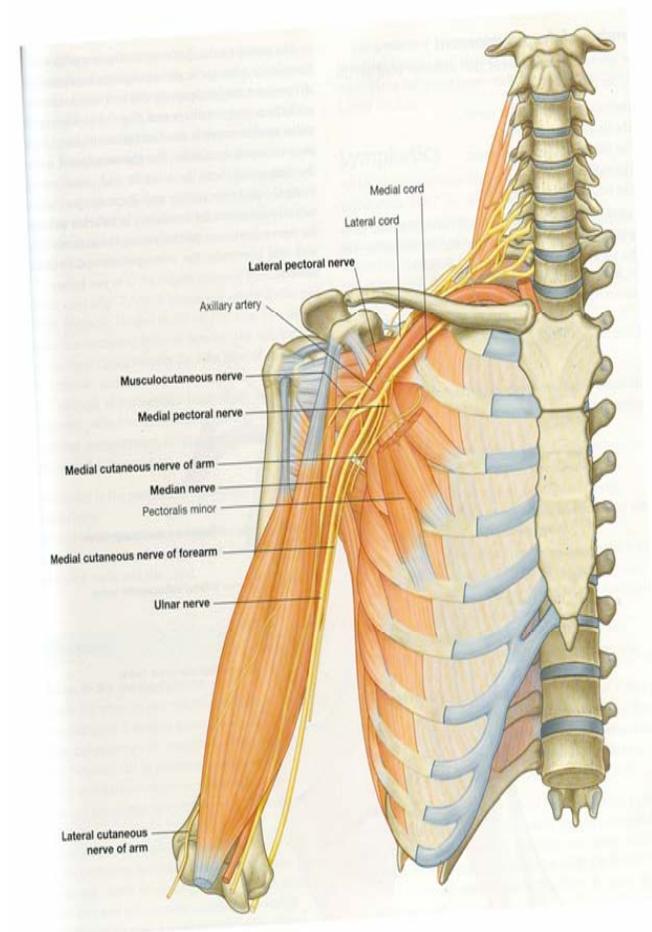


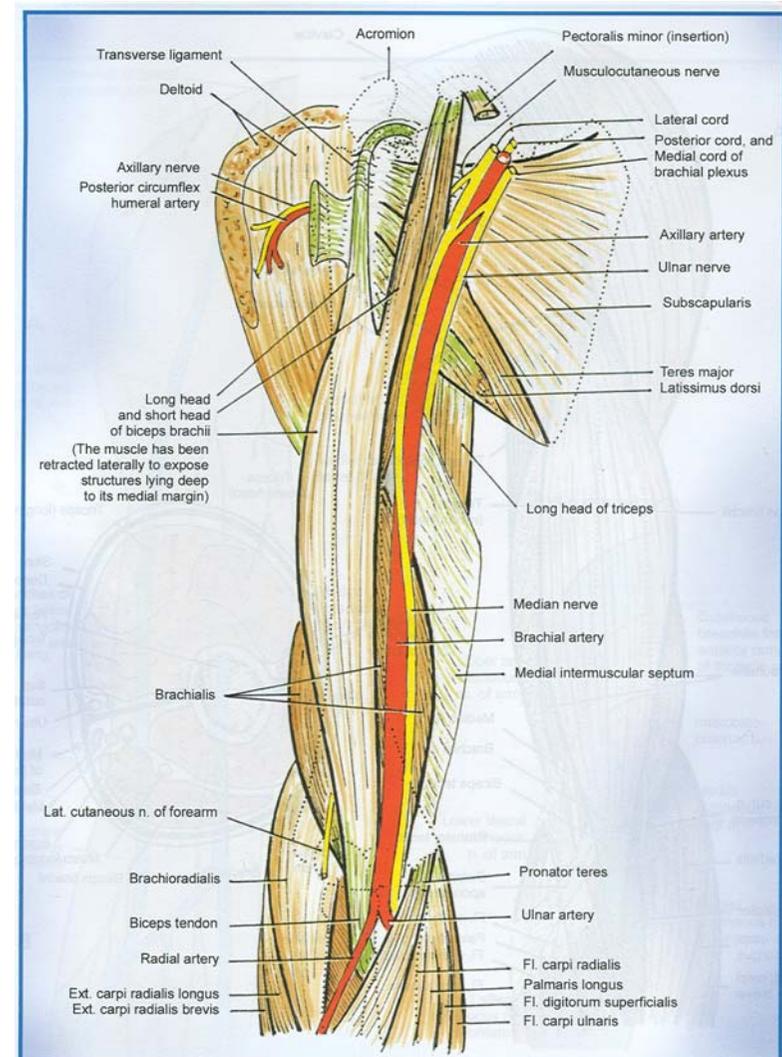
MEDIAN NERVE

- Formation: from two roots
from lateral cord
[C(5),6,7]&
from medial cord(C8,T1)
of brachial plexus
- These two roots embrace
the third part of axillary
artery uniting anterior or
lateral to it



In the arm

- Closely related to the brachial artery through out the course in arm
- In the upper part it is lateral to artery
- In the middle part it crosses the artery from lateral to medial side
- Remains on the medial side up to elbow

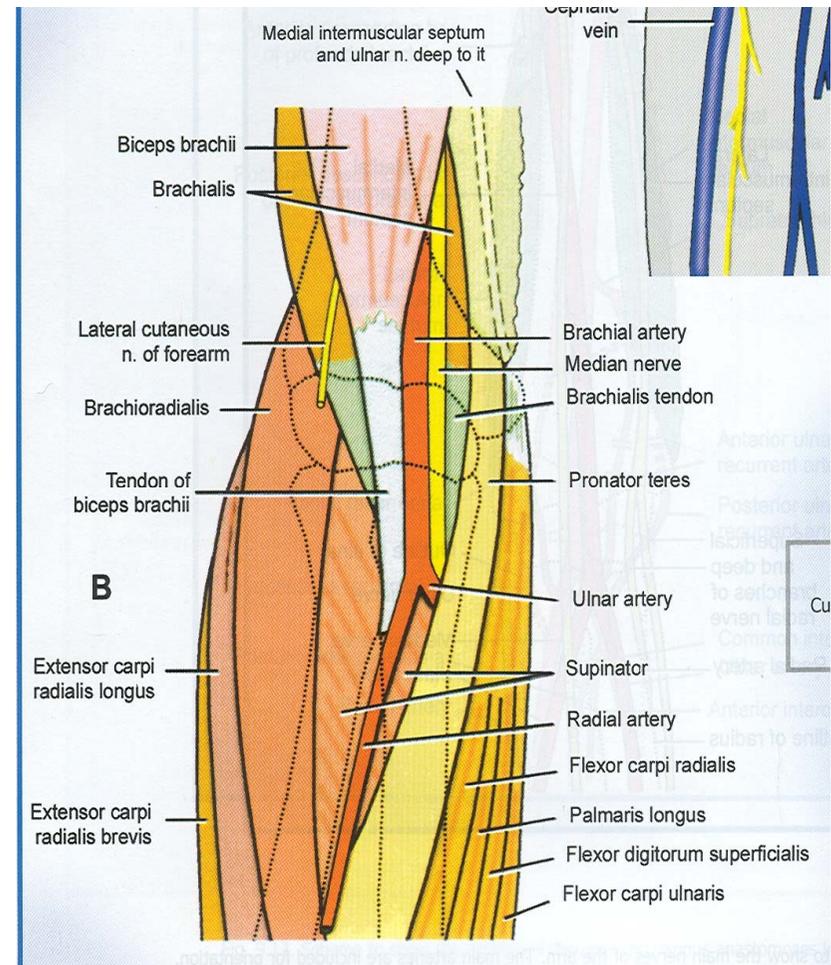


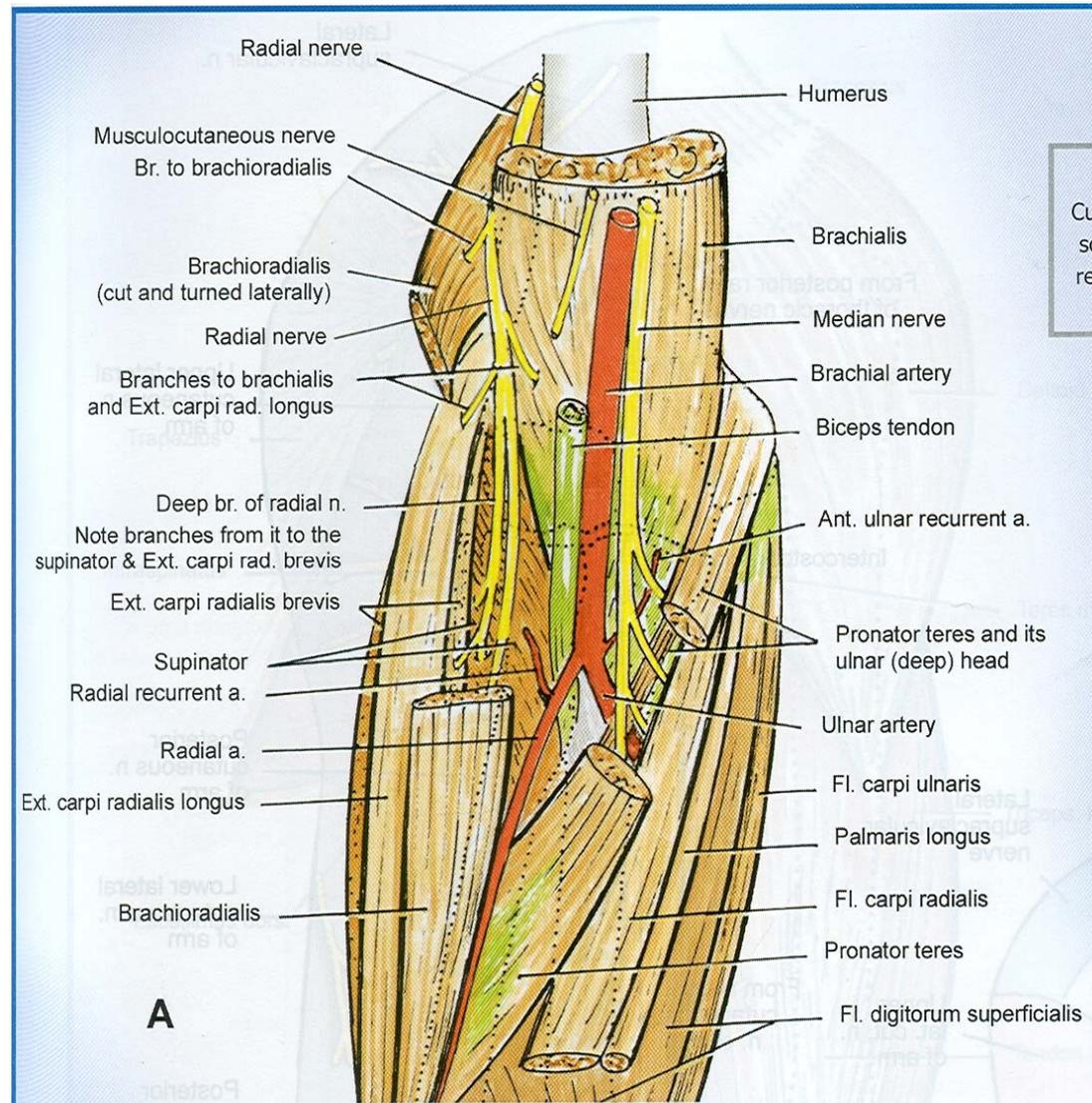
Branches in arm

- Branch to Pronator Teres just above elbow
- Branch to brachial artery
- Branch to elbow joint at or just below the elbow

In the cubital fossa

- Descends medial to brachial artery
- Posterior to bicipital aponeurosis
- Anterior to brachialis, separated by the muscle from the elbow joint

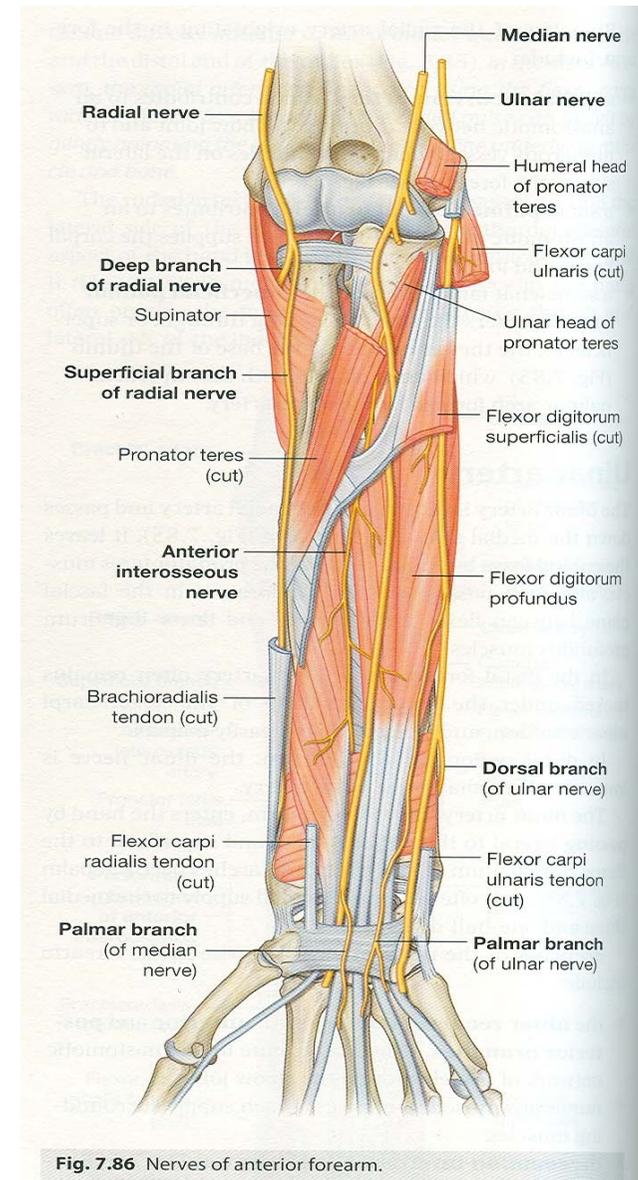




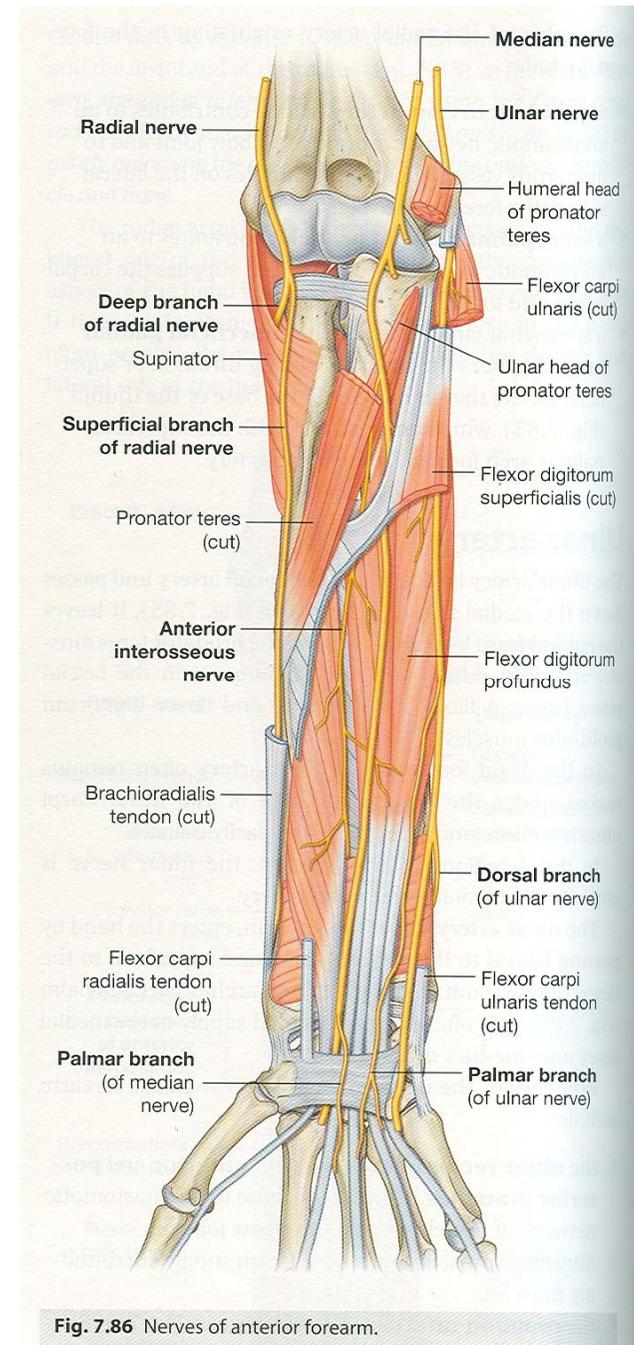
- Leaves the cubital fossa by passing between two heads of pronator teres

In the forearm

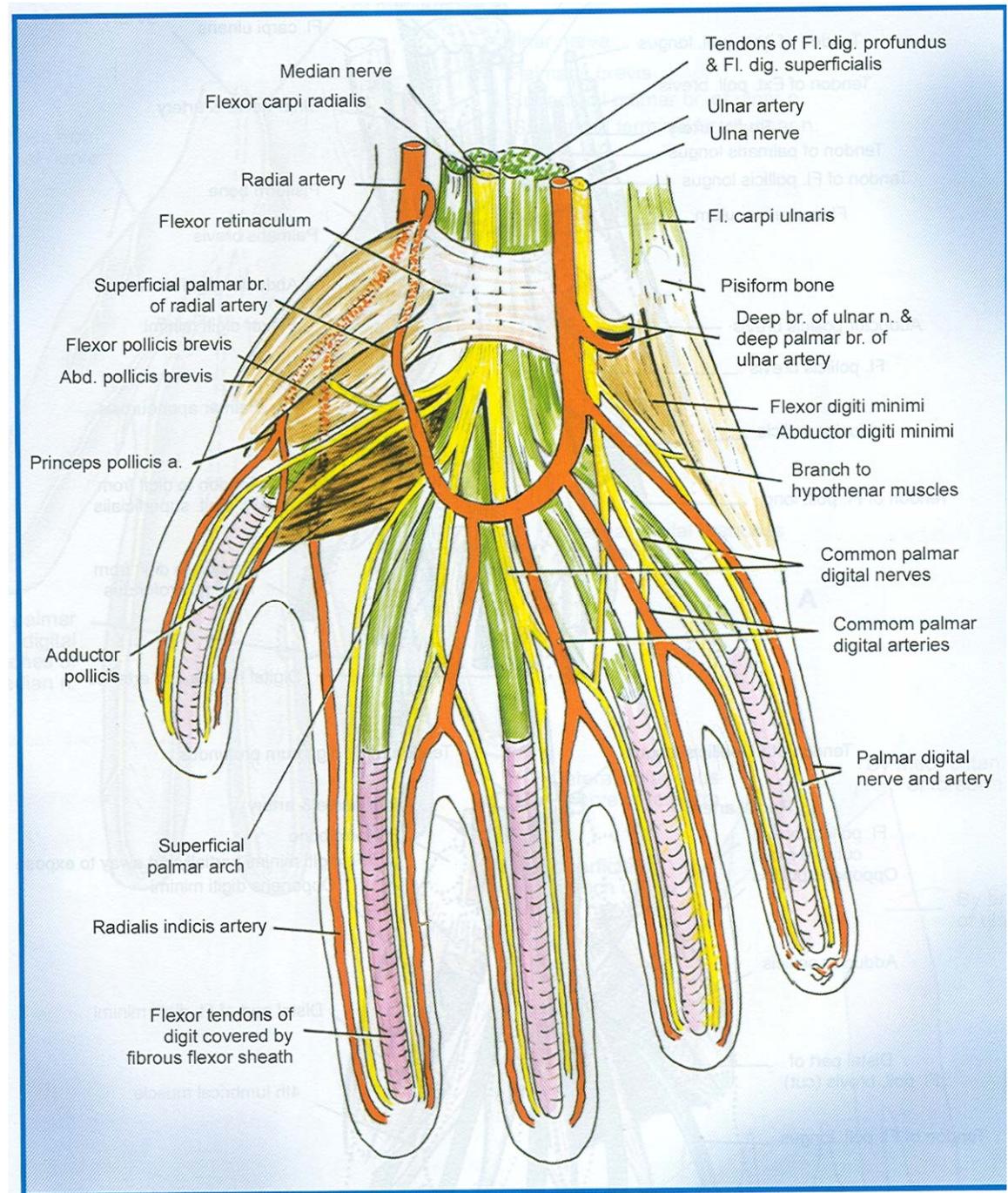
- Enters the forearm between the heads of pronator teres
- Crosses the lateral side of ulnar artery from which it is separated by the deep head of pronator teres
- Gives branch to pronator teres while passing between the two heads

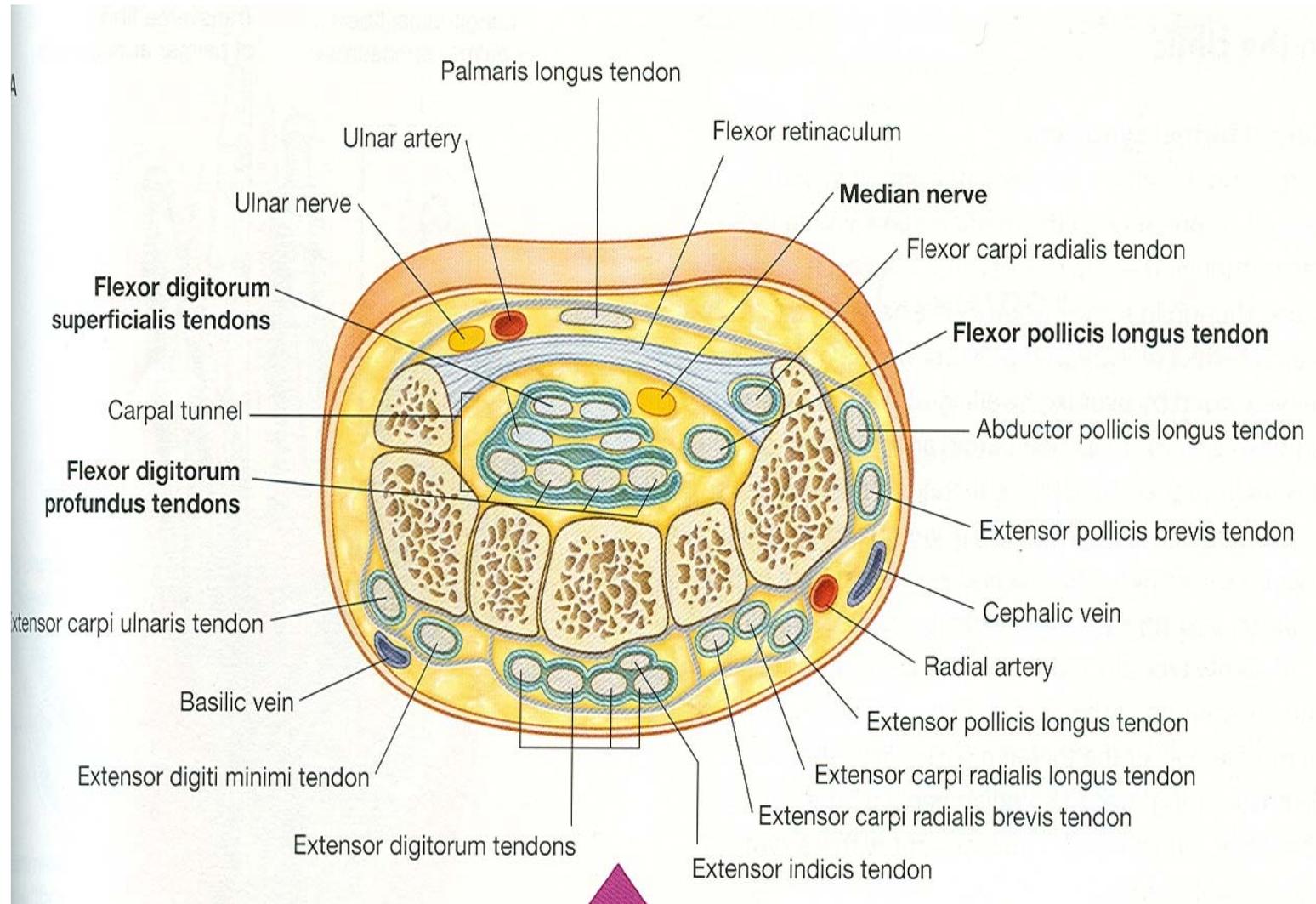


- Proceeds behind a tendinous ridge between the two heads of Flexor digitorum superficialis and anterior to Flexor digitorum profundus
- Here it is accompanied by median artery, a branch of anterior interosseous artery



- About 5 cm proximal to flexor retinaculum it becomes superficial
- Here it lies between the tendon of palmaris longus and the flexor carpi radialis muscle





- Leaves the forearm and enters the palm of the hand by passing through the carpal tunnel deep to flexor retinaculum

- ***Anterior interosseous nerve***: originate between two heads of pronator teres
- passes distally down the forearm with the anterior interosseous artery.
- Innervates the muscles of deep layer (FPL, lateral half of FDP and pronator quadratus)
- Terminates as articular branch to joint of the distal forearm and the wrist

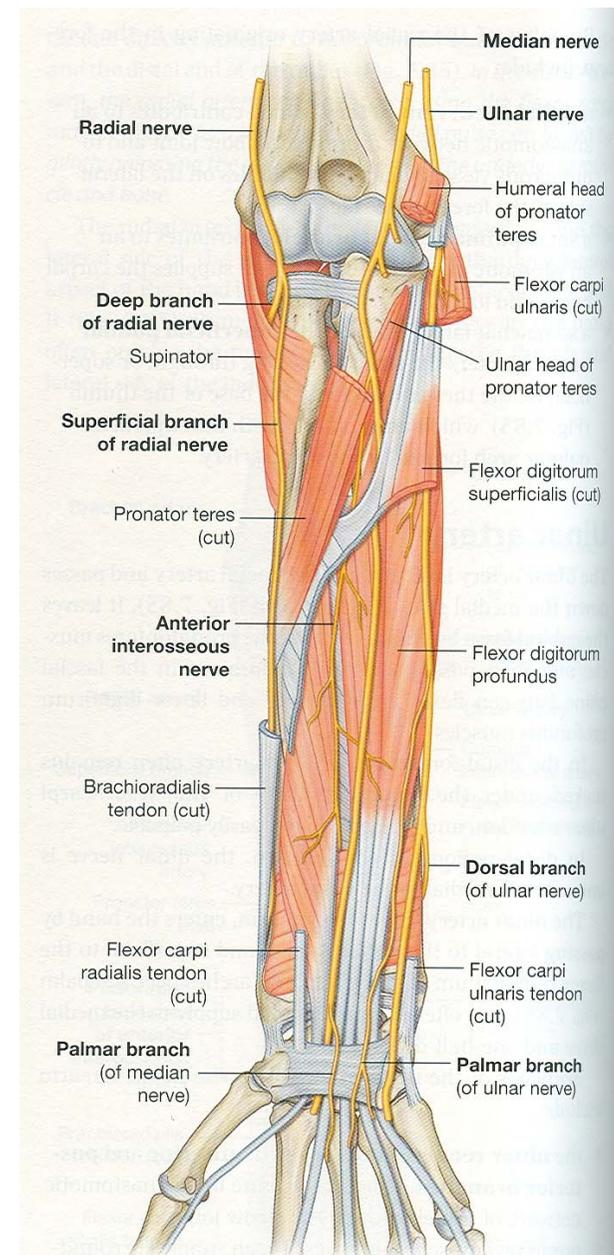
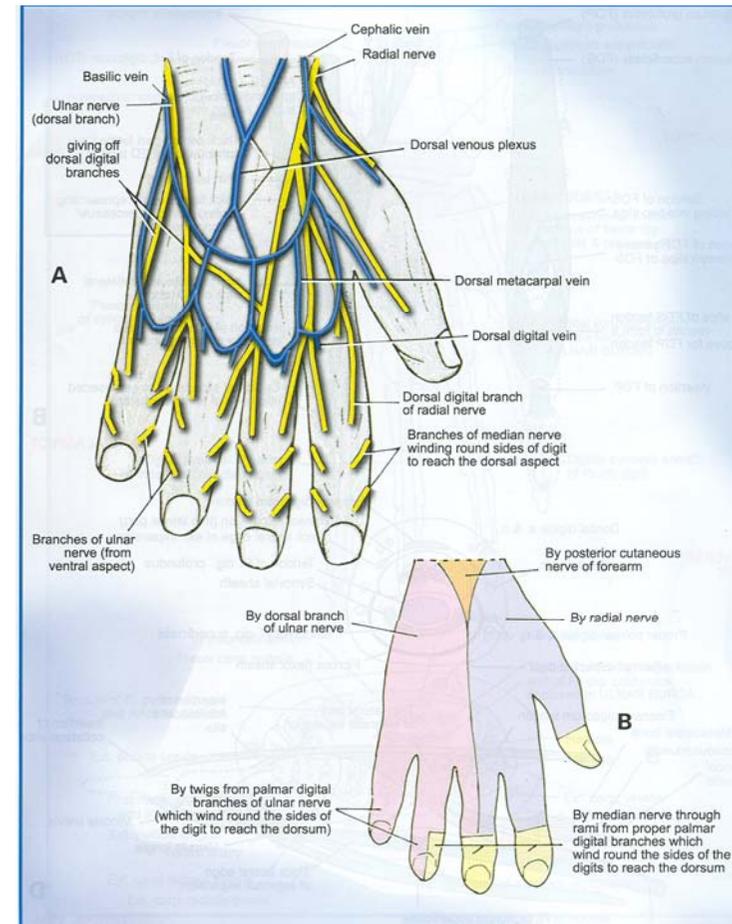
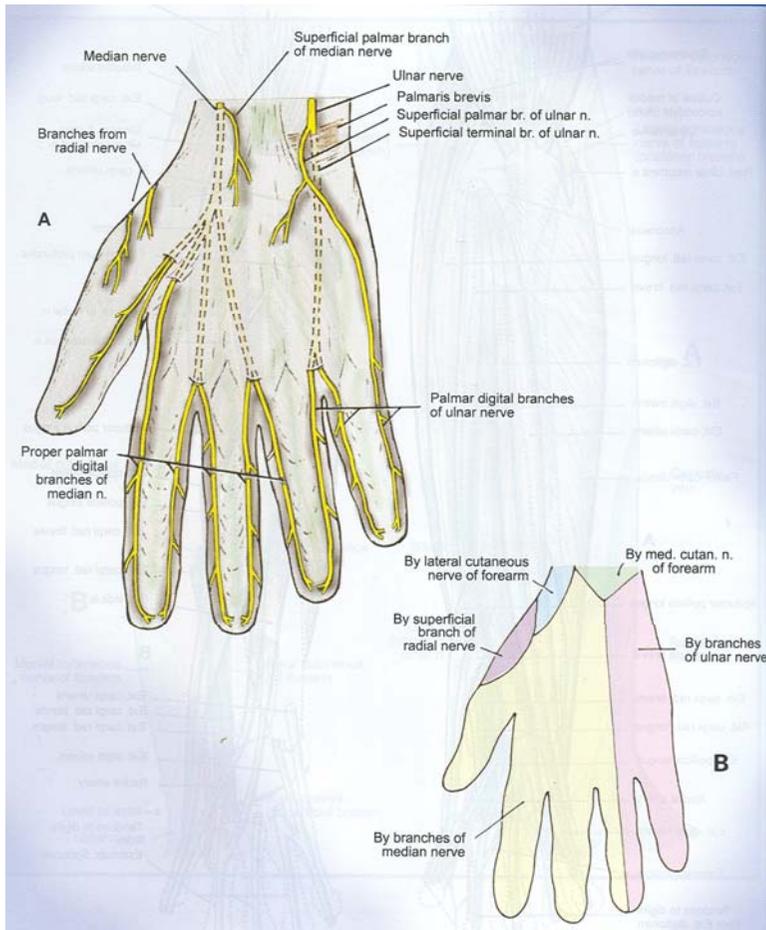


Fig. 7.86 Nerves of anterior forearm.

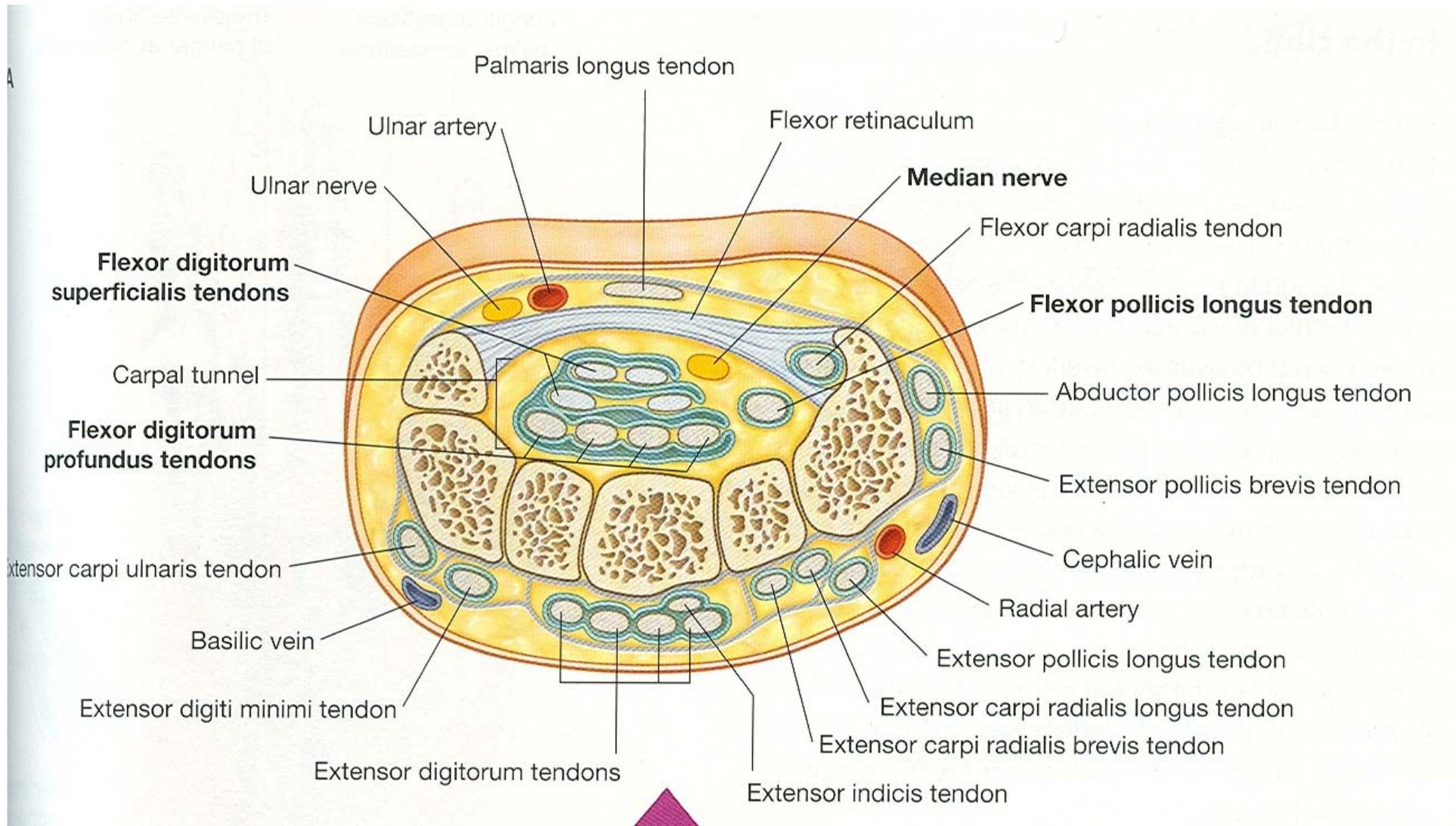


- ***Palmar cutaneous branch:*** starts just proximal to flexor retinaculum
 - **Lateral branches** - thenar skin and connecting branch to the lateral cutaneous nerve of fore arm
 - **Medial branches** - central palmer skin and connecting branch to the palmar cutaneous branch of the ulnar nerve

- ***Communicating branch:***
multiple
 - Arise in the proximal forearm
 - Pass medially between FDP & FDS and behind the ulnar artery to join the ulnar nerve

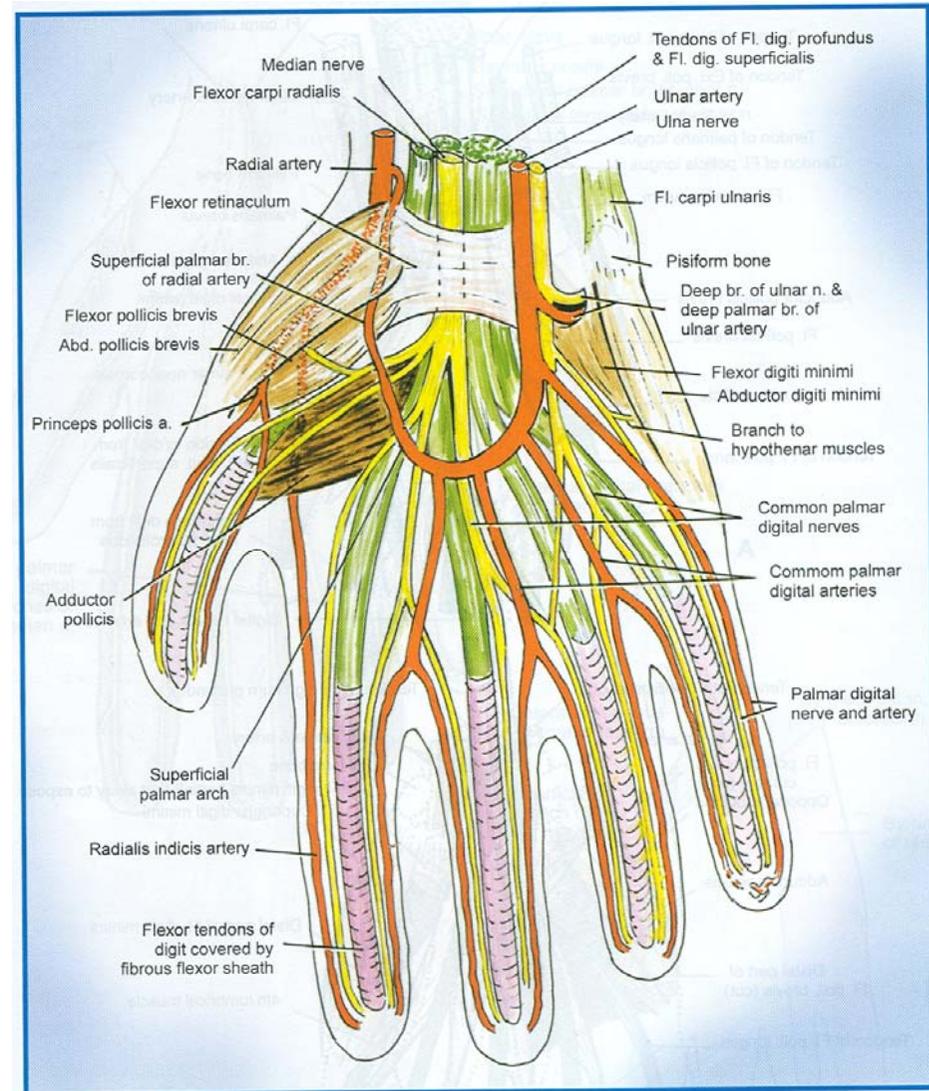
Median nerve in hand

- Proximal to flexor retinaculum it lies between the tendons of FCR & FDS overlapped by palmaris longus
- Distally it lies between the retinaculum and the tendon in the retinaculum
- Site of compression
- Distal to retinaculum nerve enlarges and flattens
- divides in to five or six branches

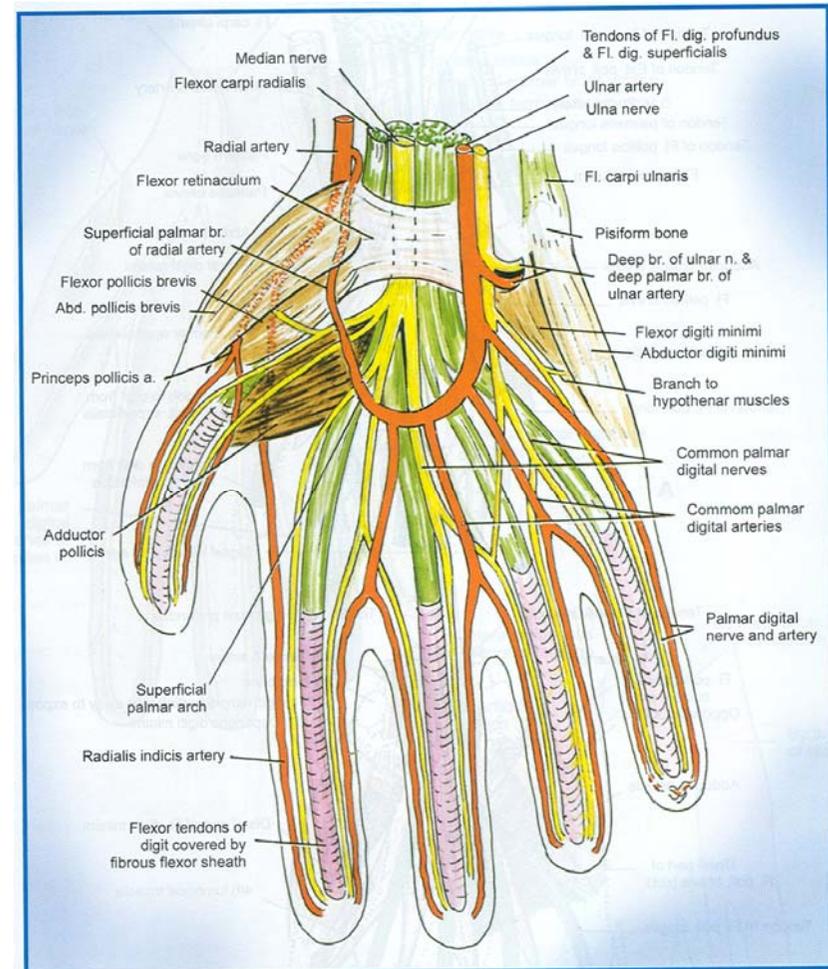


Branches in the hand

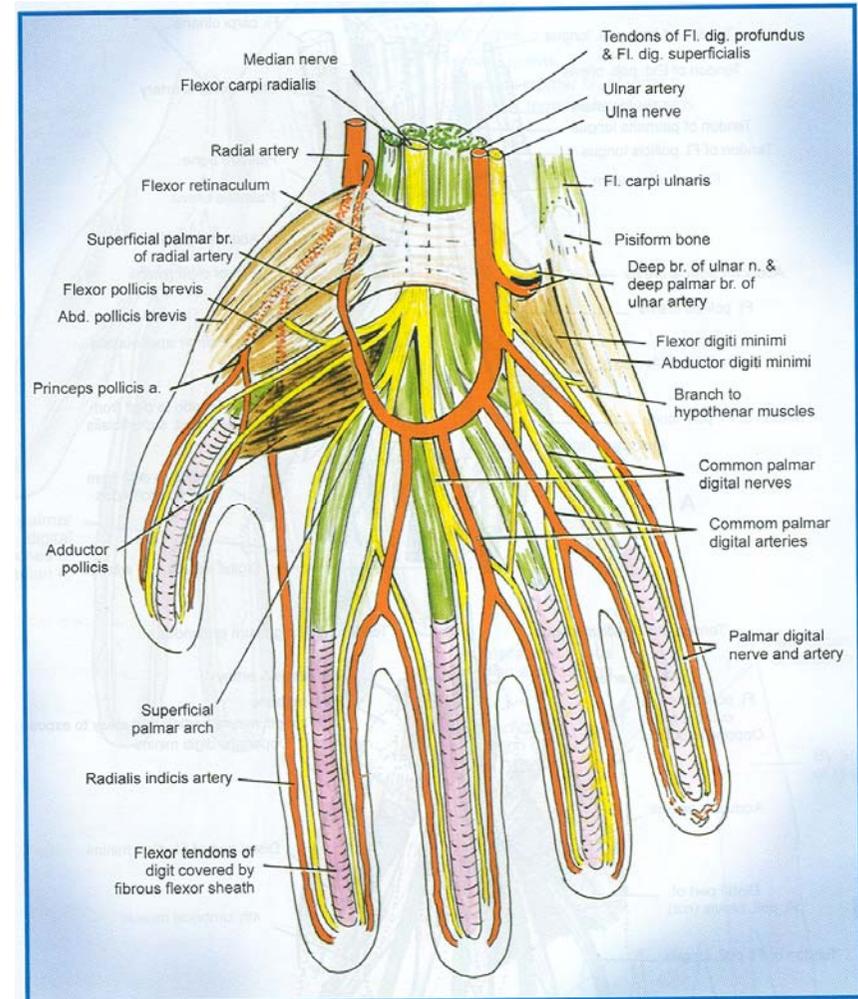
Lateral branch:
gives Recurrent branch- short and stout, curls upwards over the distal border of flexor retinaculum and FPL to supply three thenar muscles APB, FPB & OP



- ***Three palmer digital branches-*** First two supply the skin of the sides of the thumb ,its web and distal part of its dorsal surface.
- Third supplies the skin of the radial side of index finger and the first lumbrical muscle through its superficial surface



- Medial branch: gives
 - Two common palmar digital branches- lateral and medial which descend to the interdigital clefts between the index, middle and ring finger
 - Each nerve divides again into two to supply adjacent sides of the fingers
 - So in total it supplies skin of lateral three and half fingers including the skin on the dorsal aspect of terminal phalanges



- The lateral common palmar digital supplies the second lumbrical
- the median common palmar digital gives a communicating branch to common palmar digital branch of ulnar nerve
- ***Articular branches:*** to wrist
,metacarpophalangeal & interphalangeal joint

Lesion in Carpal tunnel or above wrist

- Wasting due to paralysis of thenar muscles. Thumb is maintained in a position of adduction, extension and lateral rotation due to unopposed action of extensor pollicis longus (***Ape thumb deformity***)
- Sensory loss over the area supplied by median nerve

- Carpal tunnel syndrome : Median nerve is compressed due to narrowing of the tunnel, first there are pressure symptom and then paralysis
- Patient complaints of intermittent pain in the distribution of median nerve
- No parasthesia over the thenar eminence since the skin over the area is supplied by palmar cutaneous branch of the median nerve which passes superficial to the flexor retinaculum

Lesion in forearm ,cubital fossa & axilla

- Flexors of the wrist, except FCU are paralysed resulting in loss of flexion of middle phalanx of all the fingers and distal phalanges of the index and middle fingers
- Flexion of wrist will also cause an adduction
- Forearm can not be pronated beyond midprone position
- All the symptom of carpal tunnel syndrome

