Upper limb
Muscles of the forearm (back)

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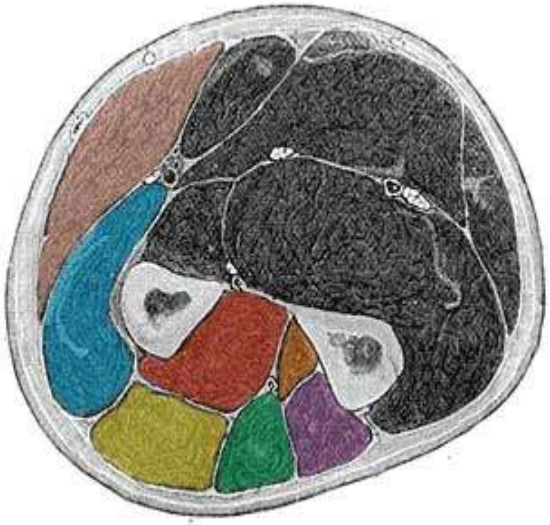
FOREARM MUSCLES OF THE POSTERIOR COMPARTMENT

The muscles in the posterior compartment of the forearm have the following similar features:

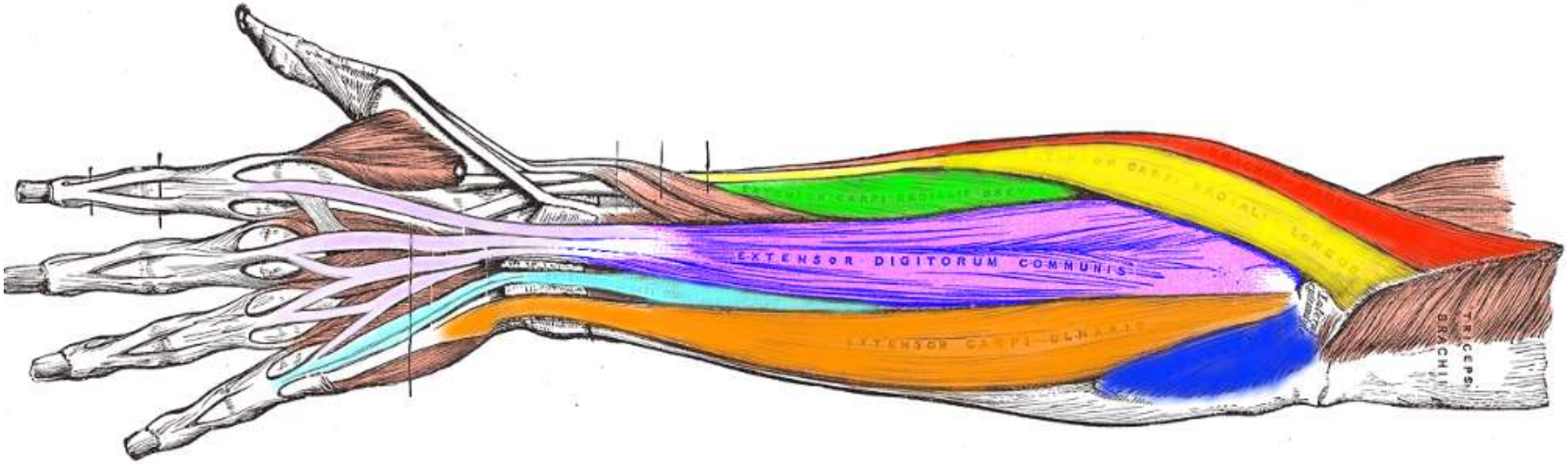
- **Common attachment: Lateral epicondyle of the humerus.**
- **Common innervation: Deep branch of the Radial nerve.**
- **Common action: Extension**
- **The vascular supply:** branches of the ulnar and radial arteries[**Posterior and anterior interosseous arteries]**
- The **muscles in the posterior compartment are divided into:**

➢ **Superficial Group**

➢ **Deep Groups.**



Superficial Layer of the **Posterior Compartment**



- Brachioradialis
- Extensor carpi radialis brevis
- Extensor digiti minimi
- Extensor carpi radialis longus
- Extensor digitorum communis
- Extensor carpi ulnaris
- Anconeus

Superficial group

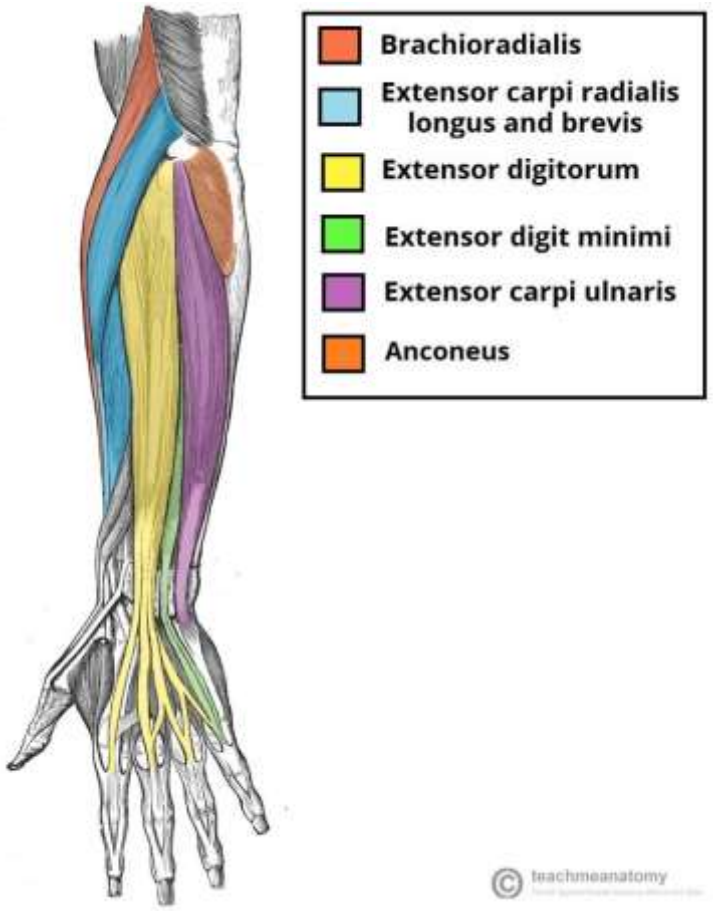
1. **Brachioradialis Muscle.**
2. **Extensor Carpi Radialis Longus Muscle**
3. **Extensor Carpi Radialis Brevis Muscle**
4. **Extensor Digitorum Muscle**
5. **Extensor Digiti Minimi Muscle**
6. **Extensor Carpi Ulnaris Muscle**
7. **Anconeus Muscle.**

Note

in some anatomy books :

❖ **Brachioradialis and Extensor Carpi Radialis** Longus are considered as c**ontents of the Lateral Fascial Compartment of the Forearm**

❖The lateral fascial compartment may be regarded as part of the posterior fascial compartment [which is applicable to us!]



Brachioradialis muscle.

ORIGIN: the lateral supracondylar ridge of the humerus

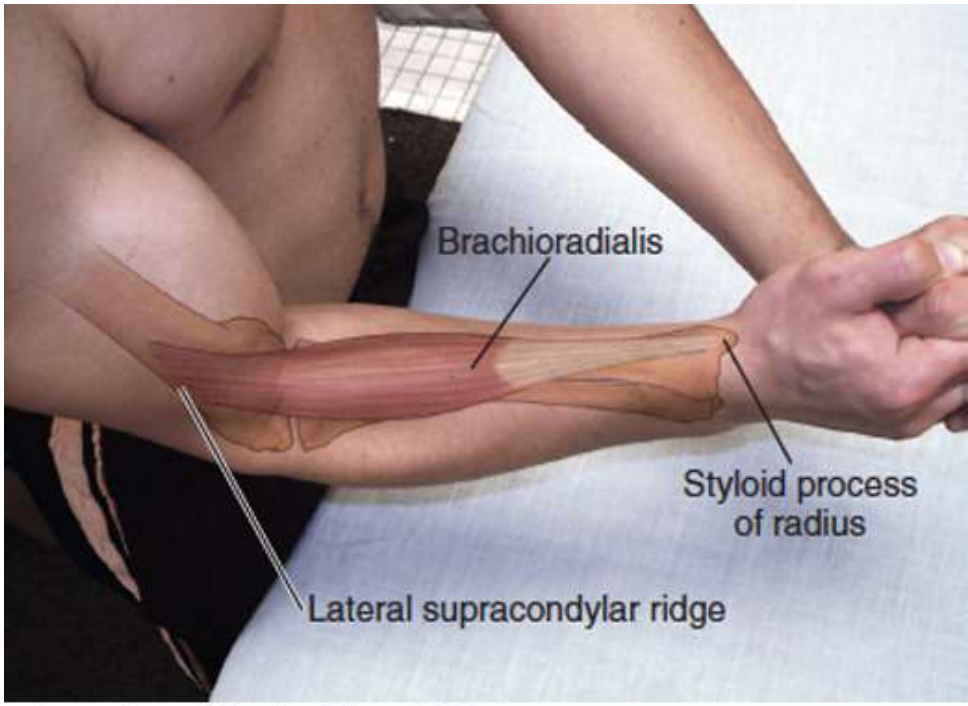
INSERTION: the **styloid process of the radius.**

ACTION:

✓ **F**lexion (primarily in the midpronated position).

✓ important for stabilization of the elbow complex during rapid movements of flexion and extension.

NERVE SUPPLY: The Radial Nerve (C5–C6).



Extensor Digitorum Muscle

ORIGIN: lateral epicondyle of the humerus

INSERTION: The dorsal digital expansions of digits 2 to 5.

ACTION: The extensor digitorum can extend all of the joints it crosses (wrist and digits 2–5).

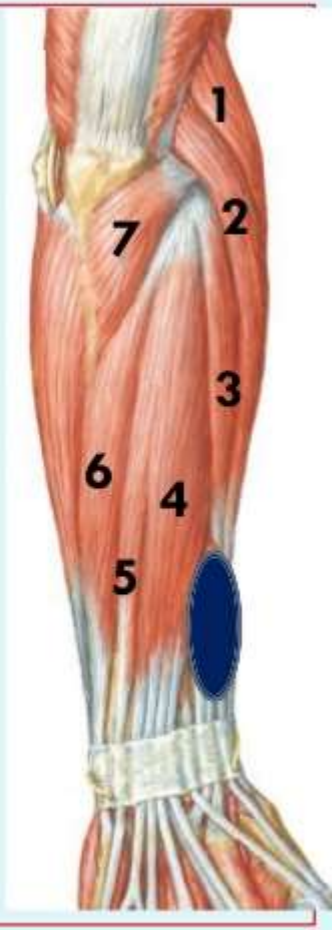
NERVE SUPPLY: the posterior interosseous nerve (C7–C8).

Muscles of back of forearm

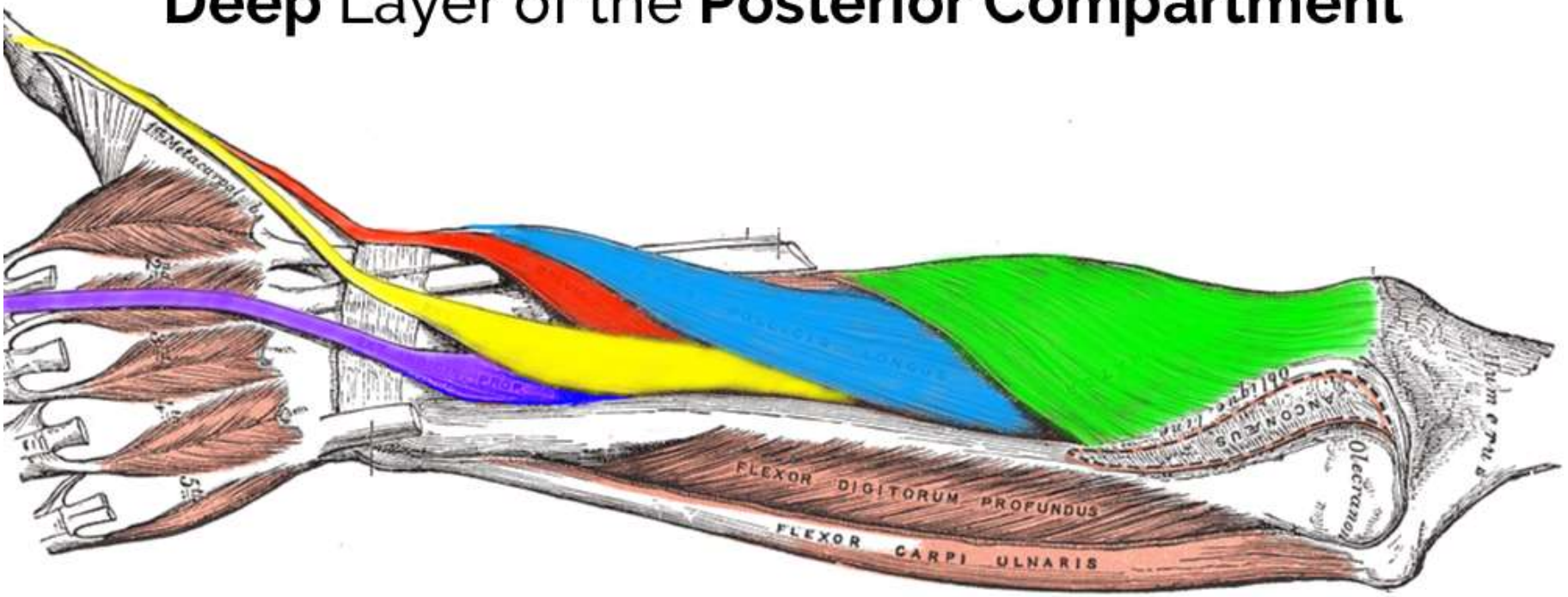
Superficial group (7)

Deep group (5)

1. Brachioradialis
2. Extensor carpi radialis longus
3. Extensor carpi radialis brevis
4. Extensor digitorum
5. Extensor digiti minimi
6. Extensor carpi ulnaris
7. anconeus



Deep Layer of the **Posterior Compartment**



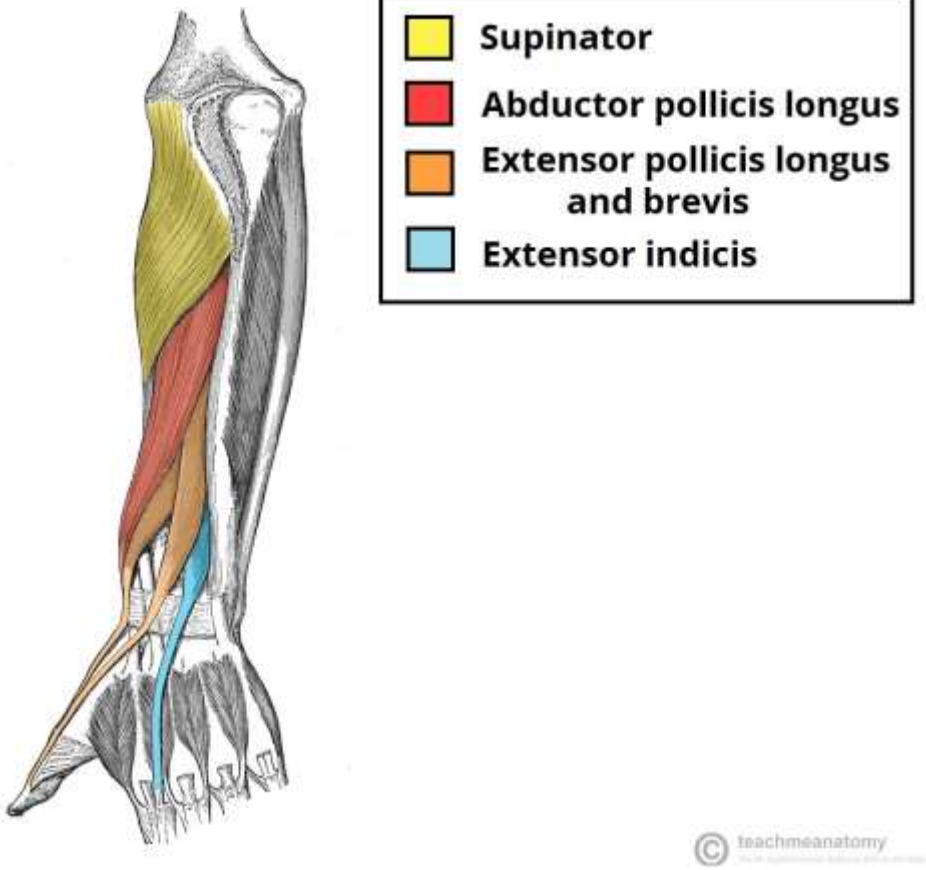
- Supinator
- Extensor pollicis brevis
- Extensor indicis
- Abductor pollicis longus
- Extensor pollicis longus

Contents of the Posterior Fascial Compartment of the Forearm

Deep Group

includes the:

1. Supinator
2. Abductor Pollicis Longus
3. Extensor Pollicis Brevis
4. Extensor Pollicis Longus
5. Extensor Indicis



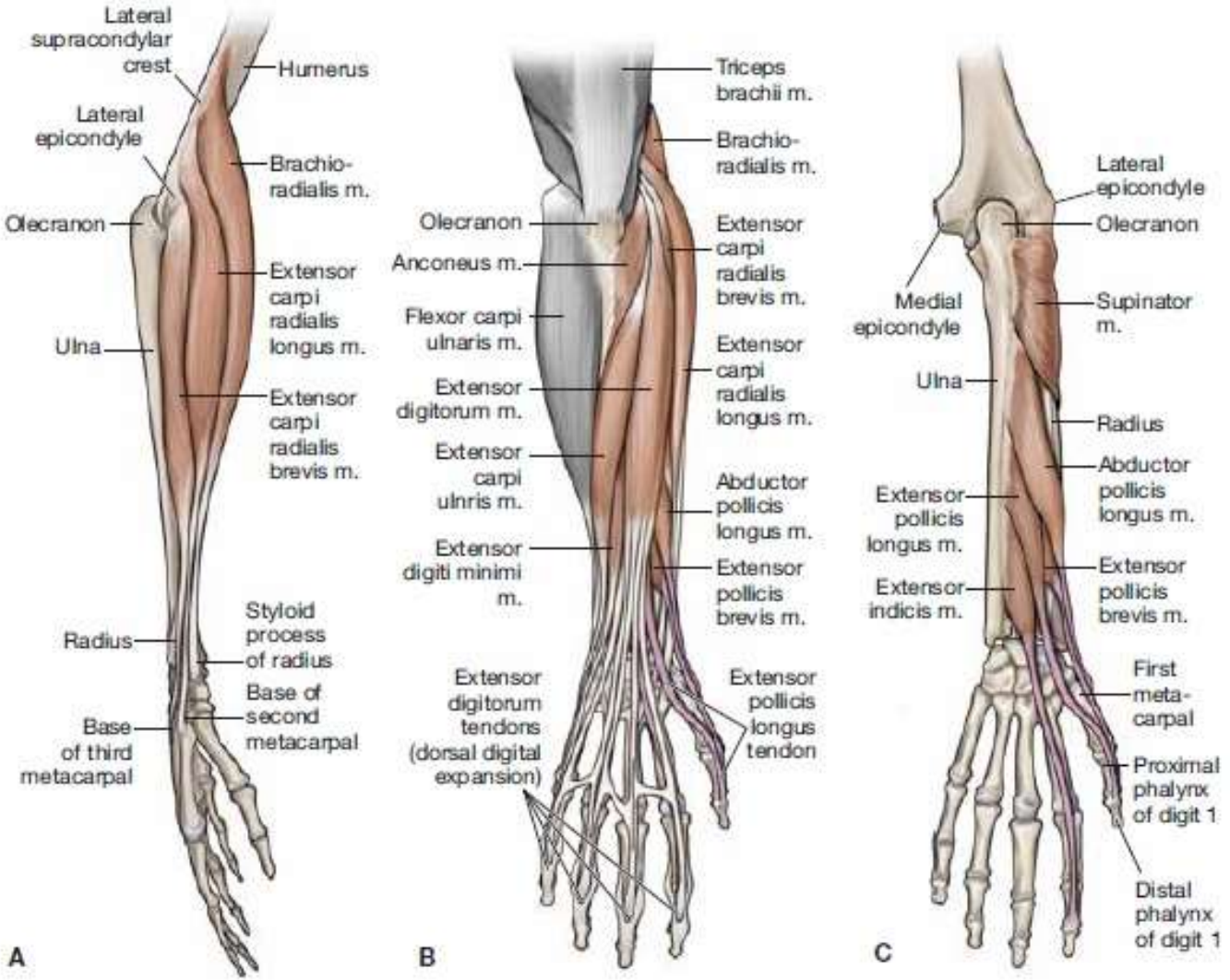


Figure 32-2: A. Lateral view of the forearm. Superficial (**B**) and deep (**C**) muscles of the posterior forearm.

“Anatomic Snuffbox”

❑The anatomic snuffbox is a term commonly used to describe a triangular skin depression on the lateral side of the wrist

❑ BOUNDARIES:

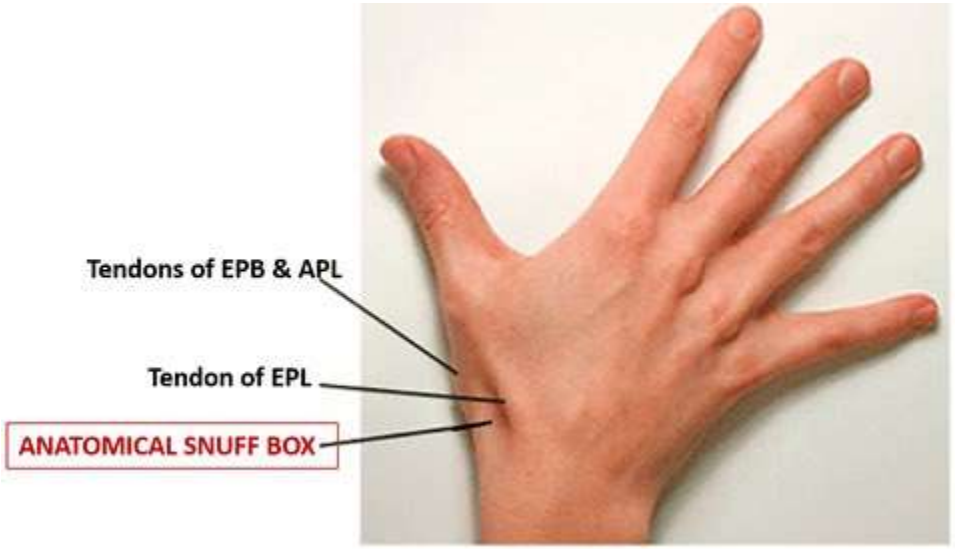
MEDIALLY: by the tendon of the extensor pollicis longus

LATERALLY: by the tendons of the abductor pollicis longus and extensor pollicis brevis

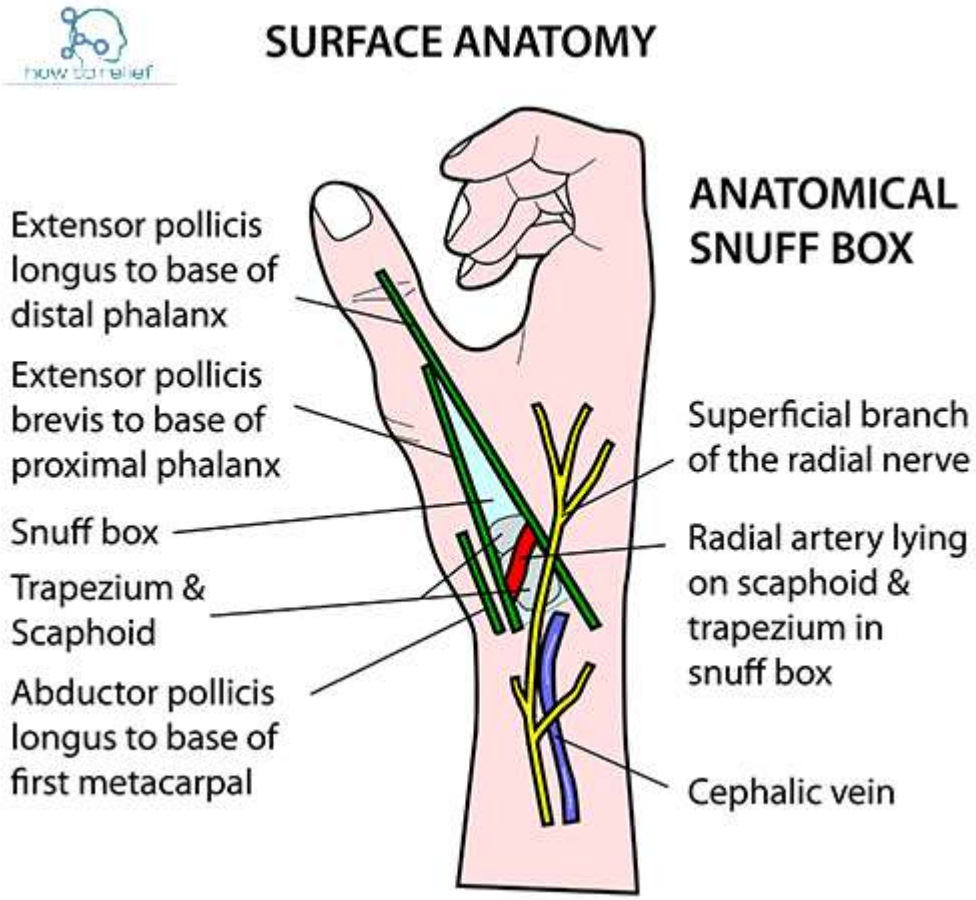
❑Its clinical importance lies in the fact that:

➢ the scaphoid bone is most easily palpated here

➢ the pulsations of the radial artery can be felt here



The depression between two tendons is called the anatomical SNUFFbox because the depression used to be the place to SNUFF the finely powdered tobacco.



Lateral epicondylitis (tennis elbow)

❖**is a condition** caused by the overuse of the extensor muscles that attach to the lateral epicondyle.

❖This injury is seen in almost 50% of tennis players (hence, the name “tennis elbow”)

❖ However, it can affect anyone who participates in repetitive activity.

❖ A person with lateral epicondylitis will typically experience pain over the lateral epicondyle.

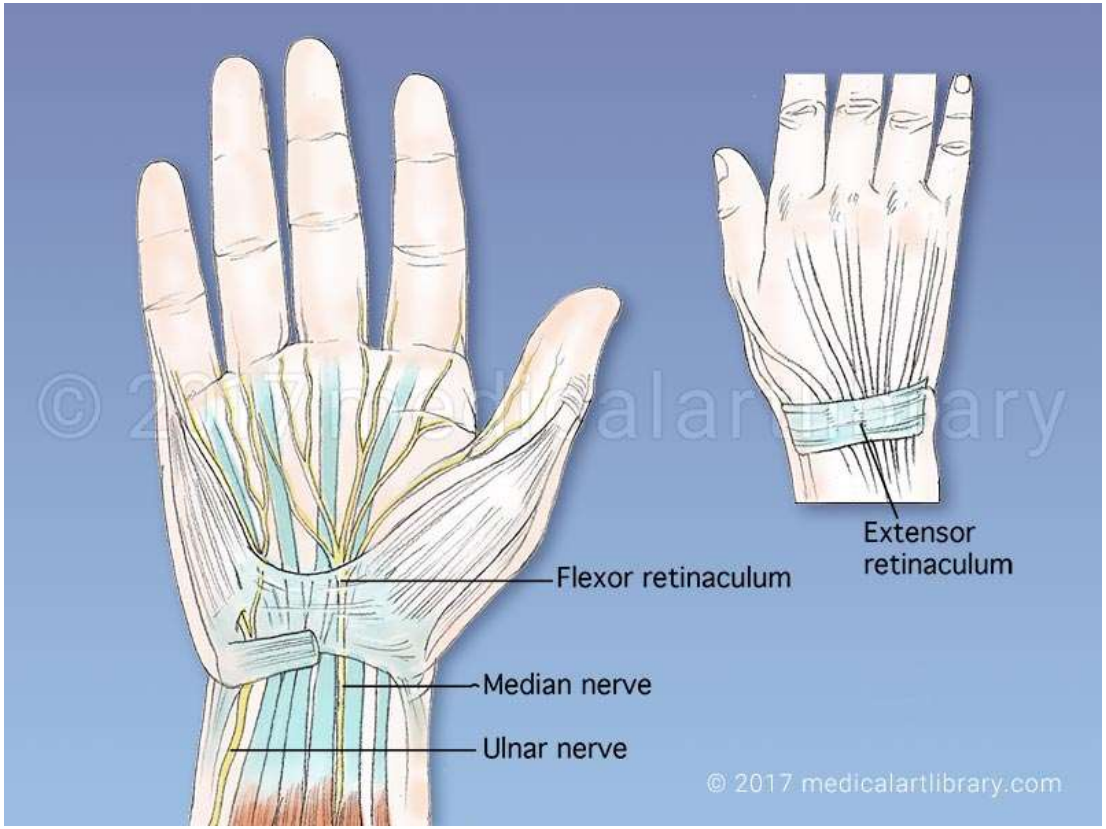
❖A similar condition called “**Golfer’s Elbow**” occurs at the medial epicondyle and is most commonly seen in golfers.


Tennis Elbow
also called lateral epicondylitis, causes pain on the outside of the elbow.
Golfer's Elbow
also called medial epicondylitis, causes pain on the inside of the elbow

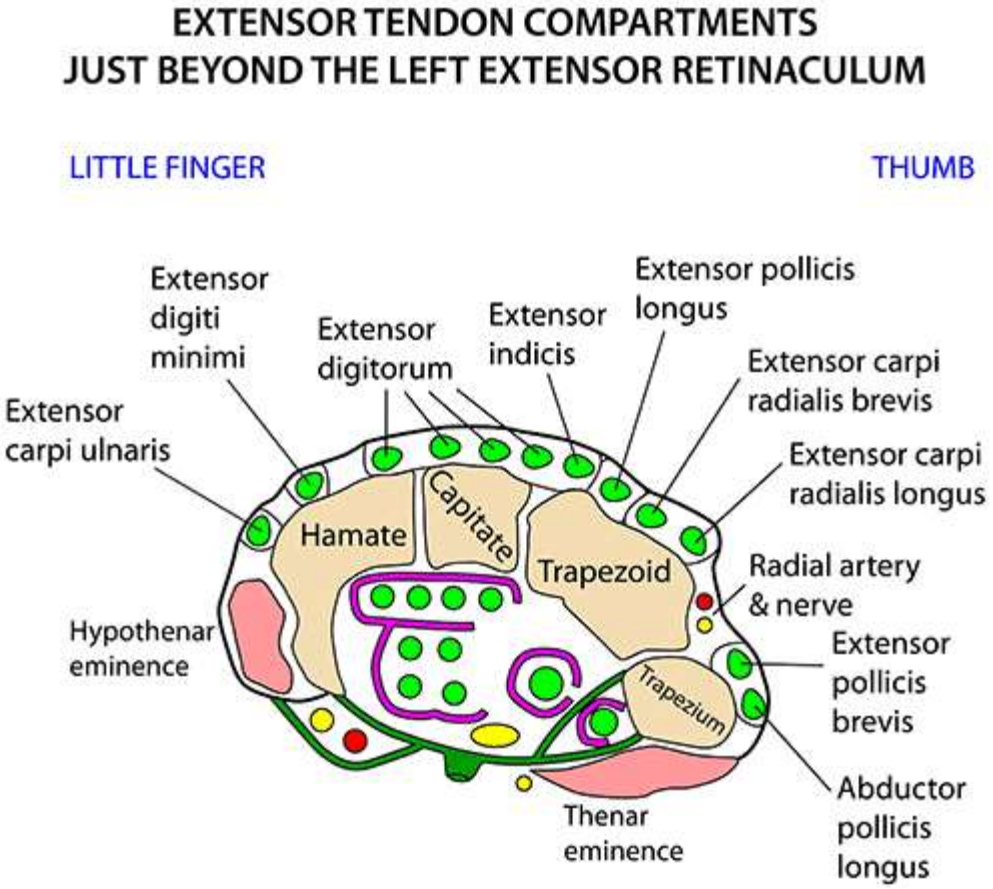
Extensor Retinacula

❖The flexor and extensor retinacula are strong bands of deep fascia that hold the long flexor and extensor tendons in
position at the wrist.

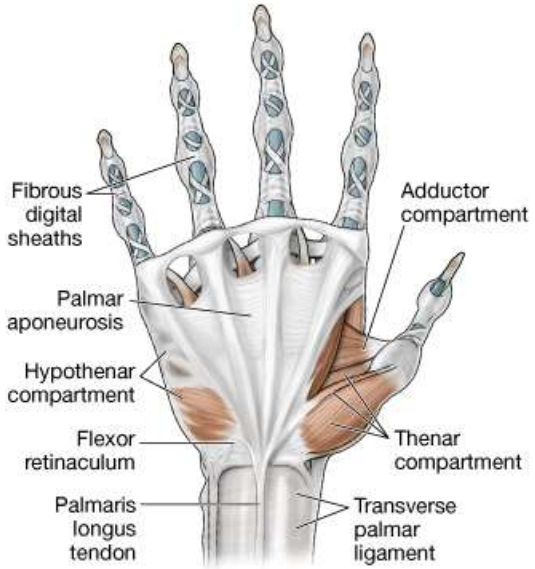
❖The extensor retinaculum is a thickening of deep fascia that stretches across the back of the wrist and holds the long extensor tendons in position

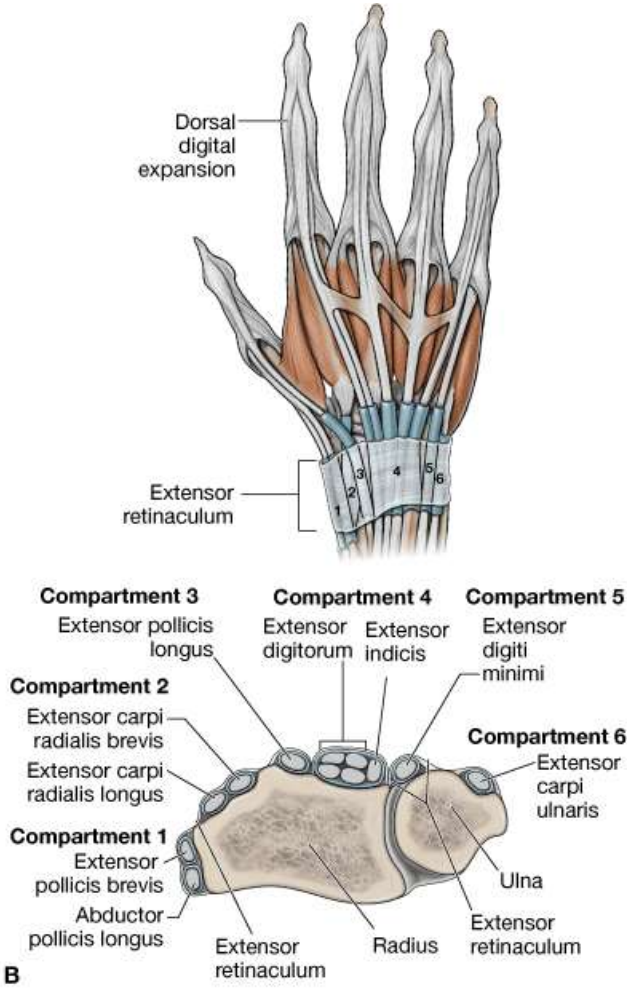


❖It converts the grooves on the posterior surface of the distal ends of the radius a ulna into SIX separate tunnels for the passage of the long extensor tendons.
❖Each tunnel is lined with a synovial sheath, which extends above and below the retinaculum on the tendons.
❖The tunnels are separated from one another by fibrous septa that pass from t deep surface of the retinaculum to the bones.
❖The retinaculum is attached medially t the pisiform bone and the hook of the Hamate and laterally to the distal end of the radius.



❖The upper and lower borders of the retinaculum are continuous with the deep fascia of the forearm and hand, Respectively.

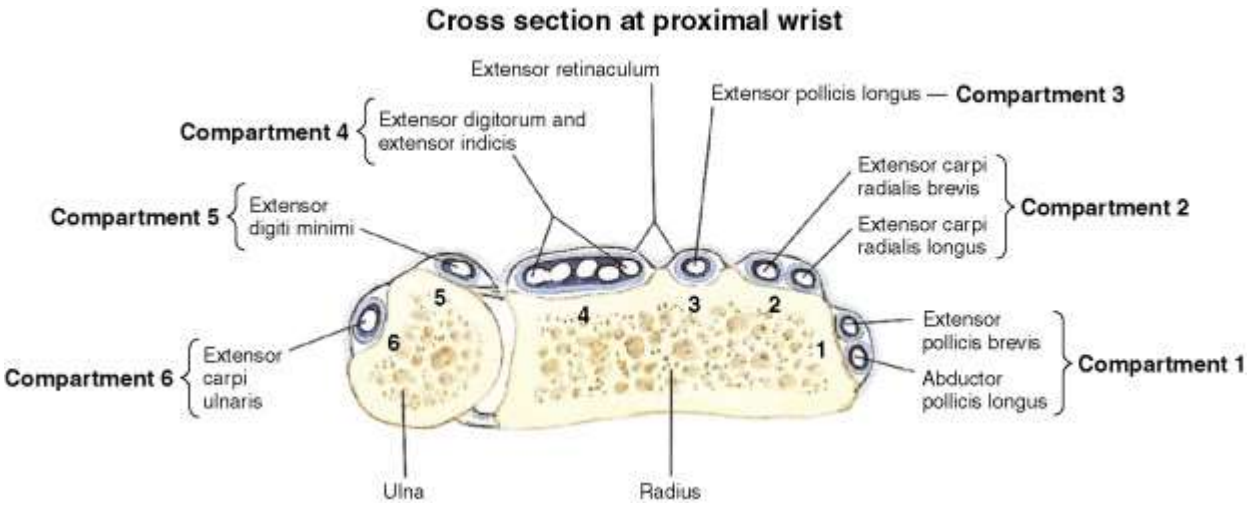




FASCIAL COMPARTMENTS OF THE DORSAL SIDE OF THE WRIST

The extensor retinaculum of the hand divides the dorsum of the wrist into the following six compartments:

- **Compartment 1. Contains the abductor pollicis longus and** extensor pollicis brevis muscles.
- **Compartment 2. Contains the extensor carpi radialis longus** and brevis muscles.
- **Compartment 3. Contains the extensor pollicis longus muscles.**
- **Compartment 4. Contains the extensor digitorum and extensor** indicis muscles.
- **Compartment 5. Contains the extensor digiti minimi muscles.**
- **Compartment 6. Contains the extensor carpi ulnaris muscles.**


Cross section at proximal wrist
Extensor retinaculum
Extensor pollicis longus — Compartment 3
Compartment 4
Extensor digitorum and extensor indicis
Compartment 5
Extensor digiti minimi
Extensor carpi radialis brevis
Extensor carpi radialis longus
Compartment 2
5
4
3
2
6
1
Compartment 6
Extensor carpi ulnaris
Extensor pollicis brevis
Abductor pollicis longus
Compartment 1
Ulna
Radius