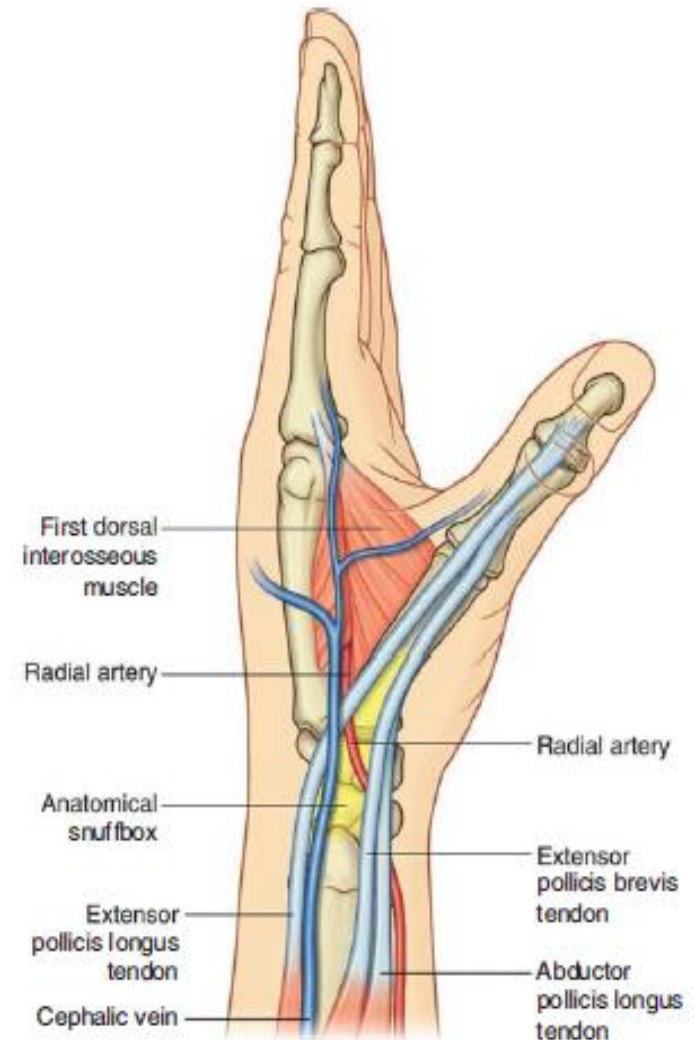


Anatomical snuffbox

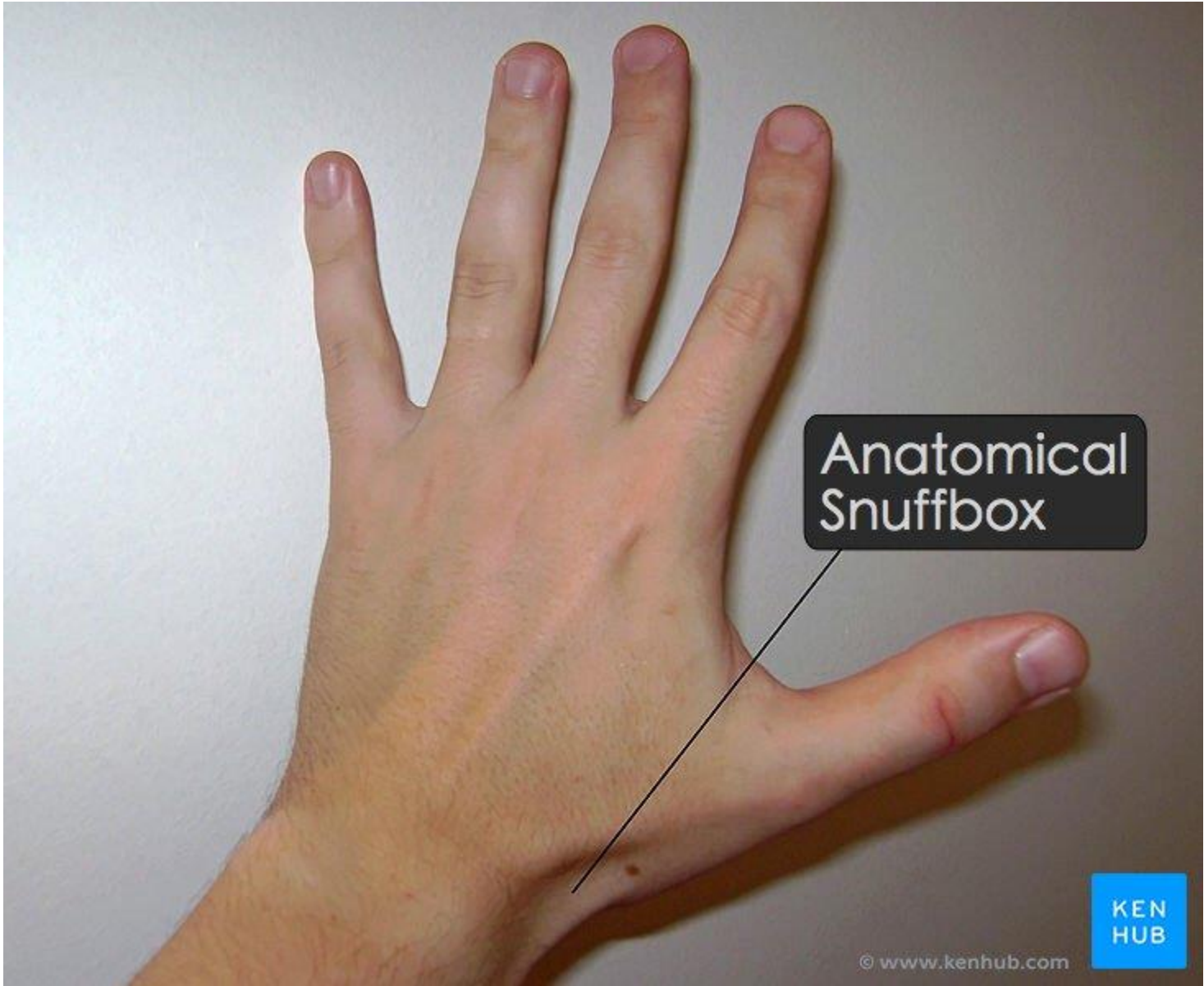
- Depression seen on the lateral aspect of the wrist immediately distal to the radial styloid process.
- **Bounded:**
 - **laterally** by tendons of the **abductor pollicis longus**, **extensor pollicis brevis**.

Medially by tendon of the **extensor pollicis longus**.

floor: scaphoid and trapezium bones

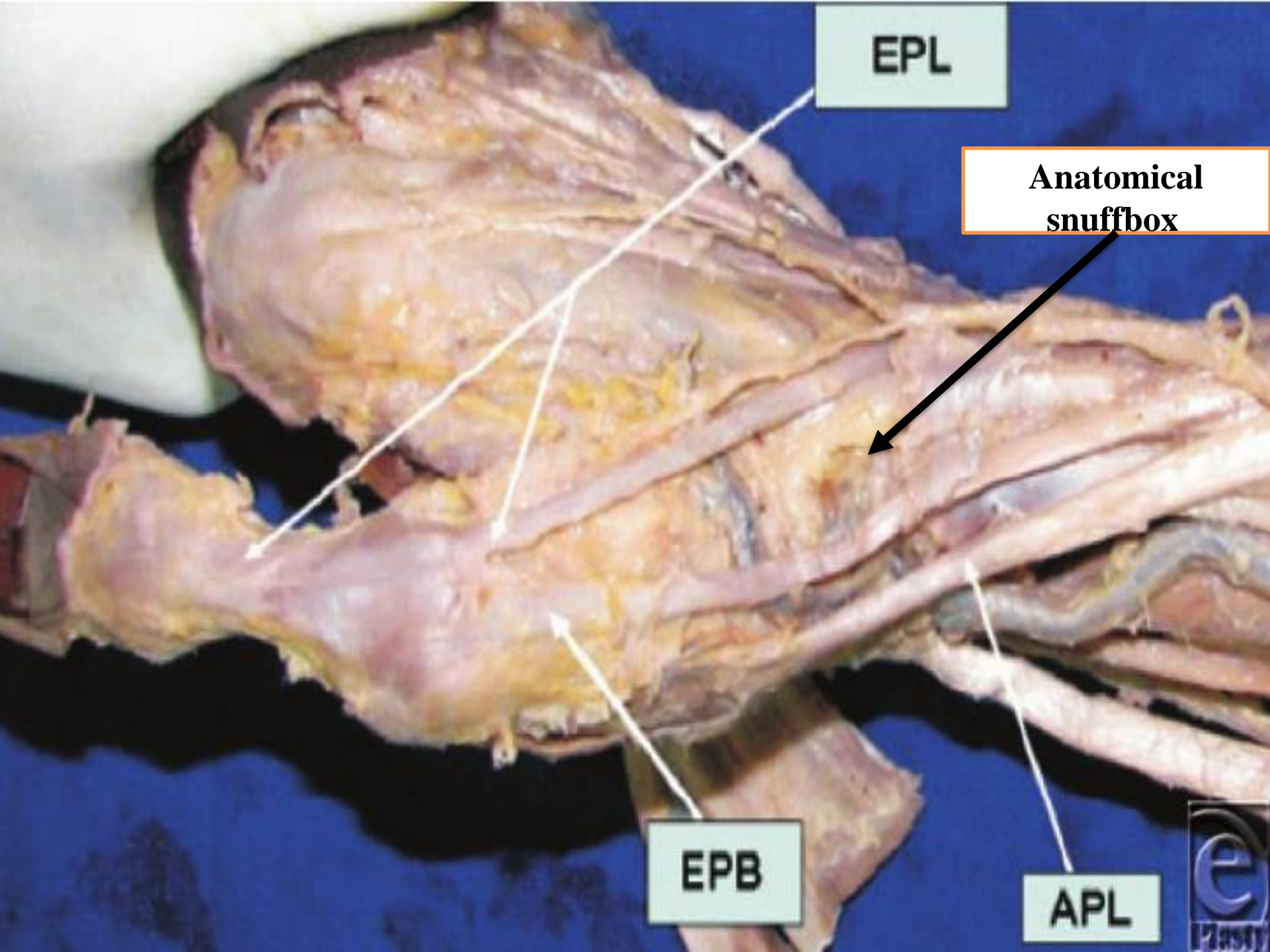


Its clinical importance lies in the fact that the scaphoid bone is most easily palpated here and that the pulsations of the radial artery can be felt here



Anatomical Snuffbox





EPL

**Anatomical
snuffbox**

EPB

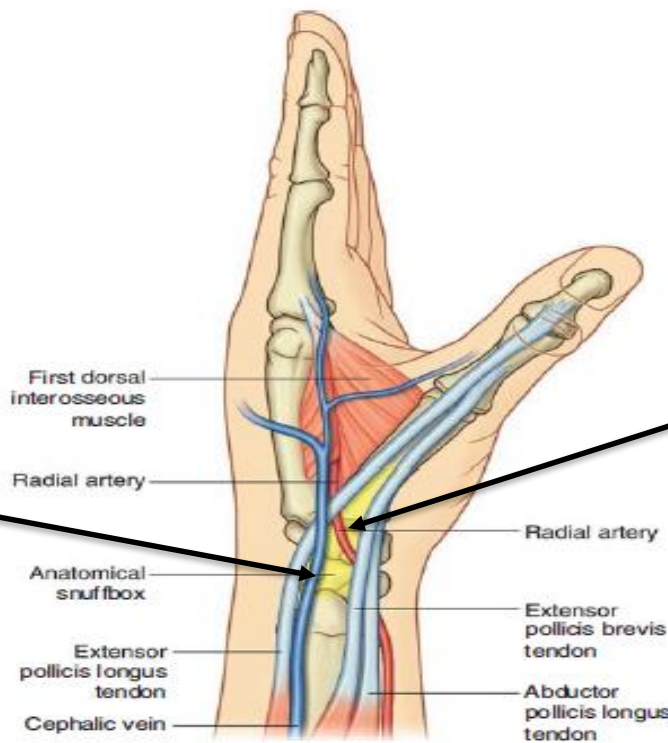
APL

Anatomical snuffbox

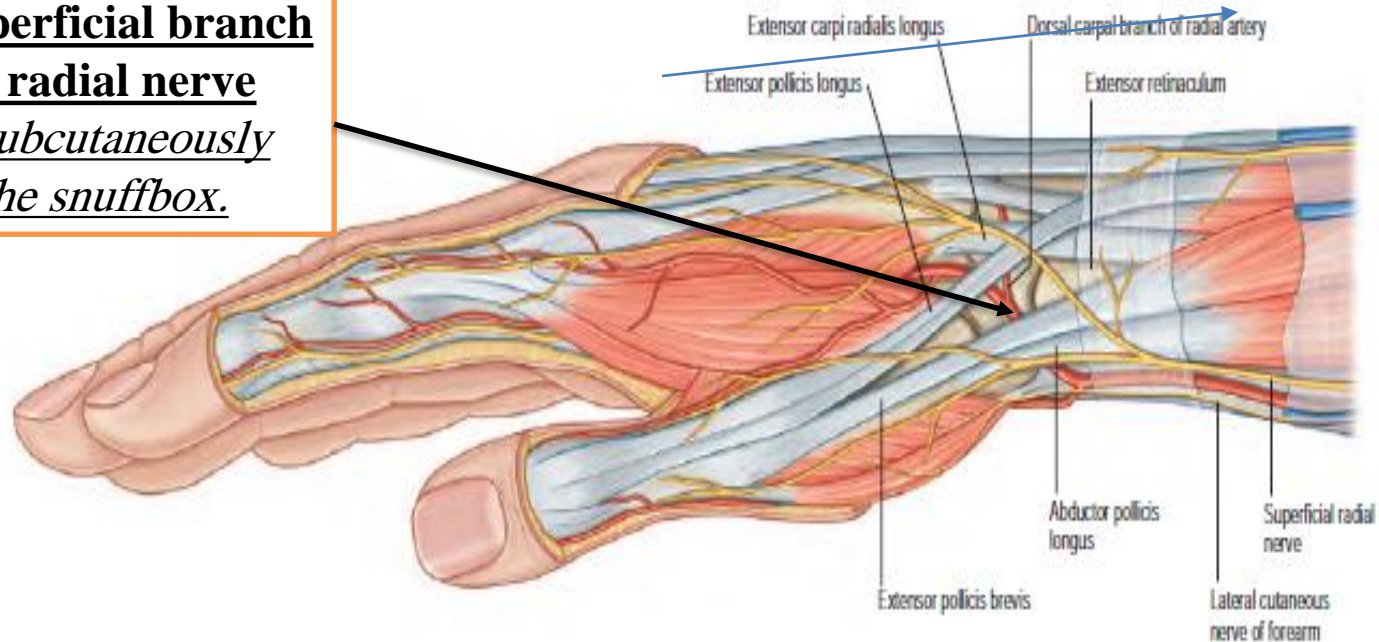
- **Contents:**

2) Origin of the **cephalic vein** pass subcutaneously over the snuffbox.

3) **Superficial branch of the radial nerve** pass subcutaneously over the snuffbox.



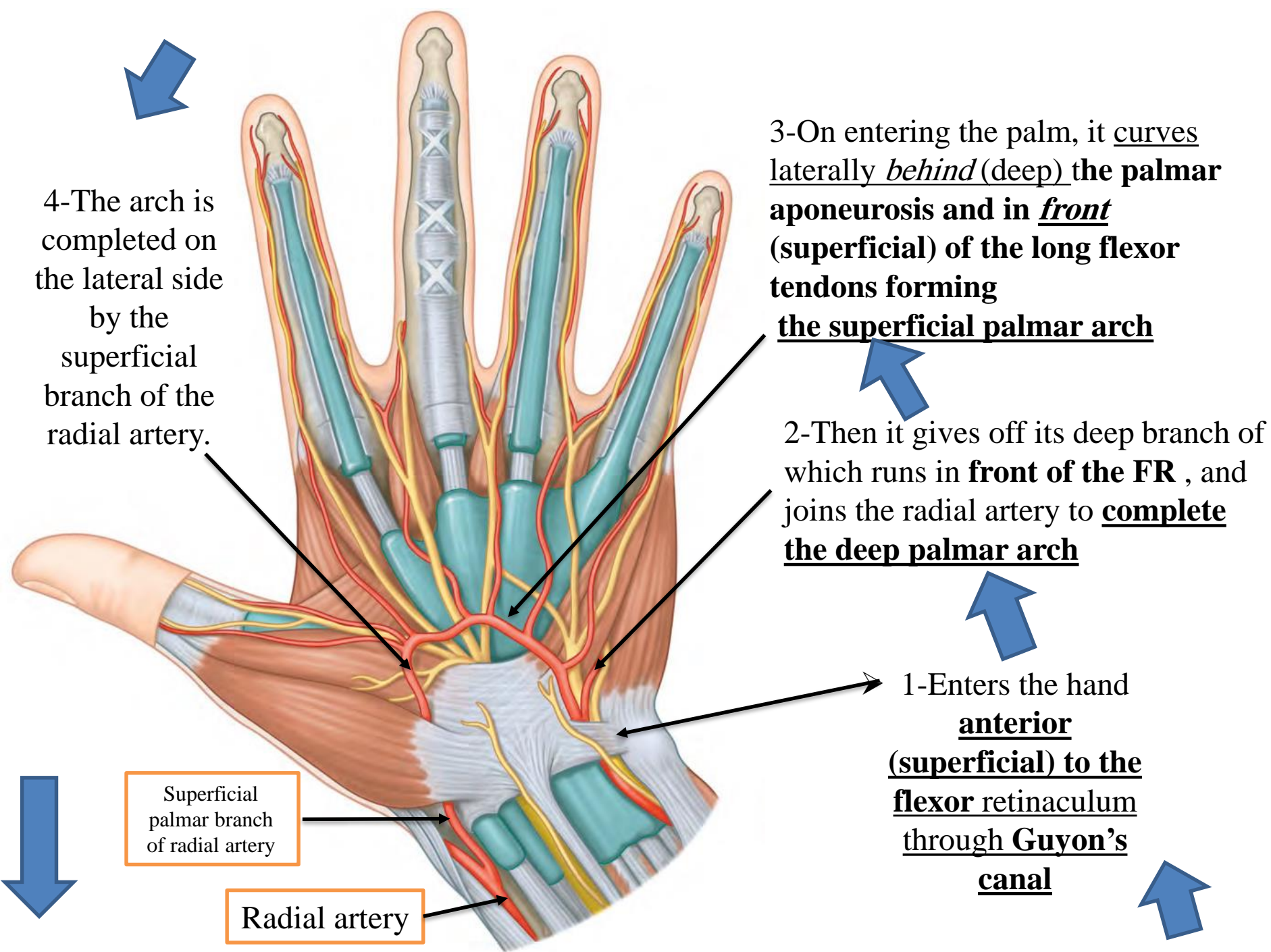
1) **The radial artery**

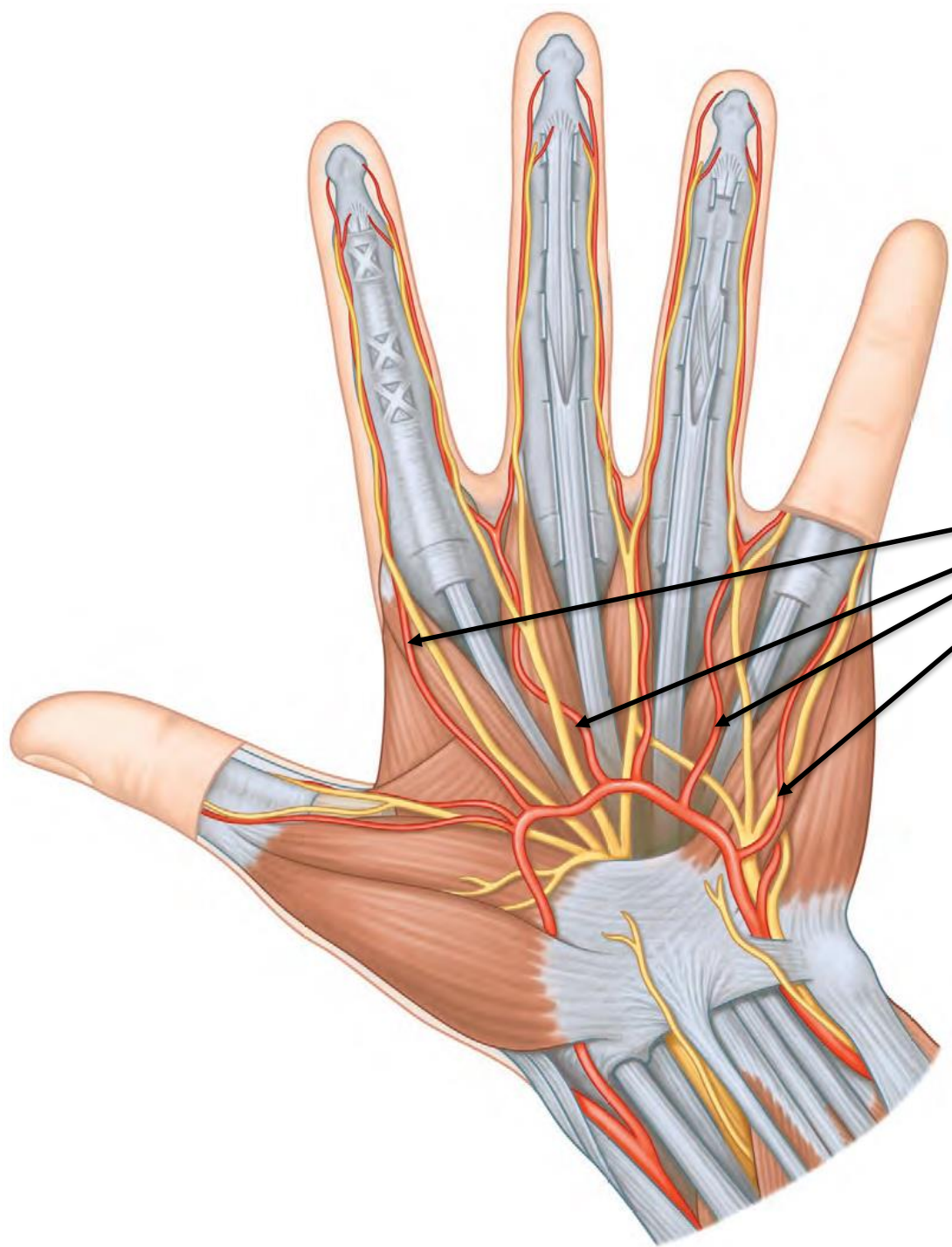


BLOOD SUPPLY OF THE HAND

Anastomoses occur between the radial and ulnar arteries via the superficial and deep palmar arches

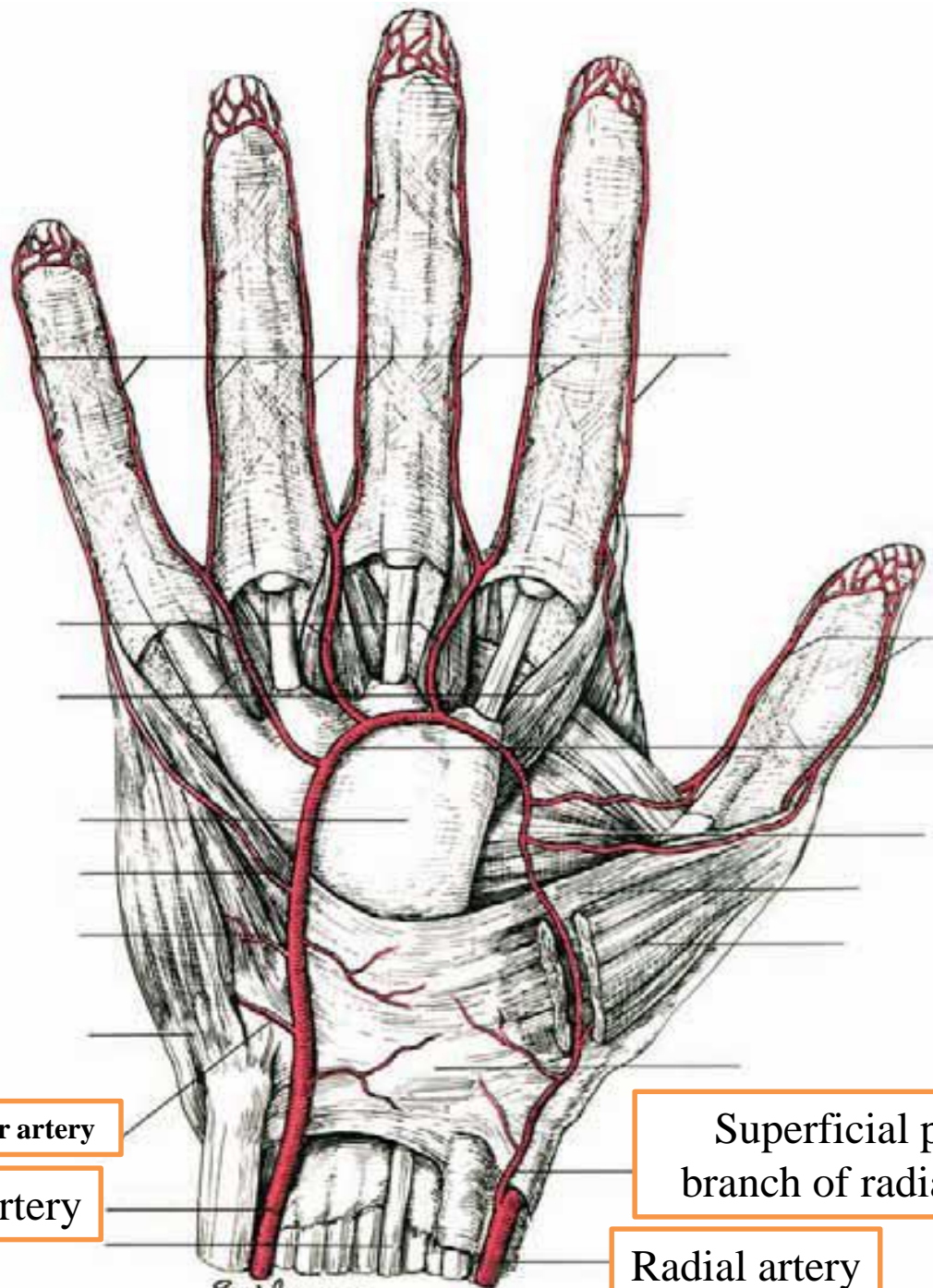
The Deep palmar arch is formed mainly by the **radial artery** while
the superficial palmar arch is formed mainly by the **ulnar artery**





5-The superficial palmar arch gives off digital arteries

from its convexity which pass to the fingers and supply them



Superficial palmar arch

Deep palmar branch of ulnar artery

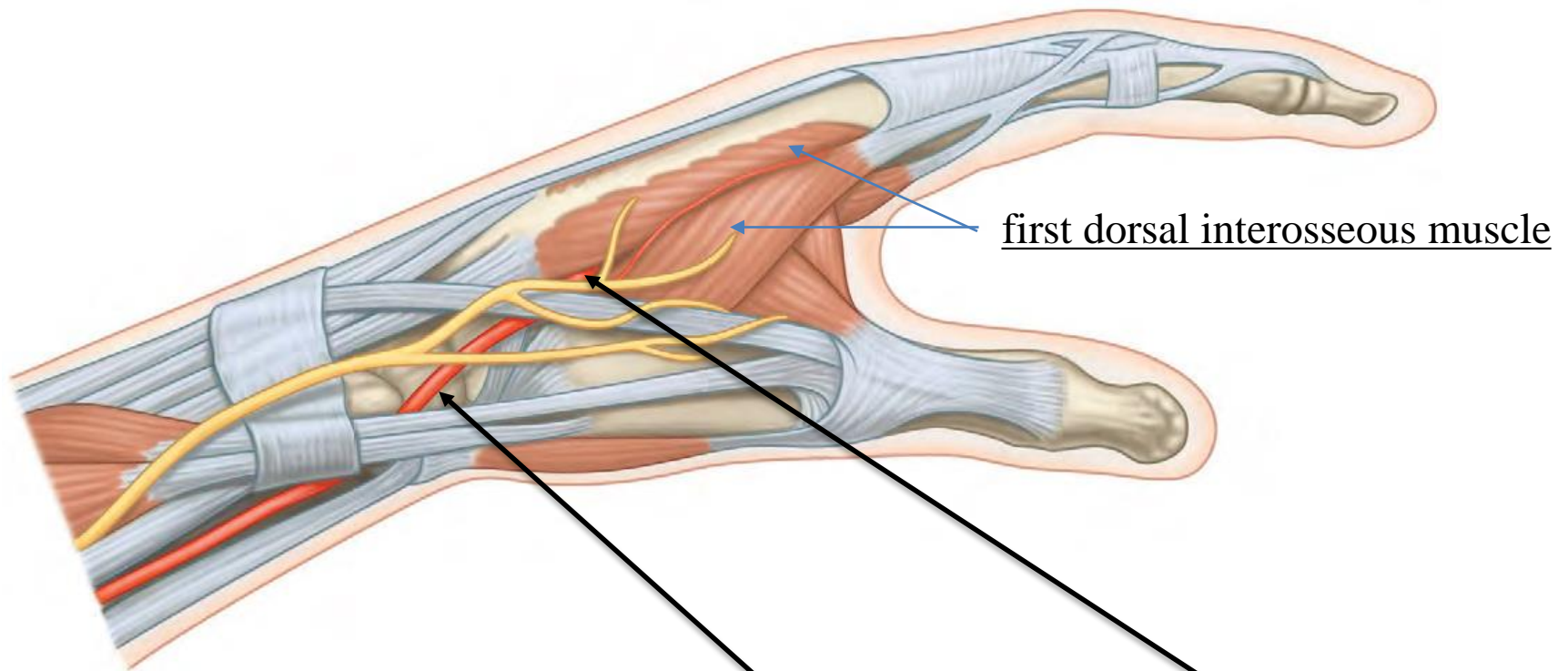
Ulnar artery

Superficial palmar branch of radial artery

Radial artery

Penthus

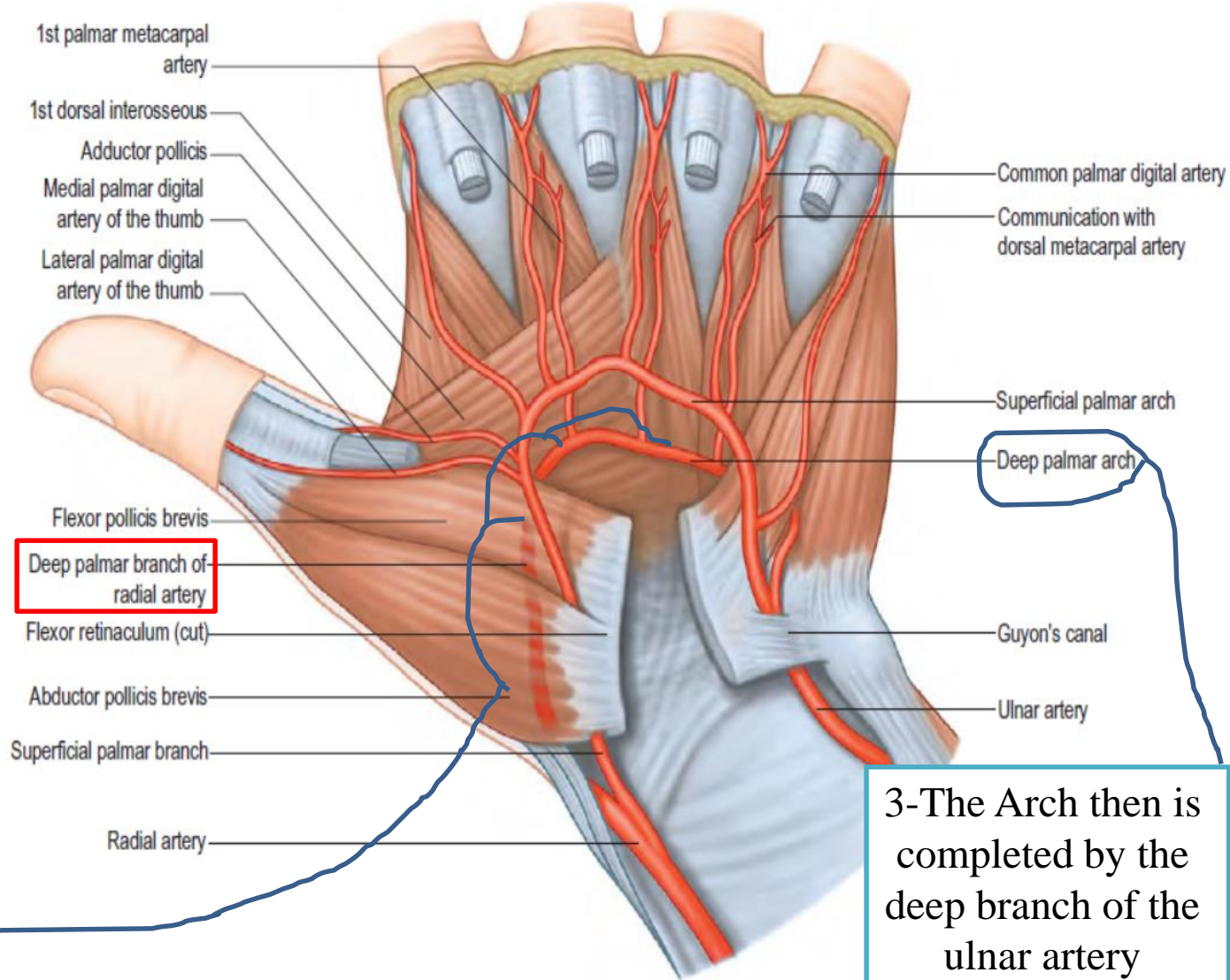
RADIAL ARTERY



first dorsal interosseous muscle

1-From the floor of the anatomical snuff-box the radial artery leaves the dorsum of the hand by turning forward between the two heads of the first dorsal interosseous muscle.

4-The deep palmar arch sends branches superiorly (proximally) (anastomosis around the wrist joint), inferiorly (distally) (join the digital branches of the superficial palmar arch.)

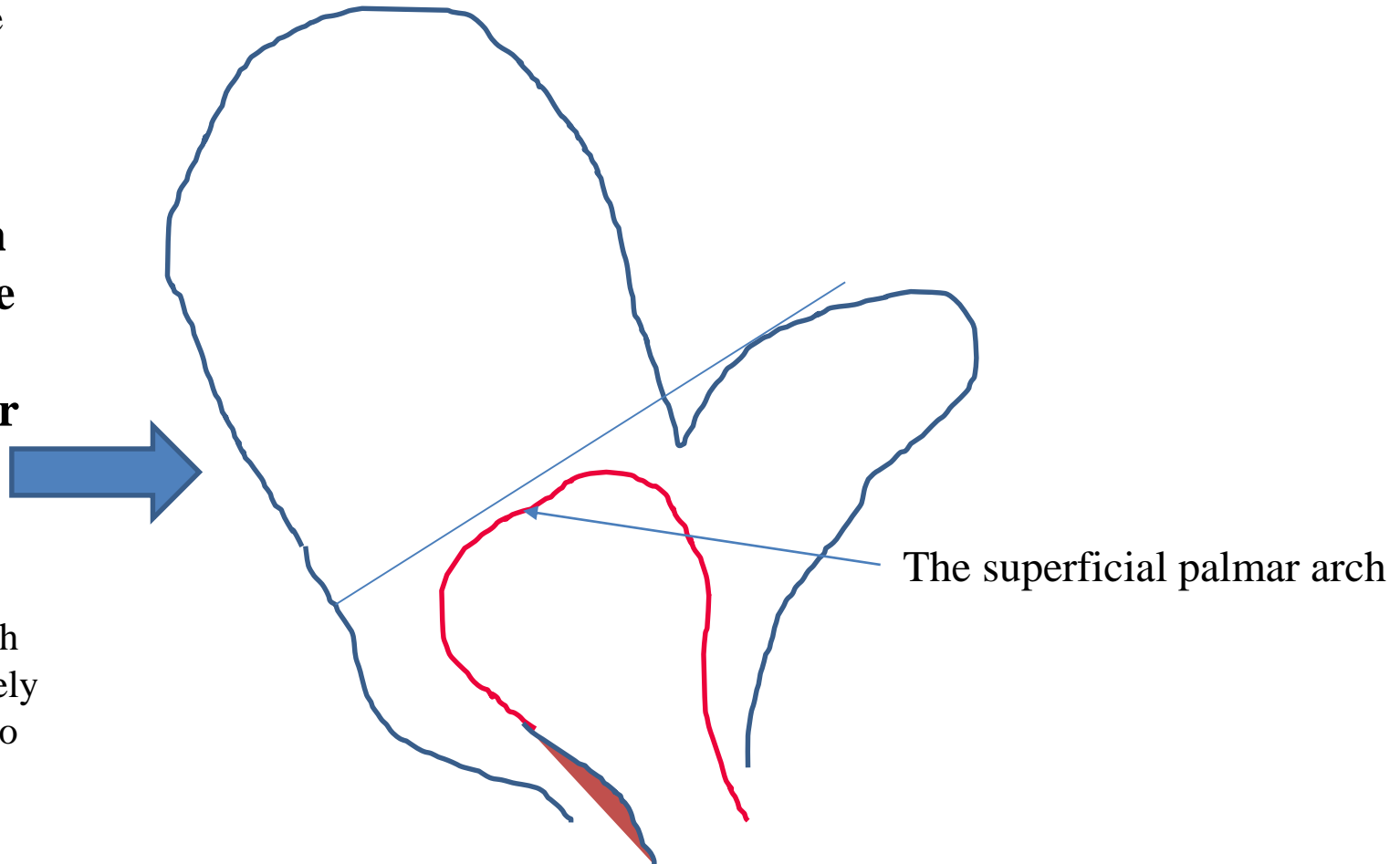


2-it Curves medially beneath the long flexor tendons and in front of metacarpal bones and interosseous muscles forming the deep palmar arch

3-The Arch then is completed by the deep branch of the ulnar artery

The location of palmar arches should be borne in mind in wounds of the palm and when palmar incisions are made

The superficial and deep palmar (arterial) arches are **not palpable**, but their surface markings are visible. **The superficial palmar arch occurs at the level of the distal border of the fully extended thumb.** The deep palmar arch lies approximately 1 cm proximal to the superficial palmar arch.



The Allen's test is a non-invasive evaluation of the arterial patency of the hand



<https://youtu.be/gdgomN6TsuE>

<https://youtu.be/D1tJO0RW9UM>

NERVE SUPPLY OF THE HAND

Three nerves participate in the innervation of the hand

ULNAR NERVE

MEDIAN NERVE

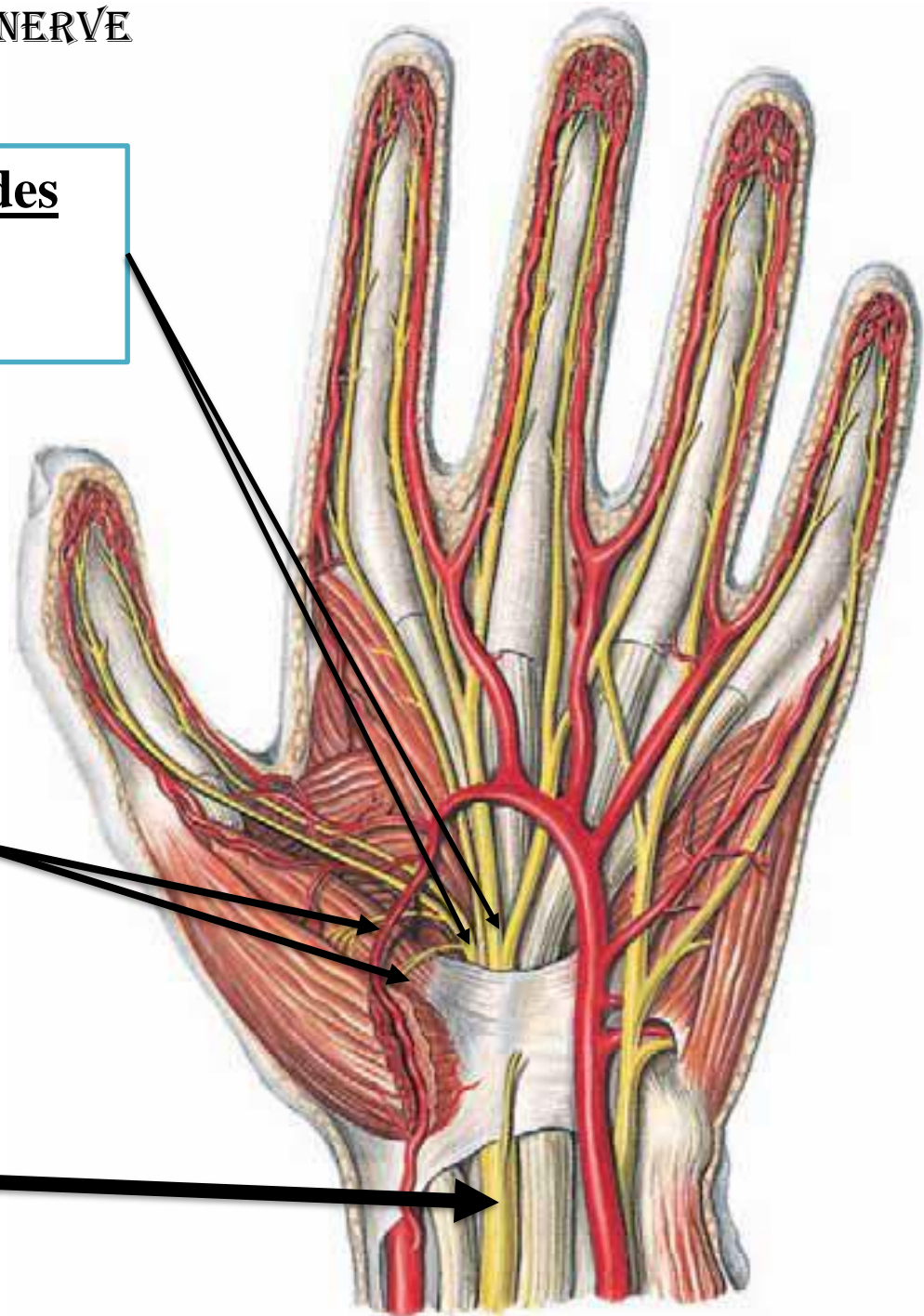
RADIAL NERVE

THE MEDIAN NERVE

3- Then It immediately divides
into lateral and medial
branches!!!

2-At the lower border of the flexor
retinaculum it gives off the *Recurrent*
muscular branch!!!

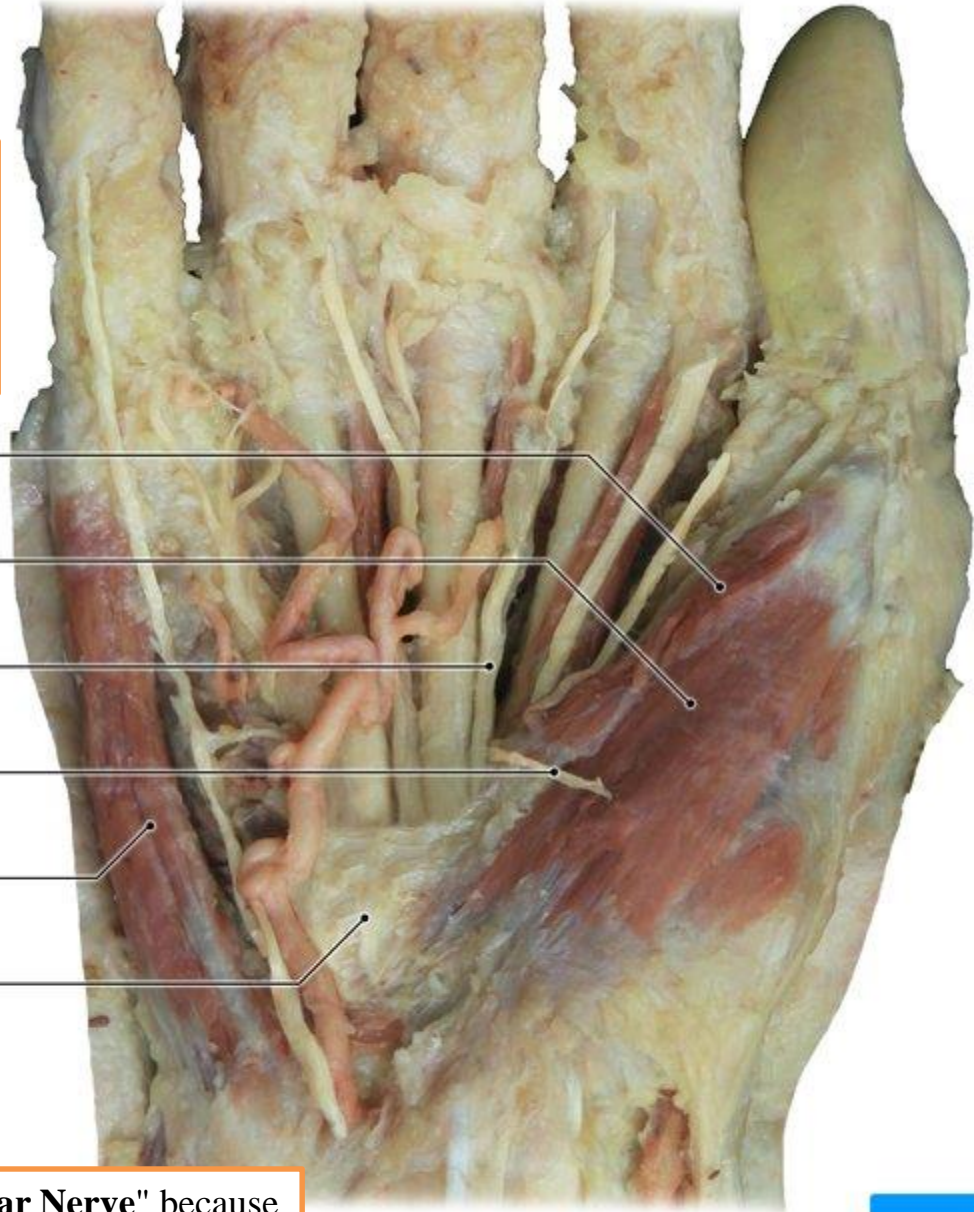
1-The median nerve
enters the hand through
the carpal tunnel, deep
to the flexor
retinaculum



**Recurrent muscular
branch at lower border of
FR**

supplies thenar eminence
**(abductor pollicis brevis, flexor
pollicis brevis, and Opponens
pollicis) and 1st Lumbrical!!**

Flexor pollicis brevis
Abductor pollicis brevis
Digital branch
of median nerve
**Recurrent branch
of median nerve**
Abductor digiti minimi
Flexor retinaculum



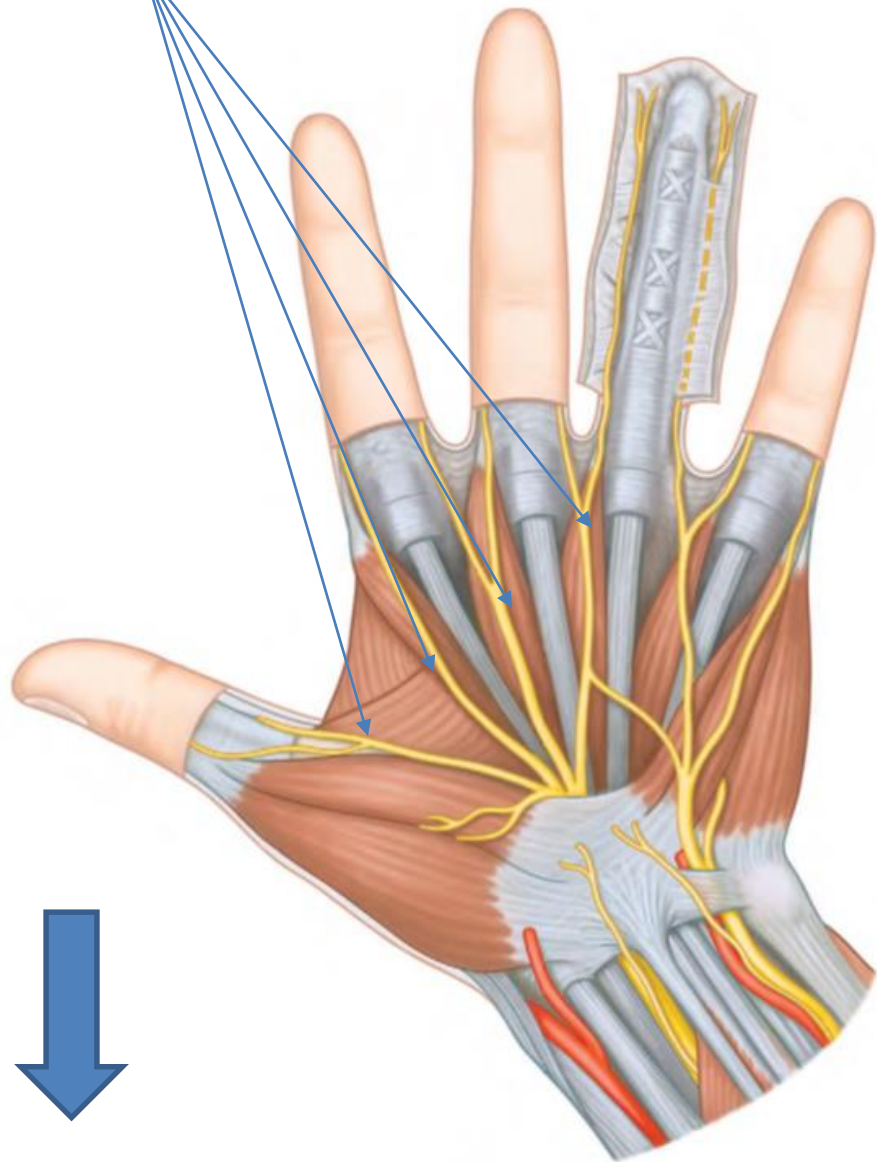
This particular nerve is also called "**Million Dollar Nerve**" because injury to this nerve ***during carpal tunnel surgery*** can lead to a million dollar lawsuit. Injury to this nerve can lead to loss of function of the thumb.

The medial and lateral divisions of the median nerve gives off the **palmar digital nerves**

They are mostly cutaneous branches which supply the palmar aspect of the lateral three and a half fingers and the distal half of the dorsal aspect of each finger.

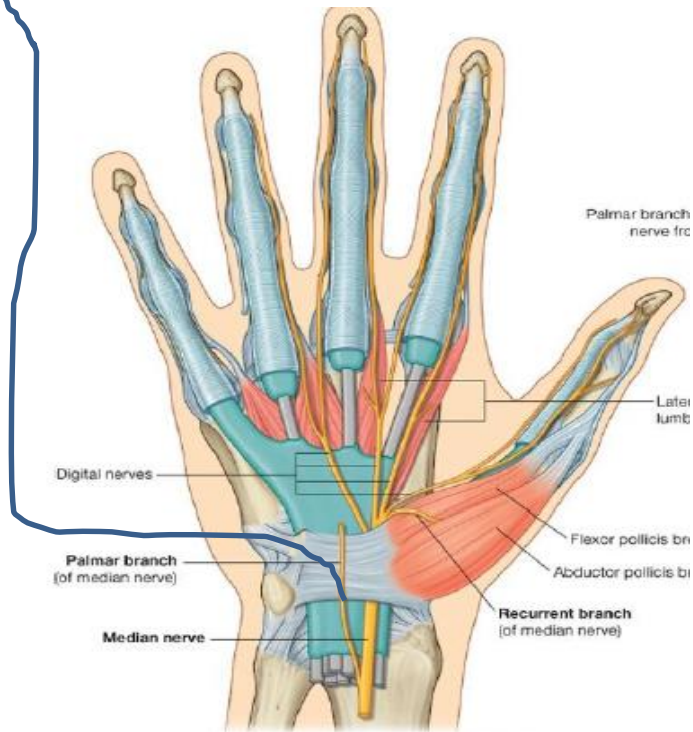
One of these branches is motor and it supplies the second lumbrical muscle.

3.5 fingers



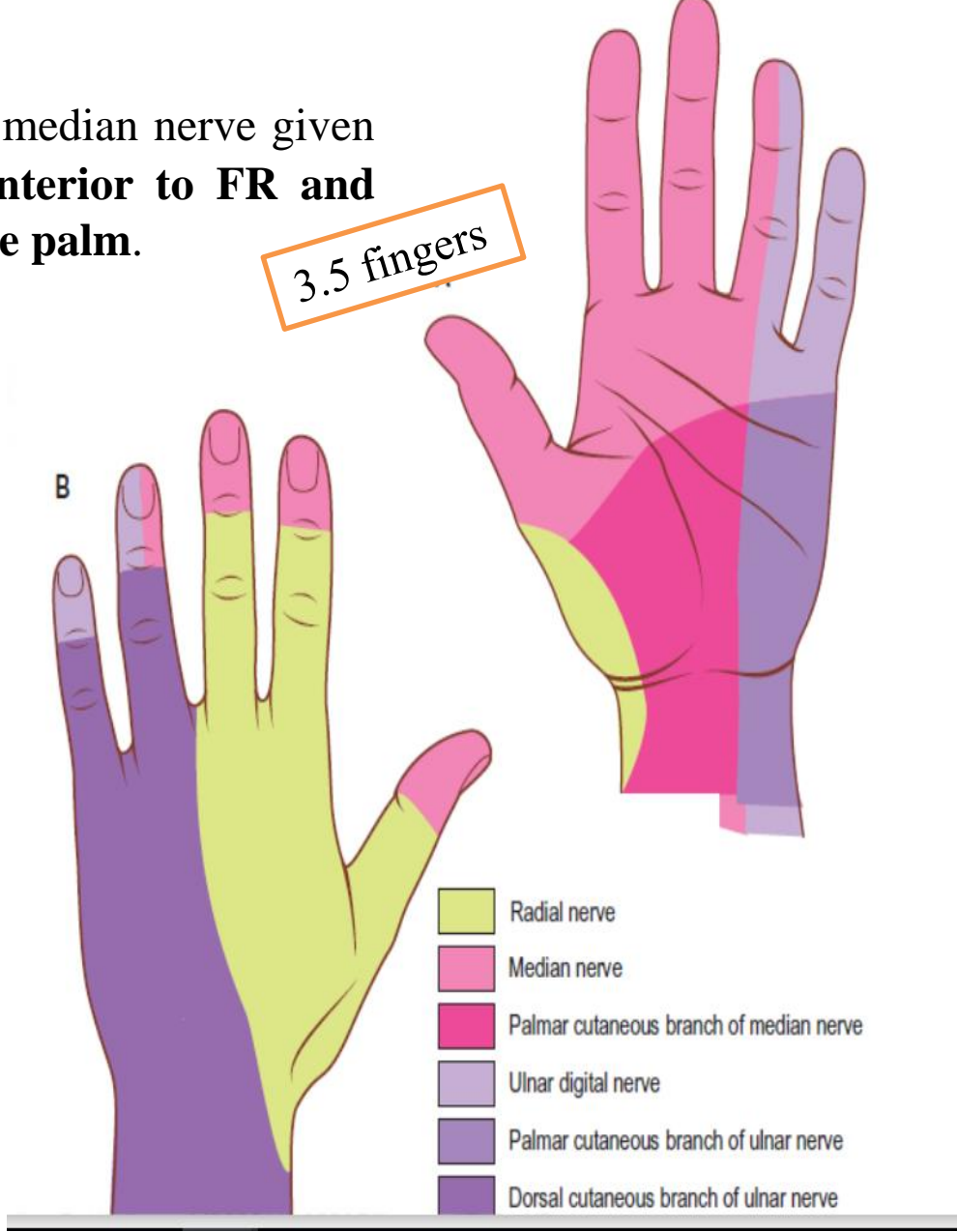
Note also that the

palmar cutaneous branch of the median nerve given off in the front of the forearm crosses **anterior to FR** and supplies the skin over the lateral part of the palm.



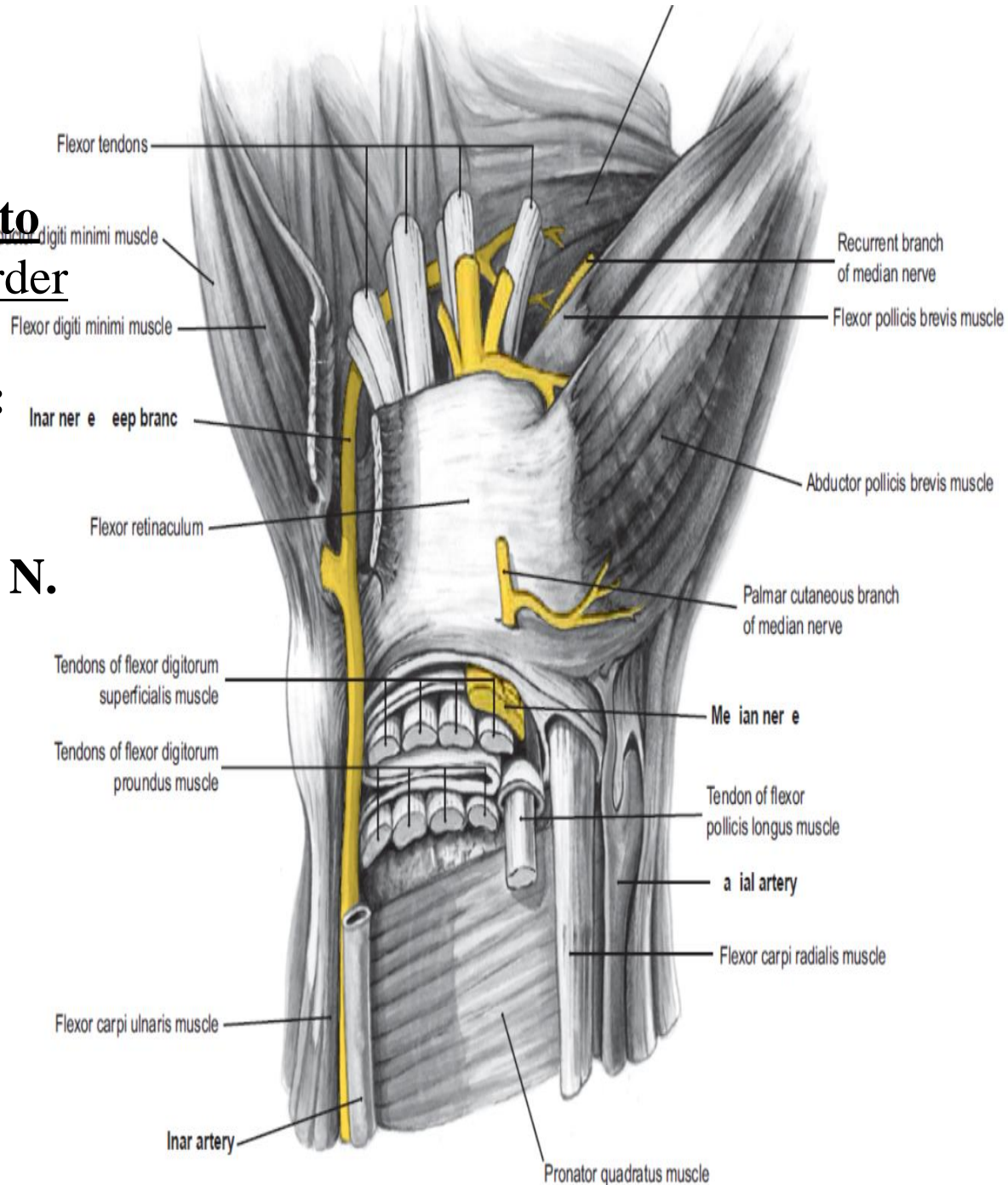
Drake: Gray's Anatomy for Students, 2nd Edition.
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Figure 7.111 Median nerve in the hand

3.5 fingers



ULNAR NERVE

1) Enters the palm **anterior to** **FR** alongside the **lateral border** of the pisiform bone **After** **crossing FR**, divides into:
 - **Superficial Branch of the Ulnar N.**
 - **Deep Branch of the Ulnar N.**



SUPERFICIAL BRANCH OF THE ULNAR NERVE

- Descends into the palm, in **subcutaneous tissue between pisiform and the hook of the hamate**

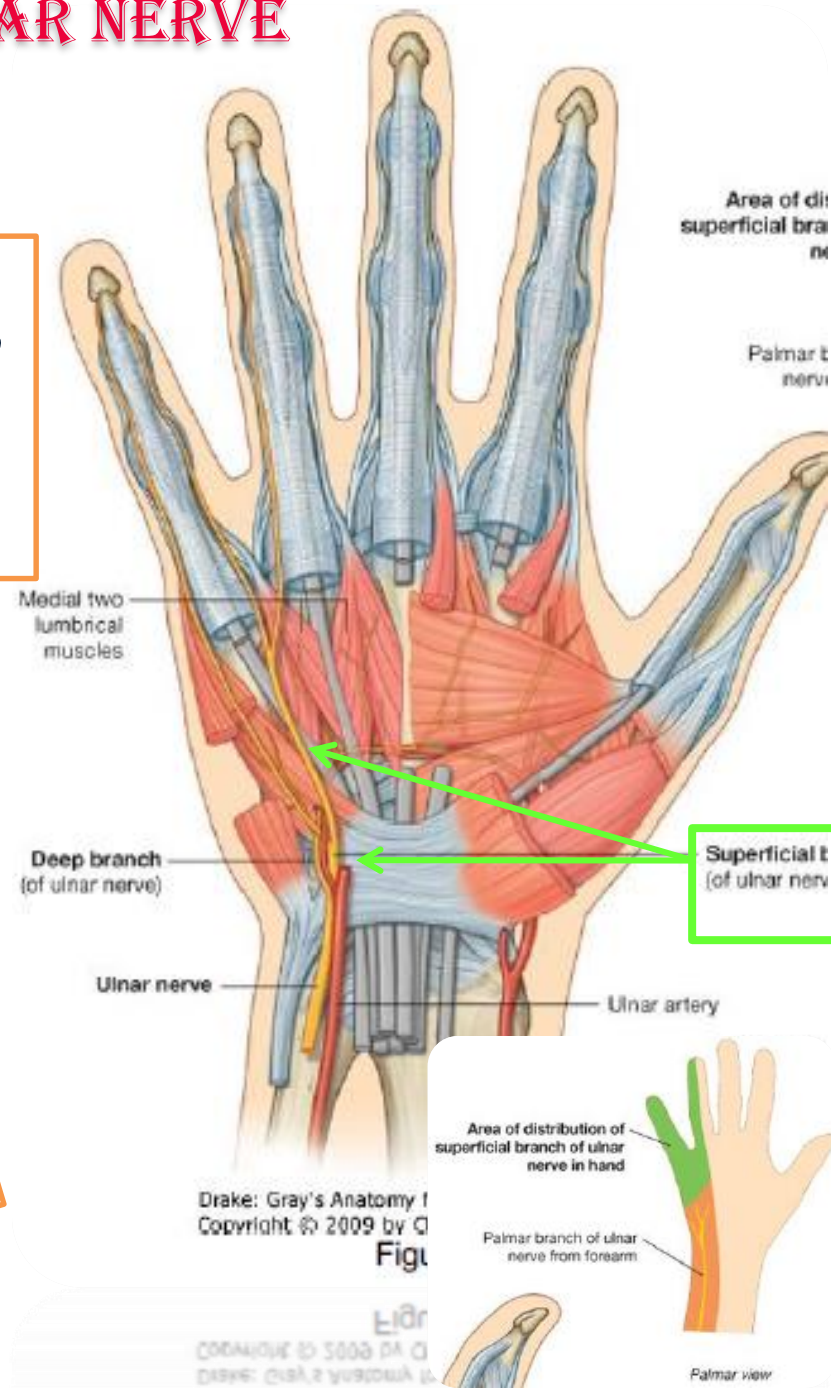
- The ulnar artery is on its lateral side.

Read only

Branches:

- Muscular branch to the palmaris brevis
- Cutaneous branches to the palmar aspect of the medial side of the little finger and the adjacent sides of the little and ring fingers ,It also supplies the distal half of the dorsal aspect of each finger

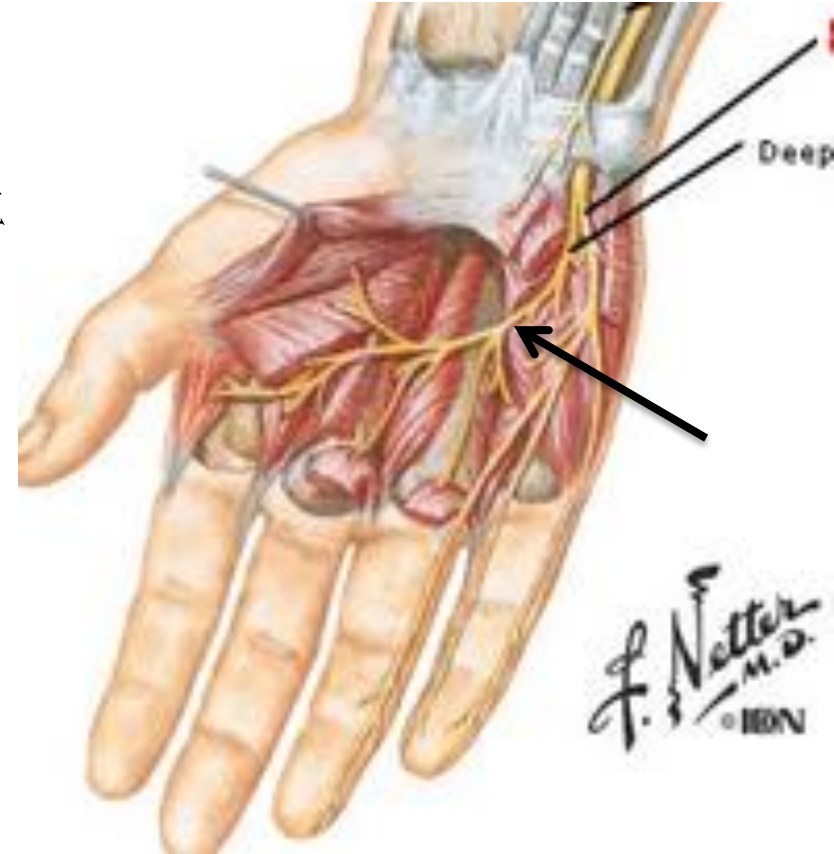
1.5 fingers



DEEP BRANCH OF THE ULNAR NERVE

- 1) Runs backward between abductor digiti minimi and flexor digiti minimi.
- 2) It **pierces the opponens digiti minimi**, winds around the lower border of the hook of the hamate, And **passes laterally** within the concavity of the deep palmar arch.
- 3) lies ***behind*** the long flexor tendons and in ***front*** of the metacarpal bones and interosseous muscles.

Read only



Important

- It gives off ***muscular branches to*** abductor digiti minimi, flexor digiti minimi, and opponens digiti minimi. all the palmar and dorsal interossei, the 3rd and 4th lumbrical muscles, adductor pollicis muscle.

15 MUSCLES

Remember

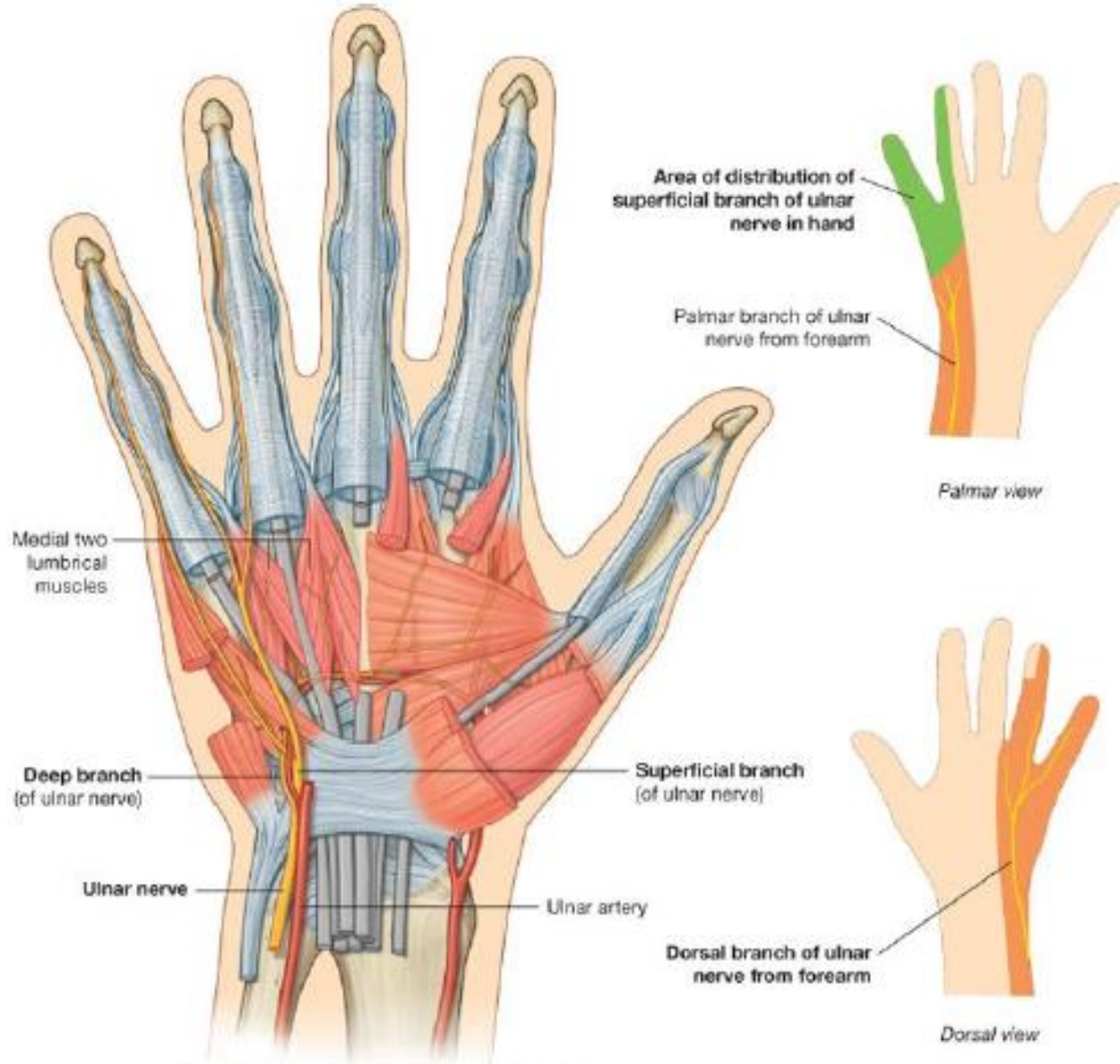
-In forearm :

✓ **palmar cutaneous branch**

(supplies skin over medial part of the palm)

✓ **Dorsal cutaneous branch**

(medial third of dorsum of the hand)



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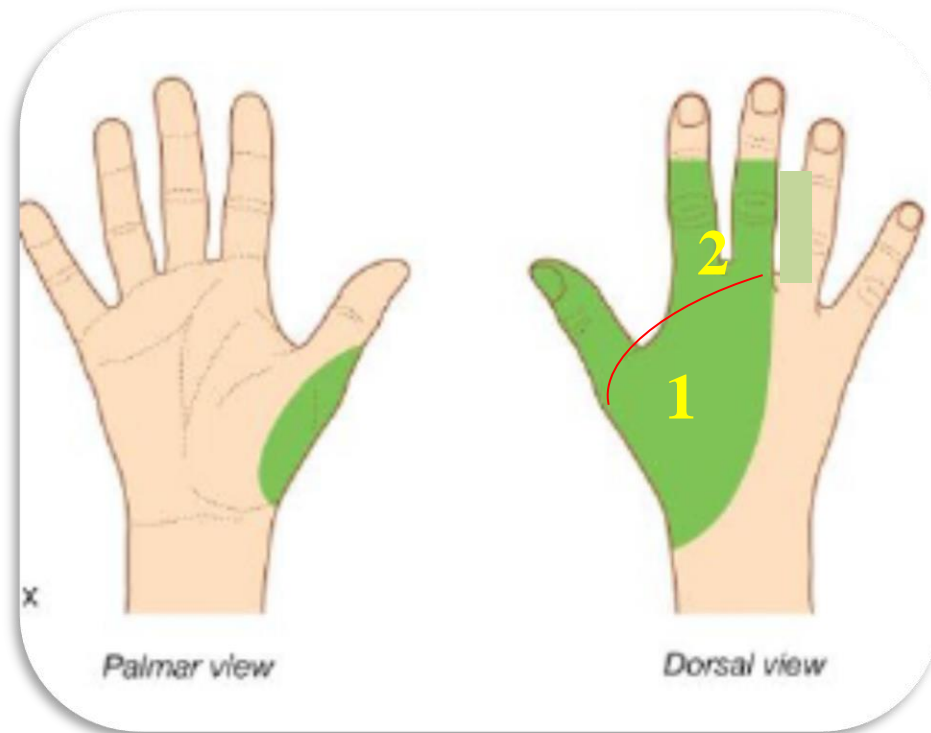
Figure 7.109 Ulnar nerve in the hand.

RADIAL NERVE \ SUPERFICIAL BRANCH

❖ In the wrist it divides into terminal branches that supply :

- 1) The **skin** on the lateral two thirds of the **posterior** surface of the **hand**
- 2) The **posterior** surface over the **proximal phalanges** of the **lateral three and a half fingers**.

* The area of skin supplied by the nerve on the dorsum of the hand is variable.



THE DORSUM OF THE HAND

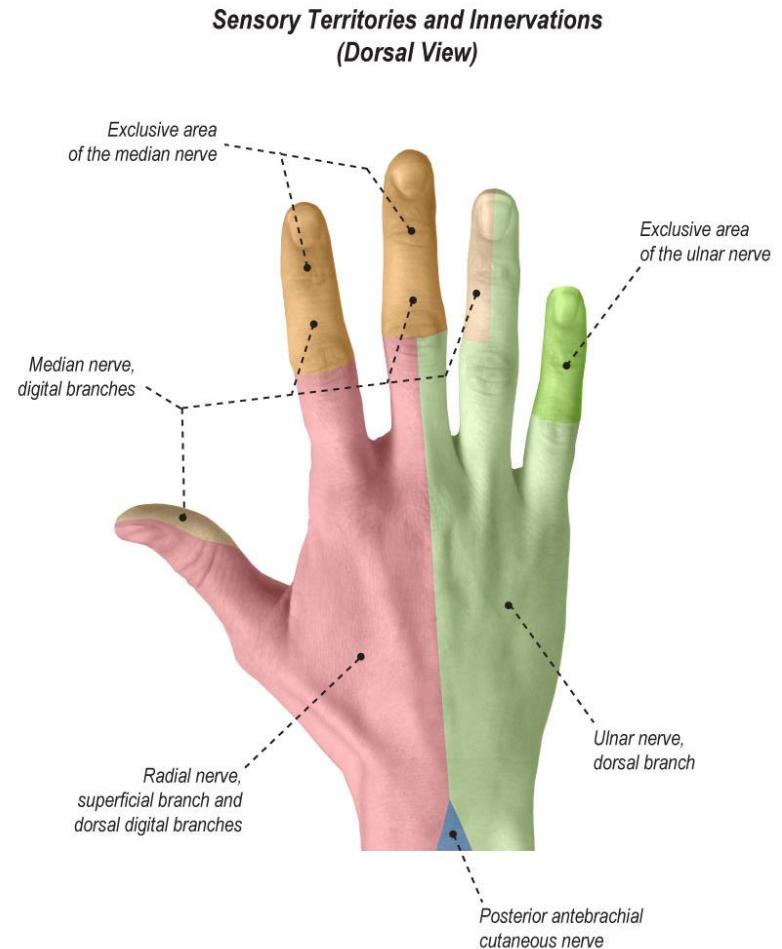
Skin

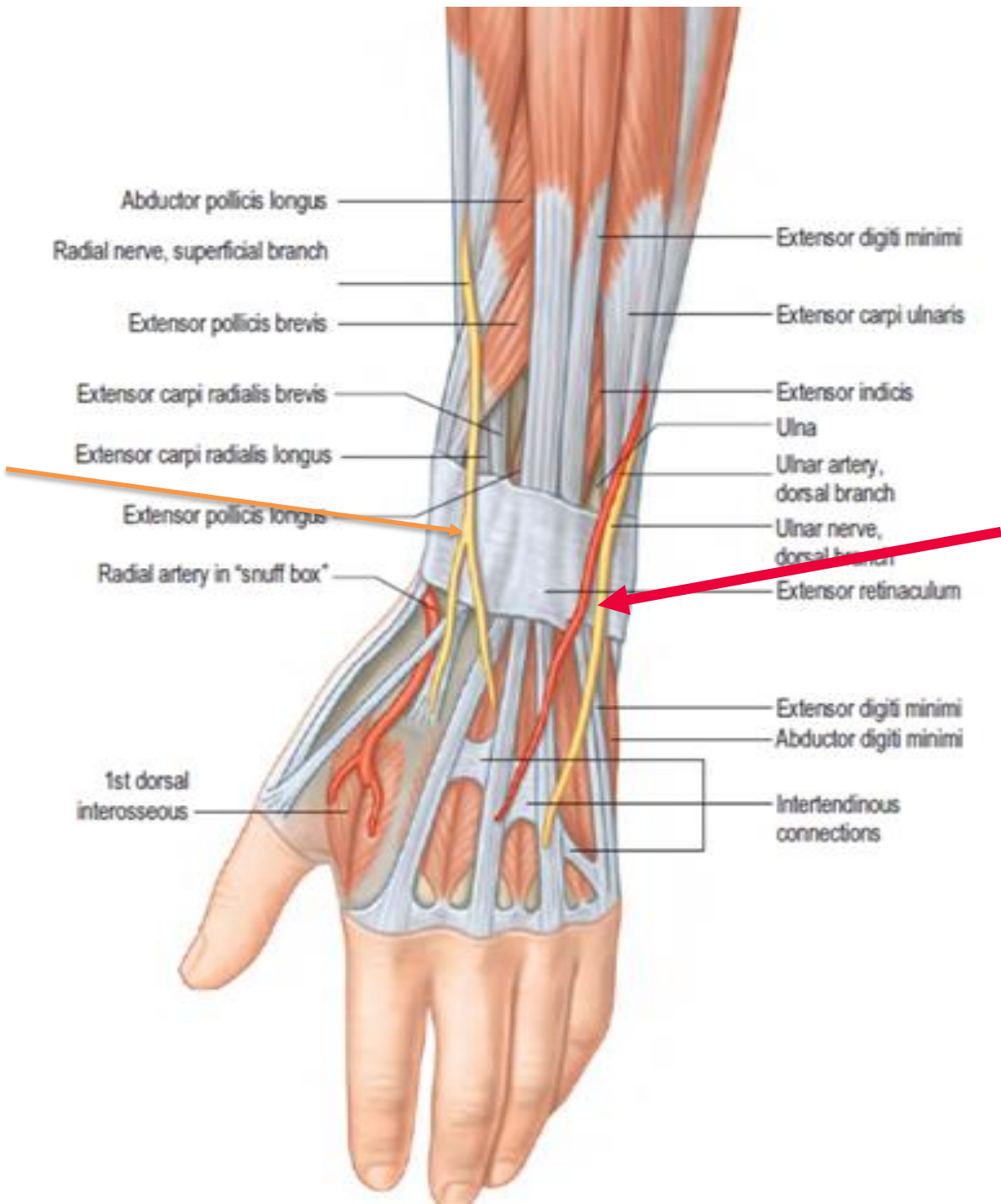
The skin on the dorsum of the hand is

- thin, hairy
- freely mobile on the underlying tendons and bones.

The sensory nerve supply to the skin on the dorsum of the hand is derived from the

- 1) superficial branch of the radial nerve and
- 2) the posterior (dorsal) cutaneous branch of the ulnar nerve.





1) superficial branch of the radial nerve

1) The posterior (dorsal) cutaneous branch of the ulnar nerve