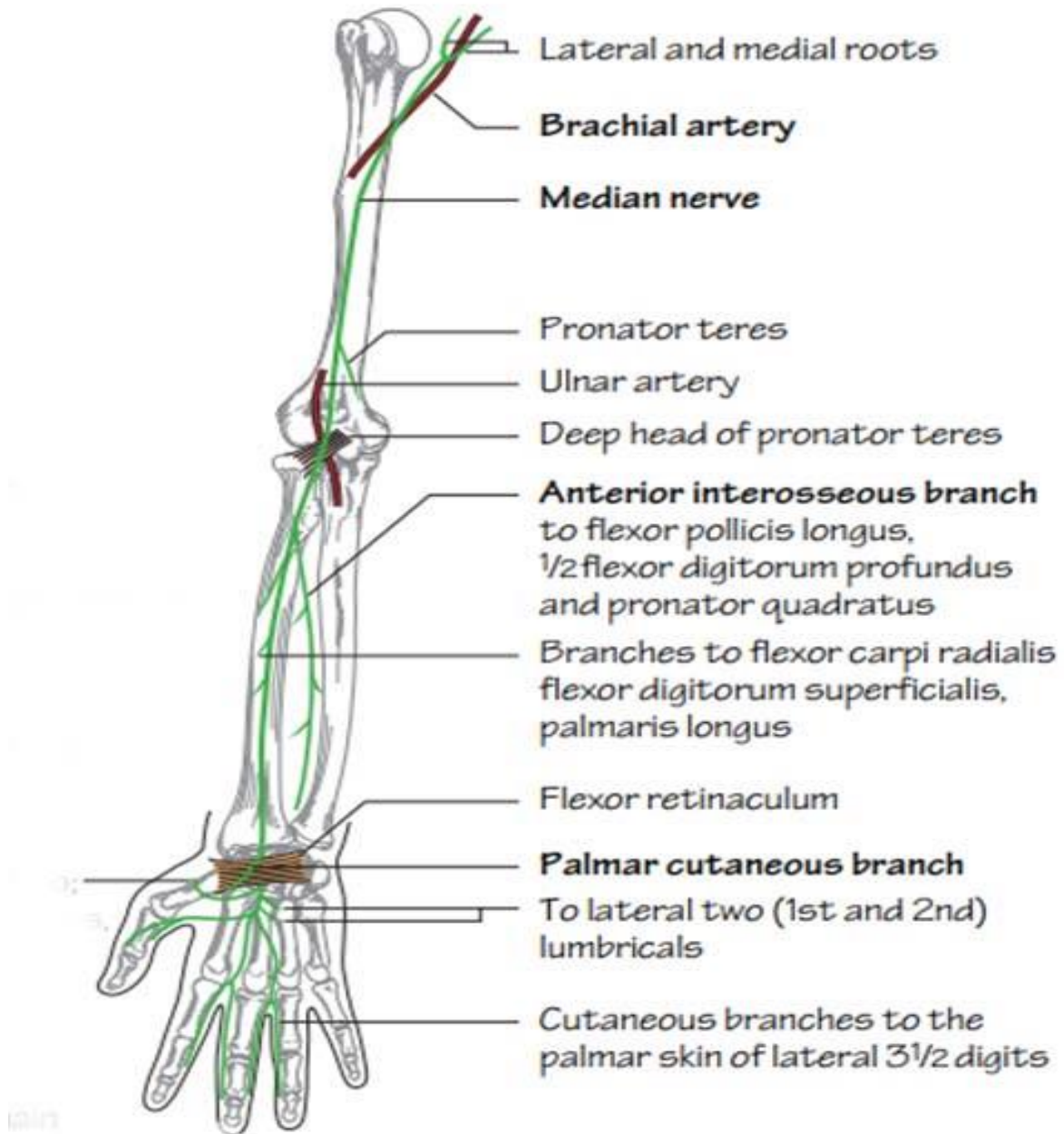
# Median nerve



# Median nerve



# Median nerve



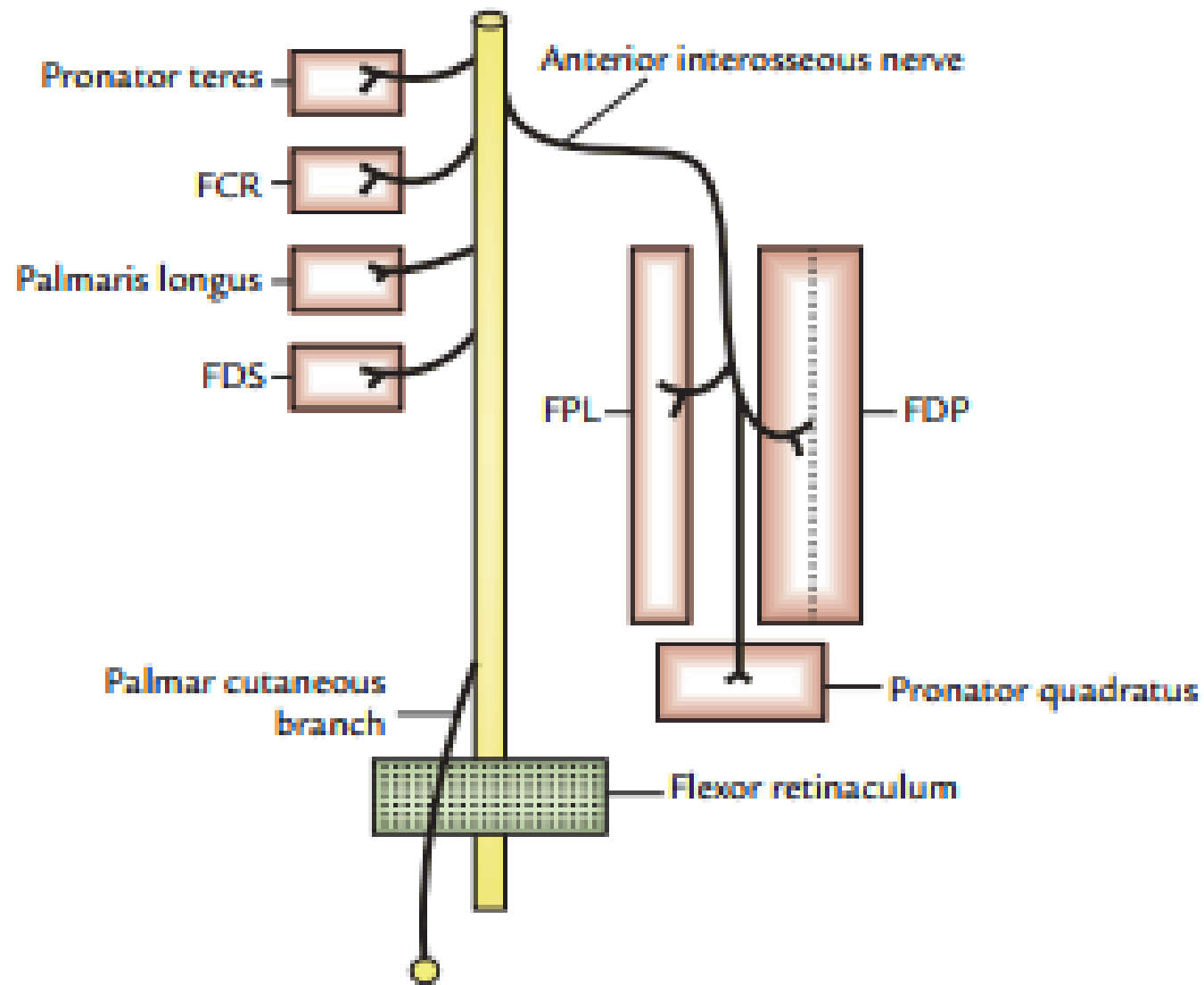
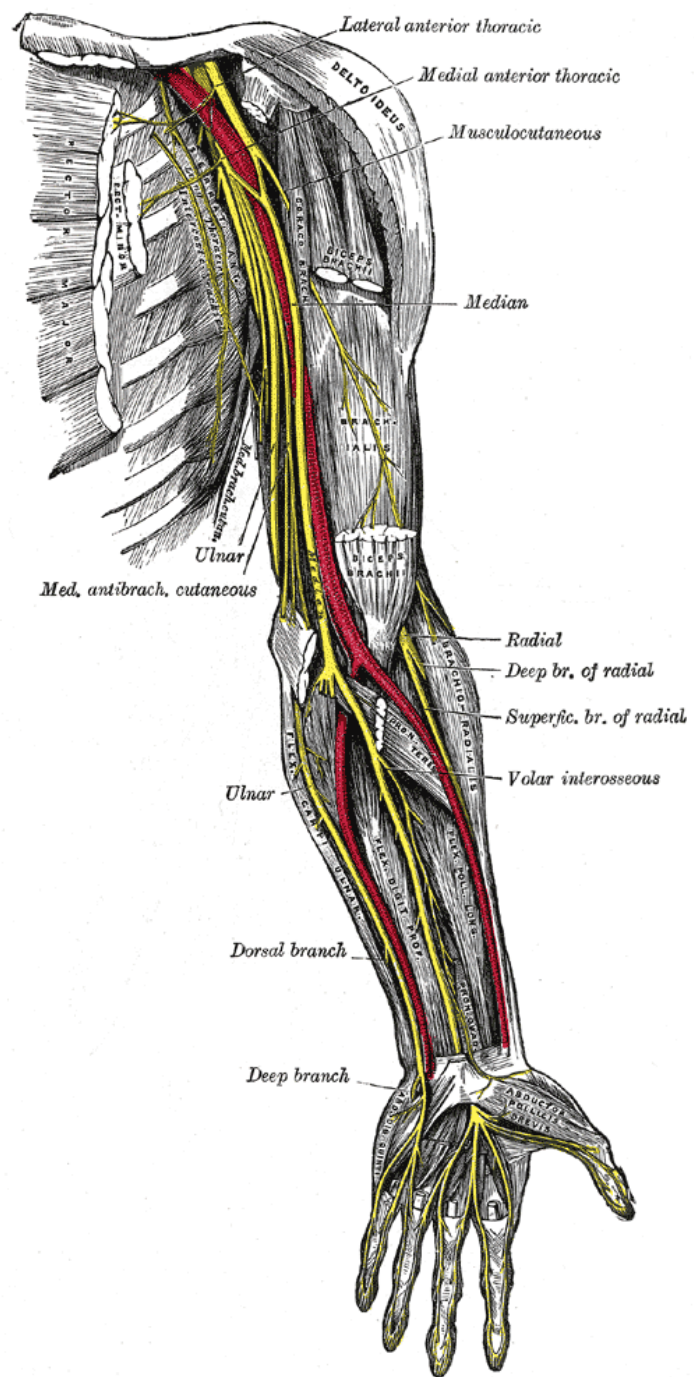
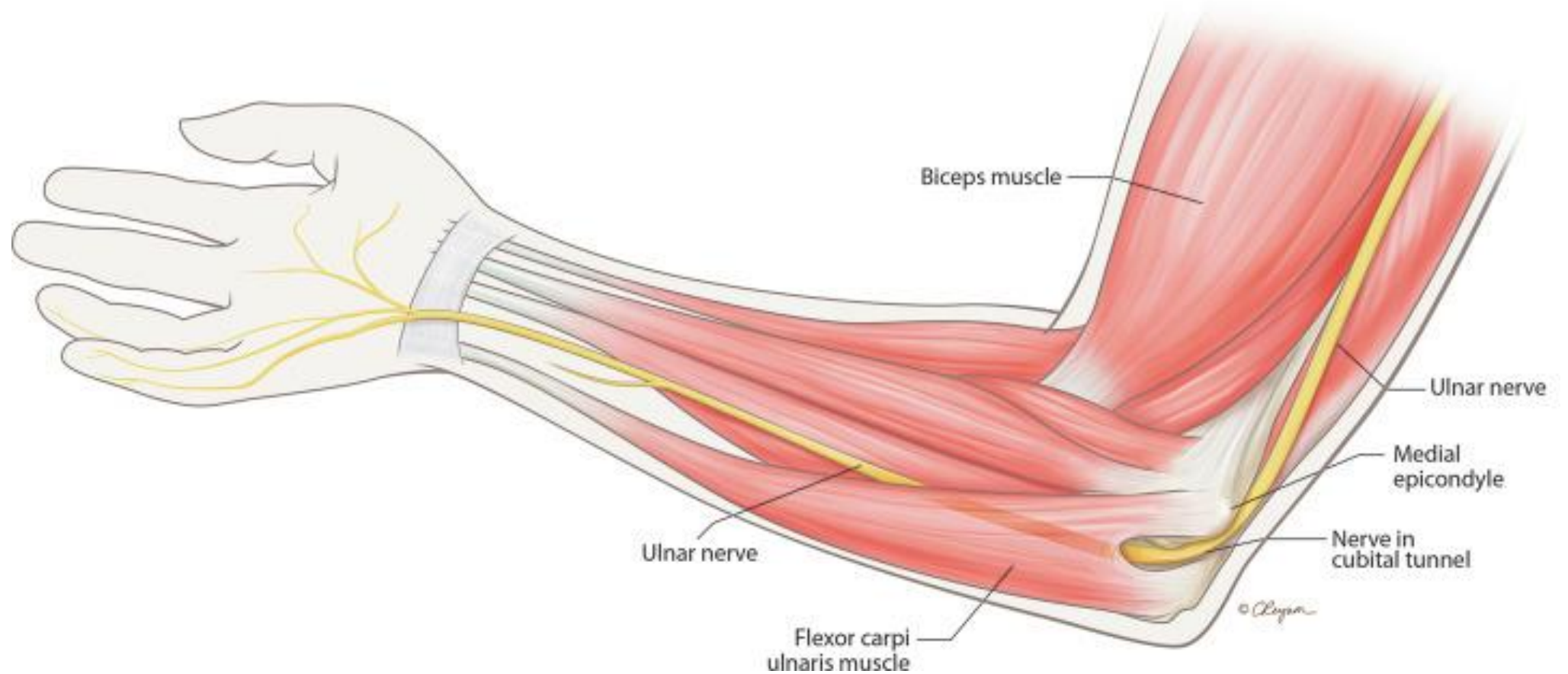


Fig. 9.12 Branches of the median nerve in the forearm.

# Ulnar nerve



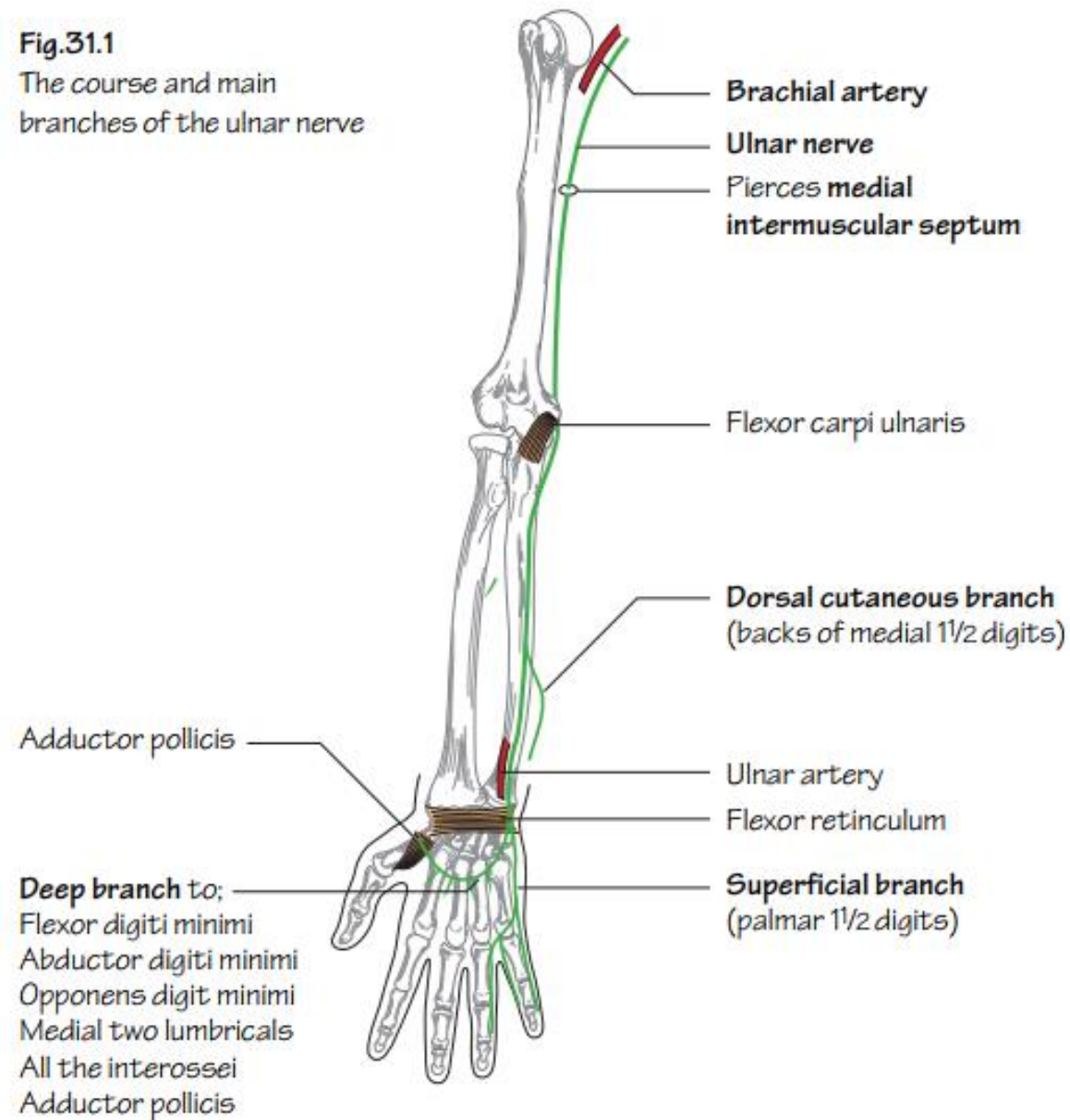
# Ulnar nerve & flexor carpi ulnaris



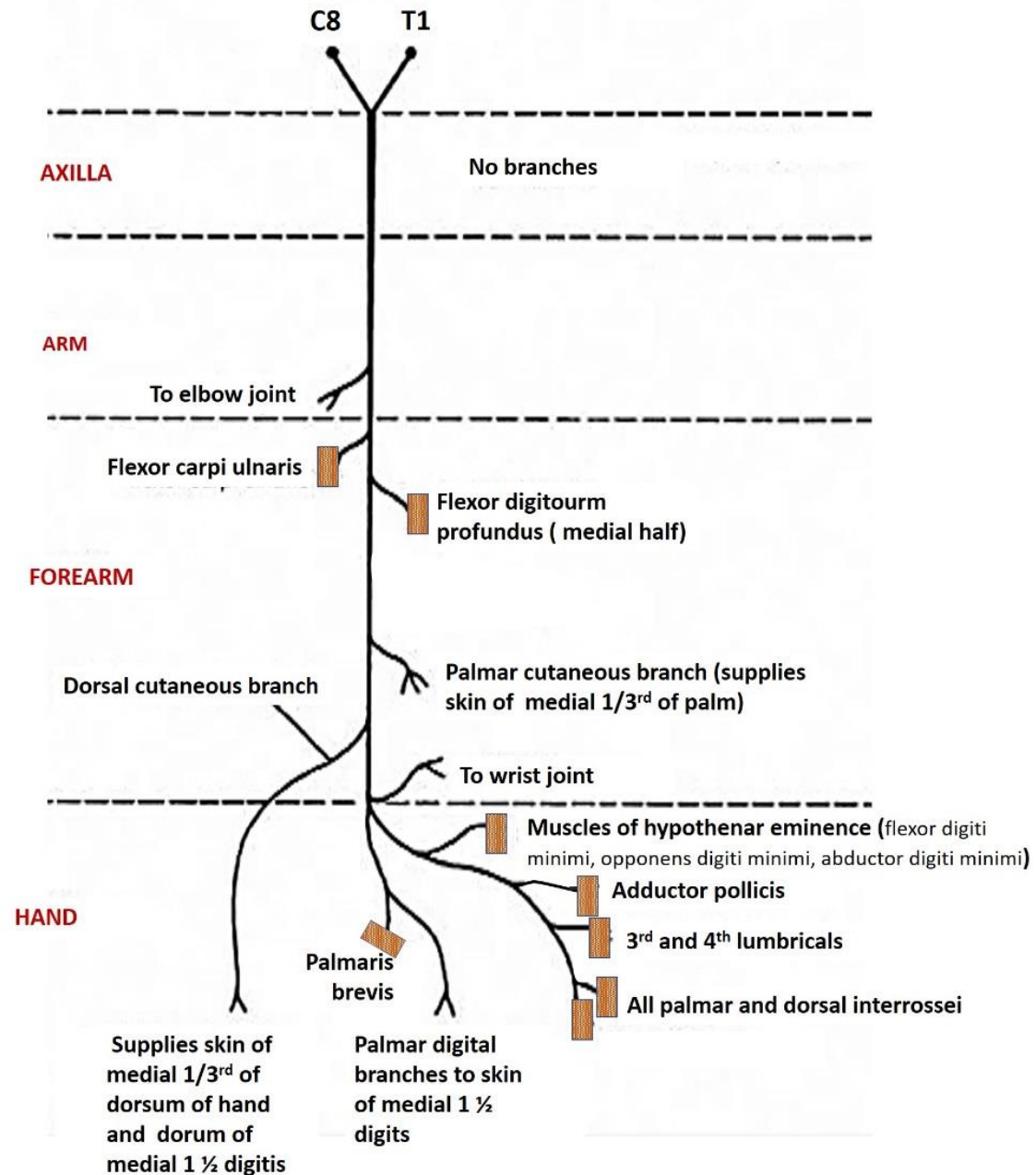
# Ulnar nerve

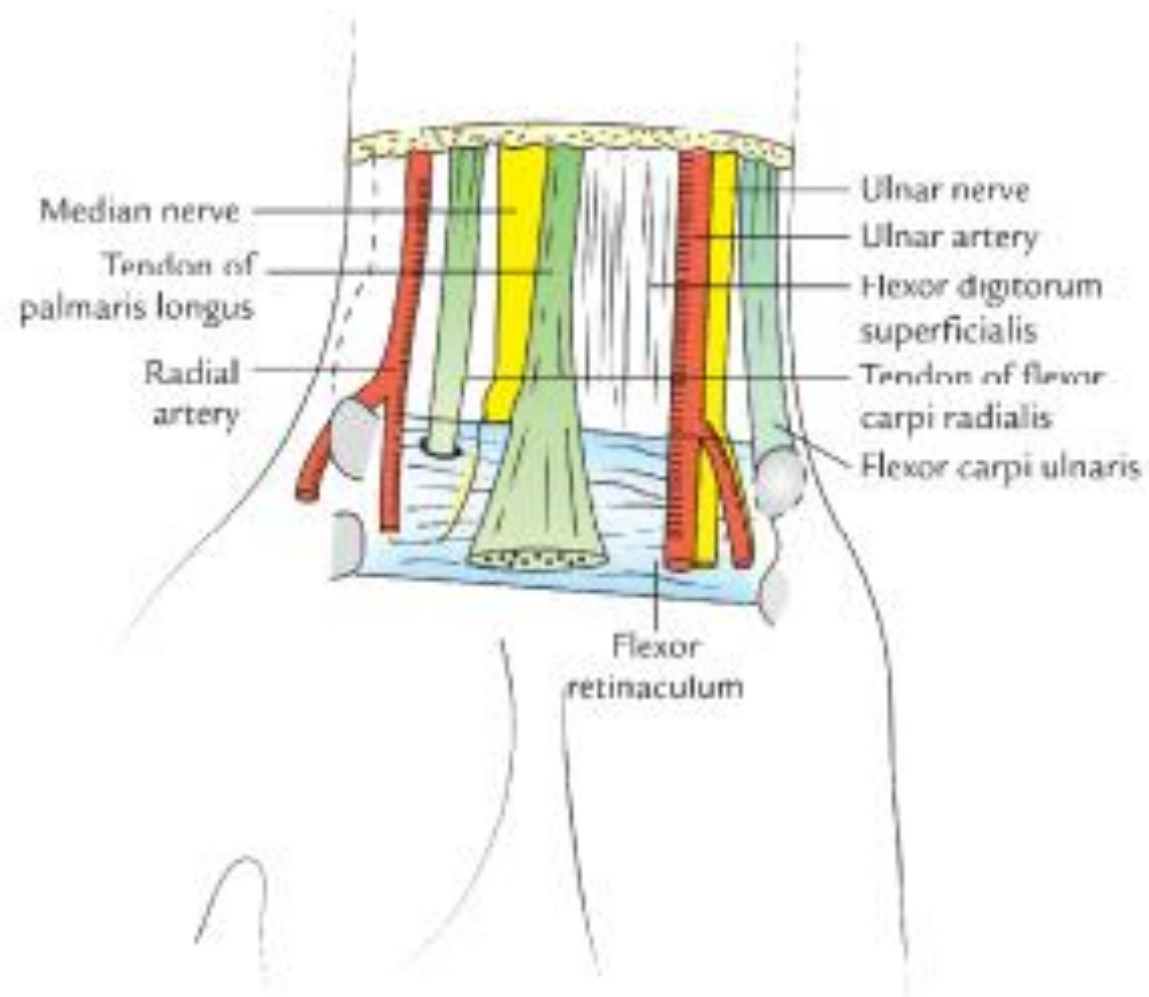
**Fig.31.1**

The course and main branches of the ulnar nerve



## ULNAR NERVE

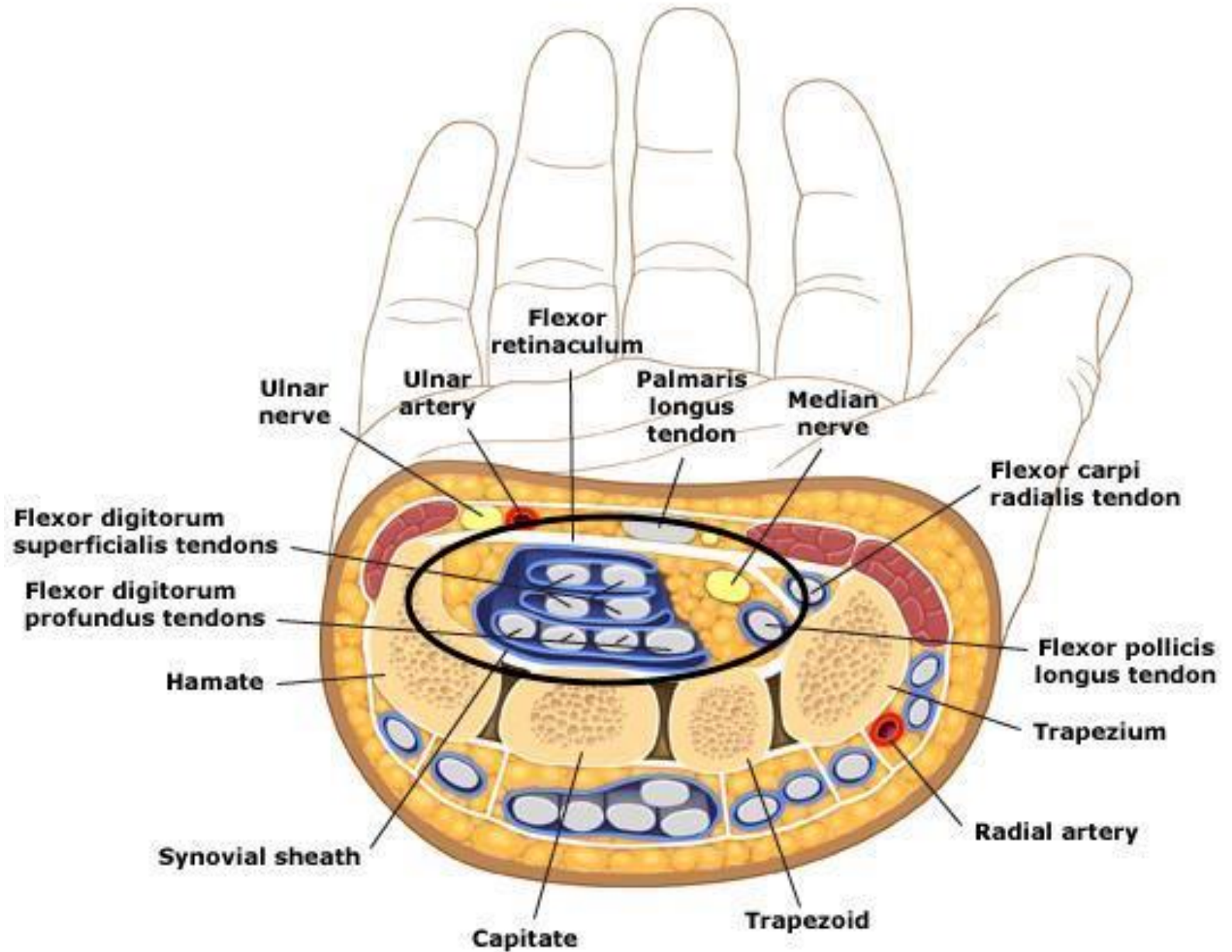




**Fig. 9.13** Structures lying in front of the wrist.

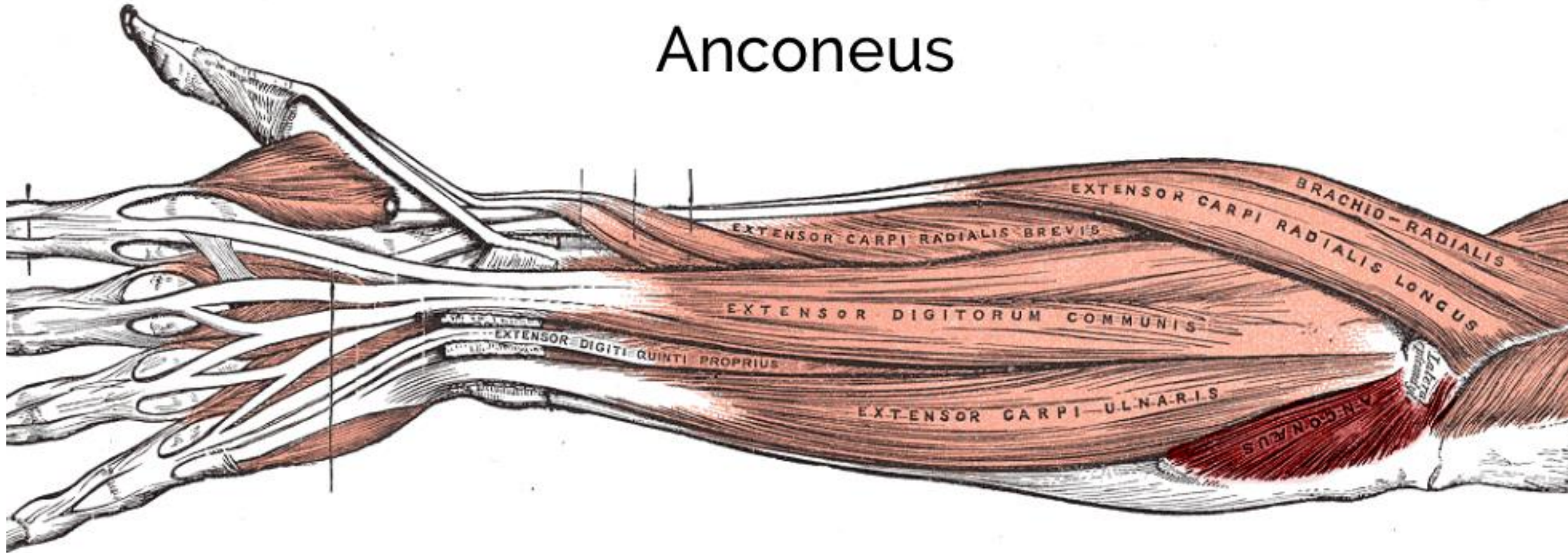
**N.B.** Median nerve lies deep to the tendon of palmaris longus.

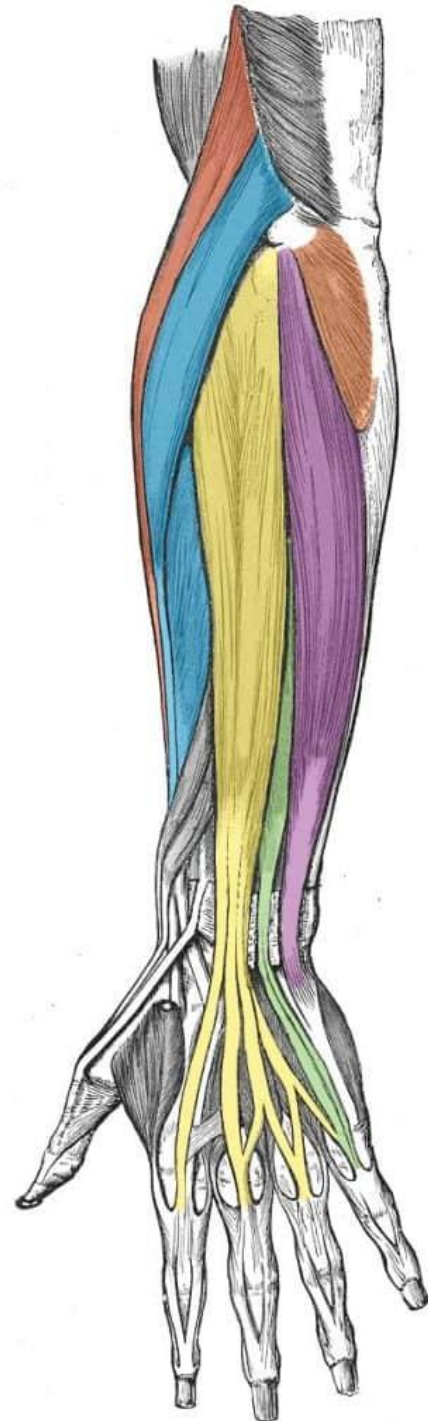
# Carpal Tunnel



# Posterior compartment of forearm

## Anconeus

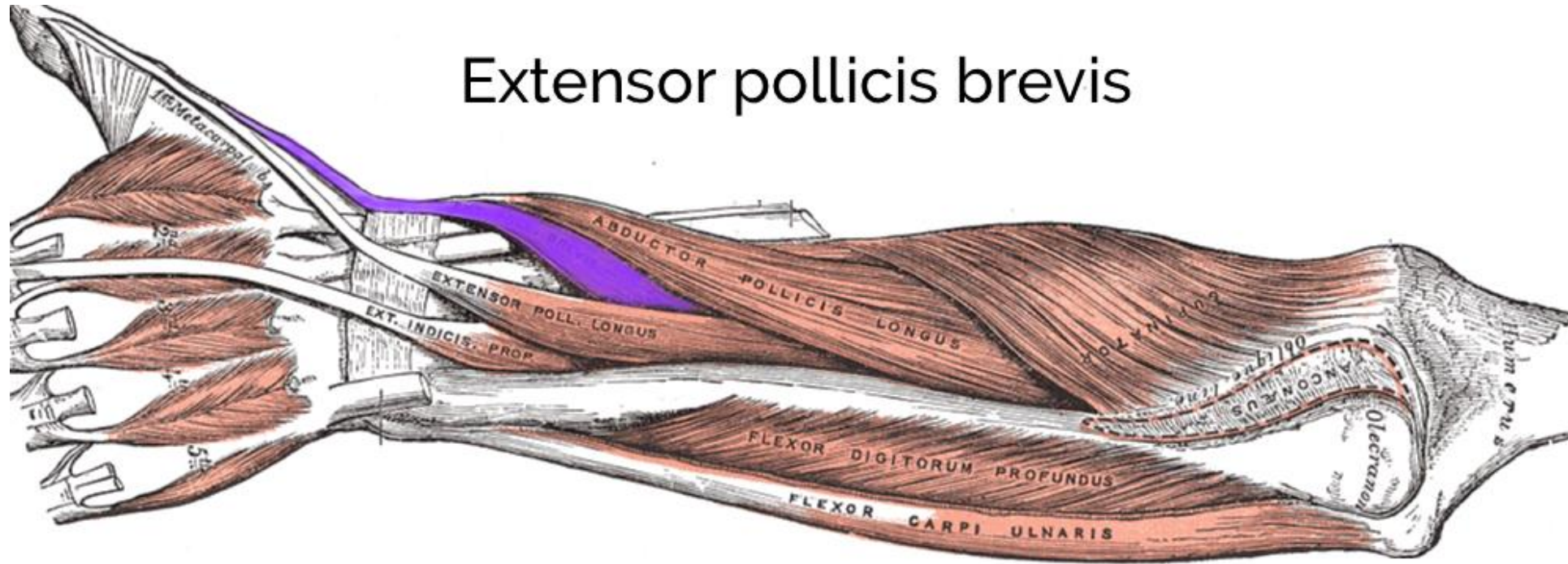




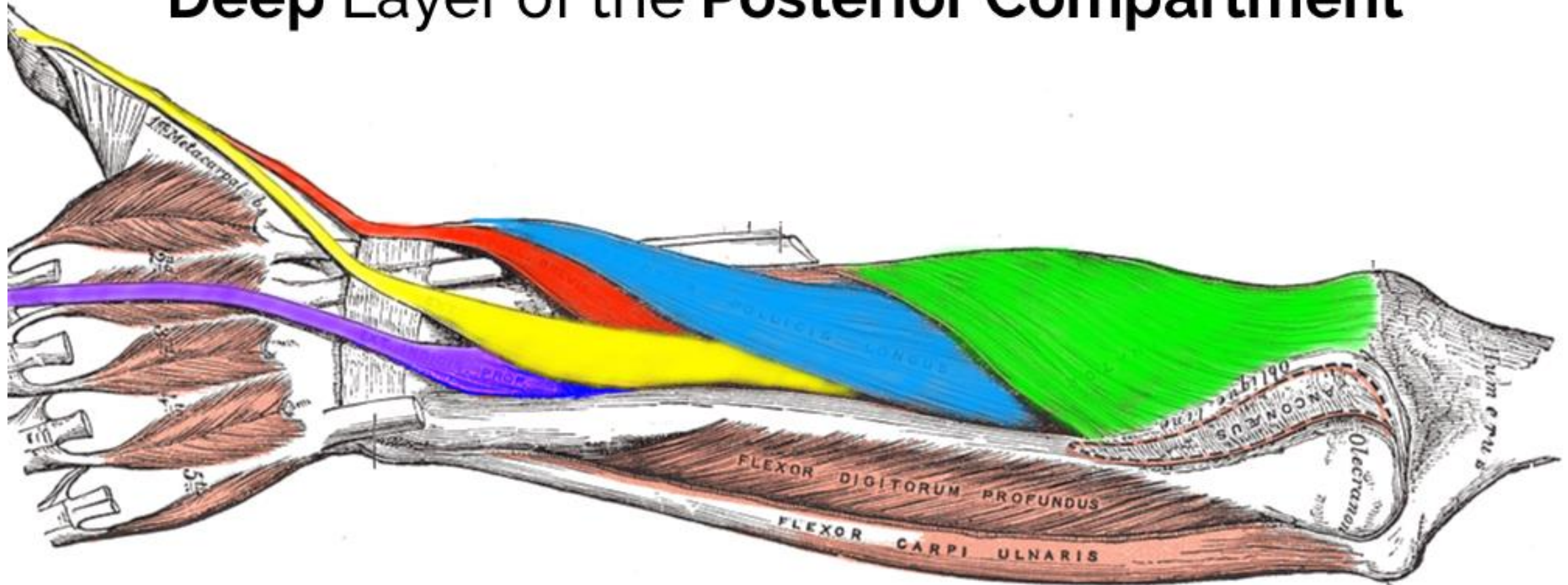
-  **Brachioradialis**
-  **Extensor carpi radialis longus and brevis**
-  **Extensor digitorum**
-  **Extensor digit minimi**
-  **Extensor carpi ulnaris**
-  **Anconeus**

# Deep layer muscles of the posterior compartment

## Extensor pollicis brevis



# Deep Layer of the Posterior Compartment



● Supinator

● Extensor pollicis brevis

● Extensor indicis

● Abductor pollicis longus

● Extensor pollicis longus

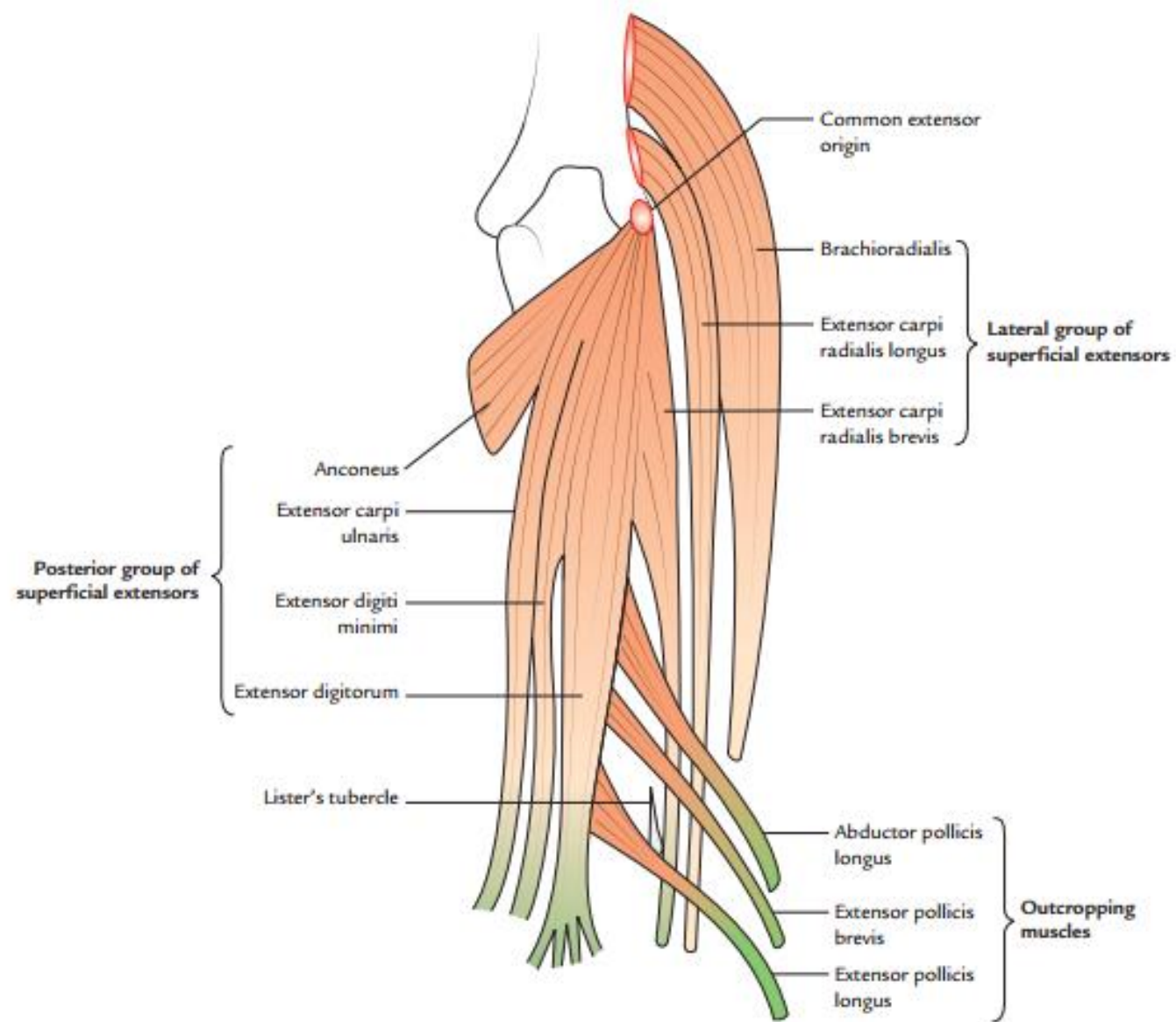


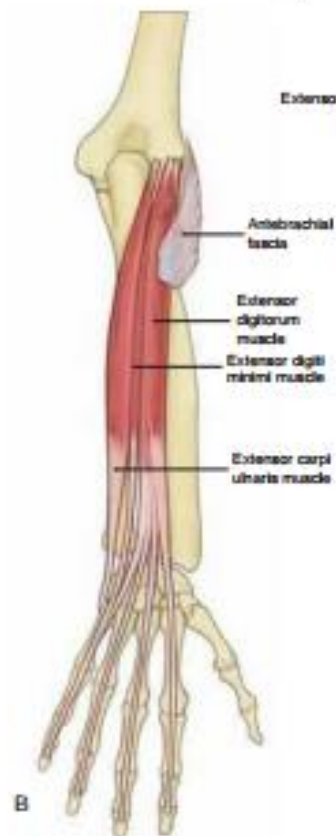
Fig. 9.14 Arrangement of the superficial muscles on the back of the forearm.



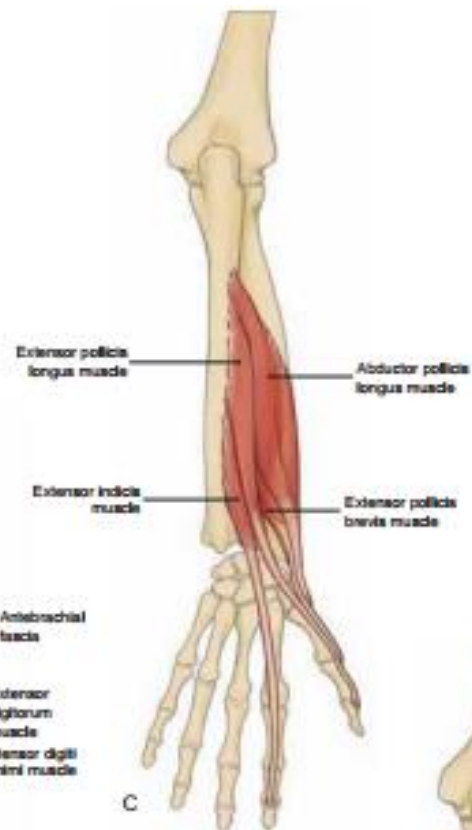
Fig. 9.21 Extensor retinaculum.



**FIGURE 85A** Radial Extensor Muscles of the Forearm



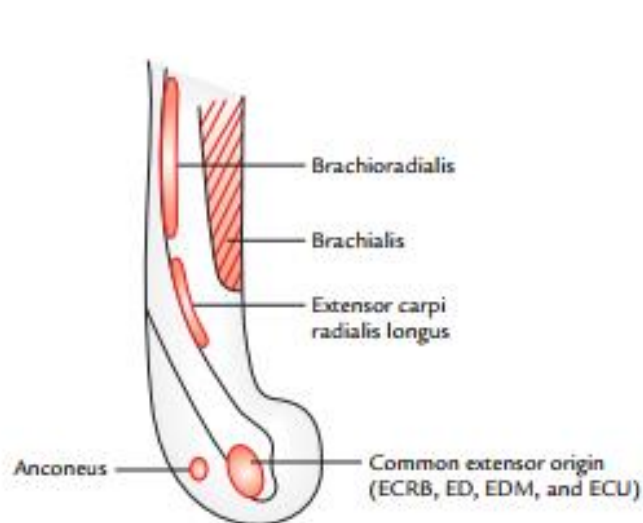
**FIGURE 85B** Superficial Dorsal Muscles of the Forearm



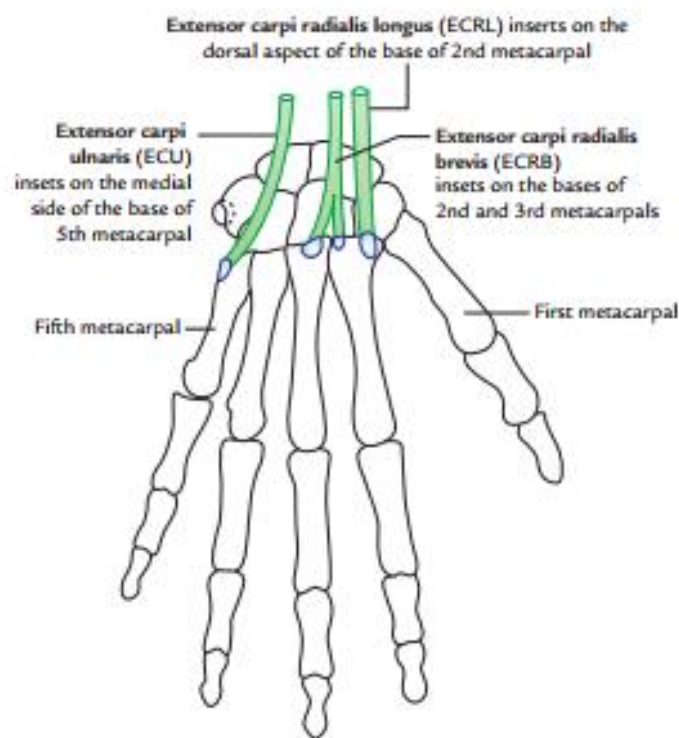
**FIGURE 85C** Dorsal Muscles of the Forearm: Intermediate and Deep Layers



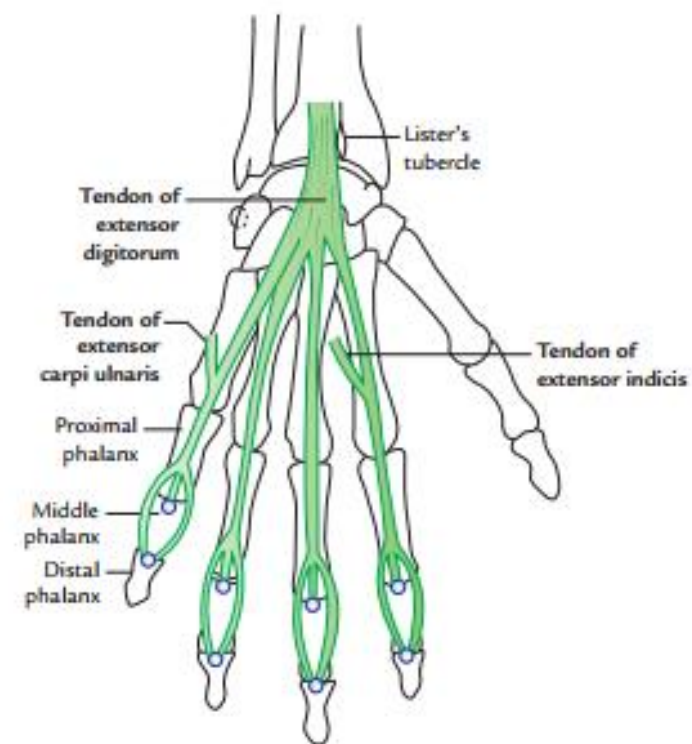
**FIGURE 85D** Supinator Muscle (One of the Deep Forearm Muscles)



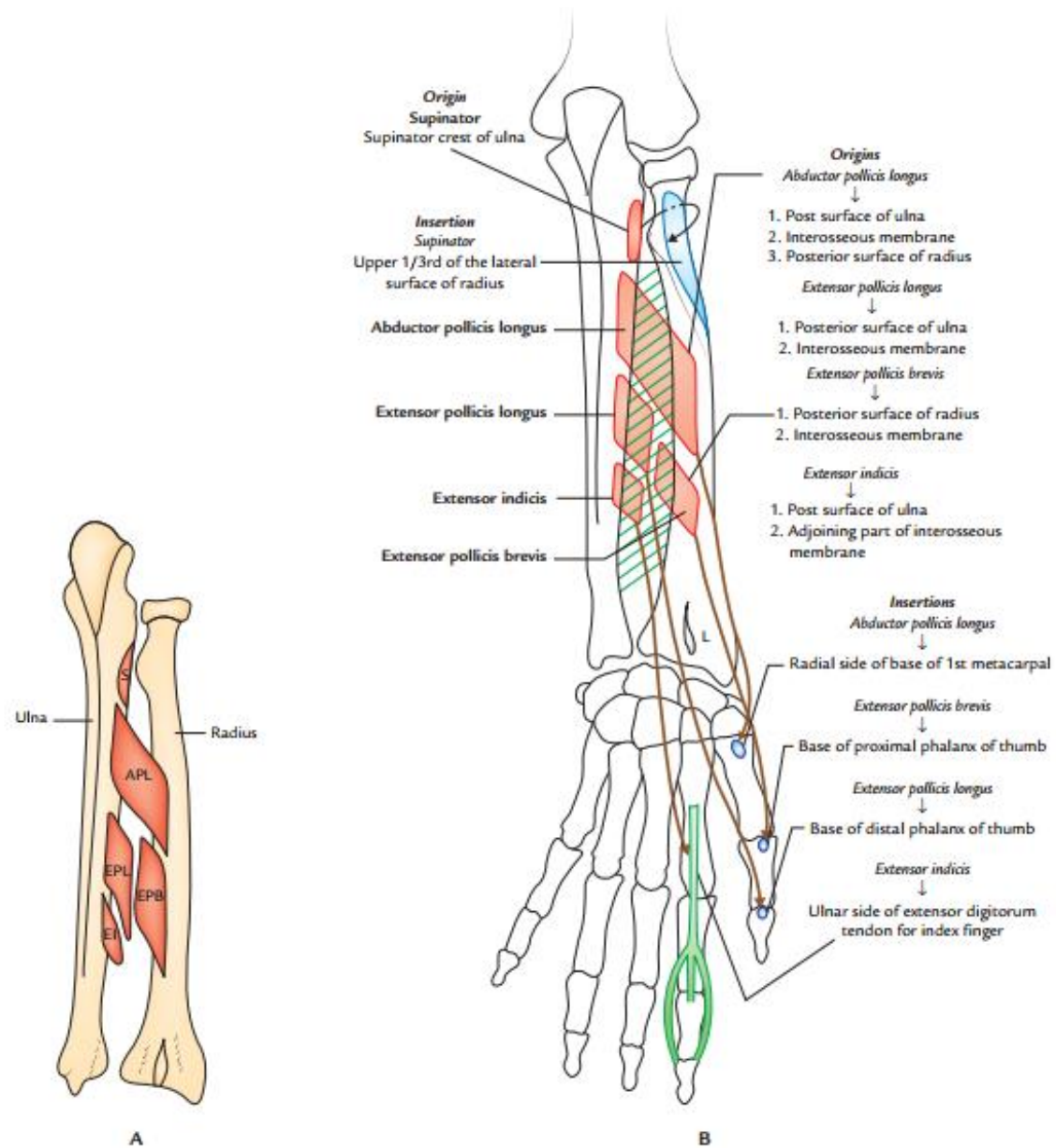
**Fig. 9.16** Lateral aspect of the lower end of humerus showing origin of seven superficial muscles of the back of forearm (ECRB = extensor carpi radialis brevis, ED = extensor digitorum, EDM = extensor digiti minimi, ECU = extensor carpi ulnaris).



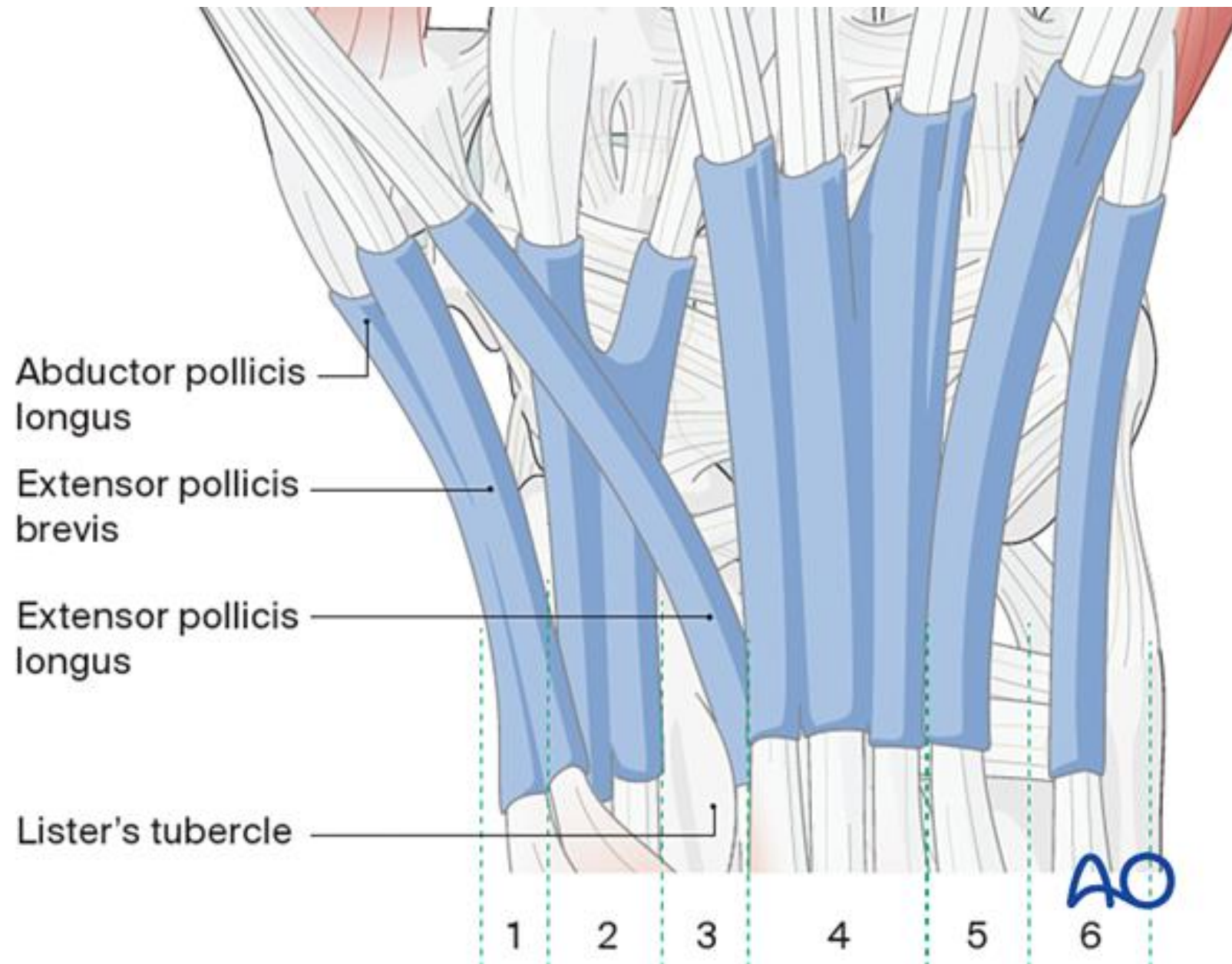
**Fig. 9.17** Insertion of the extensor carpi ulnaris, extensor carpi radialis longus, and extensor carpi radialis brevis.

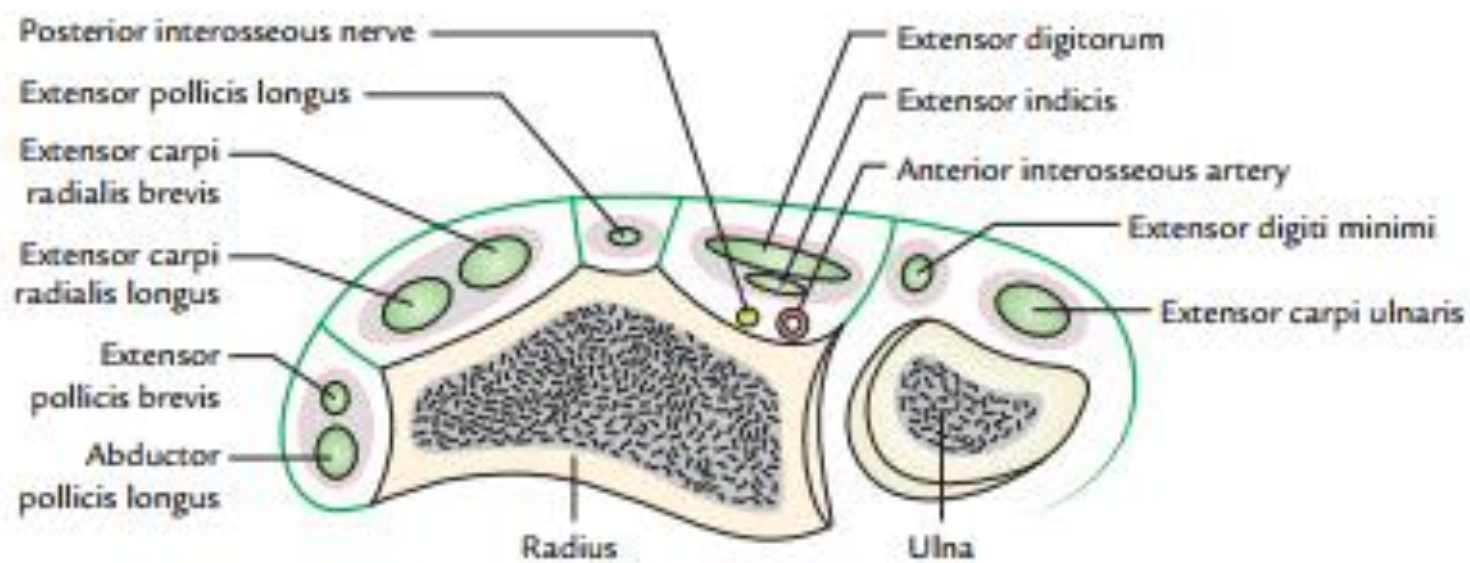


**Fig. 9.18** Insertion of the extensor digitorum, extensor carpi ulnaris, and extensor indicis.



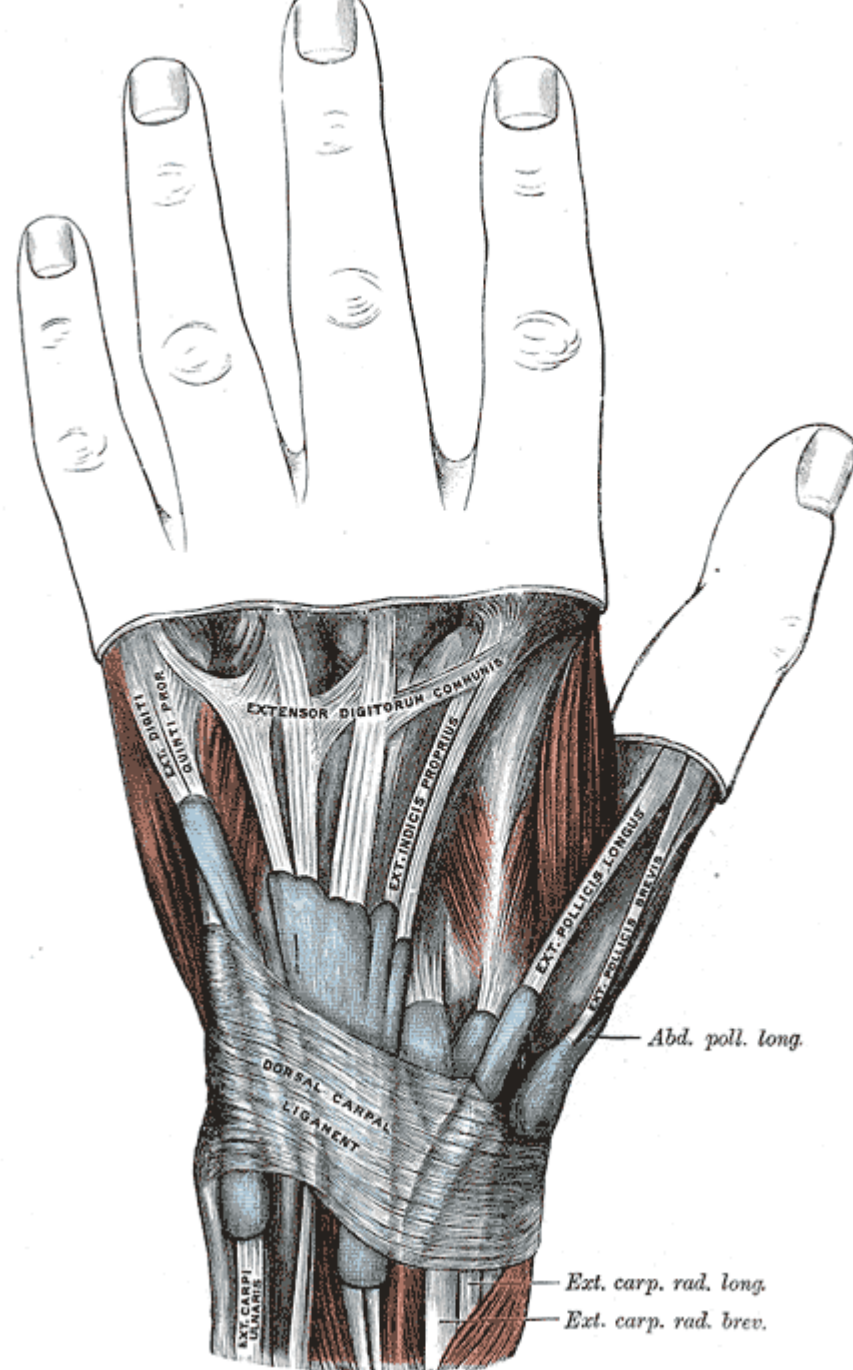
**Fig. 9.19** A, Origin of five deep muscles of the back of forearm from the posterior aspects of radius and ulna (S = supinator, APL = abductor pollicis longus, EPL = extensor pollicis longus, EPB = extensor pollicis brevis, EI = extensor indicis); B, Origin and insertion of the deep muscles on the back of the forearm (L = Lister's tubercle).



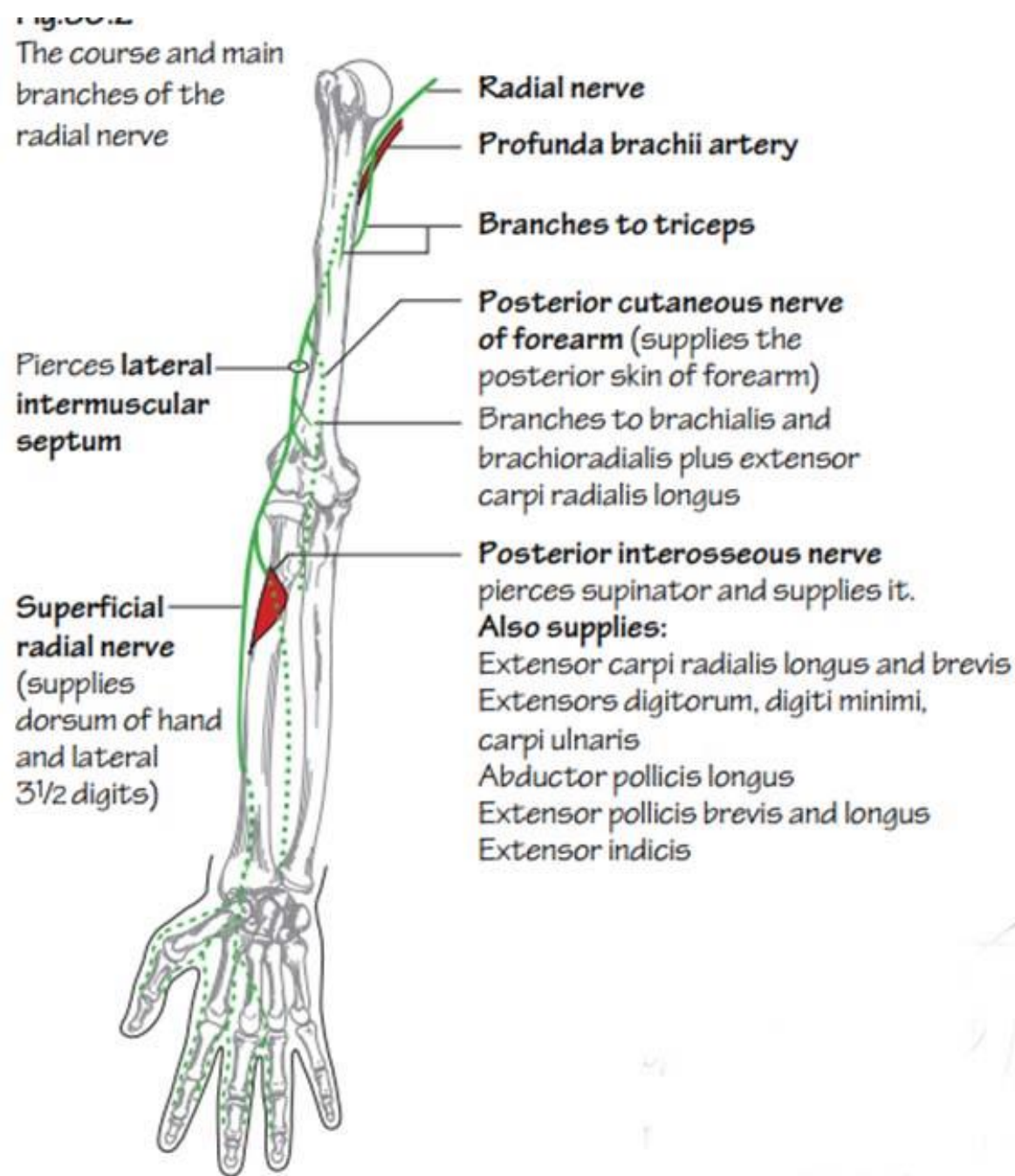


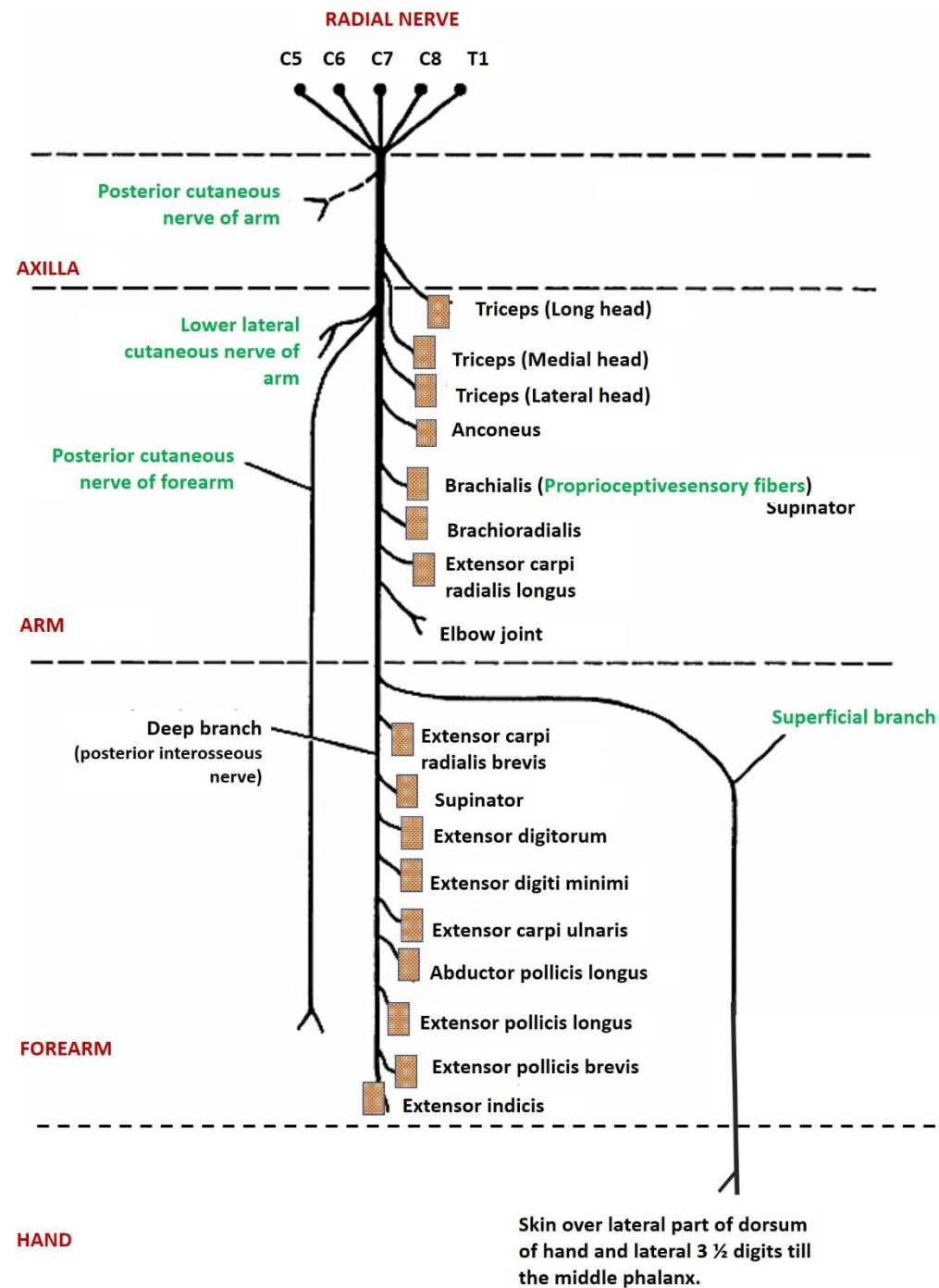
**Fig. 9.22** Transverse section of the forearm just above the wrist showing structures passing deep to the extensor retinaculum.

# Extensor retinaculum & synovial sheath

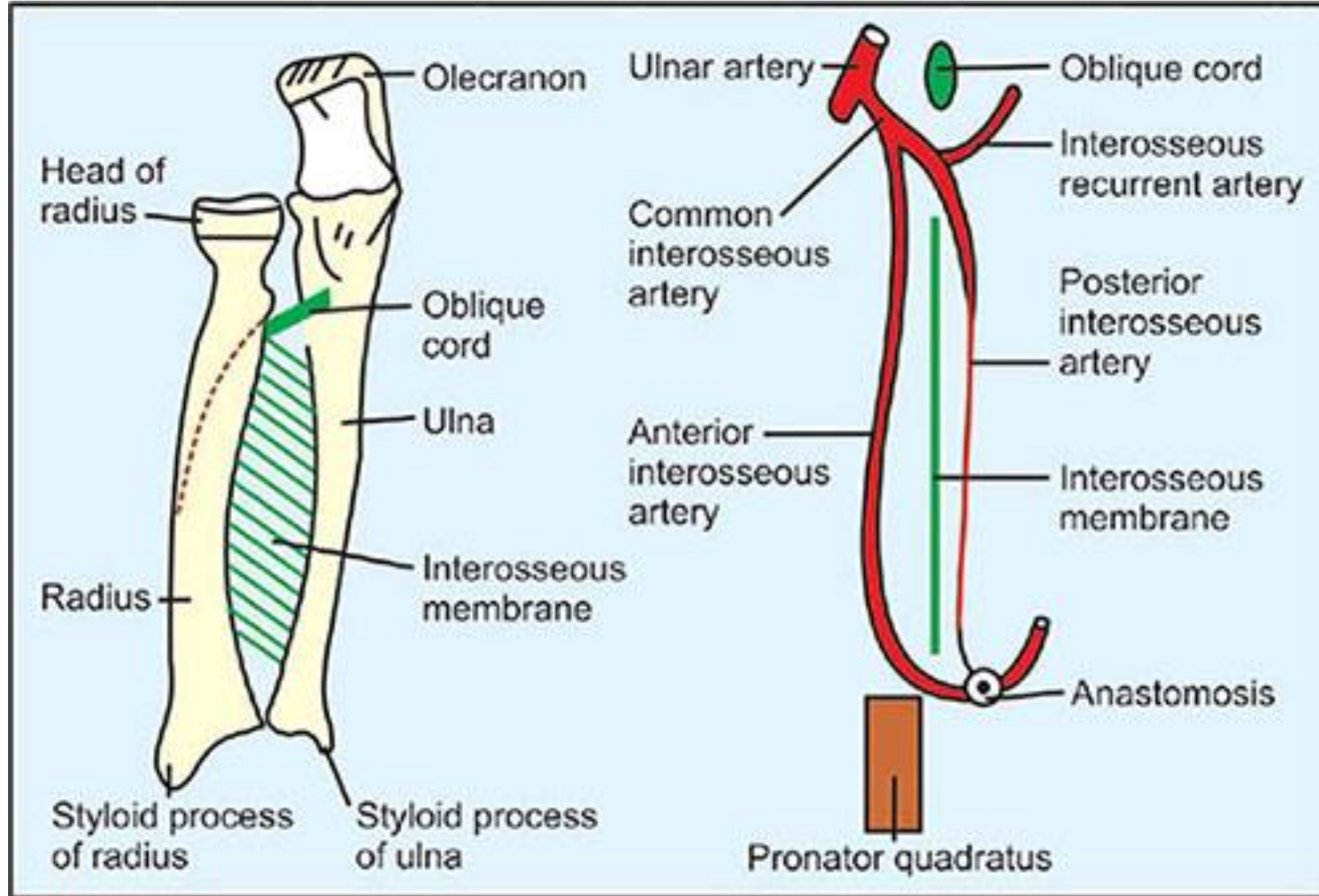


# Radial nerve





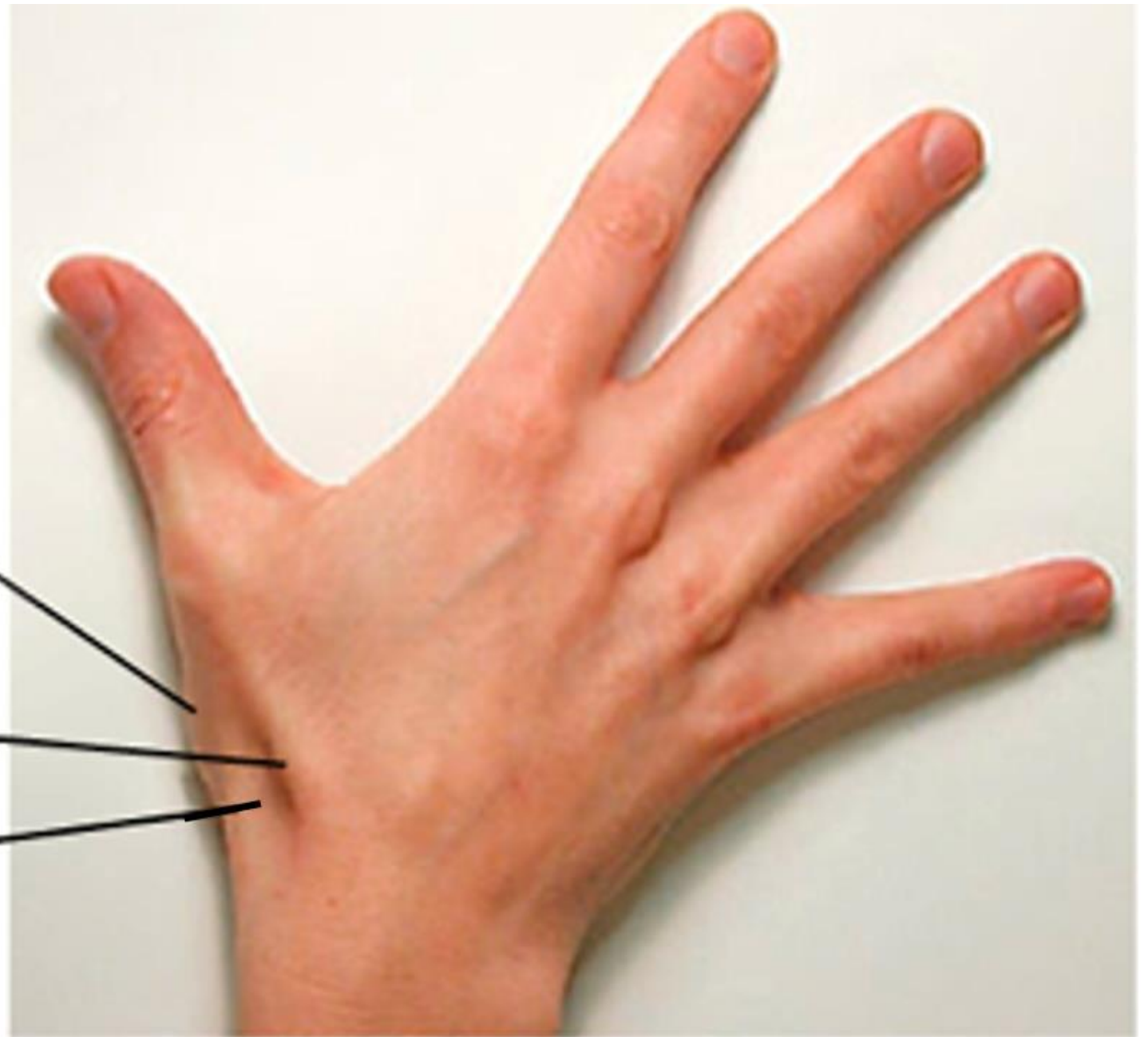
# Anterior & posterior interosseous arteries

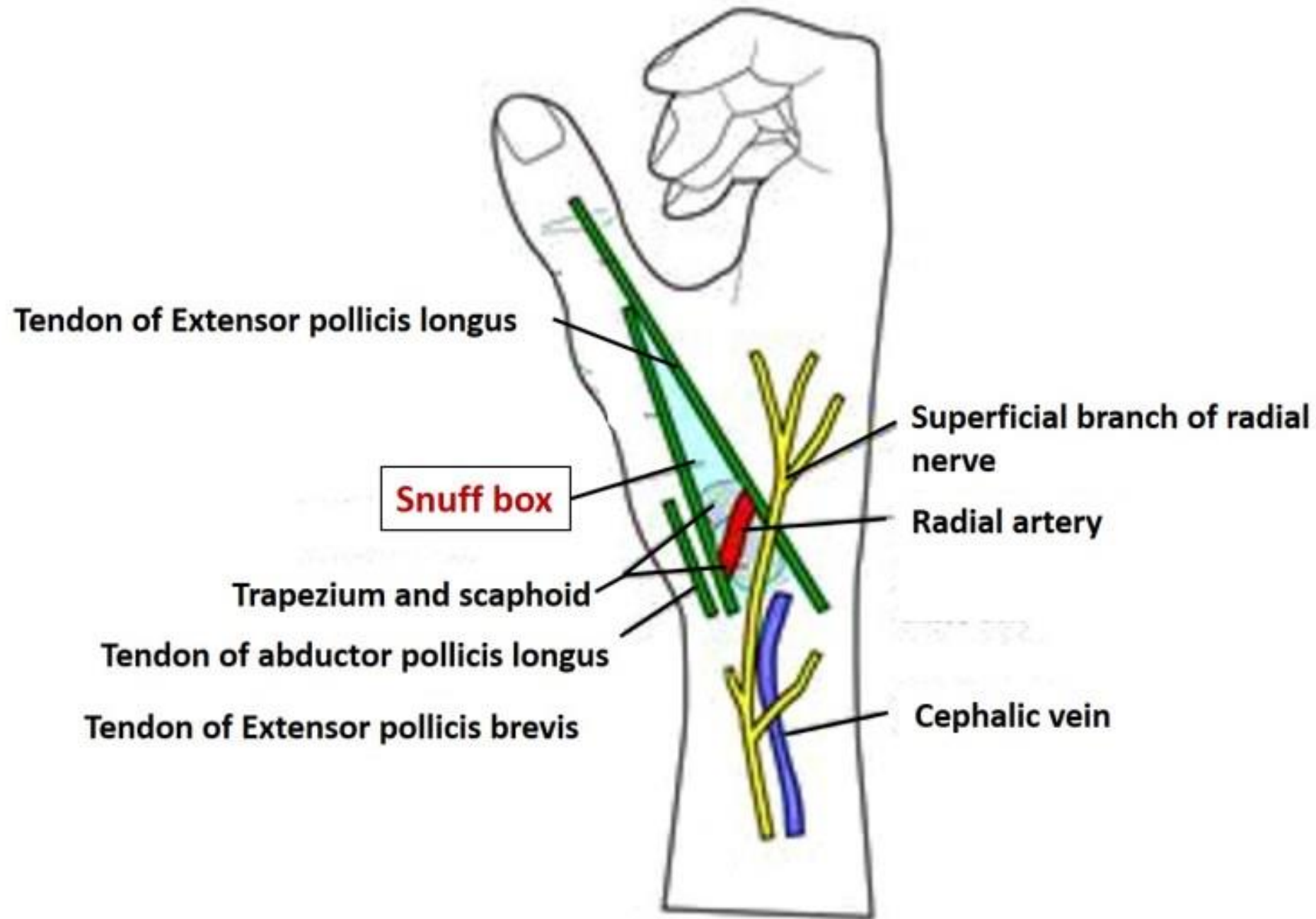


**Tendons of EPB & APL**

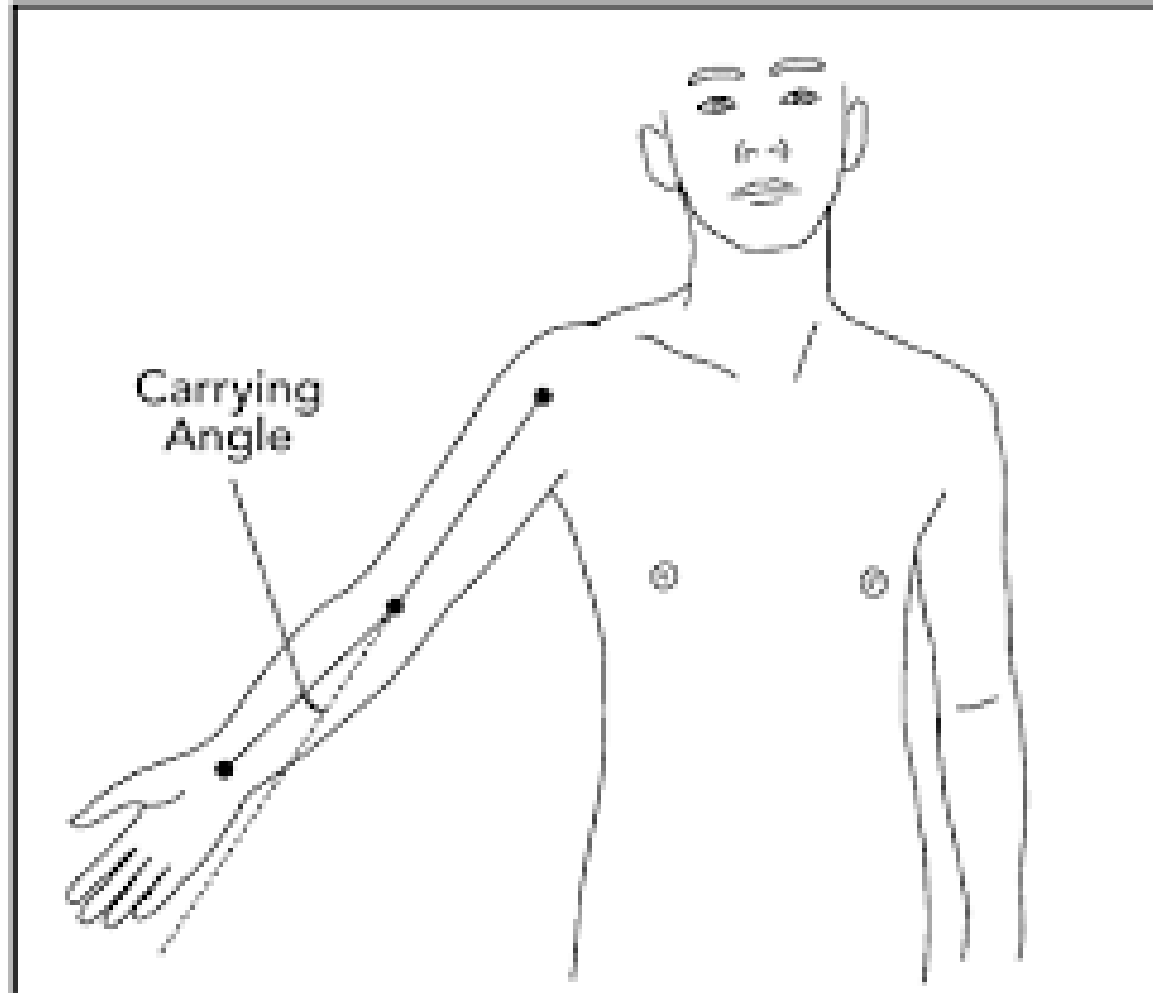
**Tendon of EPL**

**ANATOMICAL SNUFF BOX**





# Carrying angle



## Abnormality of carrying Angle



Cubitus varus

Normal

Cubitus valgus

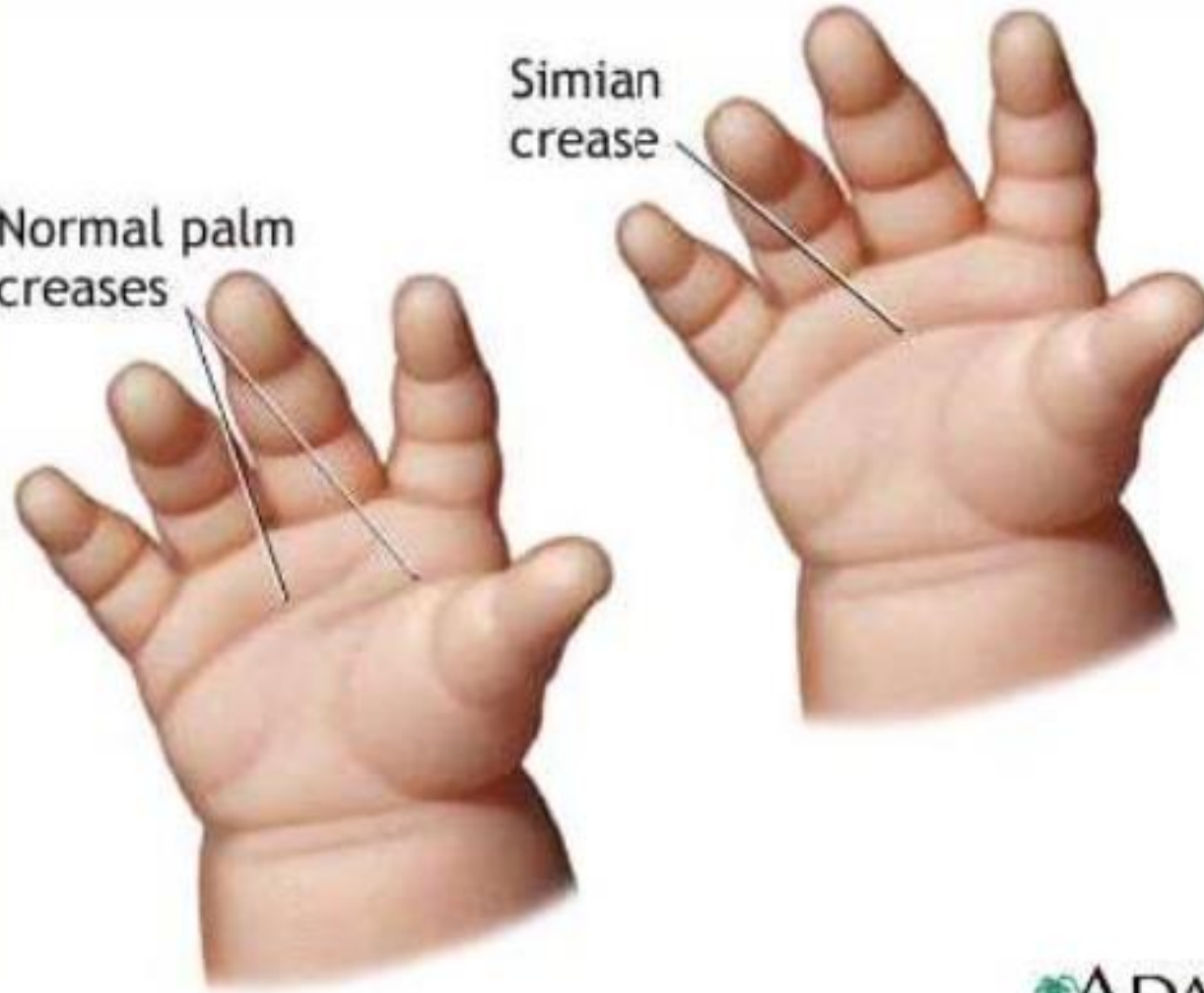
Any variation of the angle that is more than  $15^{\circ}$  is known as cubitus valgus and less than  $5^{\circ}$  are called cubitus varus.

Hand



Normal palm  
creases

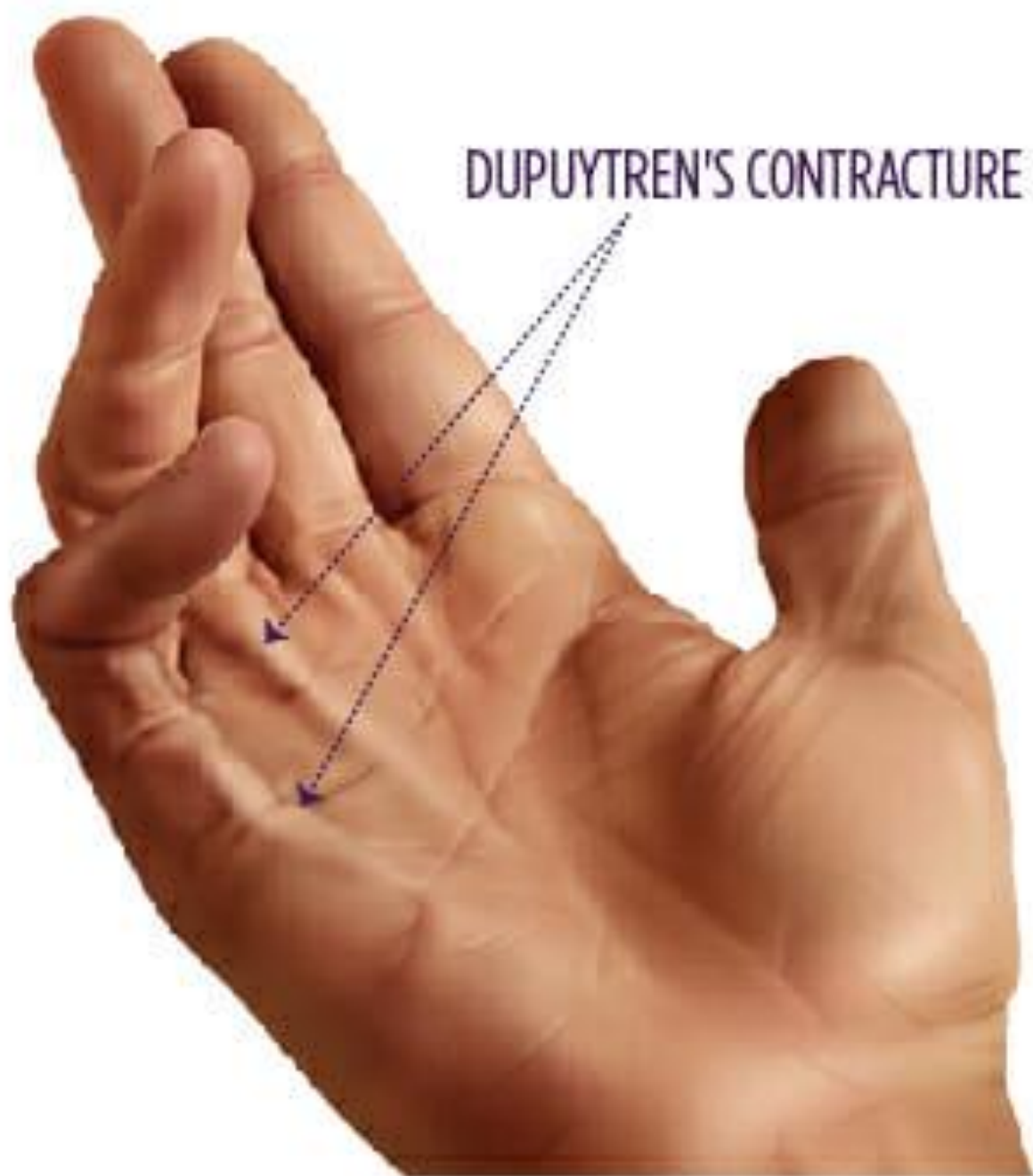
Simian  
crease

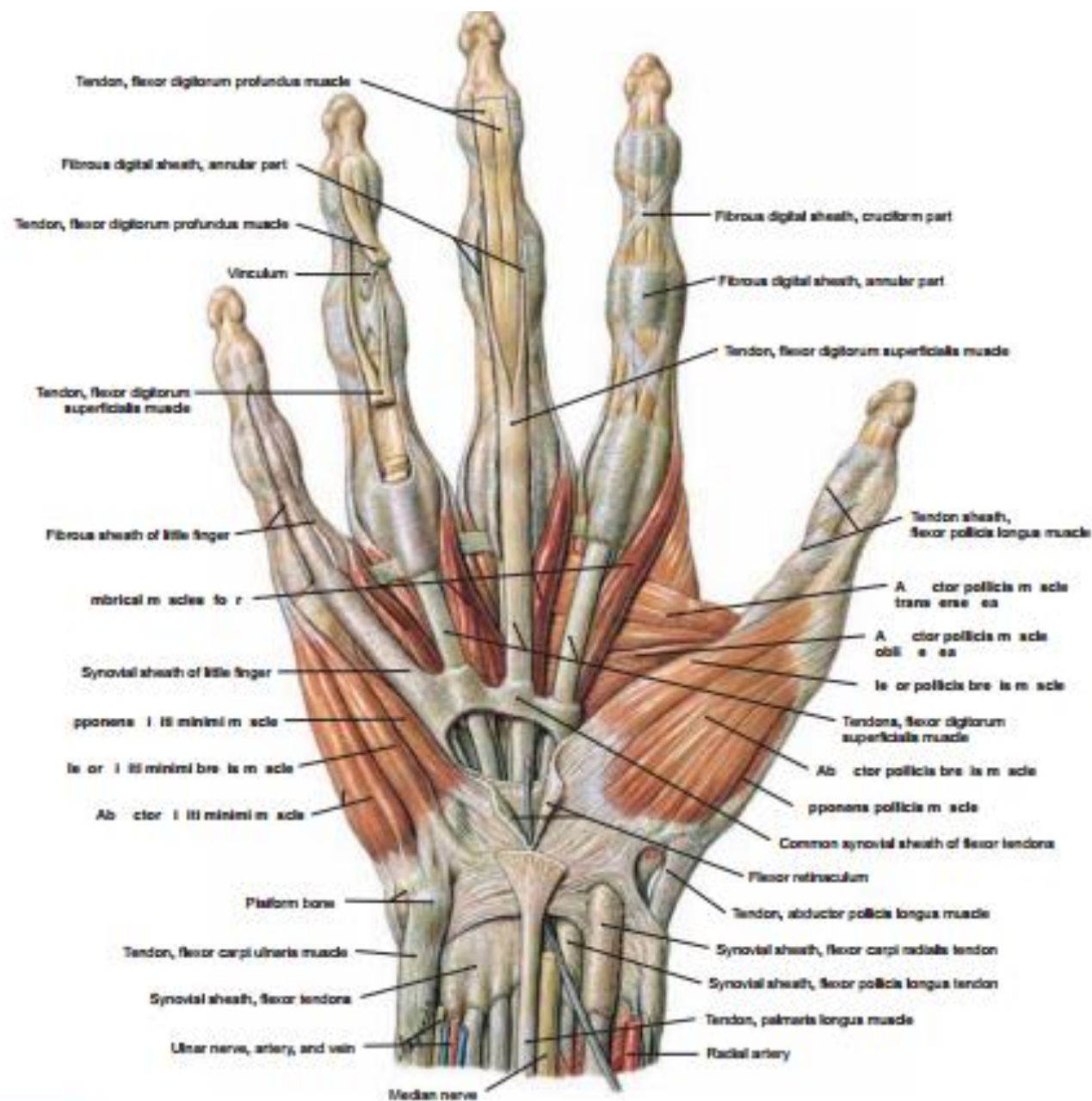


# Palmar aponeurosis & Palmaris brevis

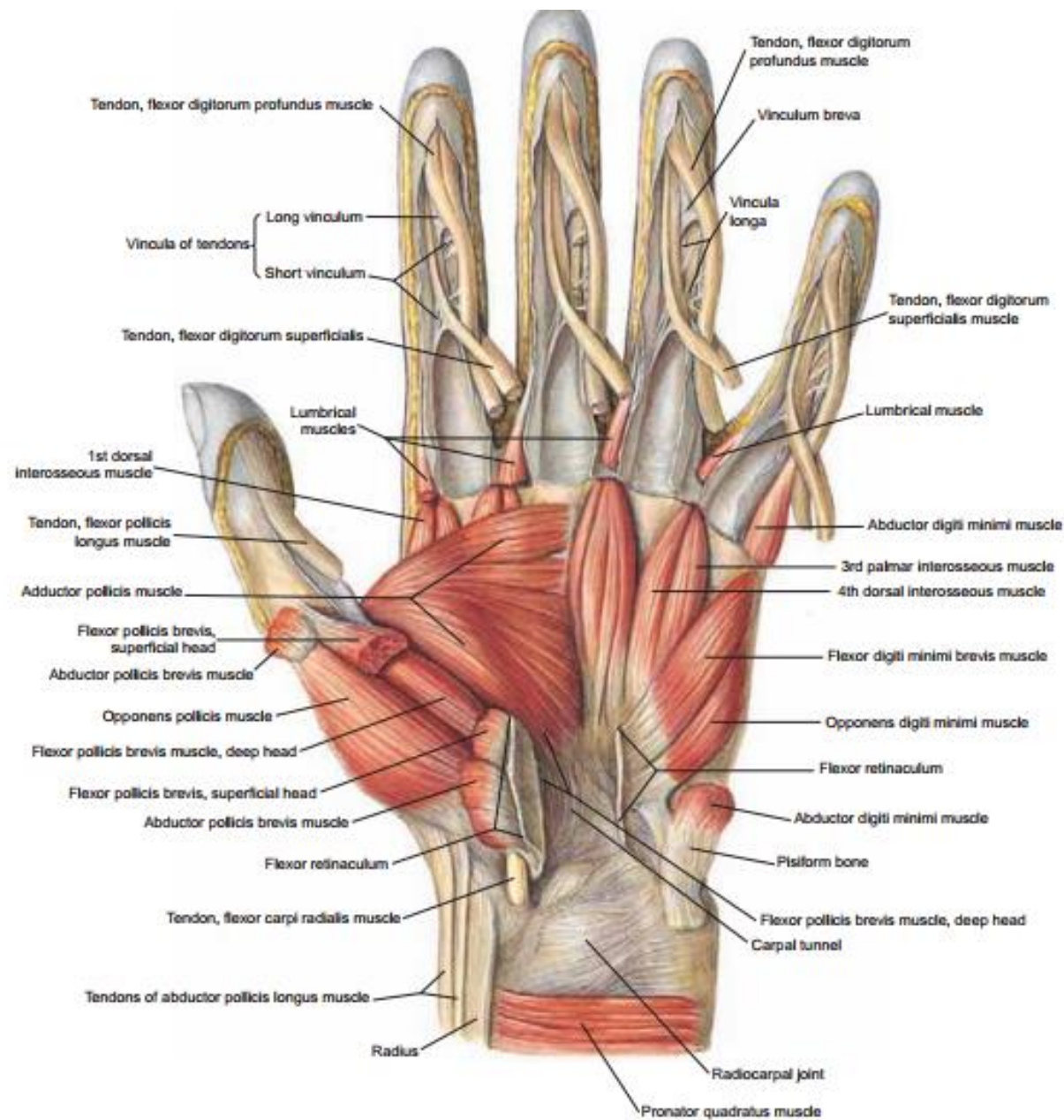


DUPUYTREN'S CONTRACTURE



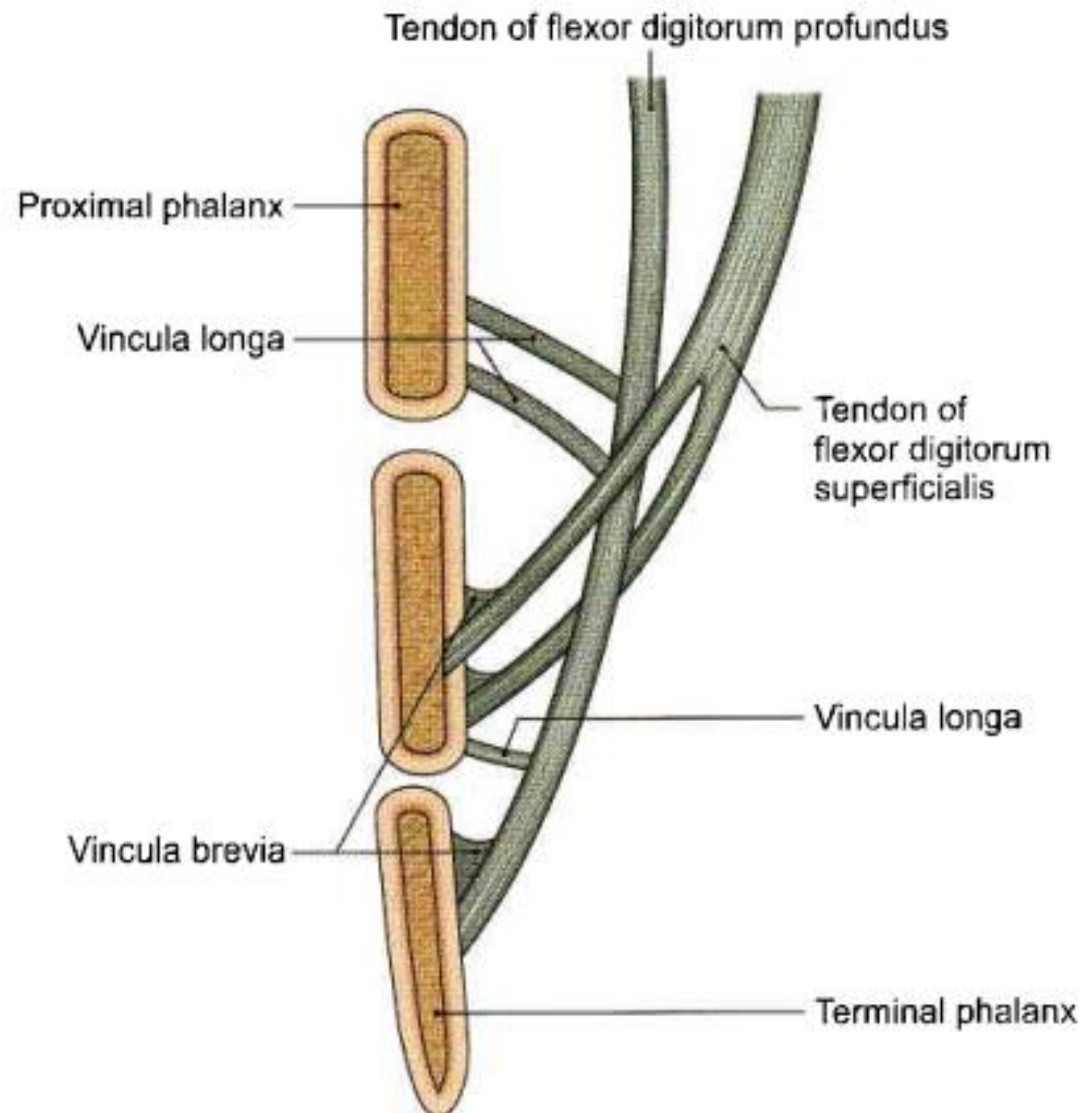


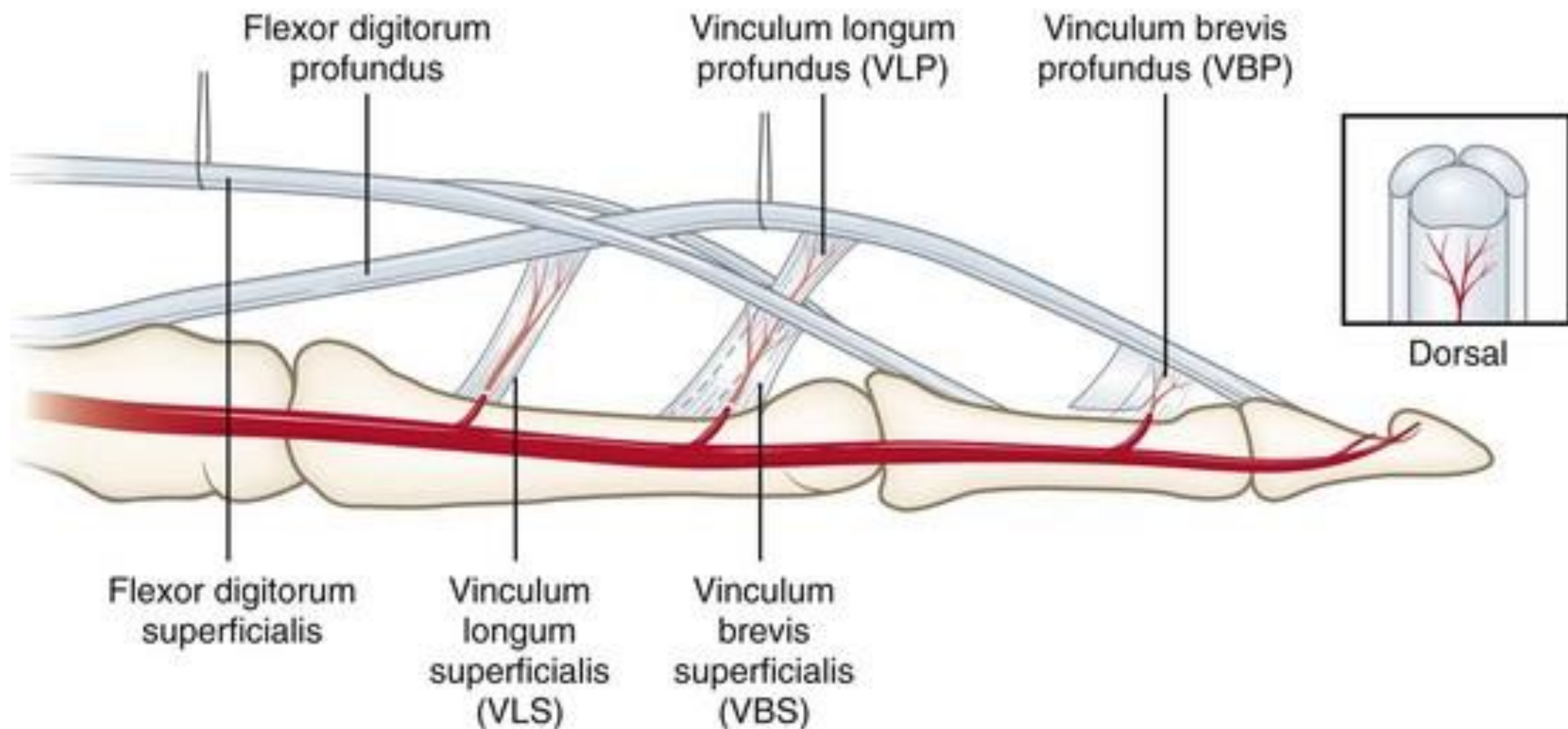
**FIGURE 98** Muscles of the Right Hand



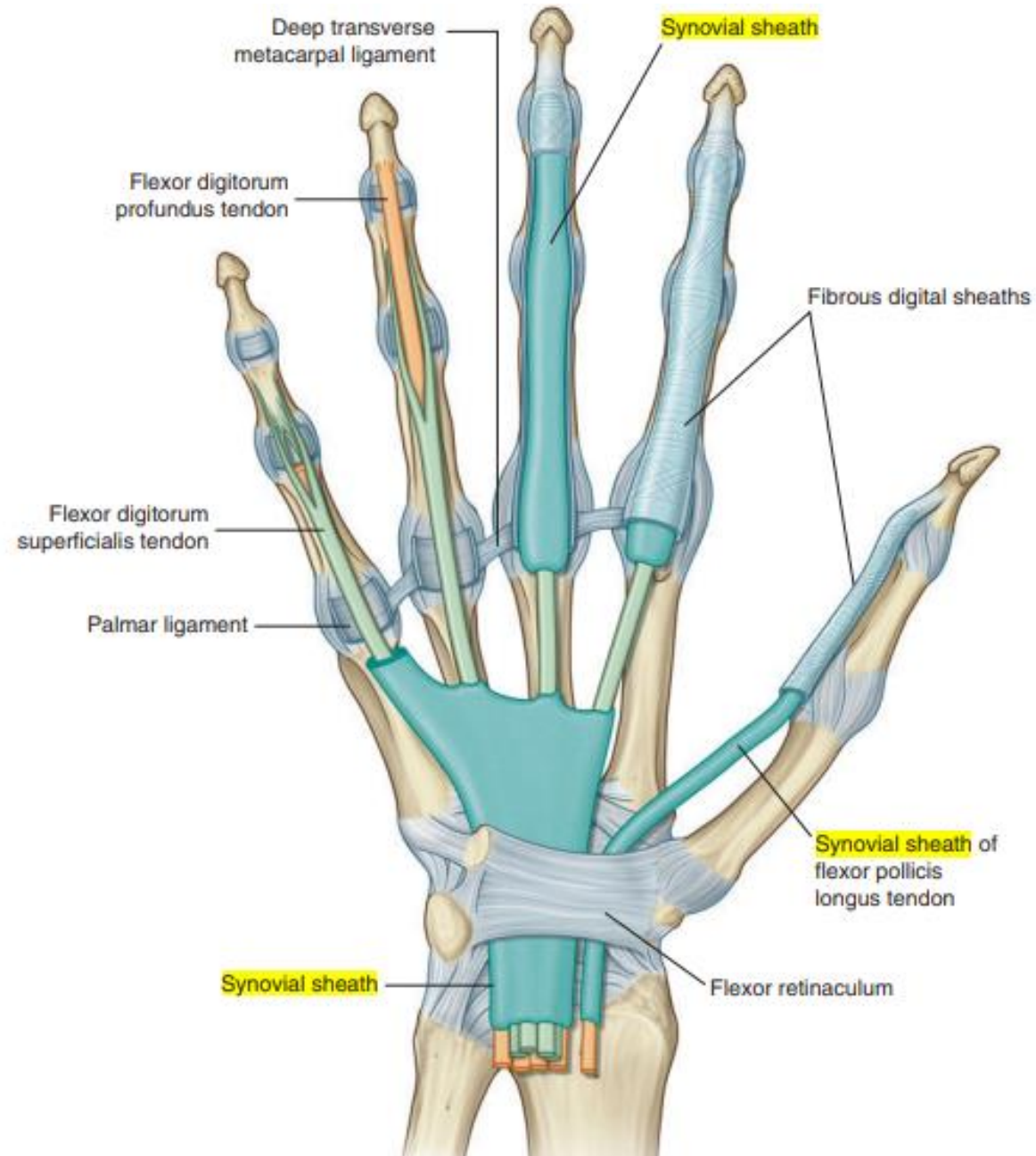
**FIGURE 100** Muscles of the Left Hand: Deep Layer and Superficial and Deep Flexor Tendons

# VINCULA





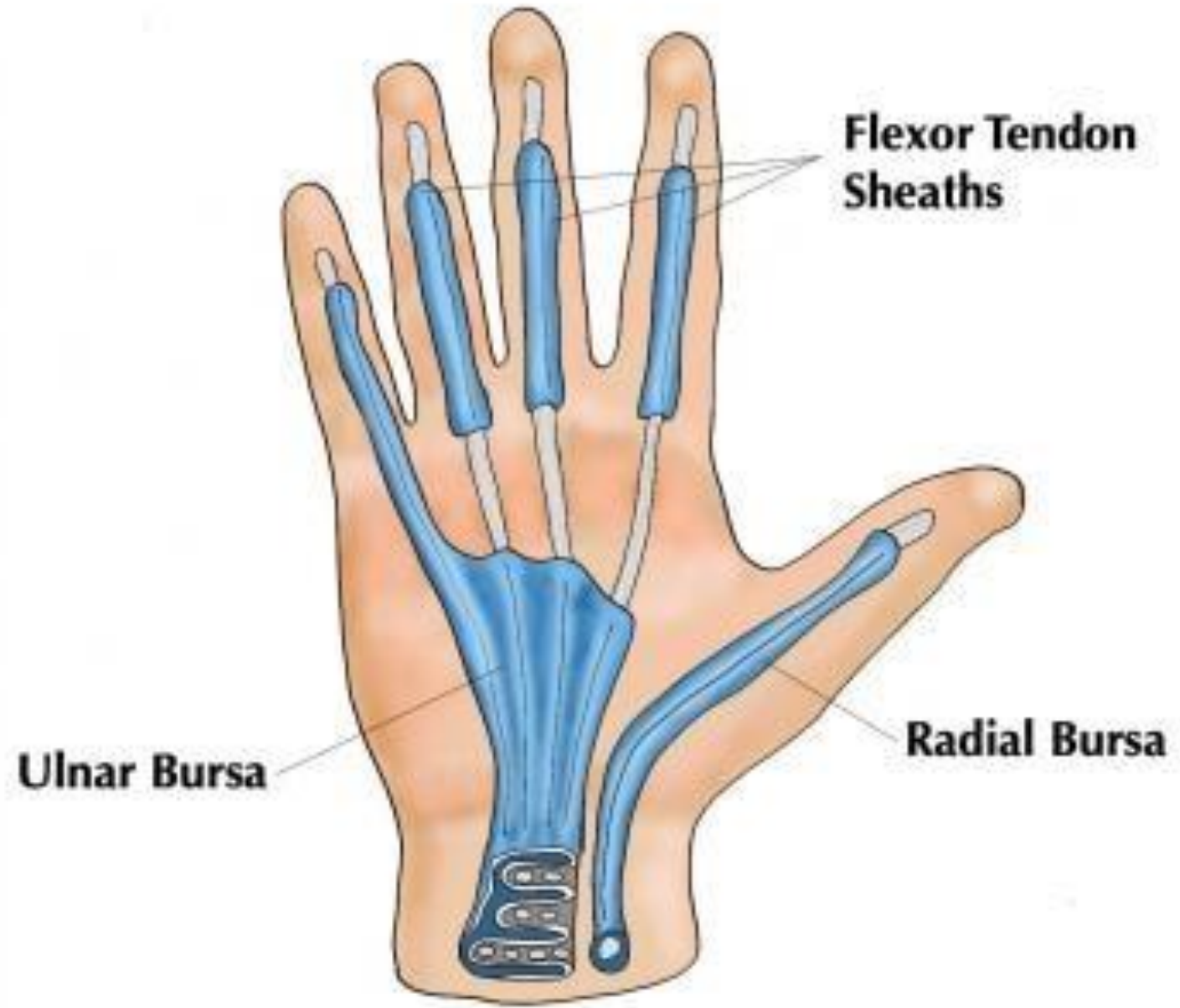
# Flexor tendon sheaths

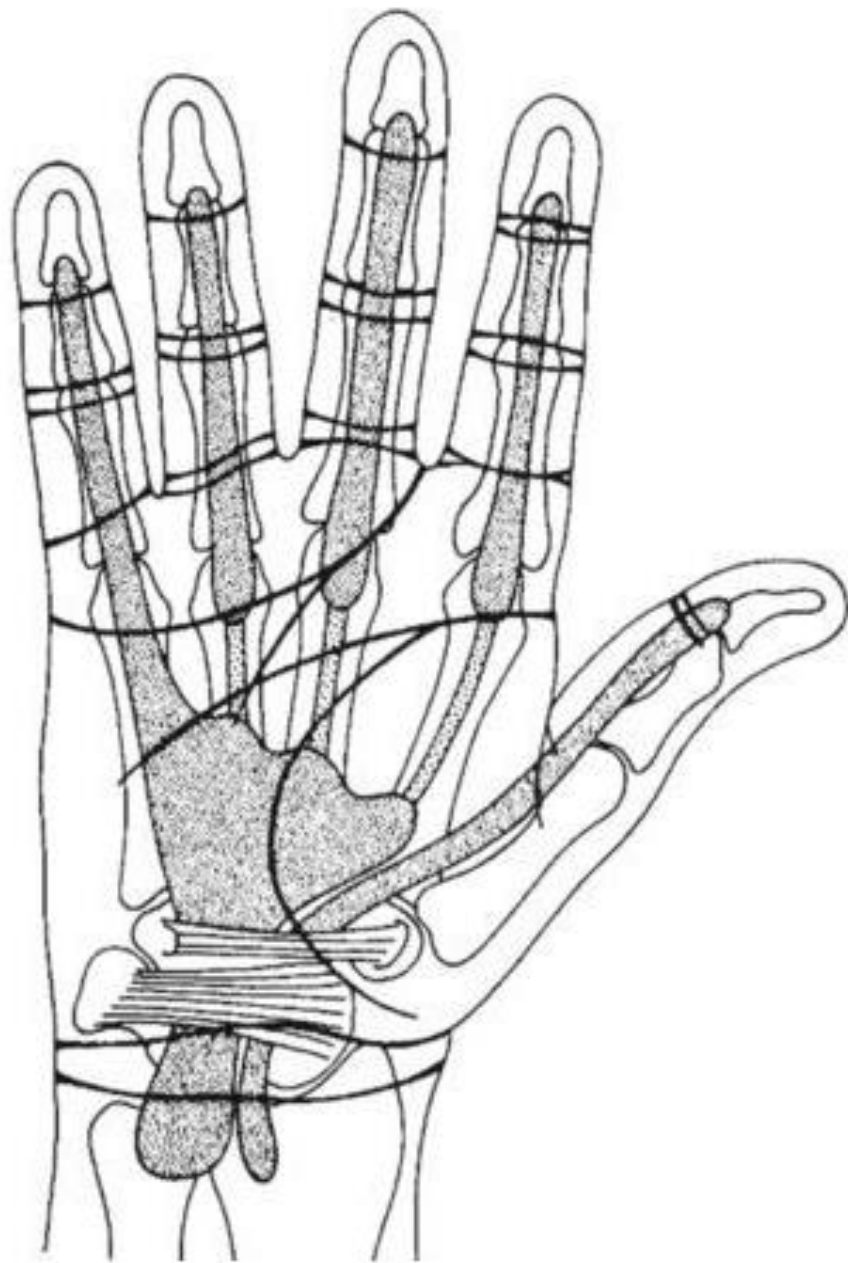


# Trigger finger

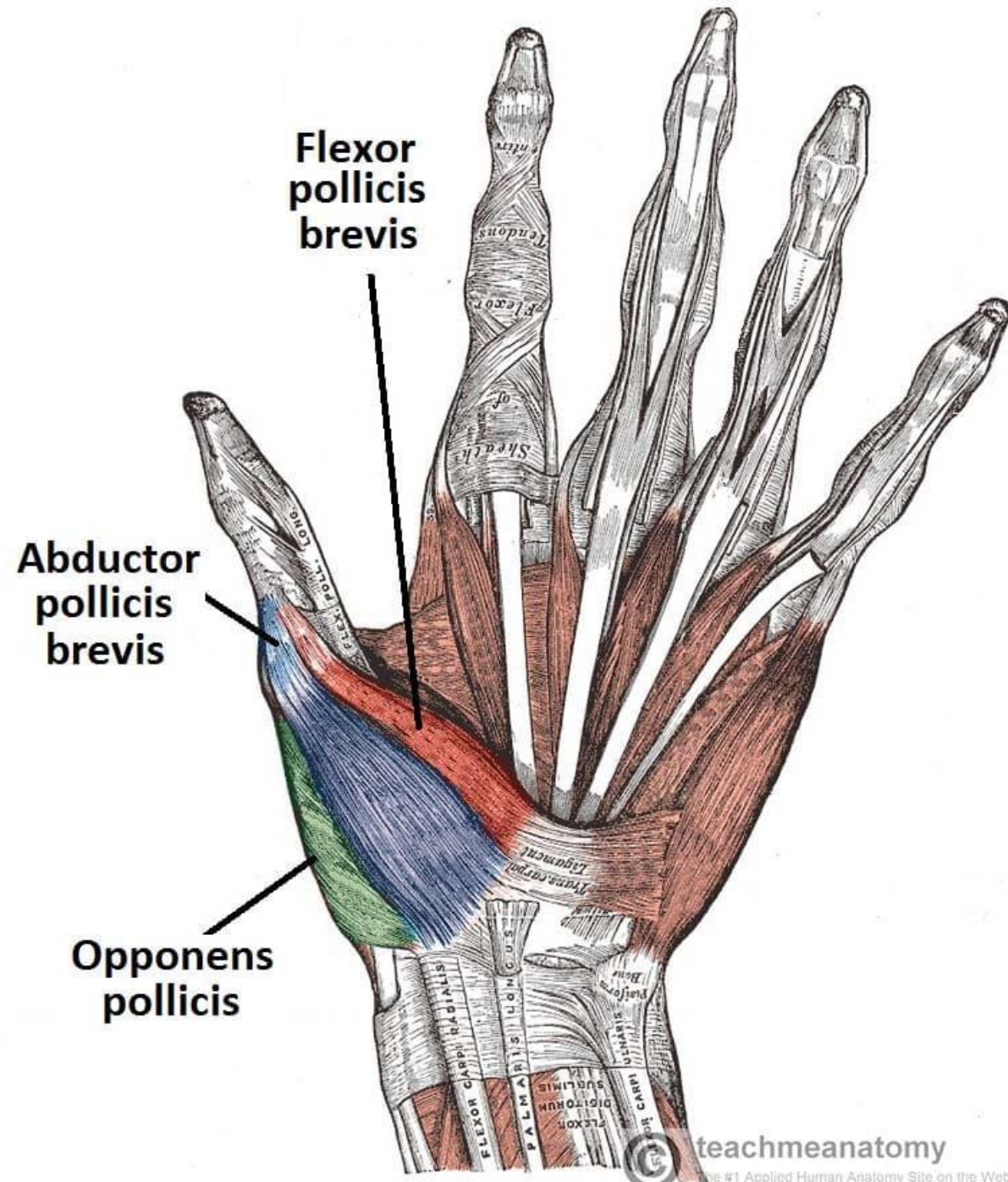


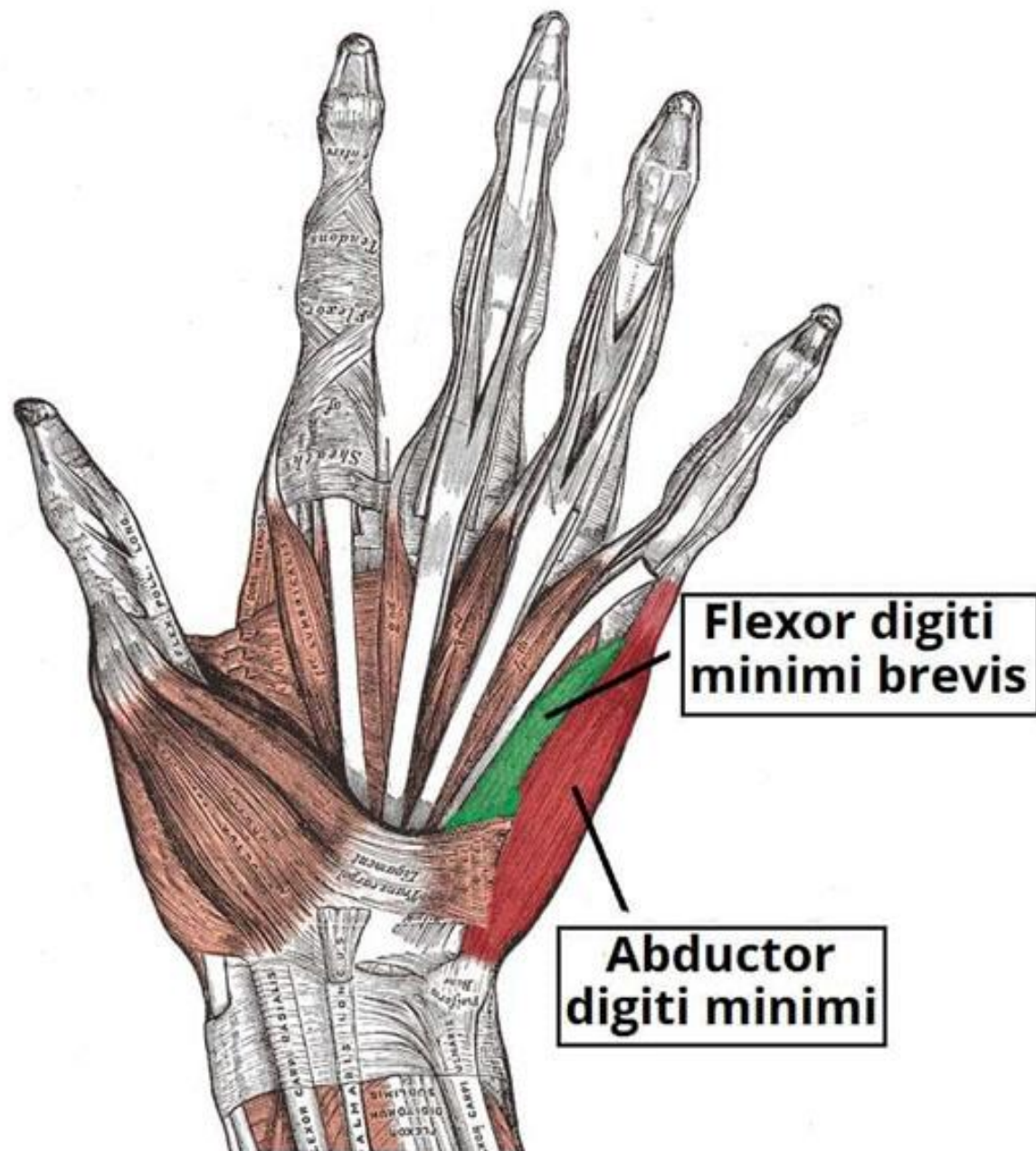
# Synovial sheath

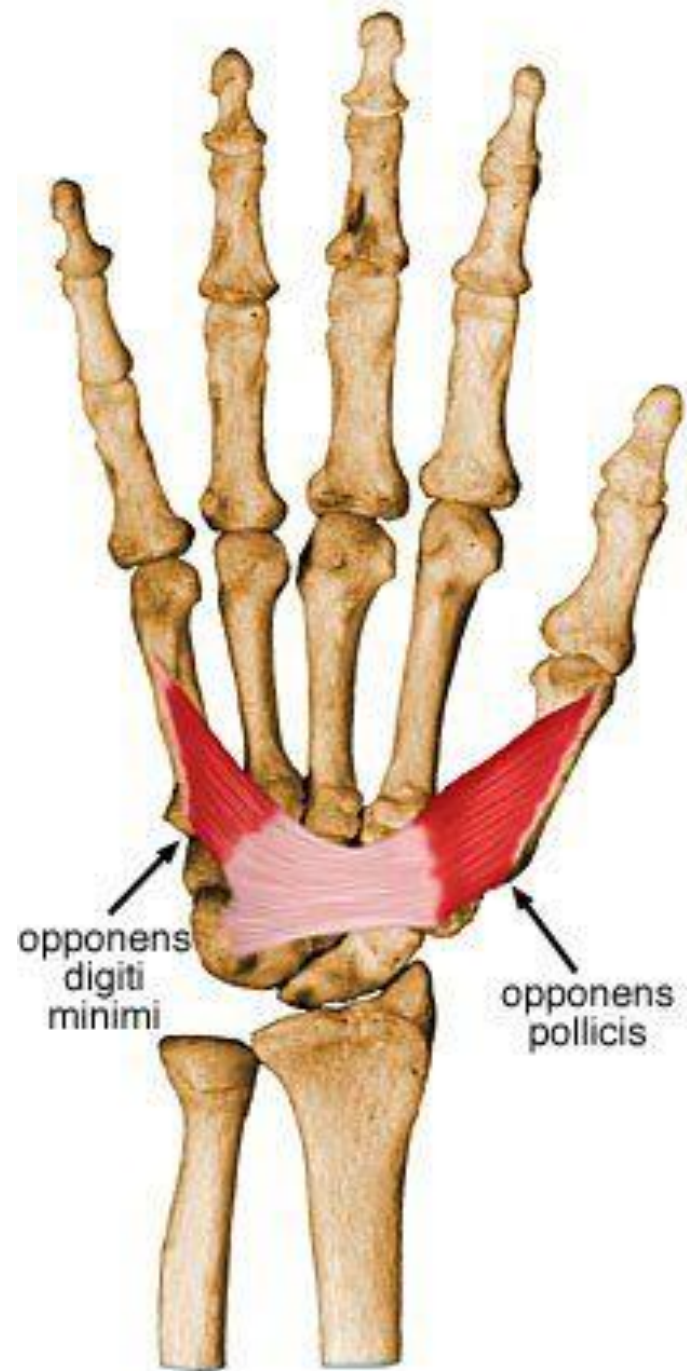






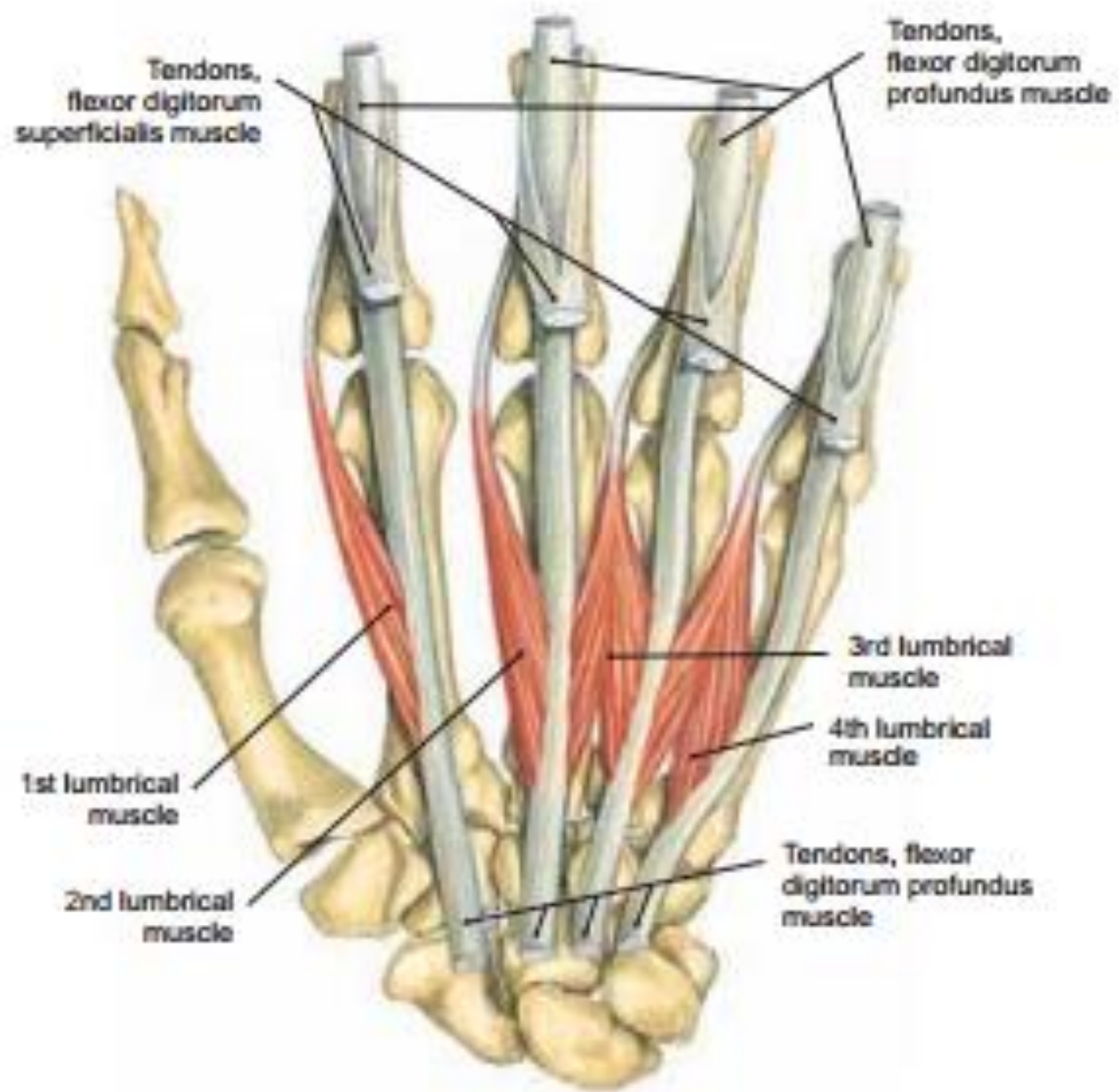




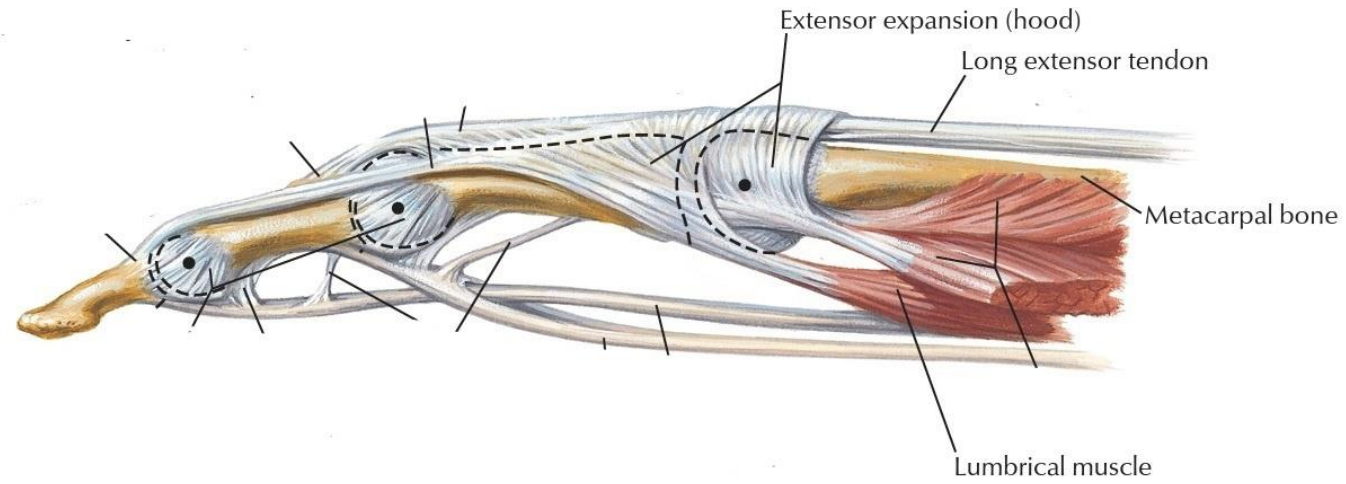


# Adductor pollicis

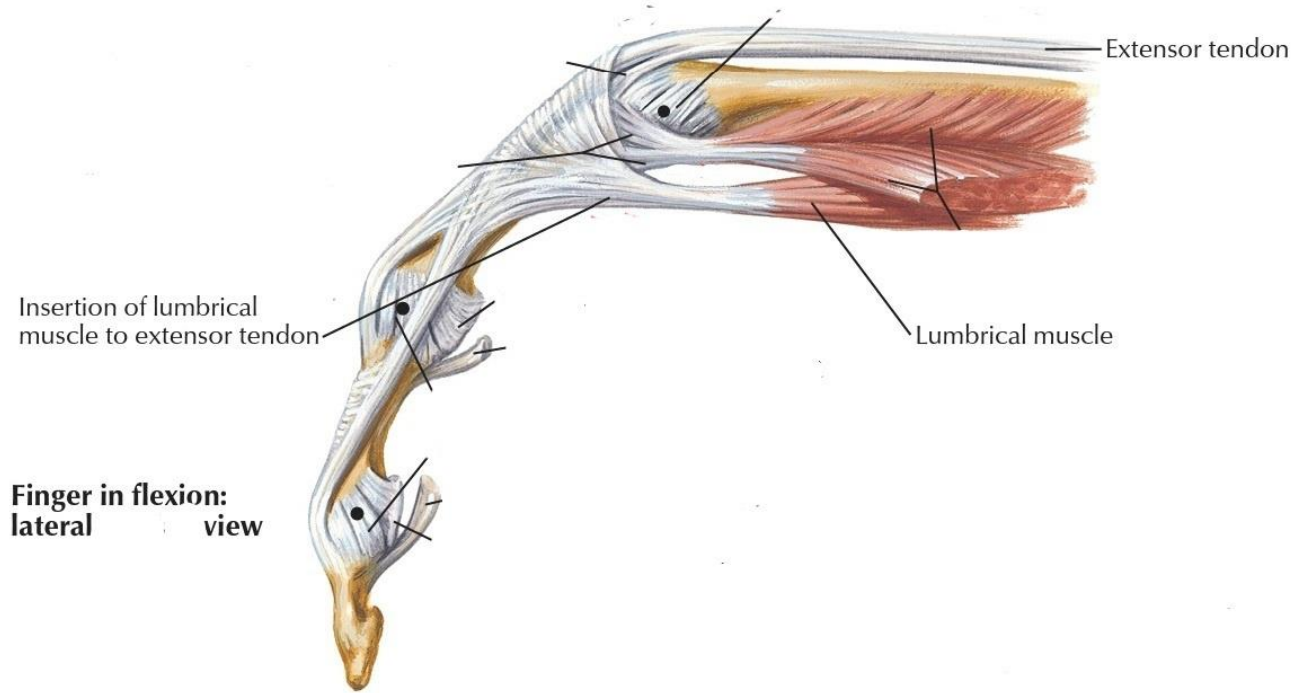




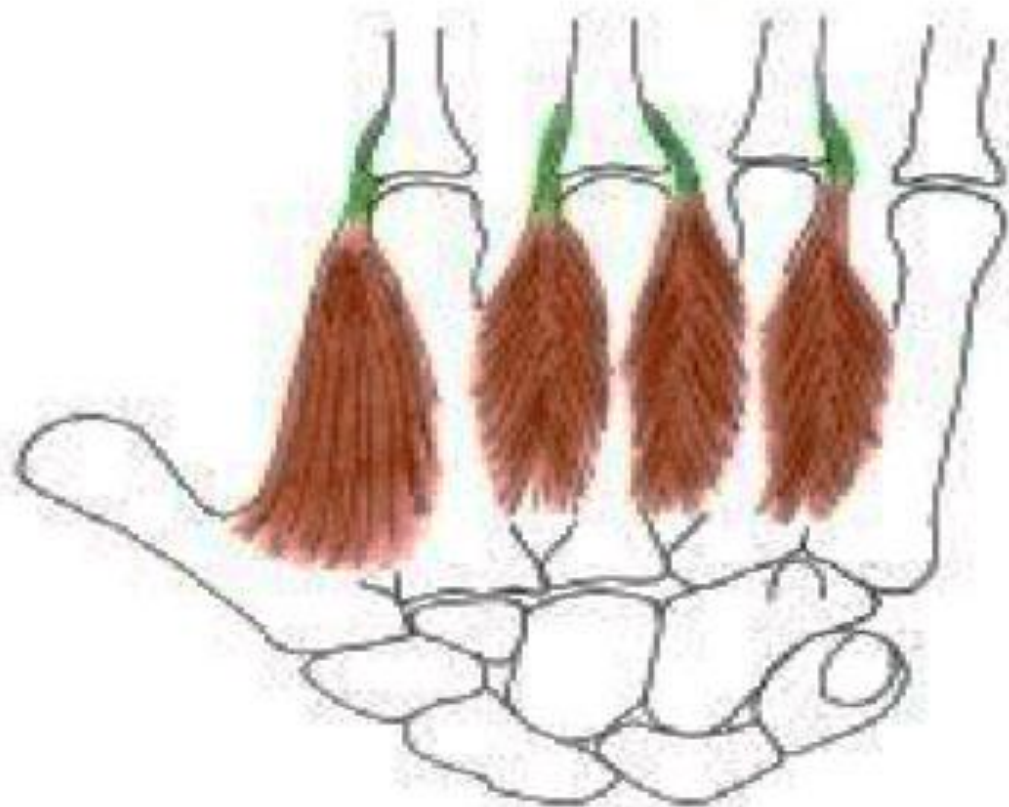
**Finger in extension:  
lateral  
(radial) view**



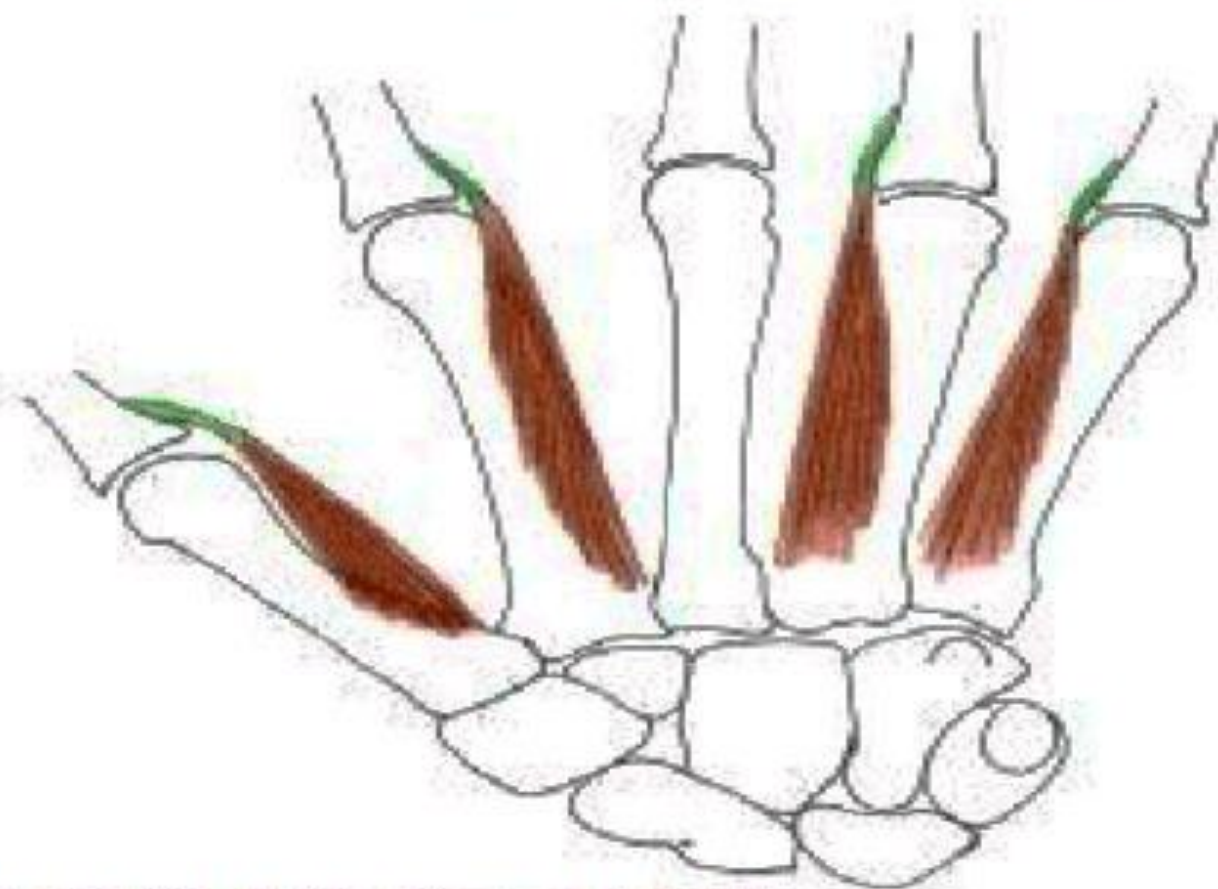
**Finger in flexion:  
lateral  
view**



**DORSAL INTEROSSEI MUSCLES**



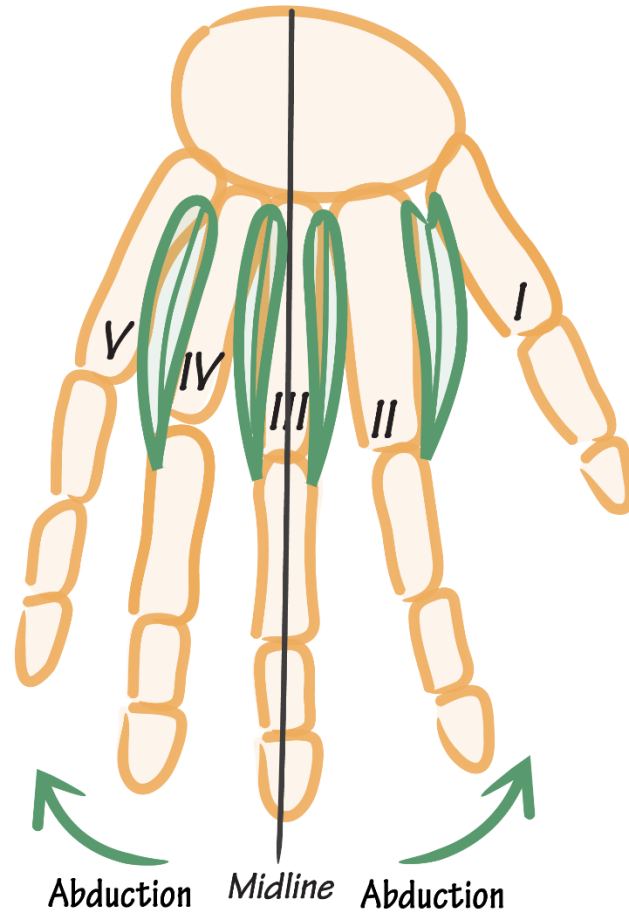
**PALMAR INTEROSSEI MUSCLES**



**INTRINSIC MUSCLES OF HAND**

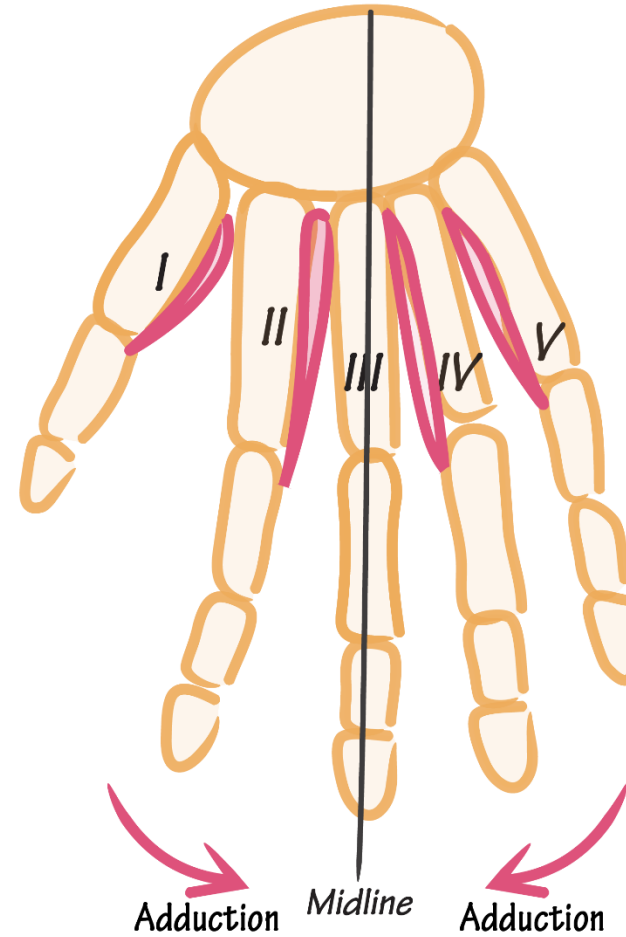
## DORSAL INTEROSSEI

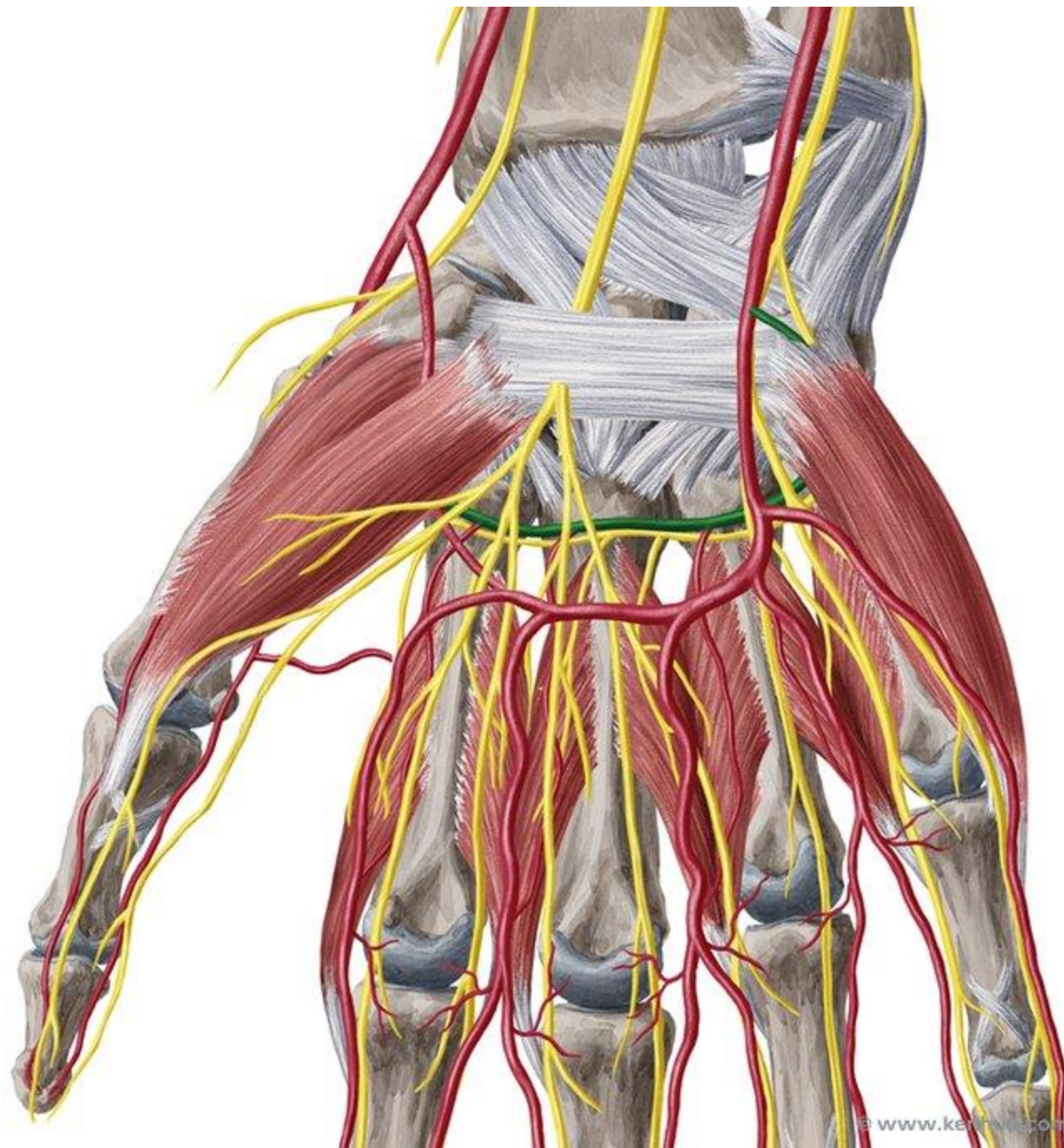
Medial ← → Lateral

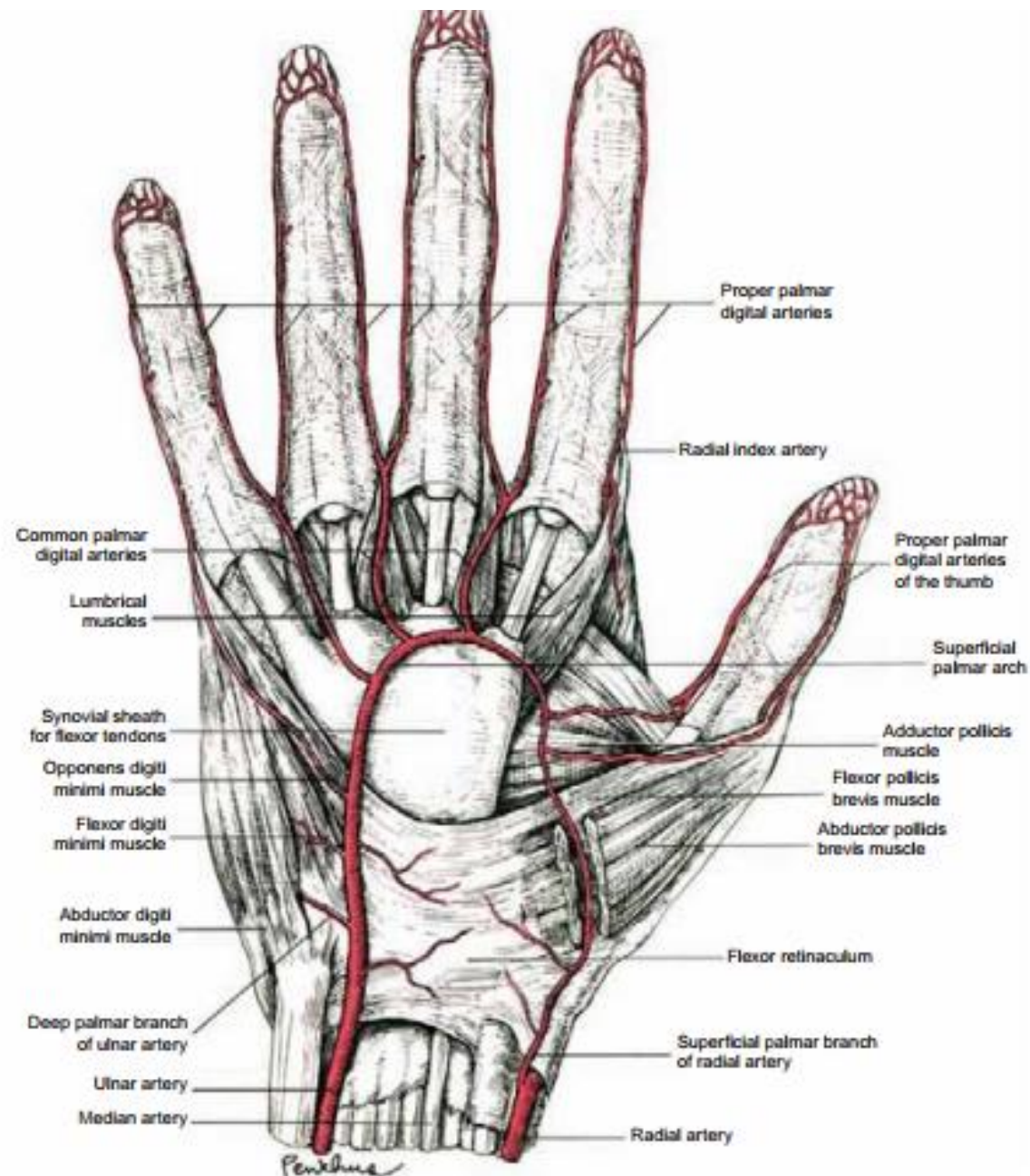


## PALMAR INTEROSSEI

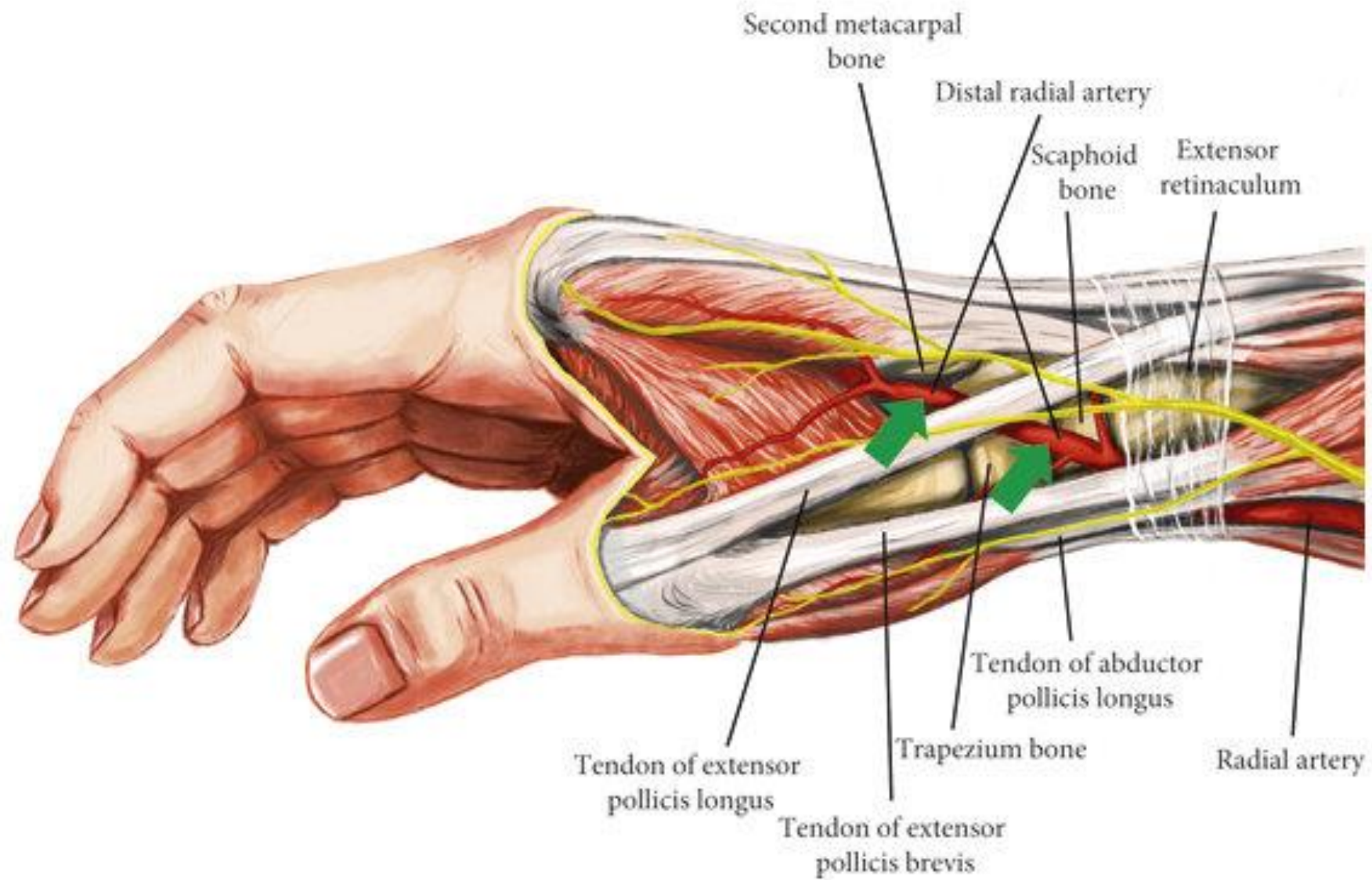
Lateral ← → Medial

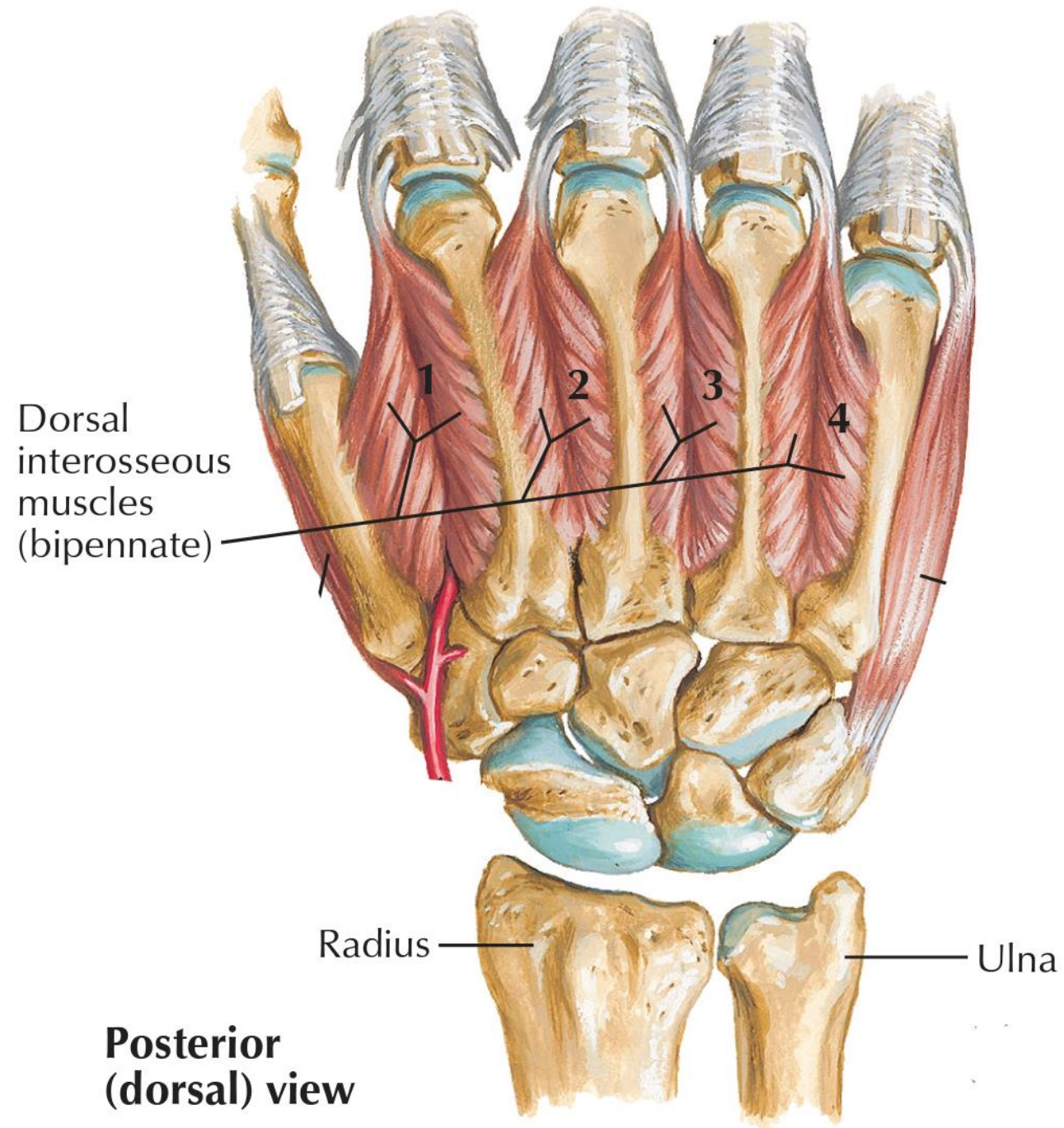


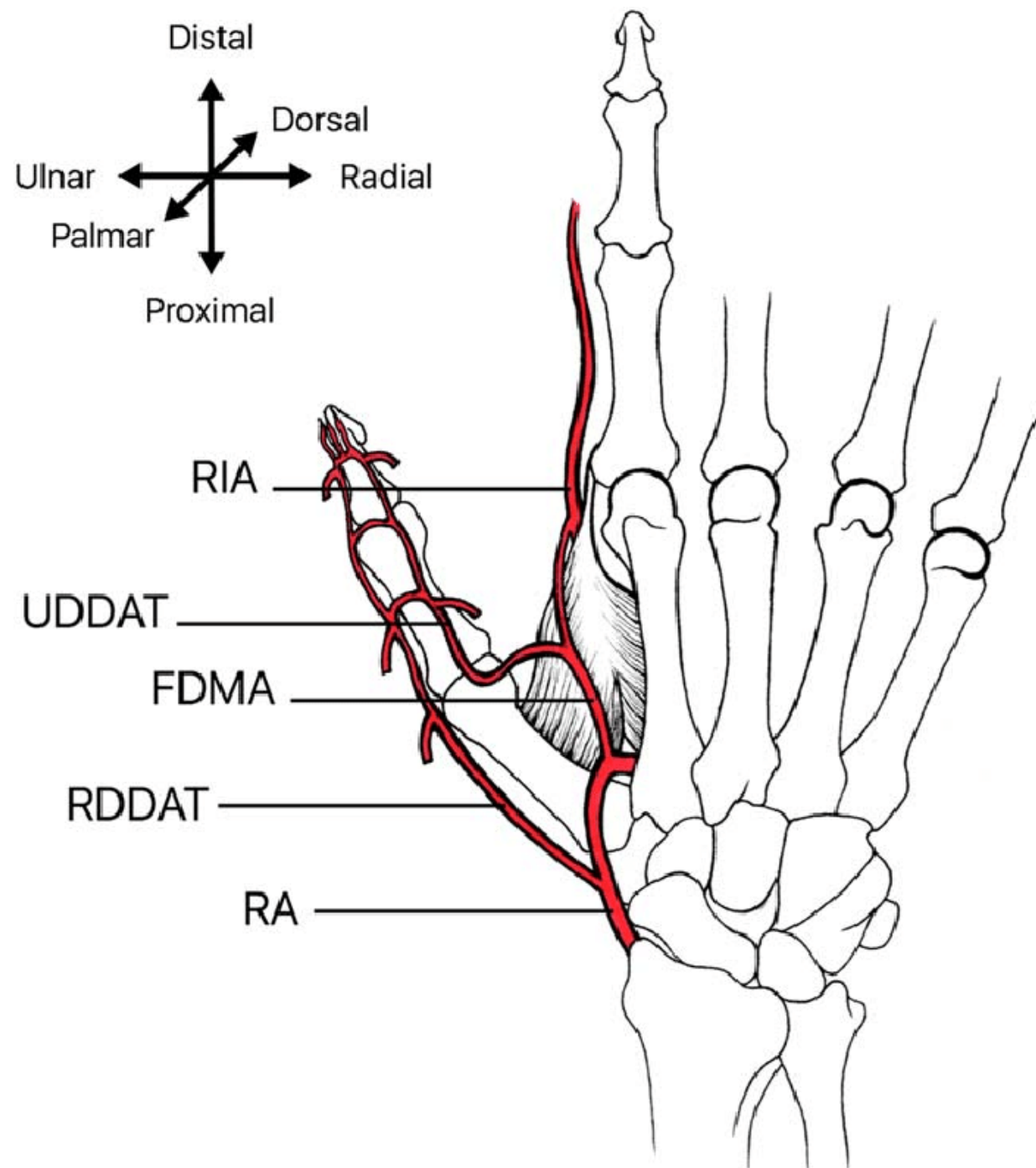


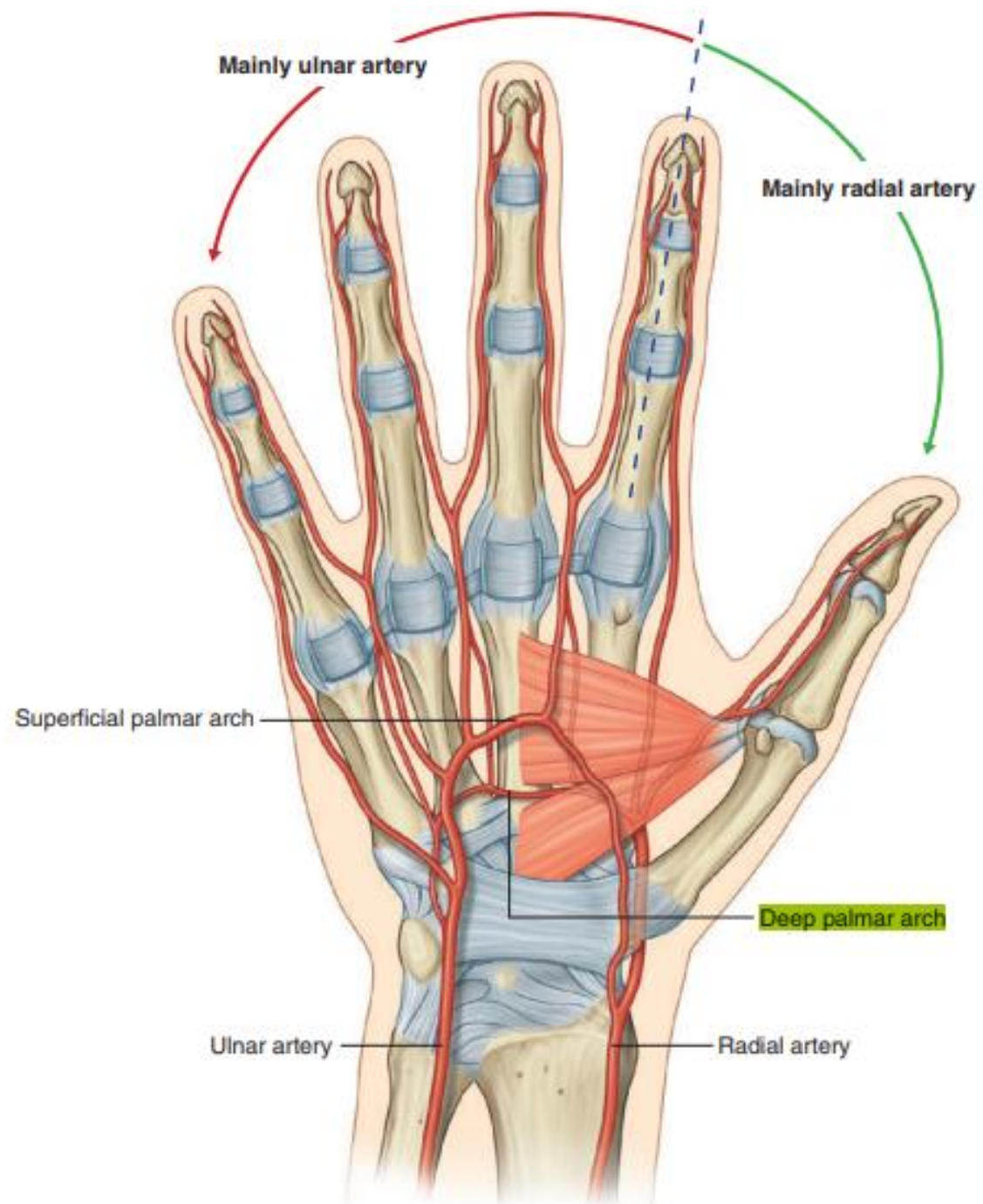


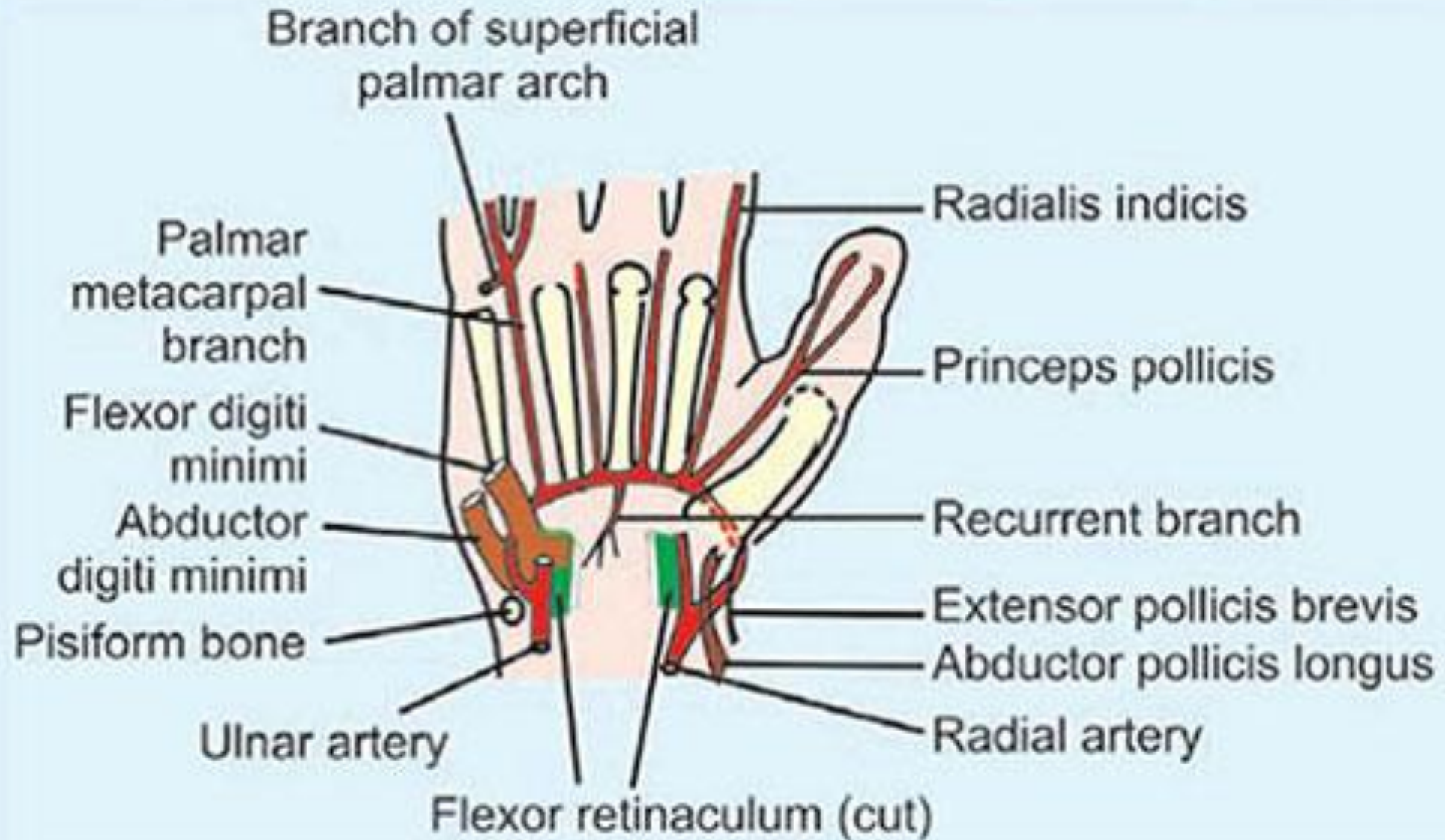
**FIGURE 106.2** The Superficial Palmar Arch and the Common and Proper Digital Arteries of the Right Hand

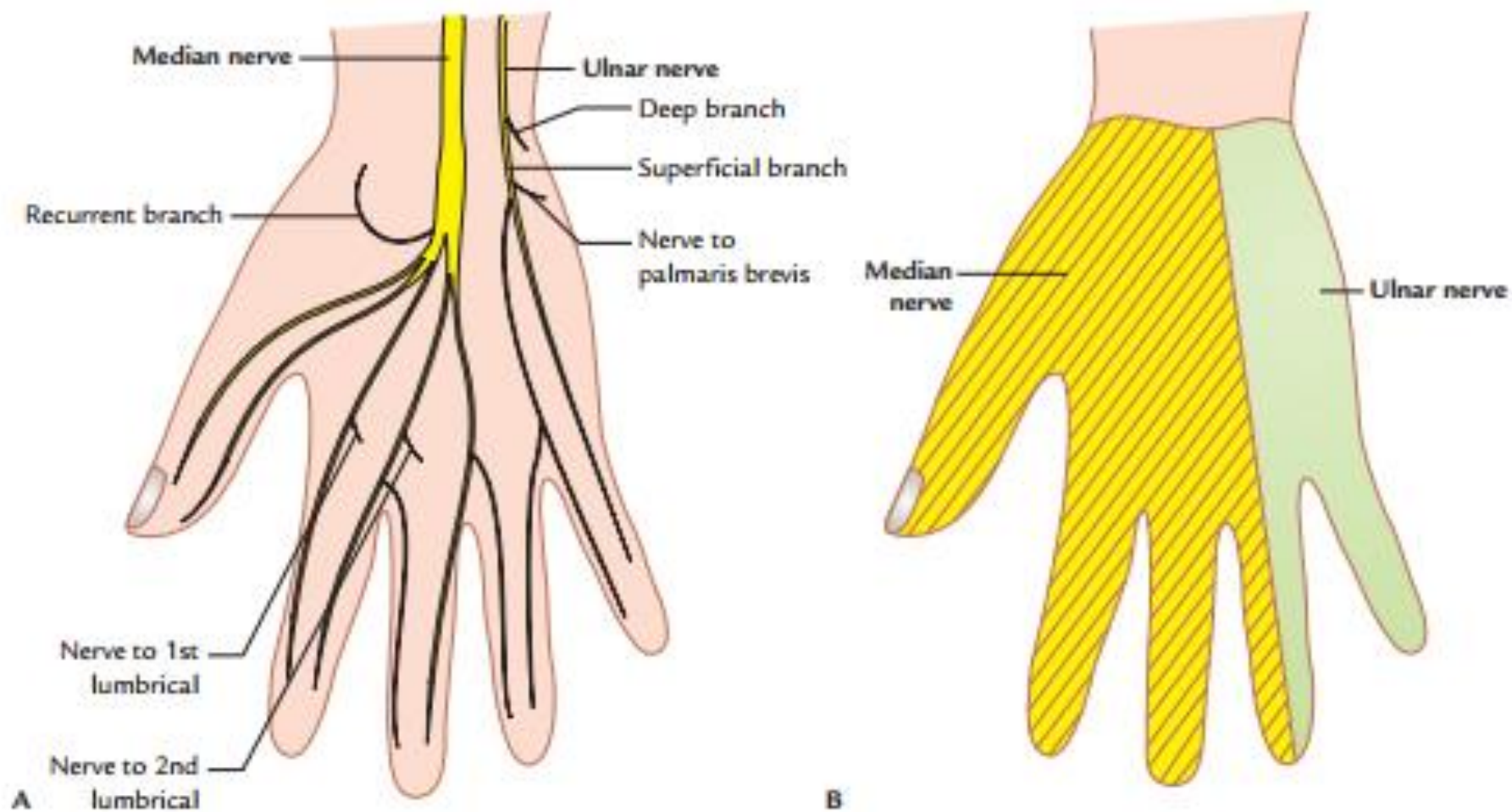




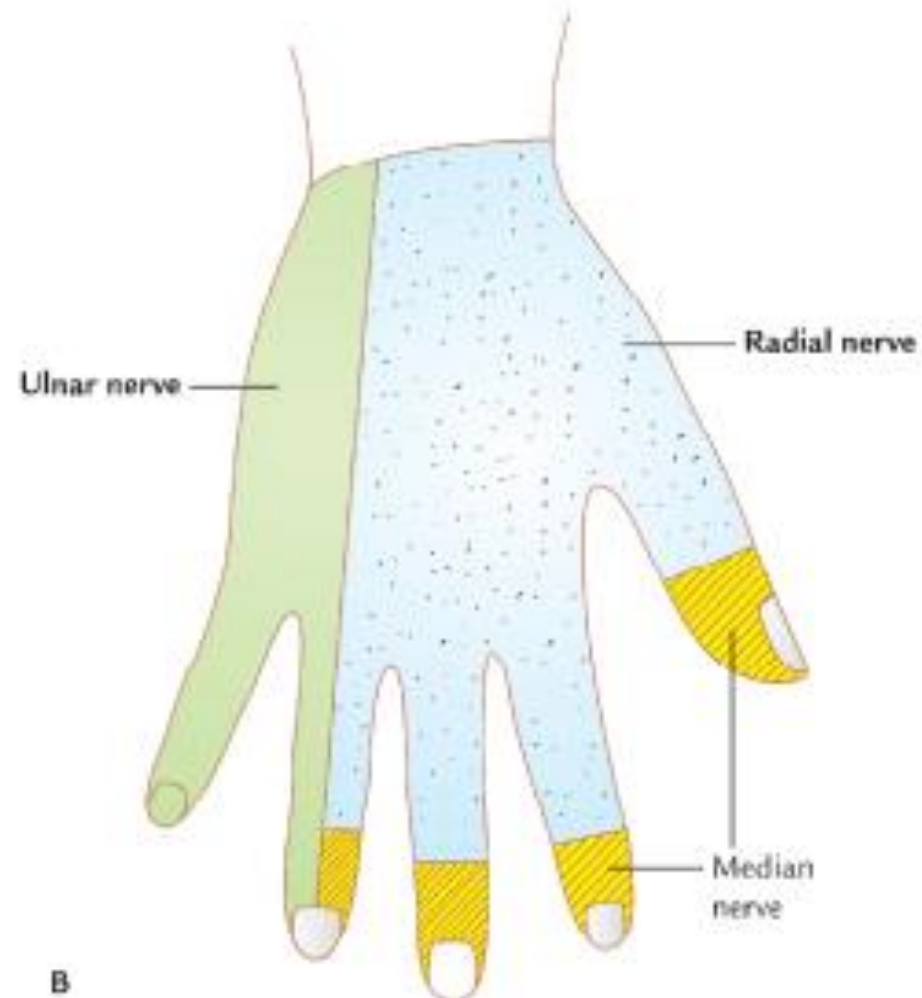
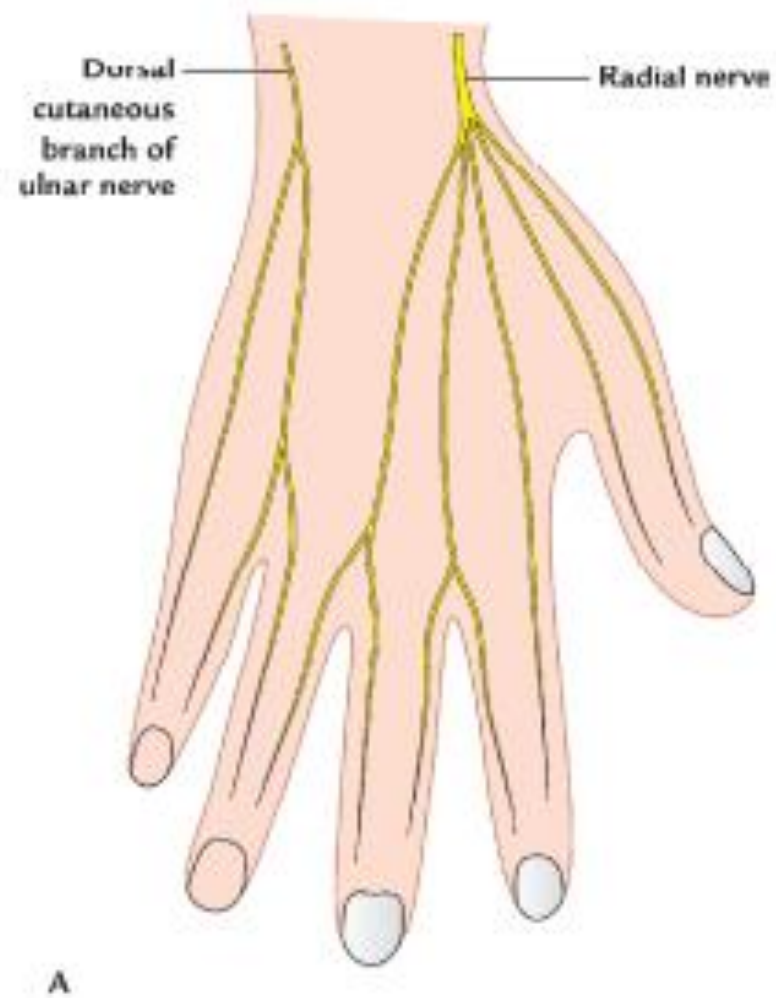






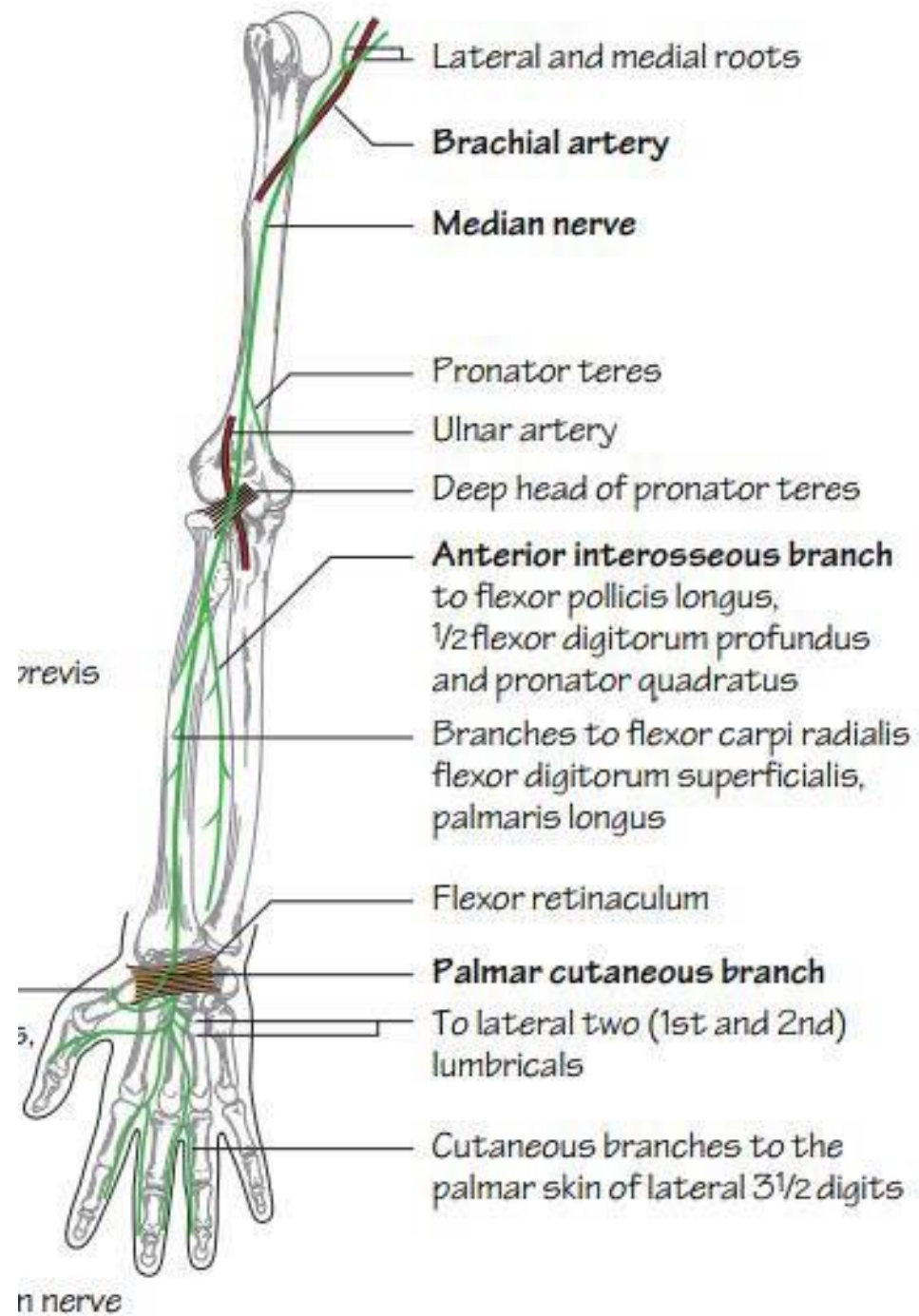


**Fig. 11.19** Median and ulnar nerves in hand: A, branches; B, areas of sensory innervation of the palmar aspect of the hand.

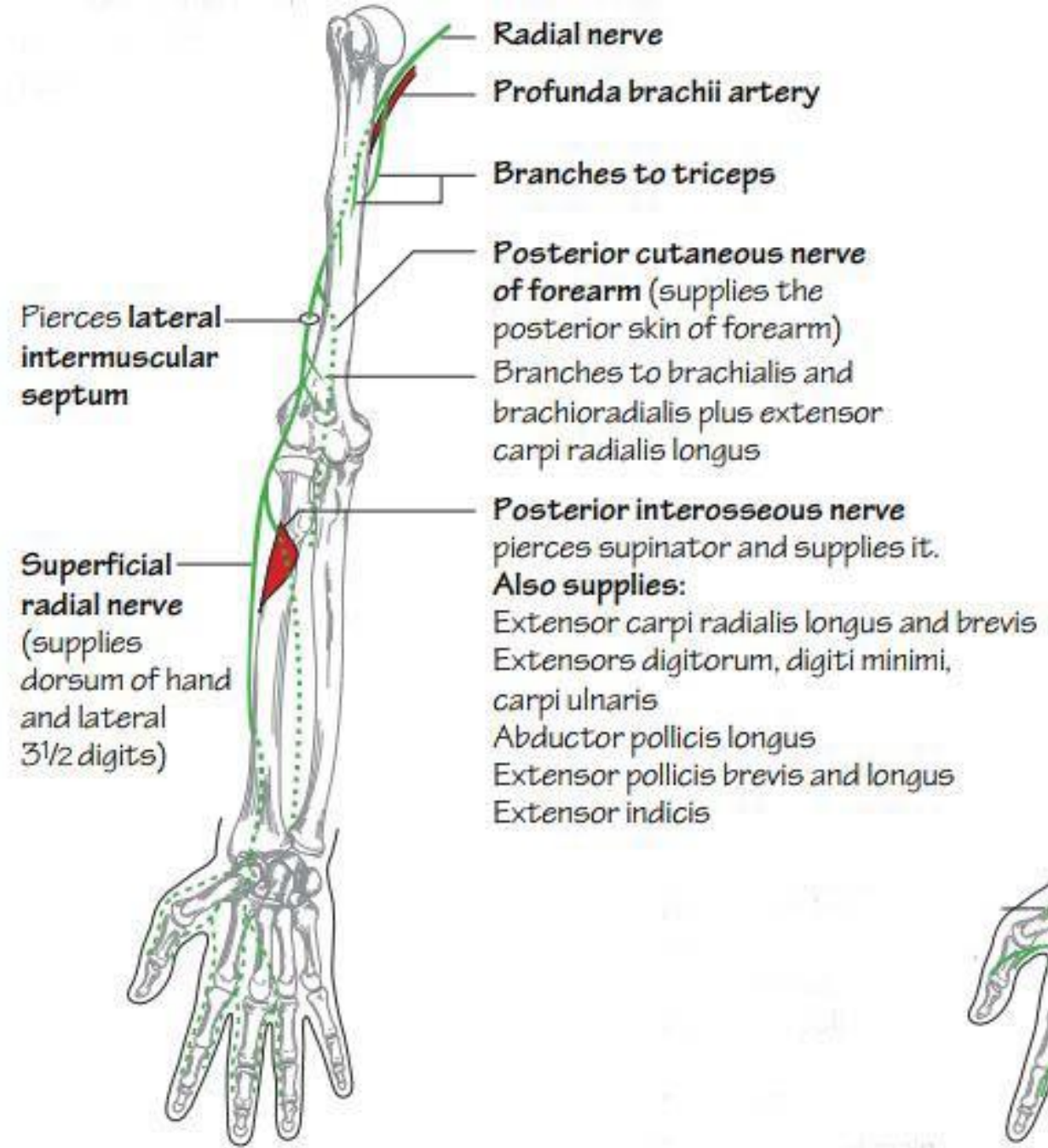


**Fig. 11.20** Dorsum of the hand: A, nerves of dorsum of the hand; B, areas of sensory innervation of the dorsum of the hand

# Median n.



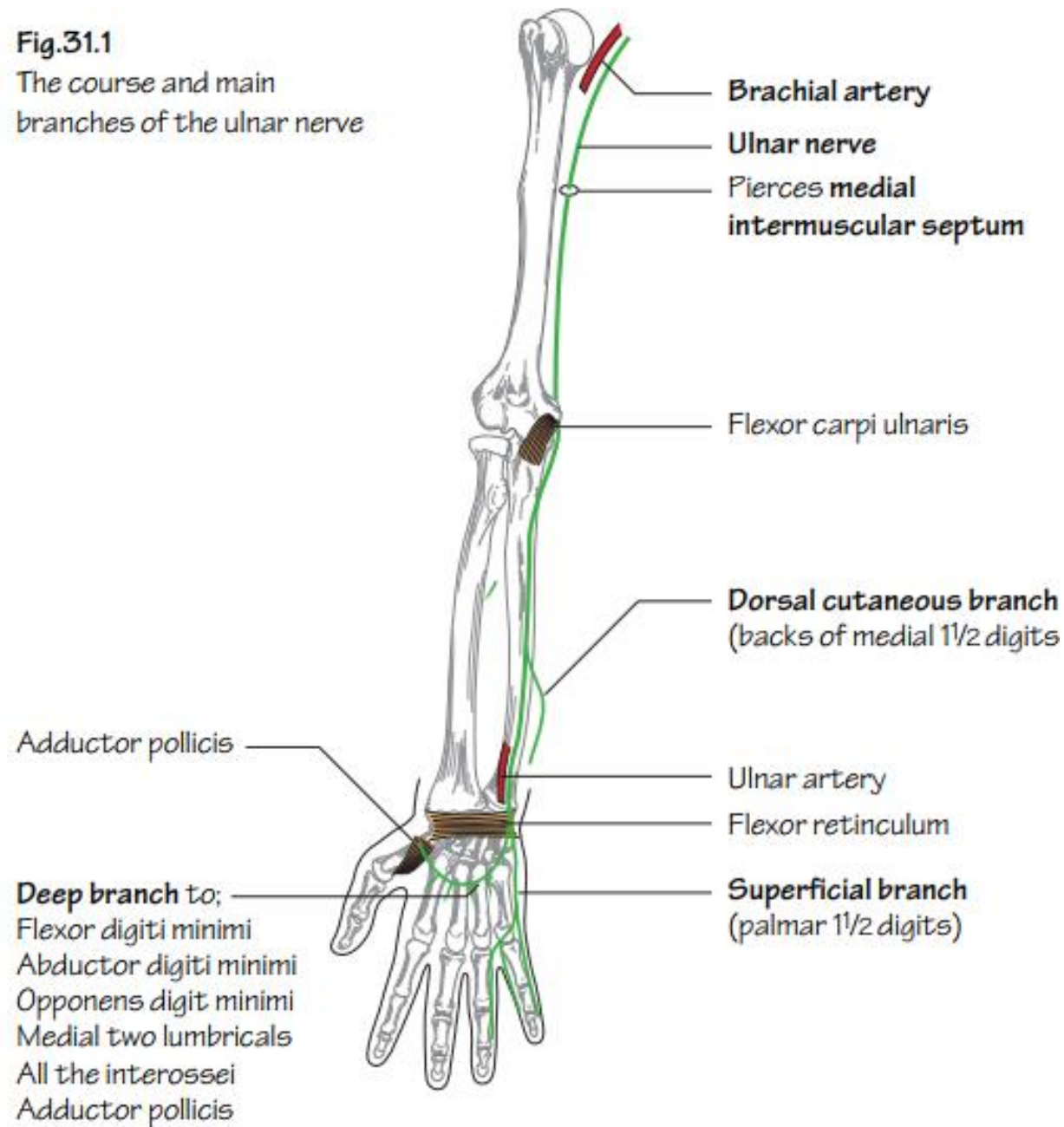
# Radial n.



# Ulnar n.

**Fig.31.1**

The course and main branches of the ulnar nerve







**Fig. 13.6** Saturday night paralysis. Note drunk lady falling asleep with arm over the back of chair.

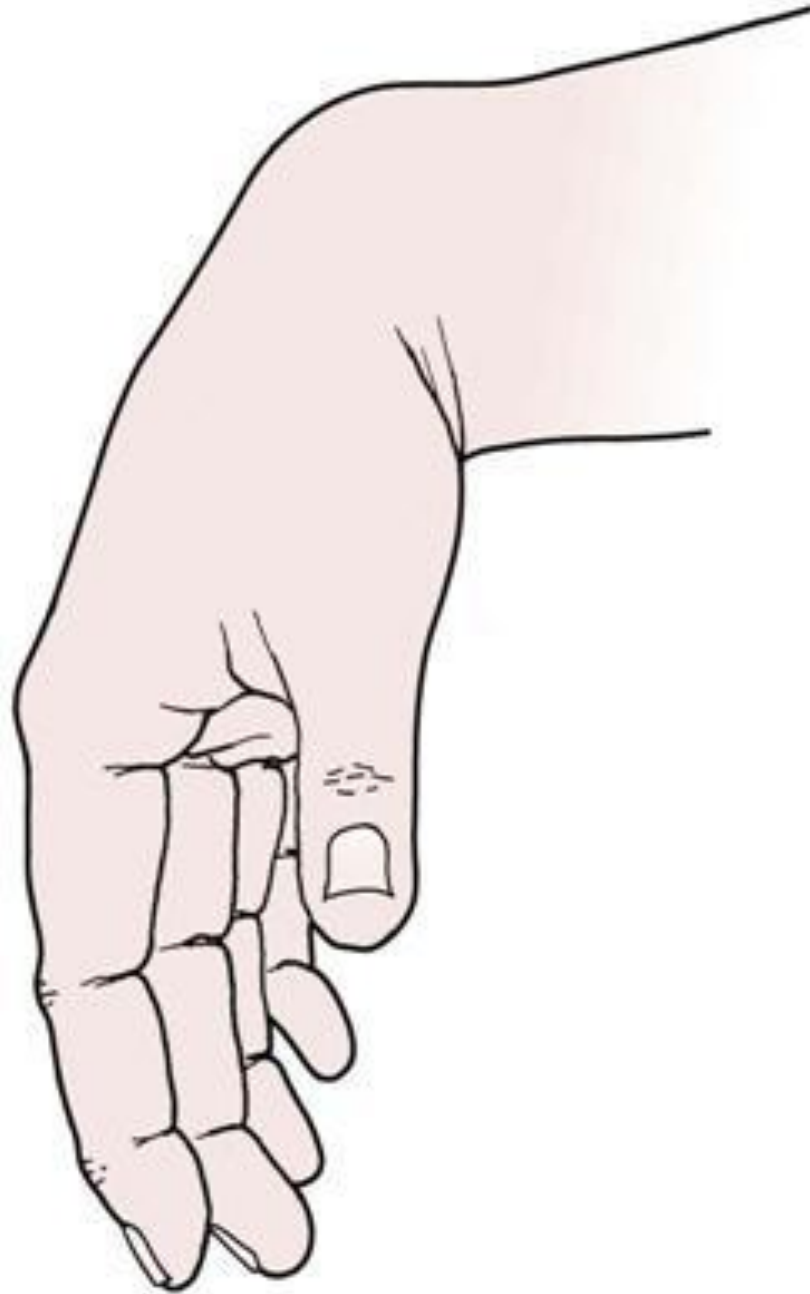
Flat shoulder



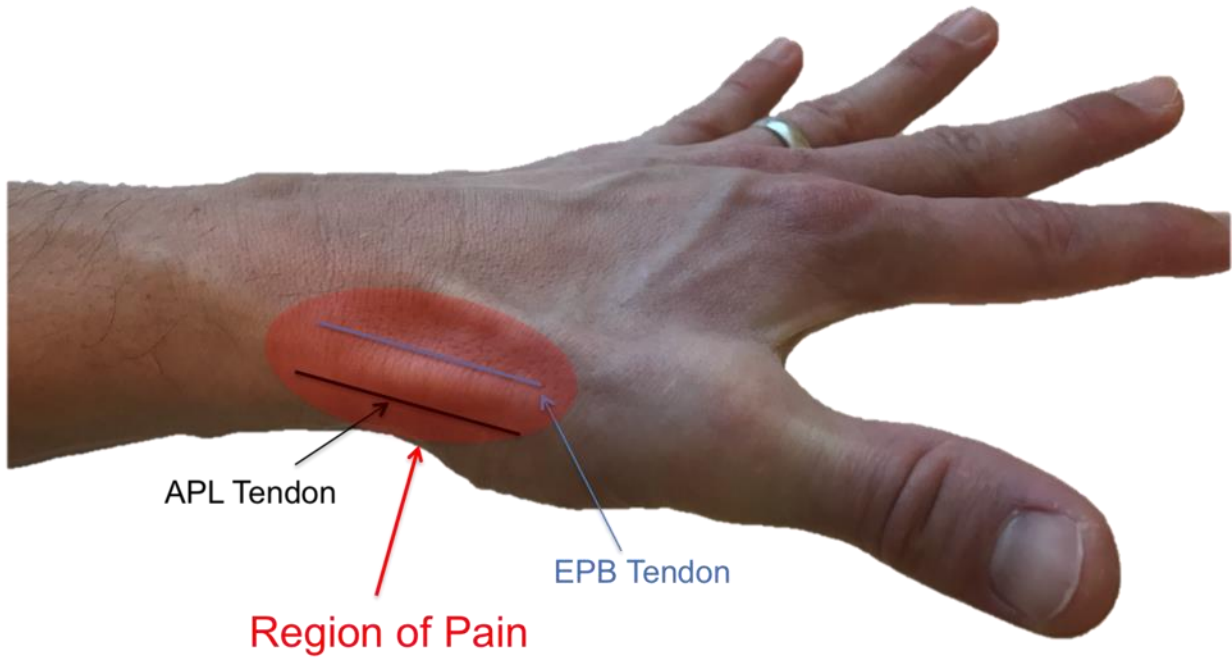




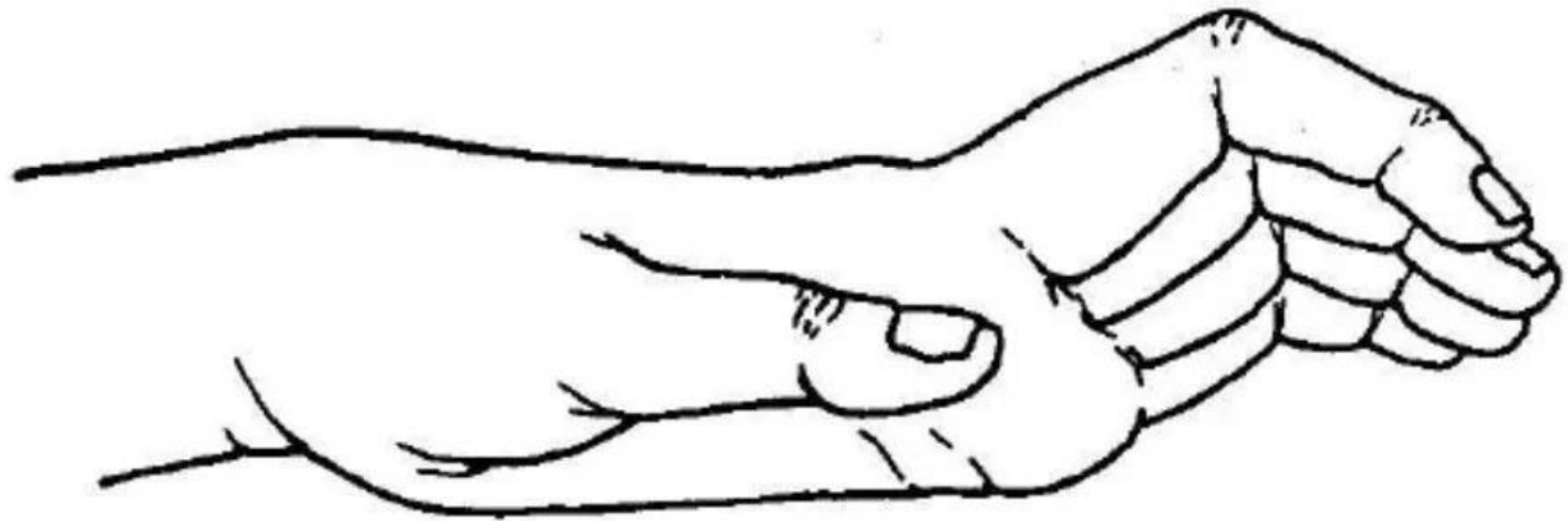
Drop wrist



# De Quervain syndrome



# Ape Hand Deformity

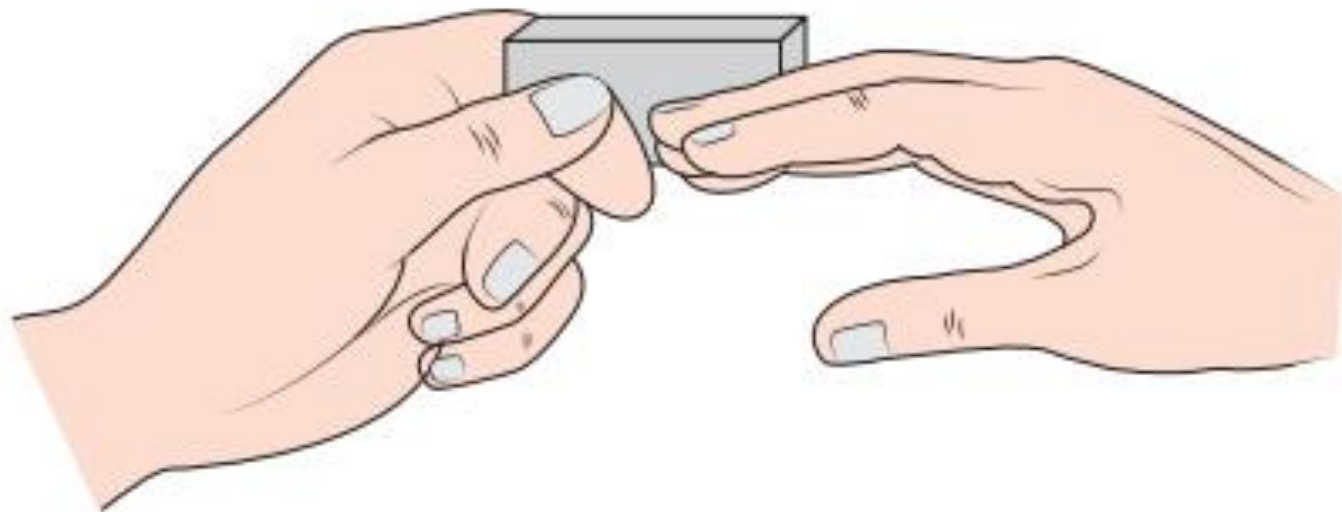


## CLAW HAND

Claw hand means hyperextension at the metacarpo-phalangeal joints and flexion at the proximal and distal inter-phalangeal joints.



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**Fig. 13.15** Foment's sign to test the integrity of palmar interossei. The wrist should be dorsiflexed to rule out the action of long flexors of fingers.