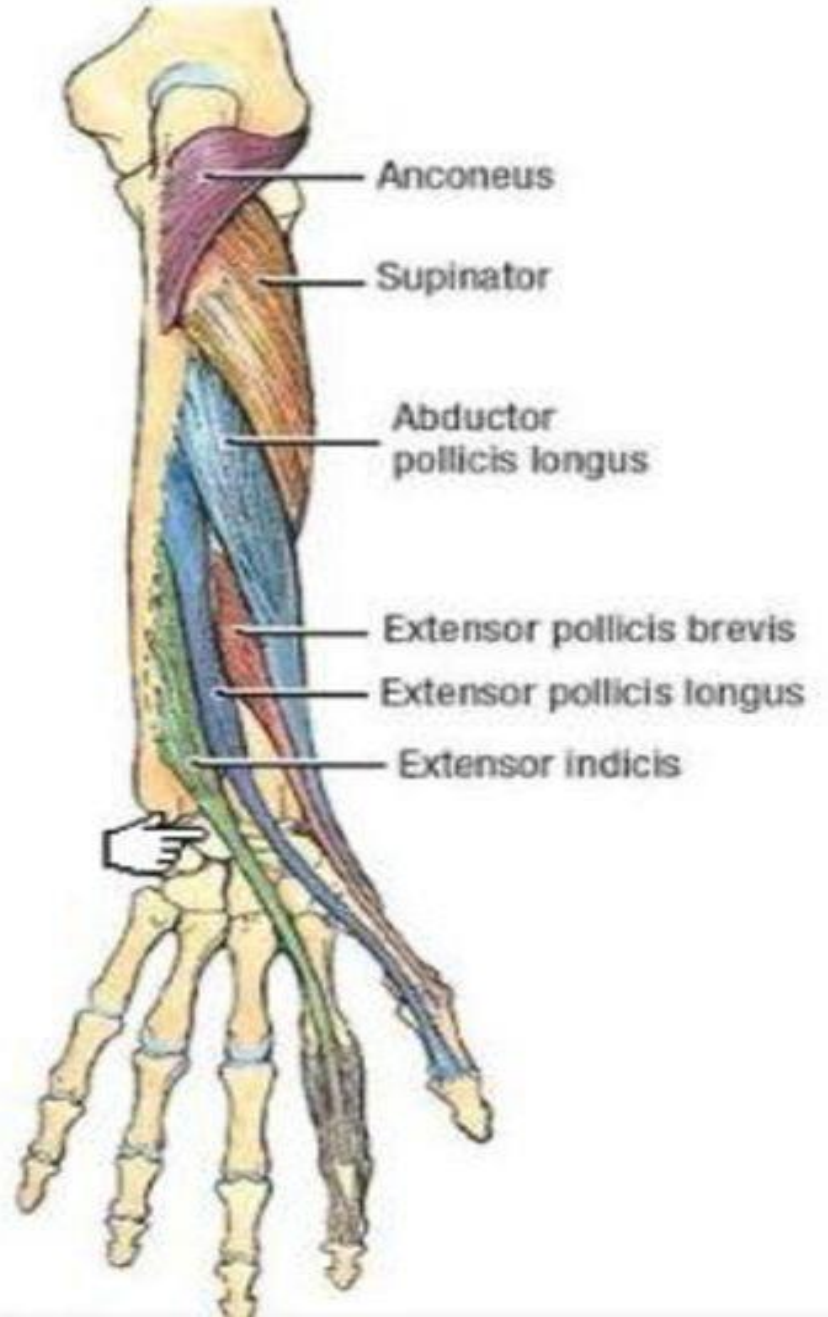
BACK OF FOREARM II

DR. DALIA BIRAM

- Except for the supinator muscle, all these deep layer muscles orginate from the posterior surfaces of the radius, ulna, and interosseous membrane and pass into the thumb and fingers.
- All muscles of the deep layer are innervated by the posterior interosseous nerve, the continuation of the deep branch of the radial nerve.



1- Supinator

Origin

Superficial part : from lateral epicondyle and radial collateral ligament of elbow joint.

- **Deep part : from supinator fossa & supinator crest of ulna.**

Insertion

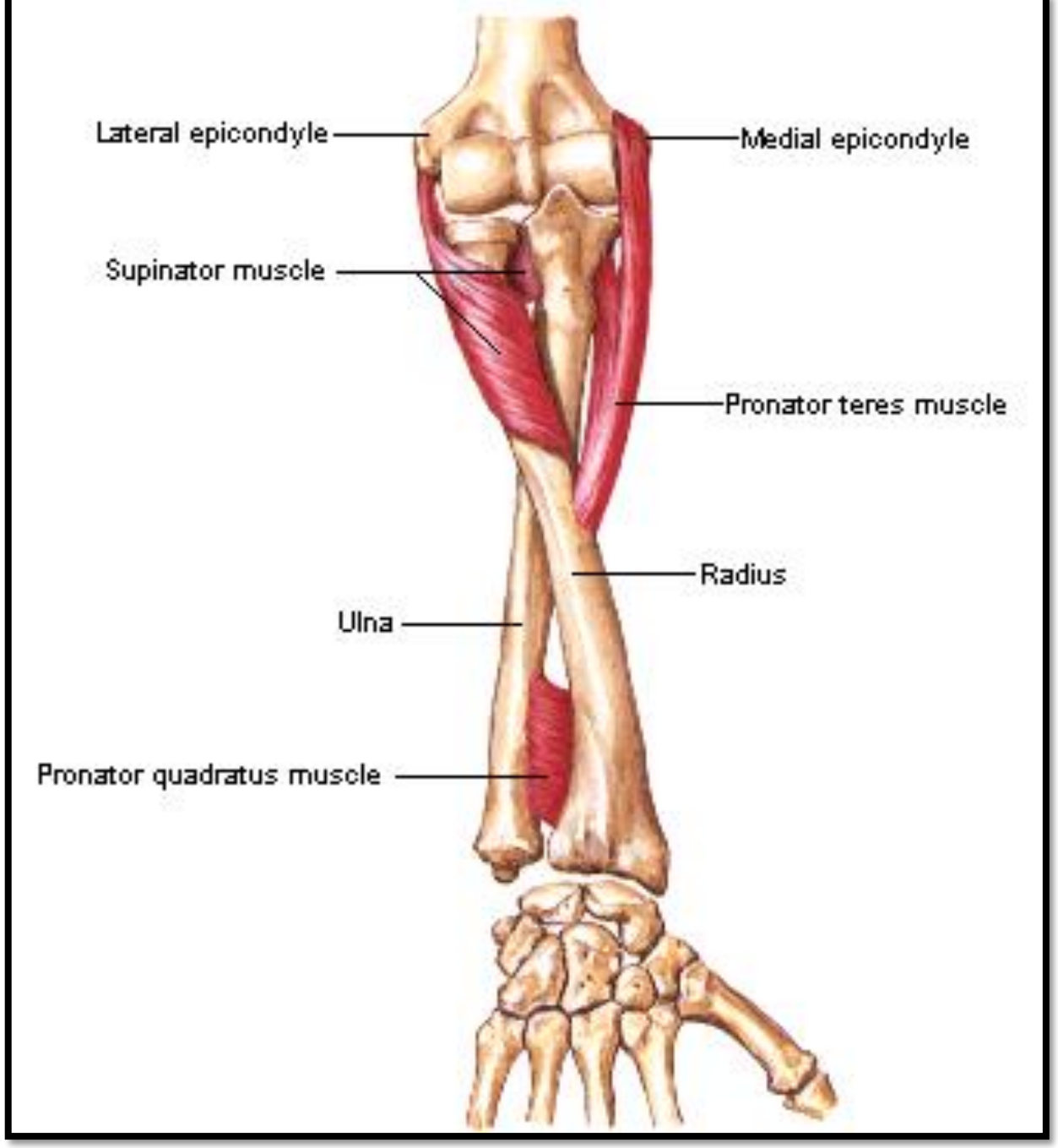
Upper 1/3 of shaft of radius.

Nerve supply

Posterior interosseous nerve.

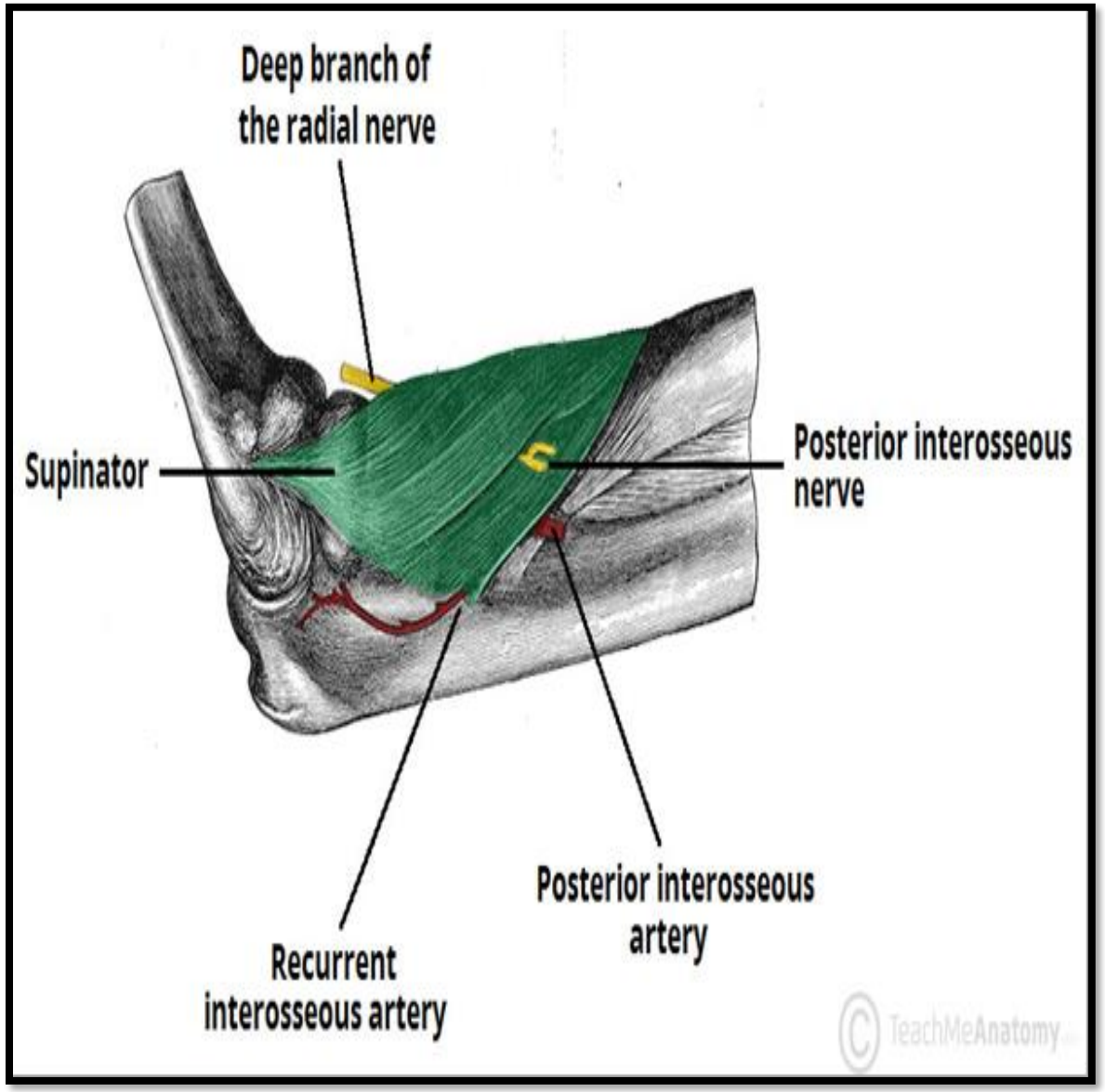
Action

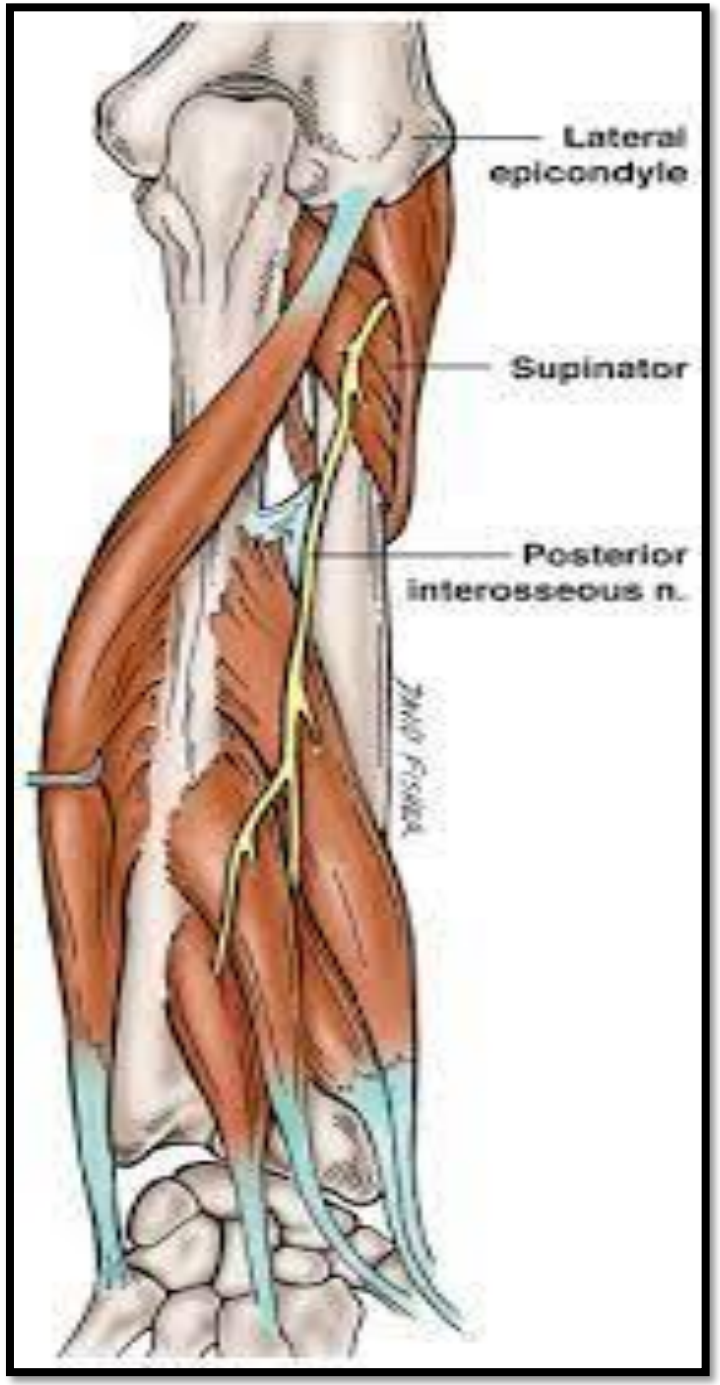
Supination of the forearm.

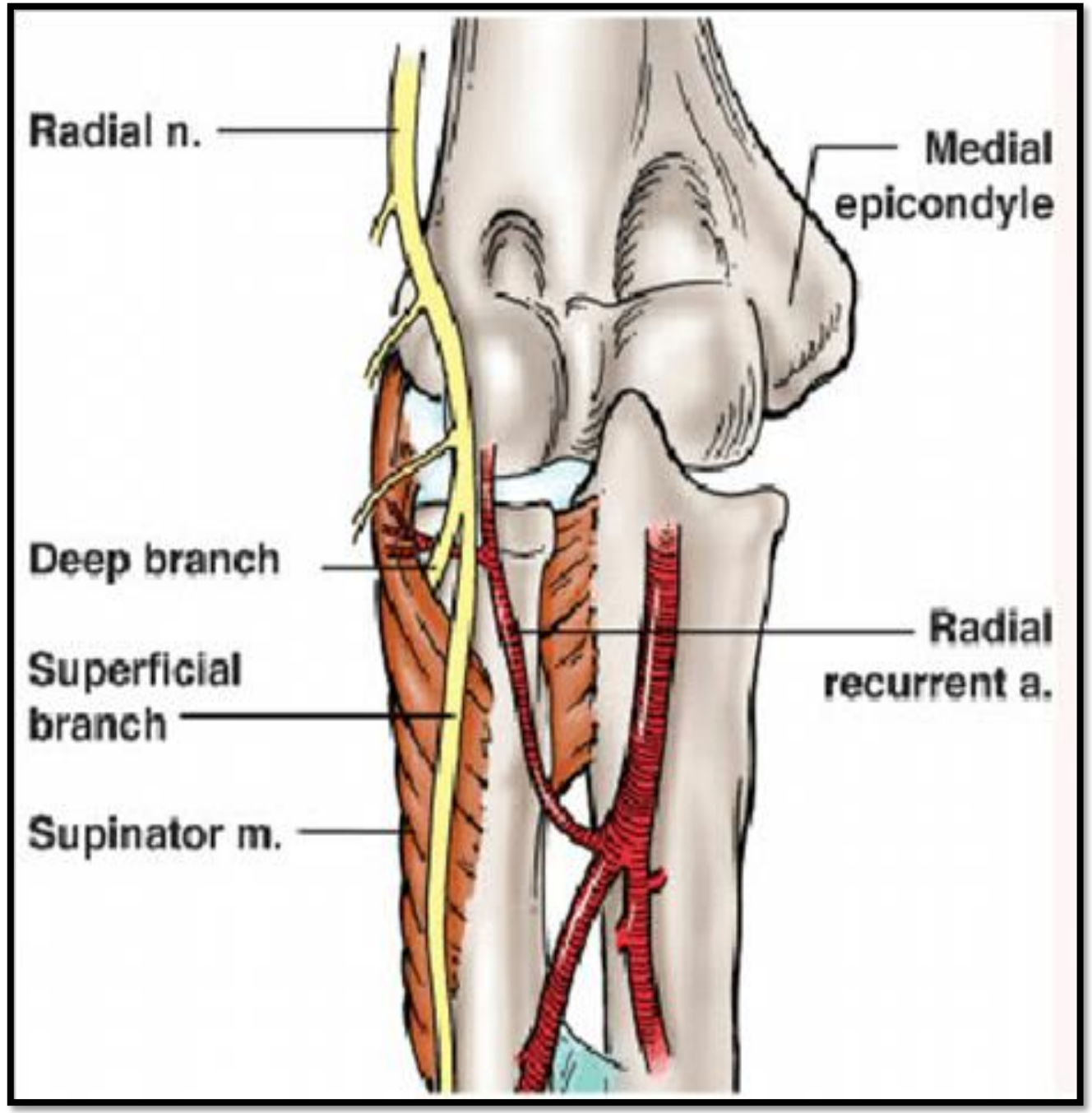


Relations

The posterior interosseous nerve pierce the muscle in the floor of cubital fossa , winds inside the muscle around the radius inside the muscle & dividing the muscle into superficial and deep parts , then appears in the back of forearm just above the lower border of the muscle



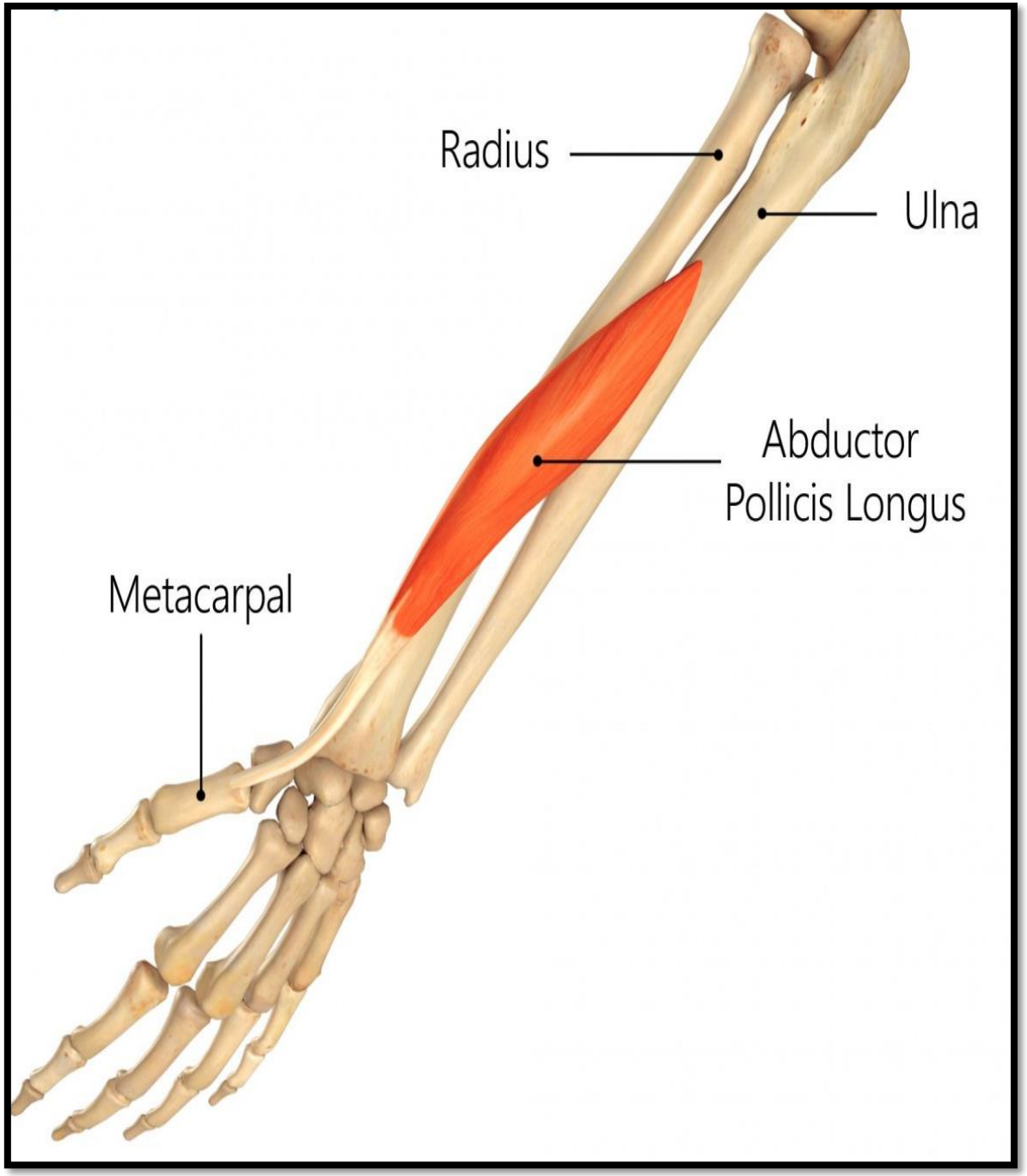

Lateral epicondyle
Supinator
Posterior interosseous n.


Radial n.
Medial epicondyle
Deep branch
Radial recurrent a.
Superficial branch
Supinator m.

2- Abductor pollicis longus

Origin:
Posterior surface of ulna.
Posterior surface of radius.
Interosseous membrane.
Insertion:
Posterior surface of the base of 1st metacarpal bone.
Nerve supply:
Posterior interosseous nerve.
Action:
Abduction of the thumb.

Helps in Extension of the thumb at the carpometacarpal joint.



3- Extensor pollicis brevis

Origin:

Posterior surface of radius

Interosseous membrane.

Insertion:

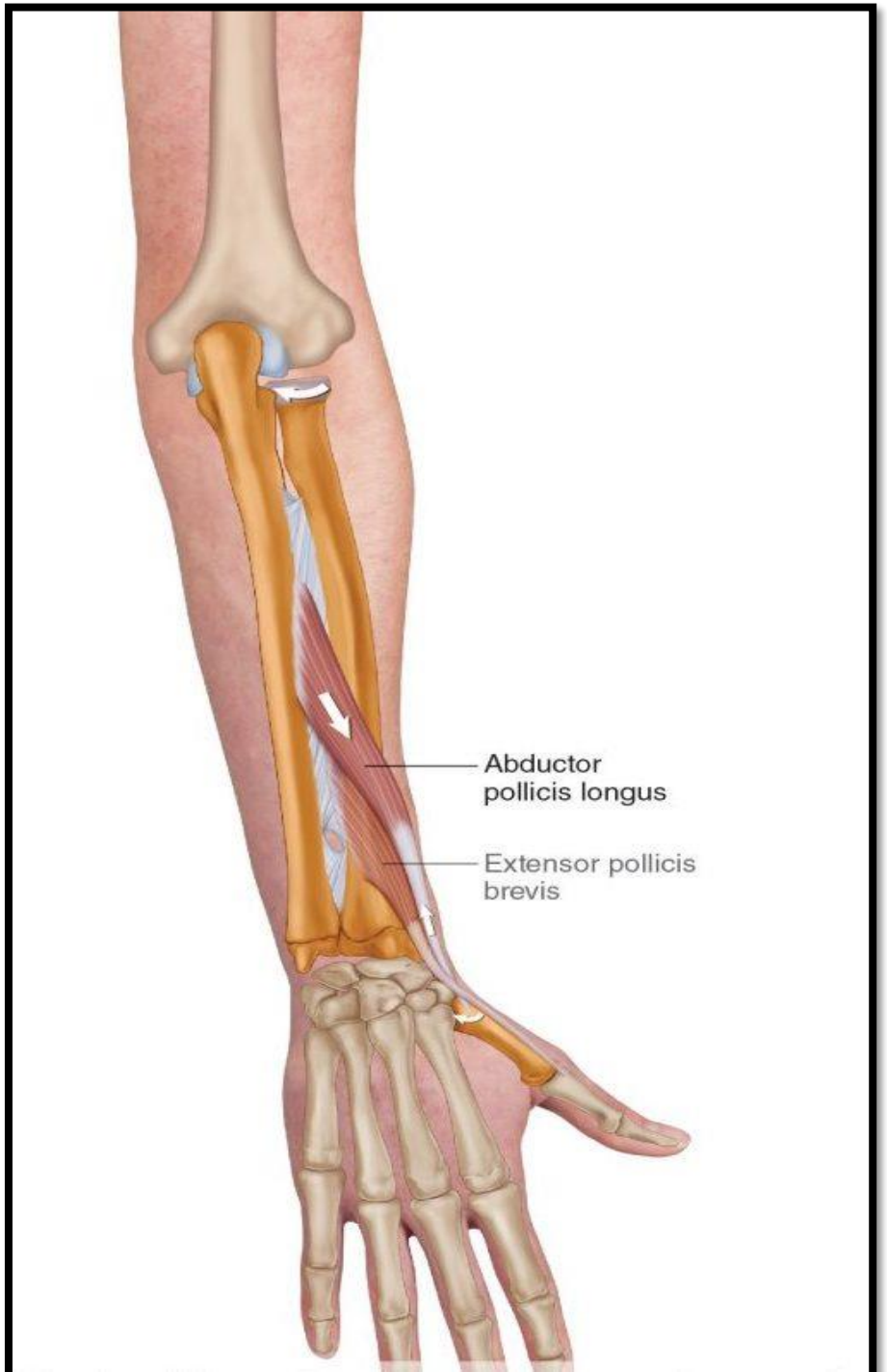
Proximal phalanx of the thumb.

Nerve supply:

Posterior interosseous nerve.

Action:

Extension of metacarpophalangeal and carpometacarpal joints of the thumb



4- Extensor pollicis longus

Origin:

Posterior surface of ulna

Interosseous membrane.

Insertion:

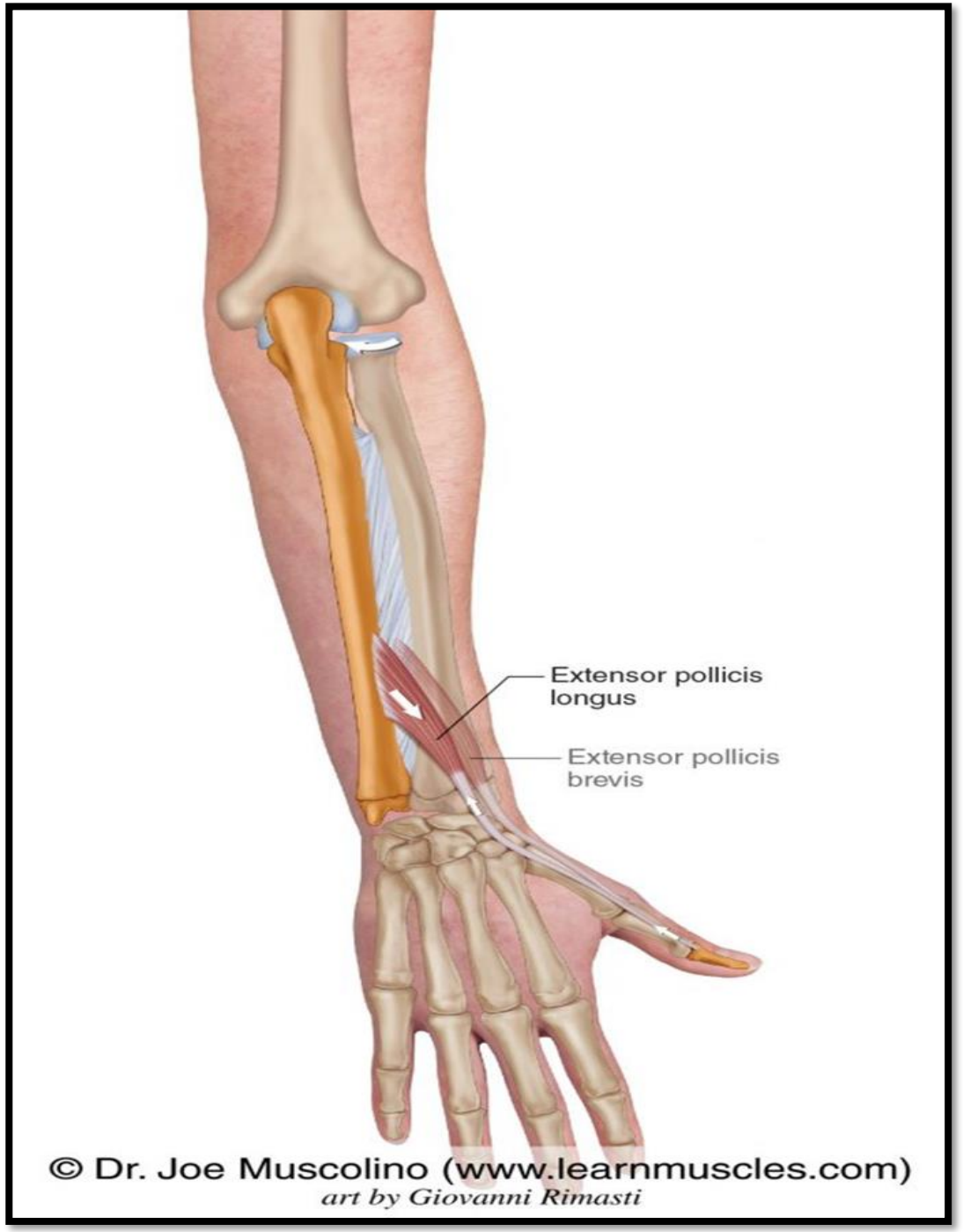
Distal phalanx of the thumb.

Nerve supply:

Posterior interosseous nerve.

Action:

Extension of all joints of the thumb.



5- Extensor indicis

Origin:

Posterior surface of ulna

Interosseous membrane.

Insertion:

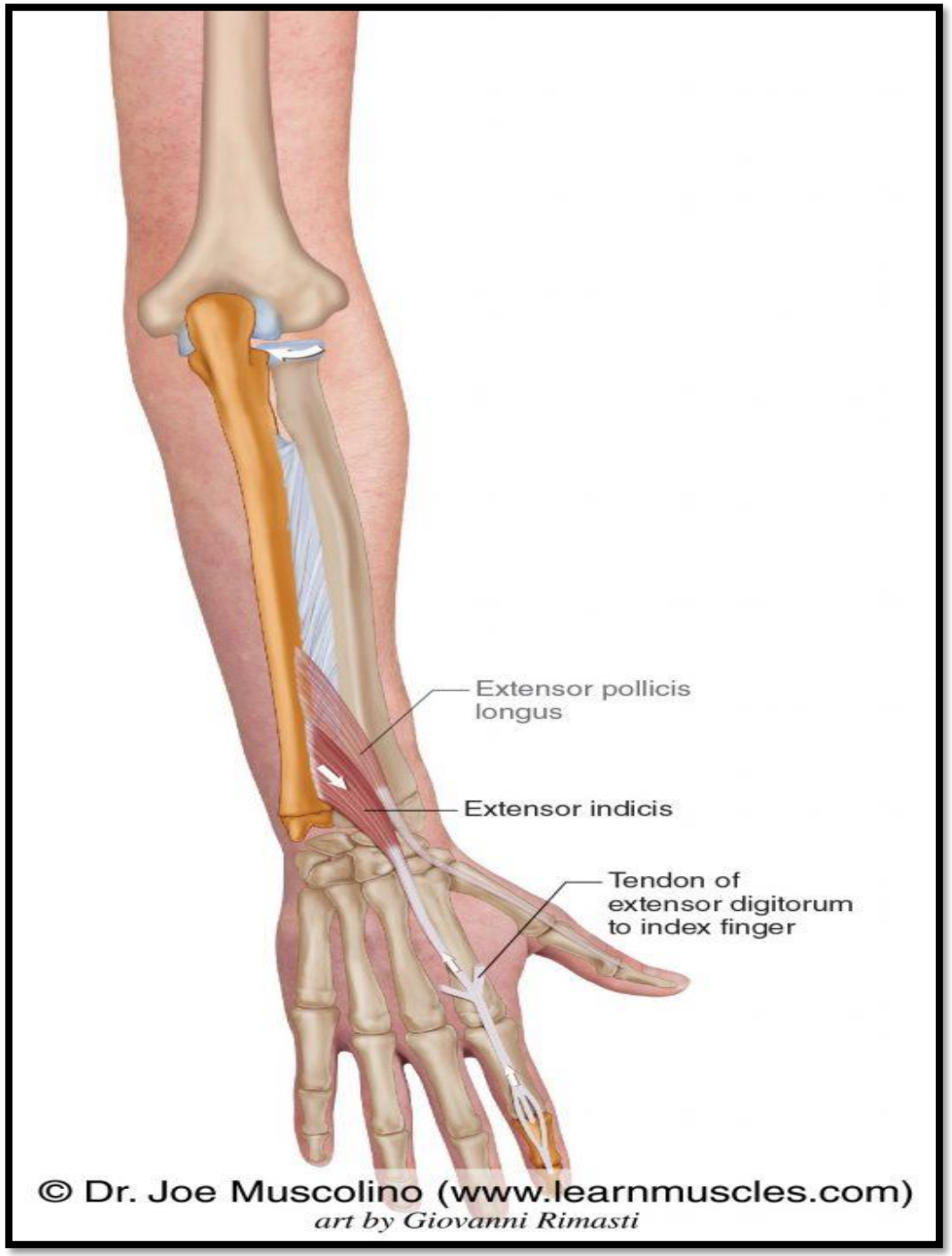
Extensor expansion of the index finger.

Nerve supply:

Posterior interosseous nerve.

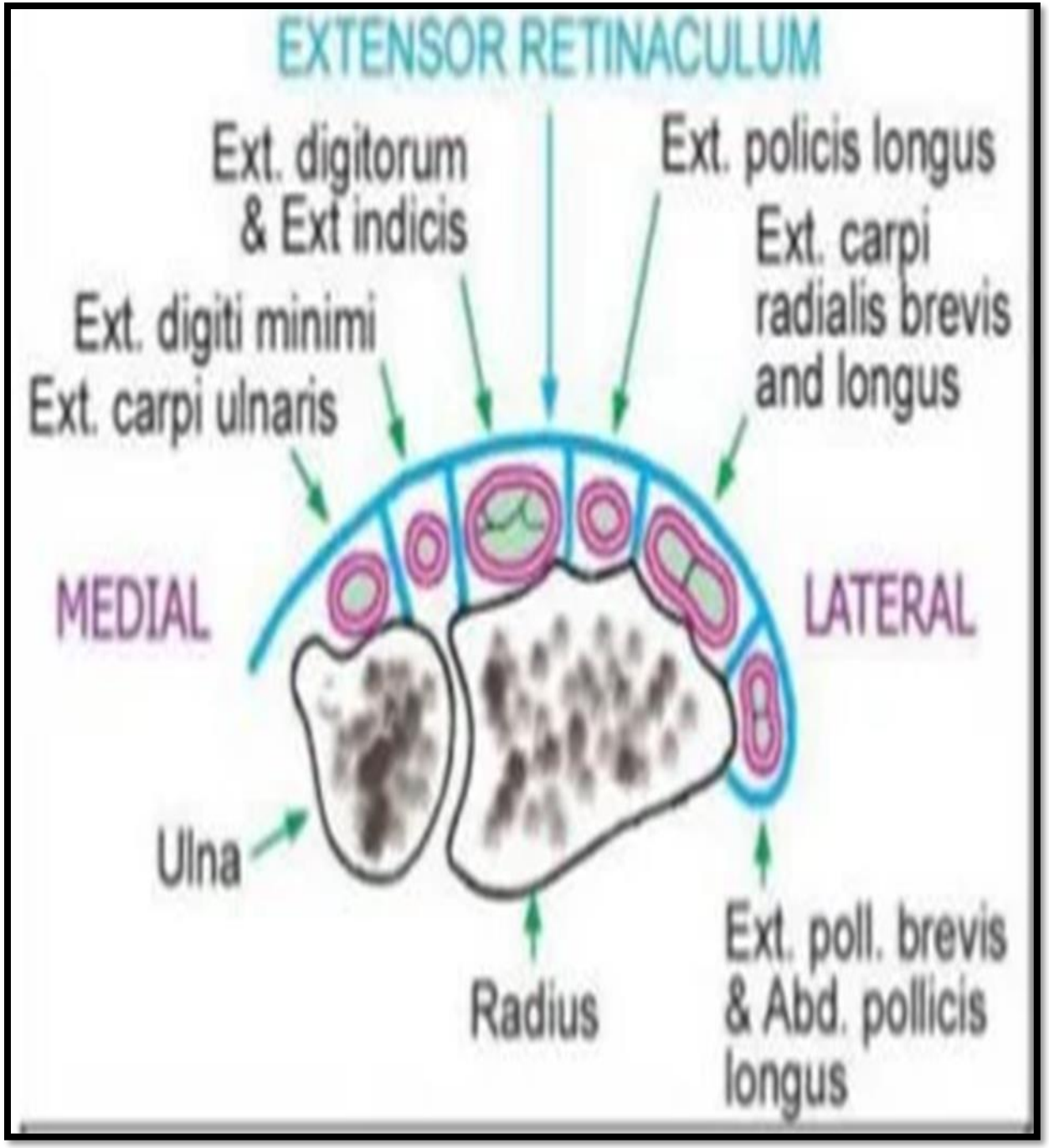
Action:

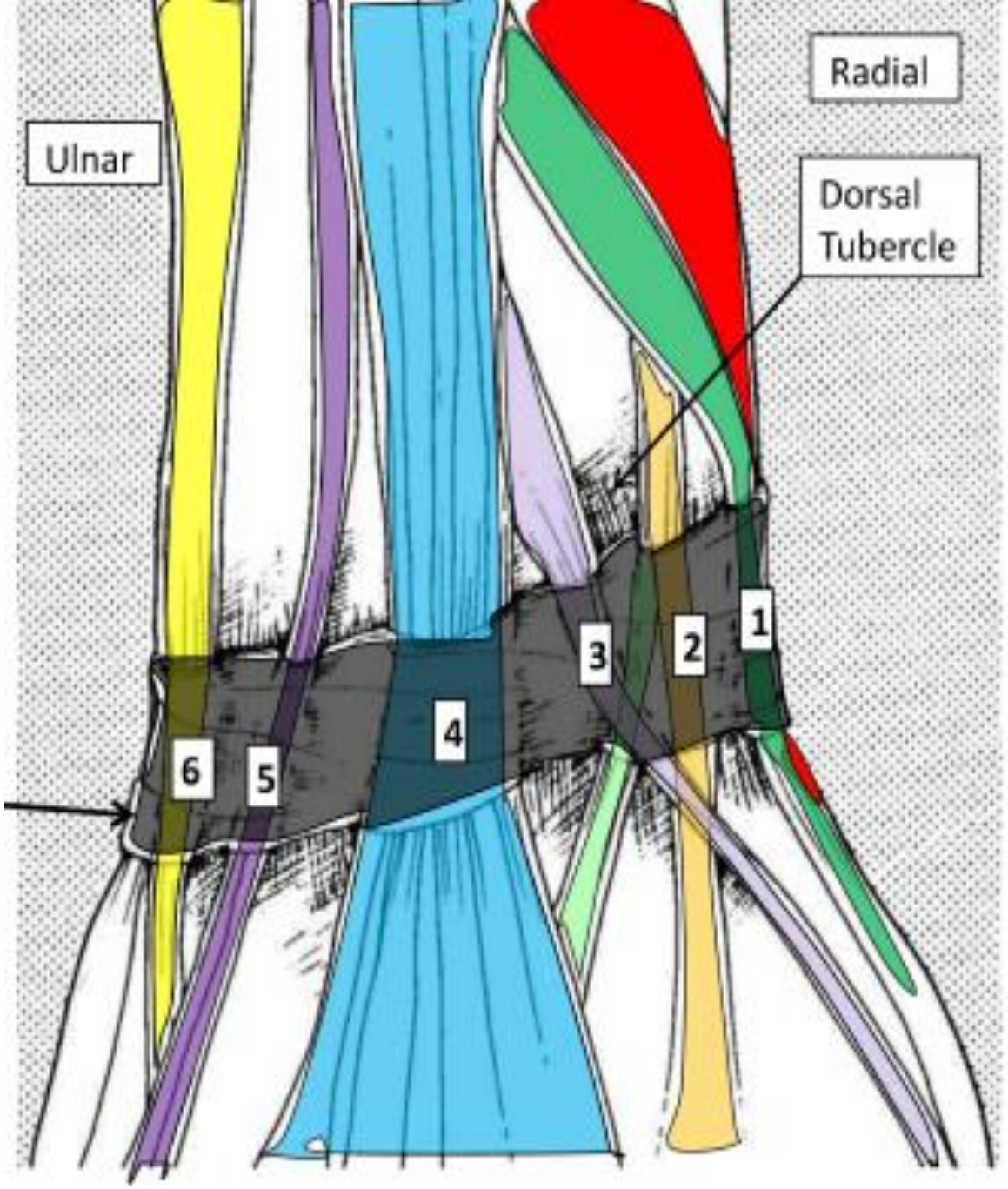
Extension of all joints of index finger.



Extensor retinaculum

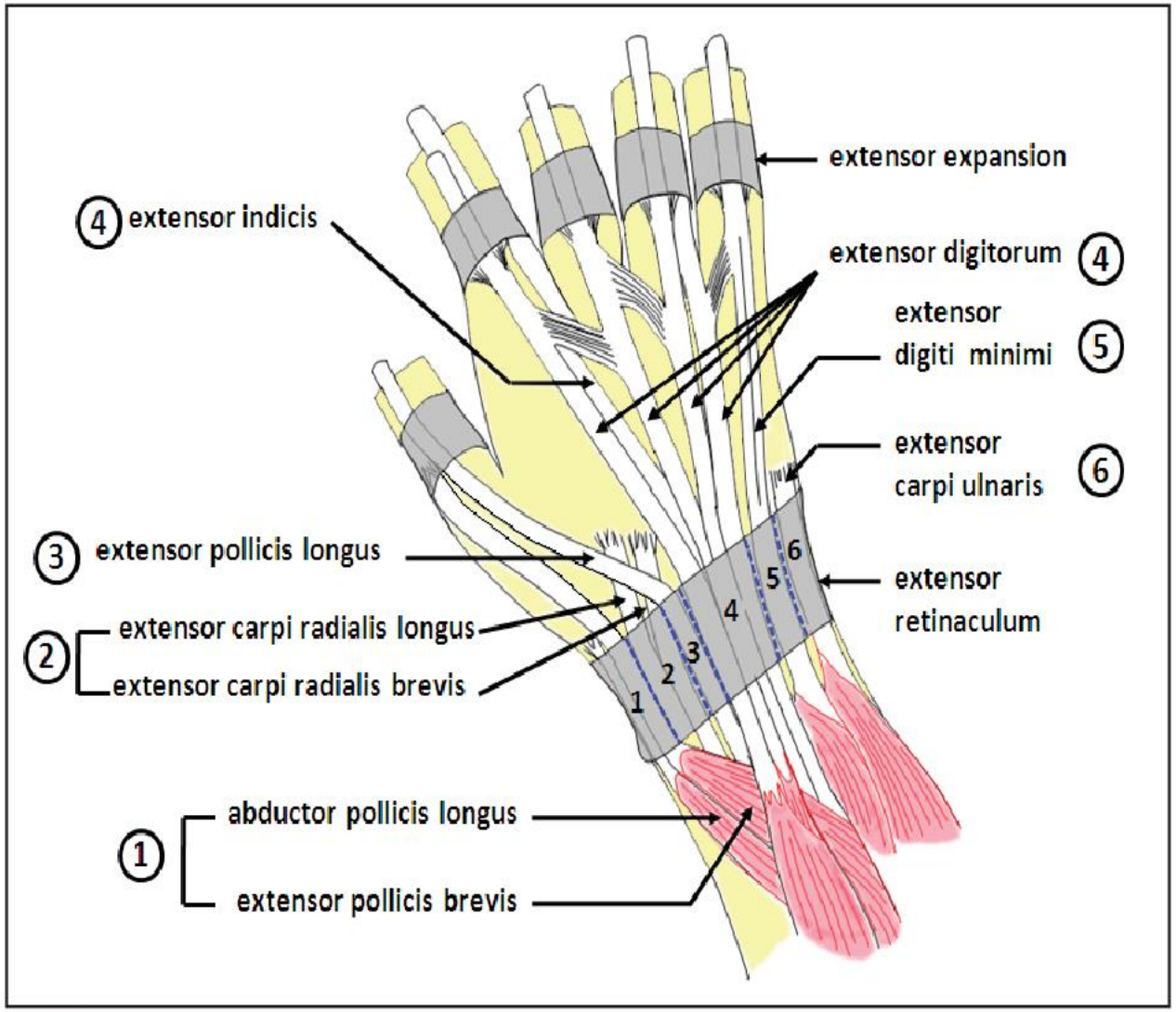
- It is a thickening of the deep fascia at the back of the wrist.
- It is attached laterally to the anterior border of the radius and medially to the triquetrum and pisiform bones.
- It sends septa to the back of the lower end of the radius and ulna forming 6 extensor compartments.





- **Structures superficial to the extensor retinaculum:**

1. **Basilic vein.**
2. **Dorsal cutaneous branch of ulnar nerve.**
3. **Superficial radial nerve**



Anatomical Snuff Box

It is a triangular skin depression on the lateral side of the wrist

Boundaries:

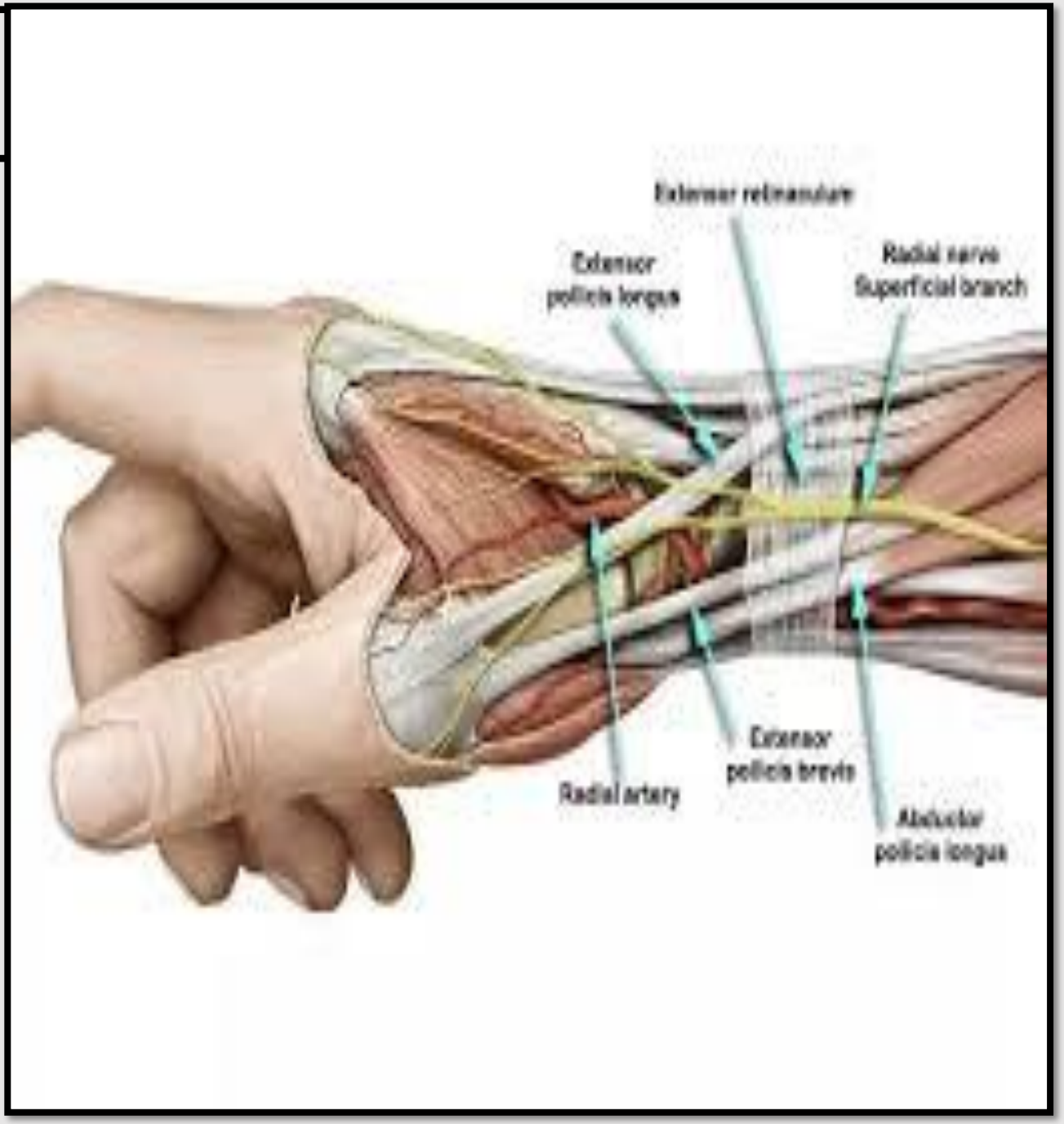
medially: the tendon of the extensor pollicis longus.

Laterally:

1-The tendon of the abductor pollicis longus

2-The tendon extensor pollicis brevis.

Its clinical importance the scaphoid bone is most easily palpated in its floor where the pulsations of the radial artery can be felt.



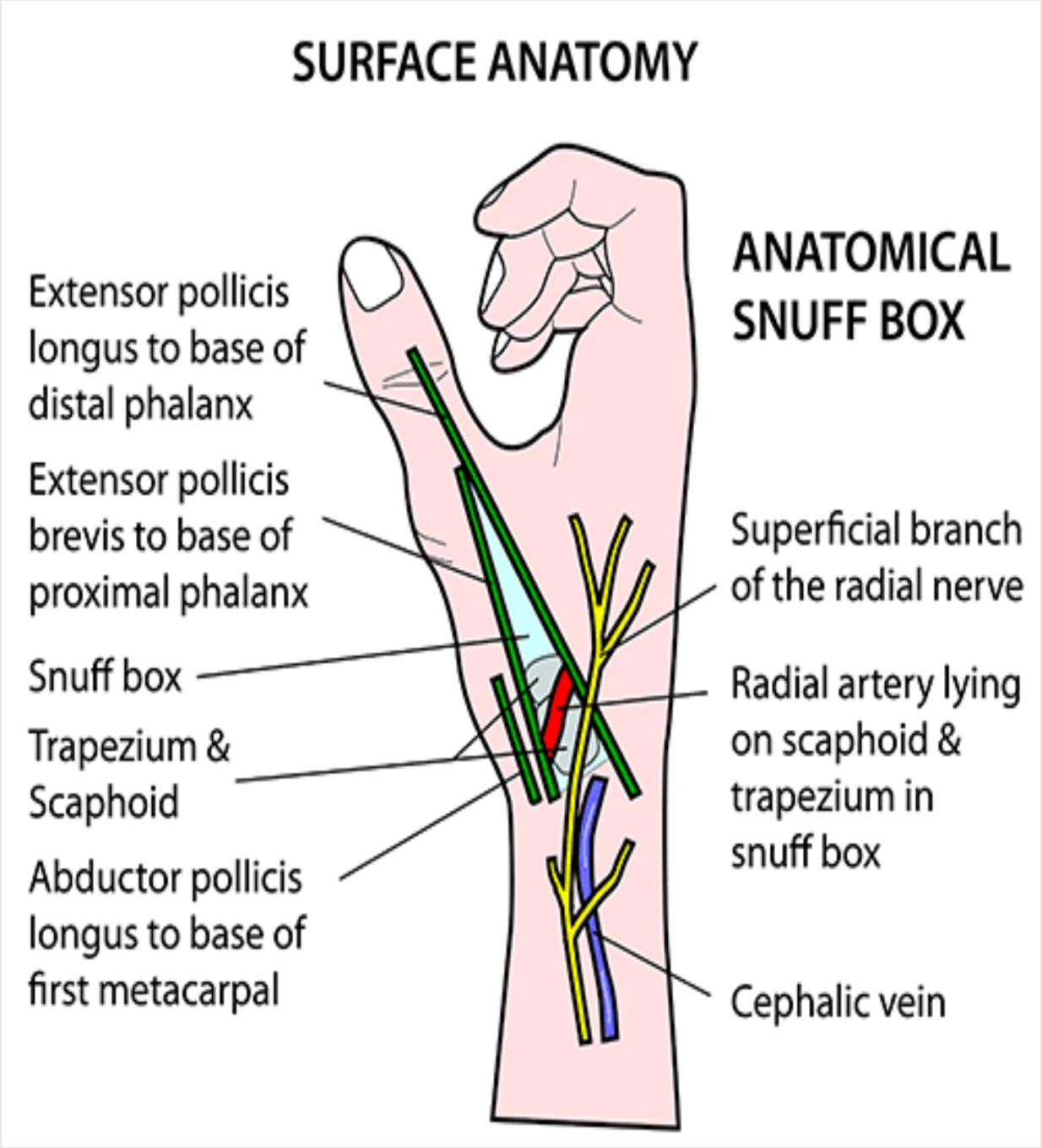
Contents

1. the radial artery
2. the superficial branch of the radial nerve,
3. the cephalic vein

-**The radial pulse** can be palpated in some individuals by placing two fingers on the proximal portion of the anatomical snuffbox.

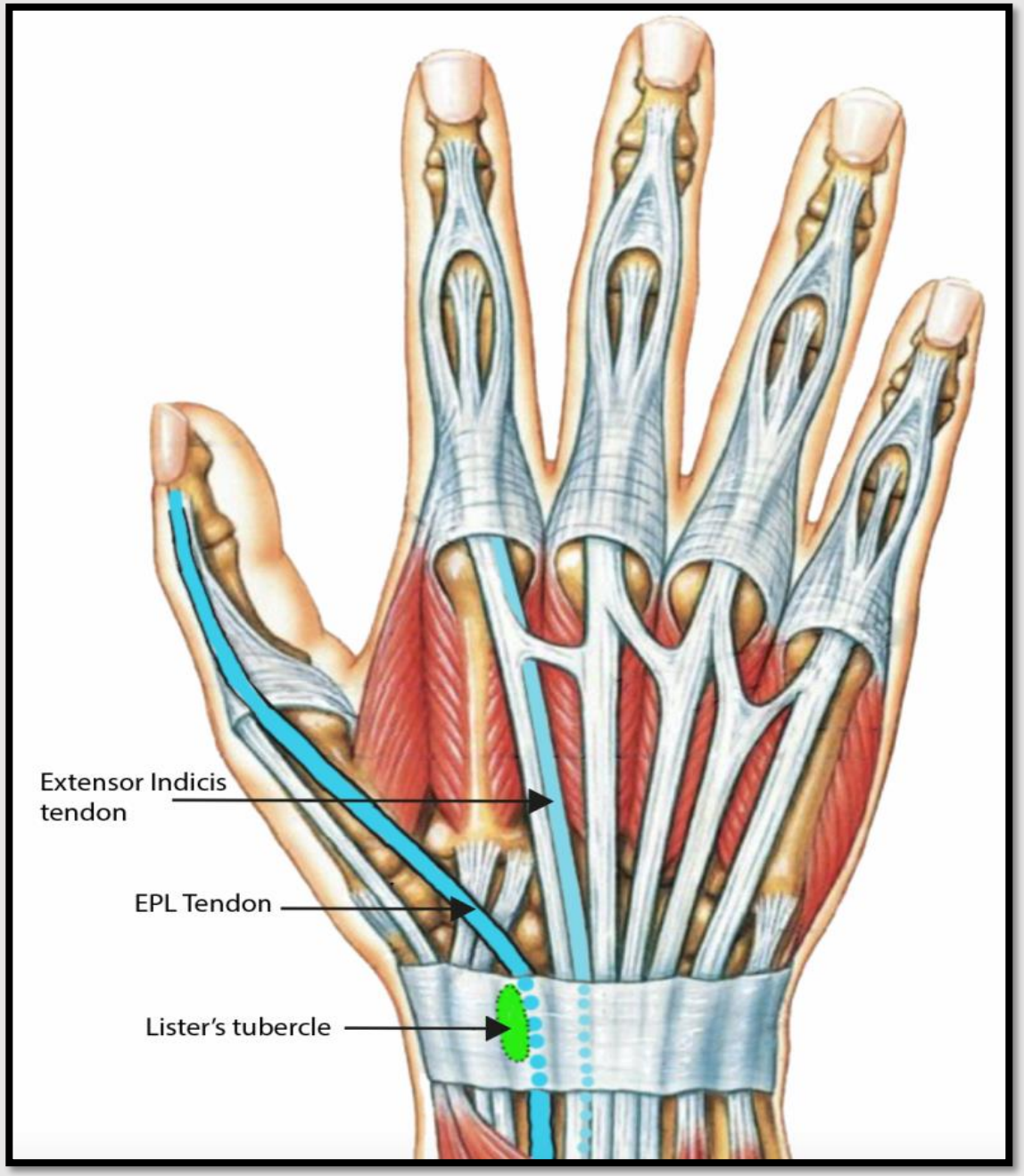
-**Superficial branch of the radial nerve** – found in the skin and subcutaneous tissue **(ROOF)** of the anatomical snuffbox. It innervates the dorsal surface of the lateral three and half digits, and the associated area on the back of the hand.

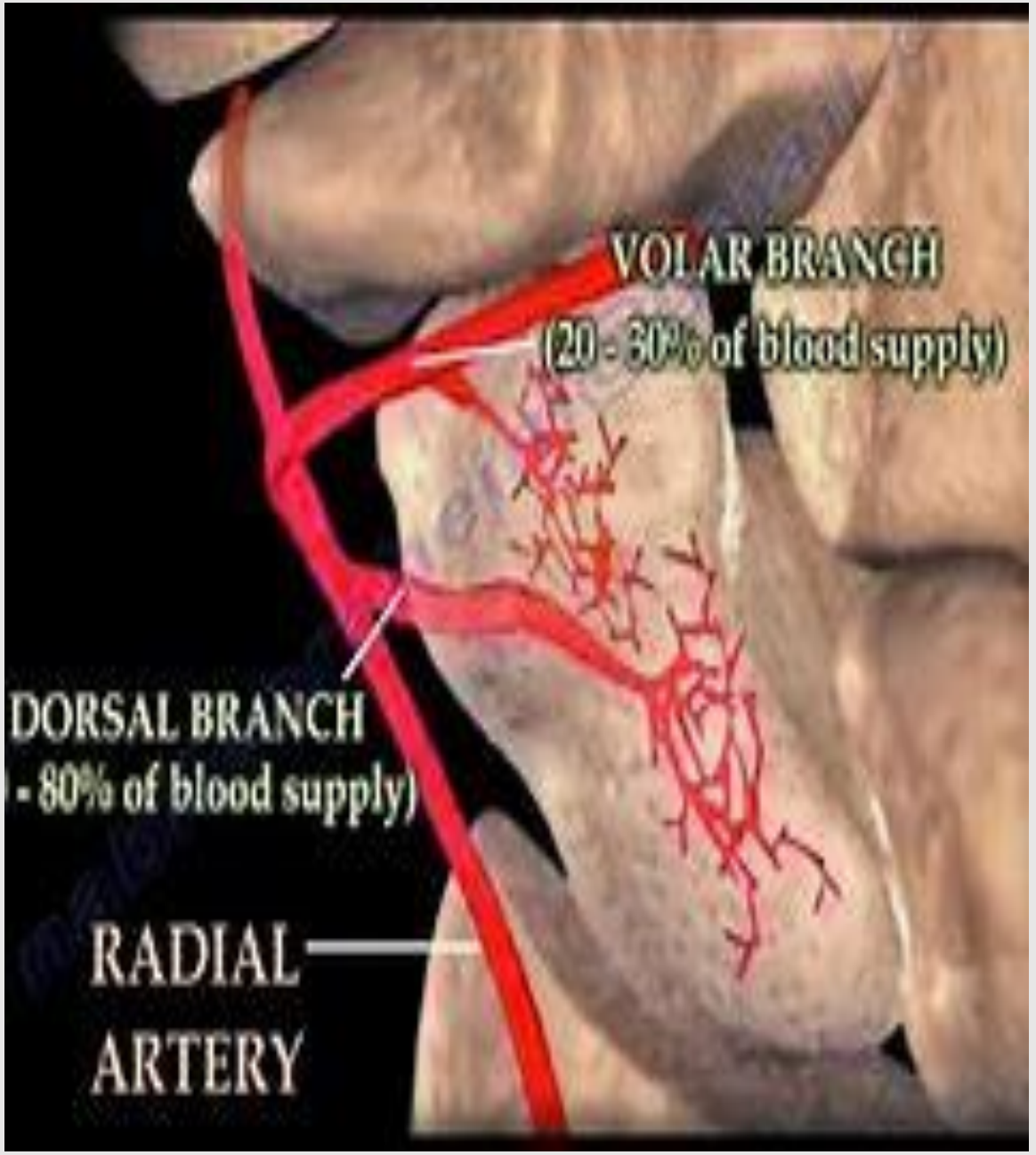
-**Cephalic vein** – arises from the dorsal venous network of the hand and crosses the **roof** of anatomical snuffbox to travel up the anterolateral aspect of the forearm



Scaphoid Fracture

- **The scaphoid bone of the hand is the most commonly fractured carpal bone – typically by falling on an outstretched hand (FOOSH).**
- **In a fracture of the scaphoid, the characteristic clinical feature is pain and tenderness in the anatomical snuffbox.**
- **The scaphoid is at particular risk of avascular necrosis after fracture because of its so-called 'retrograde blood supply' which enters at its distal end. This means that a fracture to the middle (or 'waist') of the scaphoid may interrupt the blood supply to the proximal part of the scaphoid bone rendering it avascular.**
- **Patients with a missed scaphoid fracture are likely to develop osteoarthritis of the wrist in later life.**




VOLAR BRANCH
(20 - 30% of blood supply)
DORSAL BRANCH
- 80% of blood supply)
RADIAL
ARTERY