

وسهلا



أهلا

يُمنع أخذ السلايدات بدون
إذن المحرر واي اجراء
يخالف ذلك يقع تحت طائلة
المسؤولية القانونية
جميع المعلومات للاستخدام
التعليمي فقط

الأستاذ الدكتور يوسف حسين

كلية الطب - جامعة مؤتة - الأردن

دكتورة من جامعة كولونيا المانيا

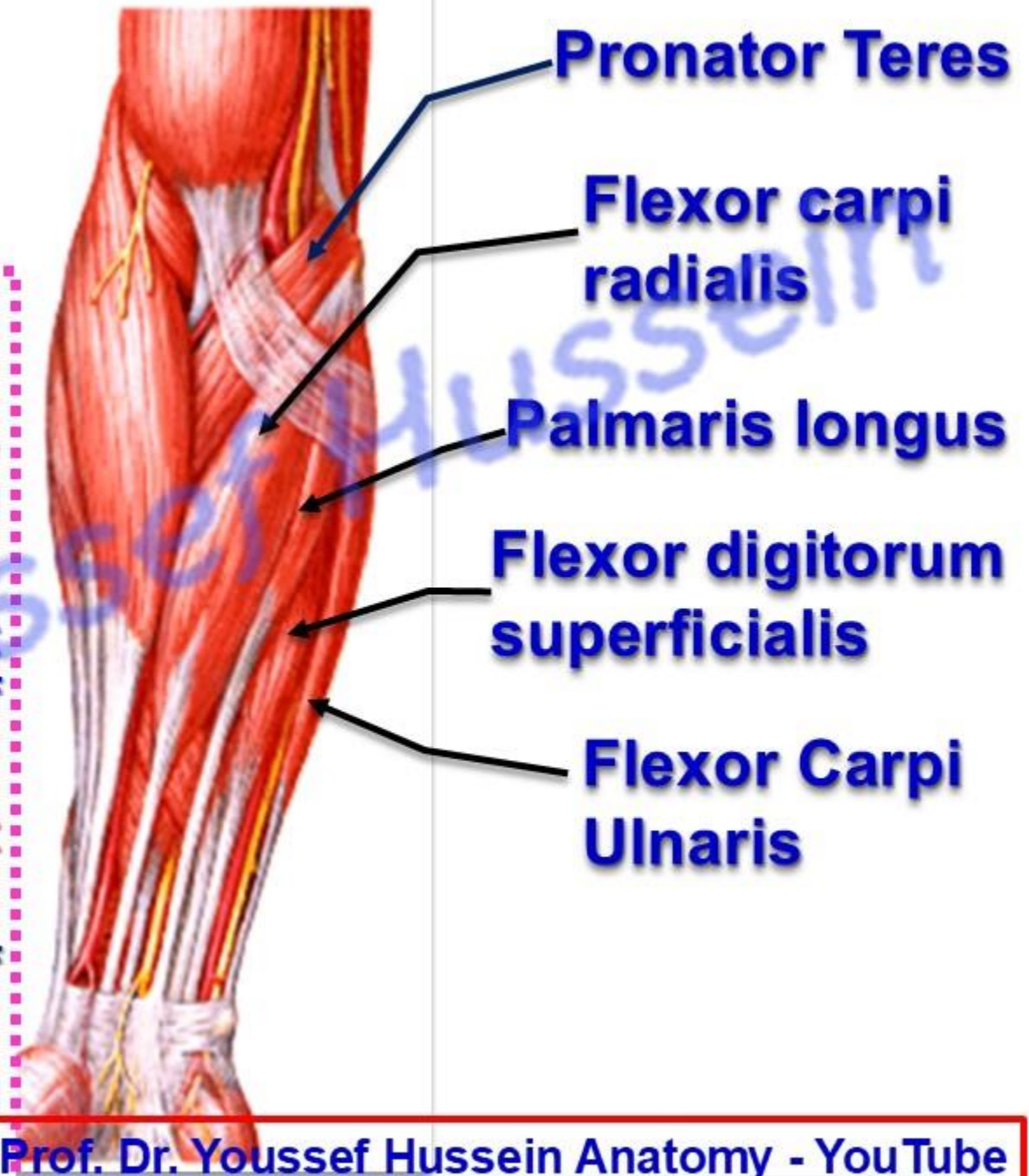
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Superficial Flexor muscles

Superficial group

- They arranged from lateral to medial side
- **Flexor digitorum superficialis** is the intermediate one between superficial and deep group
- **Origin:** Common flexor origin (Most flexors) Infront medial epicondyle of humerus.
- **Nerve supply,** median nerve **except** flexor carpi ulnaris by ulnar nerve.
- **Insertion and action,** See the name of the muscles.
- All the muscles of pronation and supination inserted into the **radius**.



• Pronator Teres

**** Origin:** by two heads

a- Humeral (Superficial) head: common flexor origin and lower part of the medial supracondylar ridge of the humerus.

b- Ulnar (Deep) head: from the medial border of the coronoid process of the ulna.

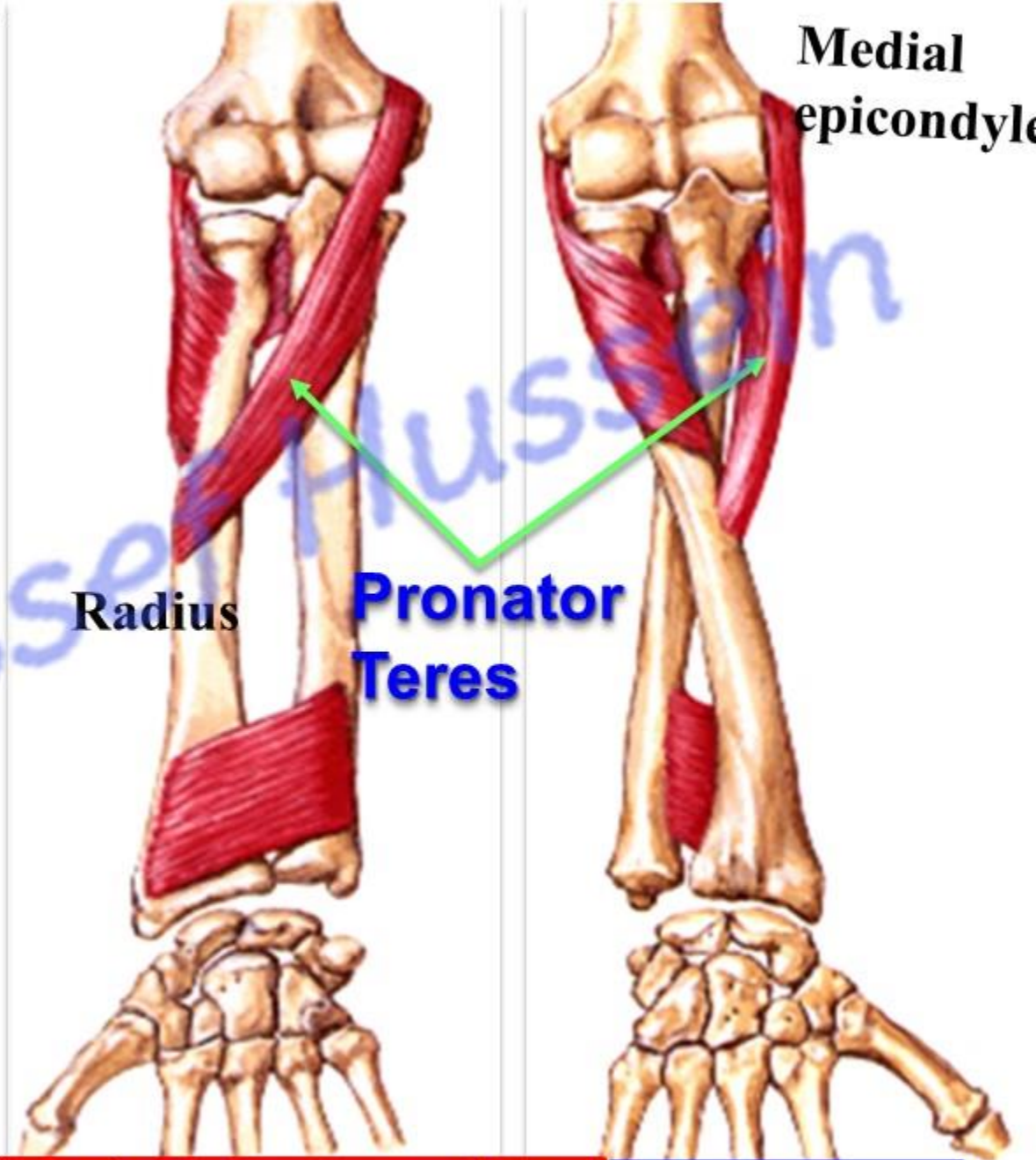
**** Insertion:** an impression on the middle of the lateral surface of the radius.

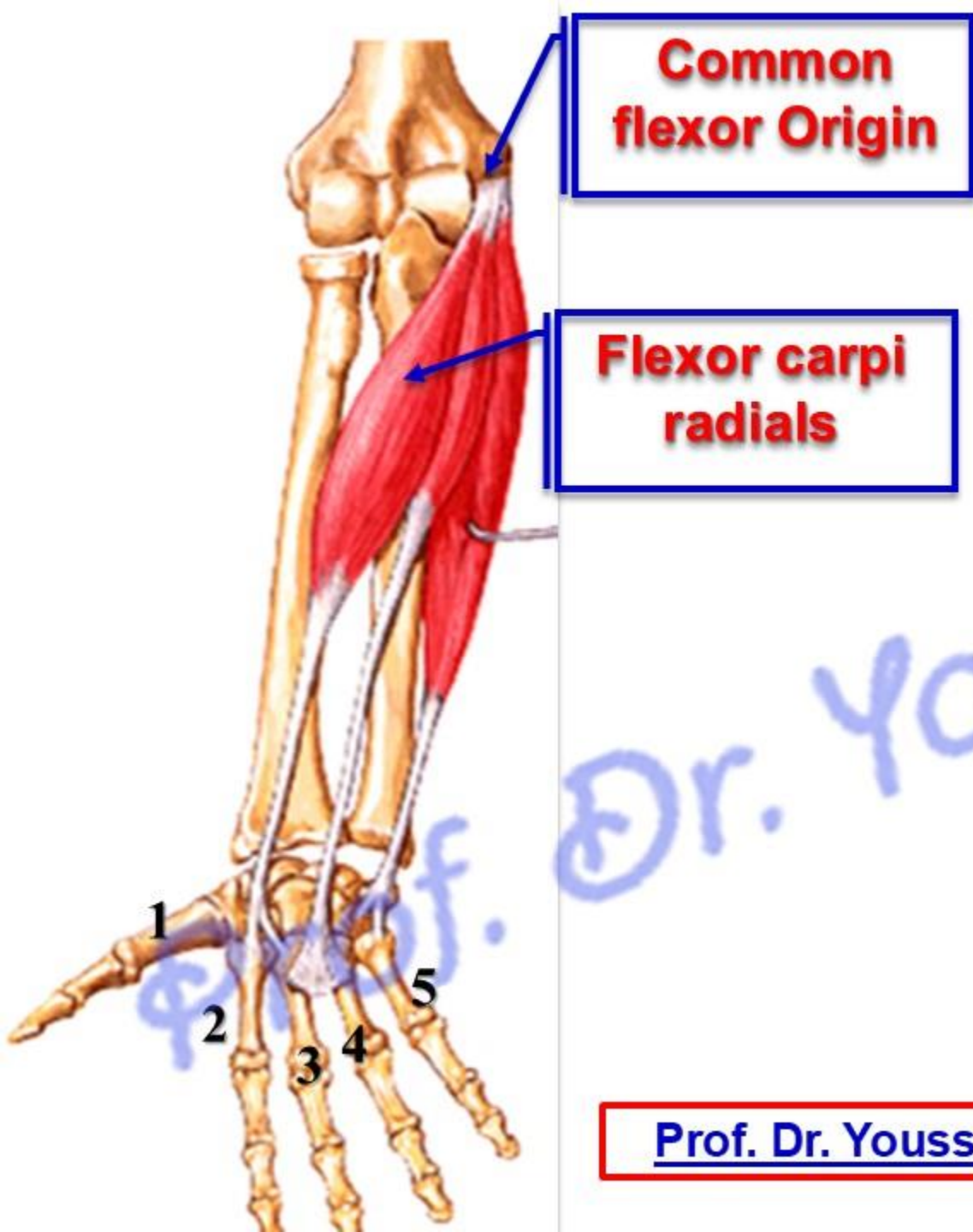
**** Nerve supply:** median nerve (before piercing the muscle).

**** Actions:**

a- Pronation of forearm (at radioulnar joints).

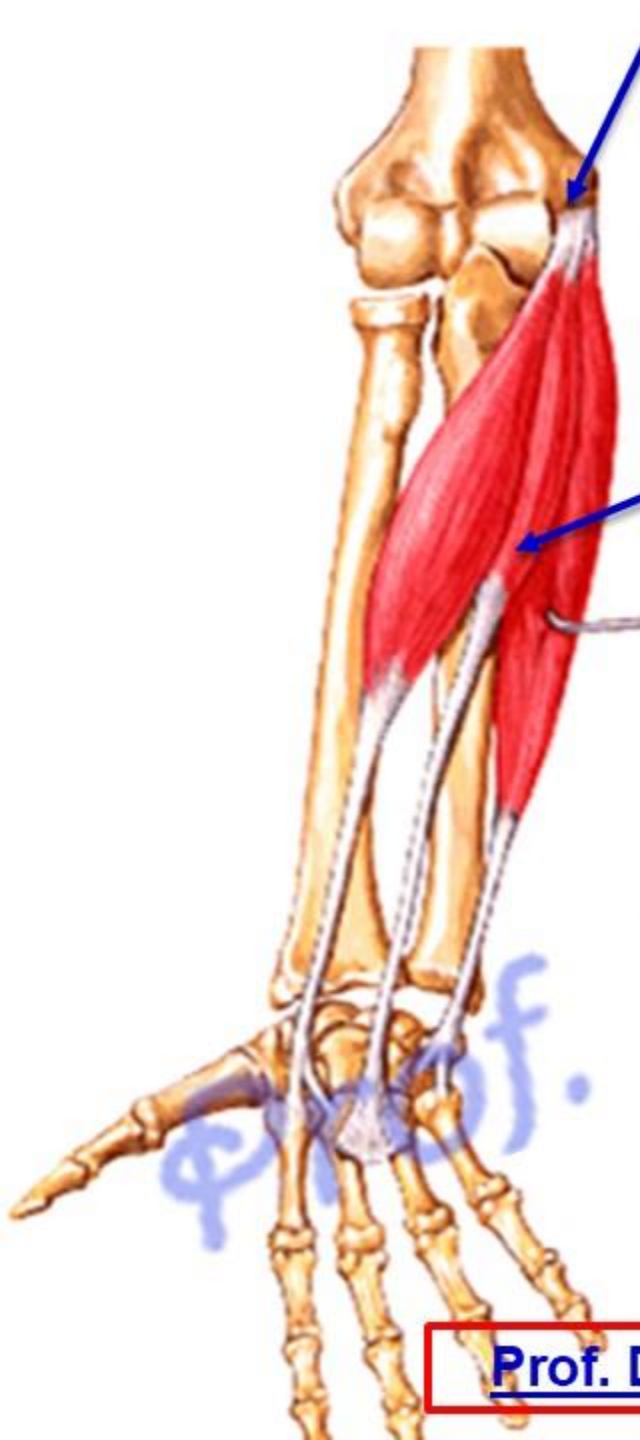
b- Flexion of the elbow joint.





• Flexor Carpi Radialis

- ** **Origin:** common flexor origin.
- ** **Insertion:** palmar surface of base of the 2nd & 3rd metacarpal bones.
- ** **Nerve supply:** median nerve.
- ** **Actions:**
 - a- Flexion of the wrist joint.
 - b- Abduction of the hand at wrist joint.



**Common
flexor Origin**

**Palmaris
longus**

• Palmaris Longus

- ** Origin:** common flexor origin. may be absent.
- ** Insertion:** Flexor retinaculum and apex of the palmar aponeurosis.
- ** Nerve supply:** Median nerve.
- ** Actions:** Flexion of the wrist joint.



• Flexor Digitorum Superficialis

**** Origin:** by two heads:

1) **Humeroulnar head** from:

a- Common flexor origin.

b- Medial border of **coronoid** process of ulna.

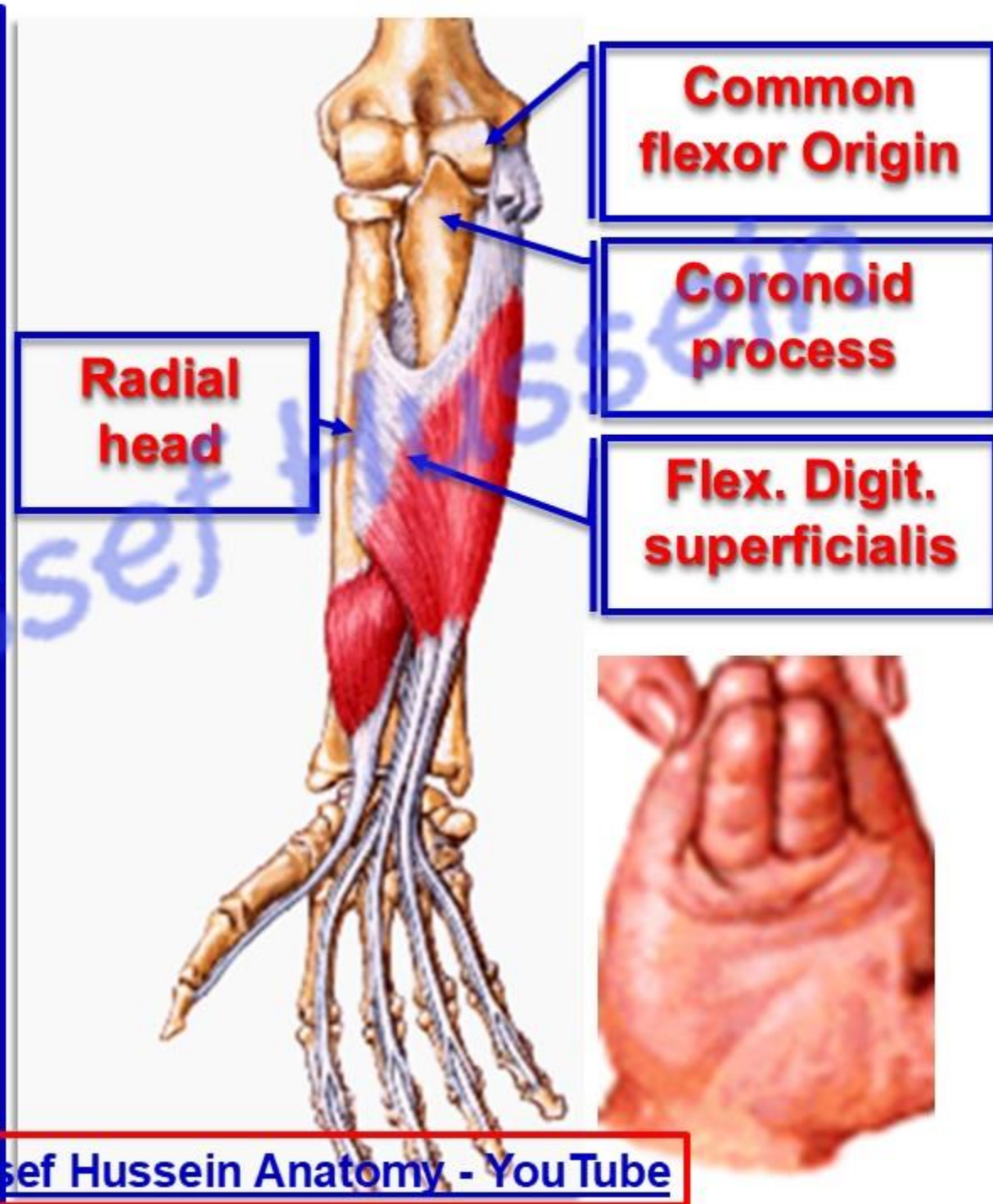
2) **Radial head:** from the oblique line and anterior border of the radius.

**** Insertion:** by 4 tendons into the palmar surface of middle phalanges of medial 4 fingers.

**** Nerve supply:** median nerve.

**** Actions:**

- Flexion of the wrist joint
- Flexion of the metacarpophalangeal and proximal interphalangeal joints of the medial 4 fingers.



• Flexor Carpi Ulnaris

**** Origin:** by two heads;

- 1) **Humeral head**; common flexor origin.
- 2) **Ulnar head**; medial border of the **olecranon** and the posterior border of the ulna.

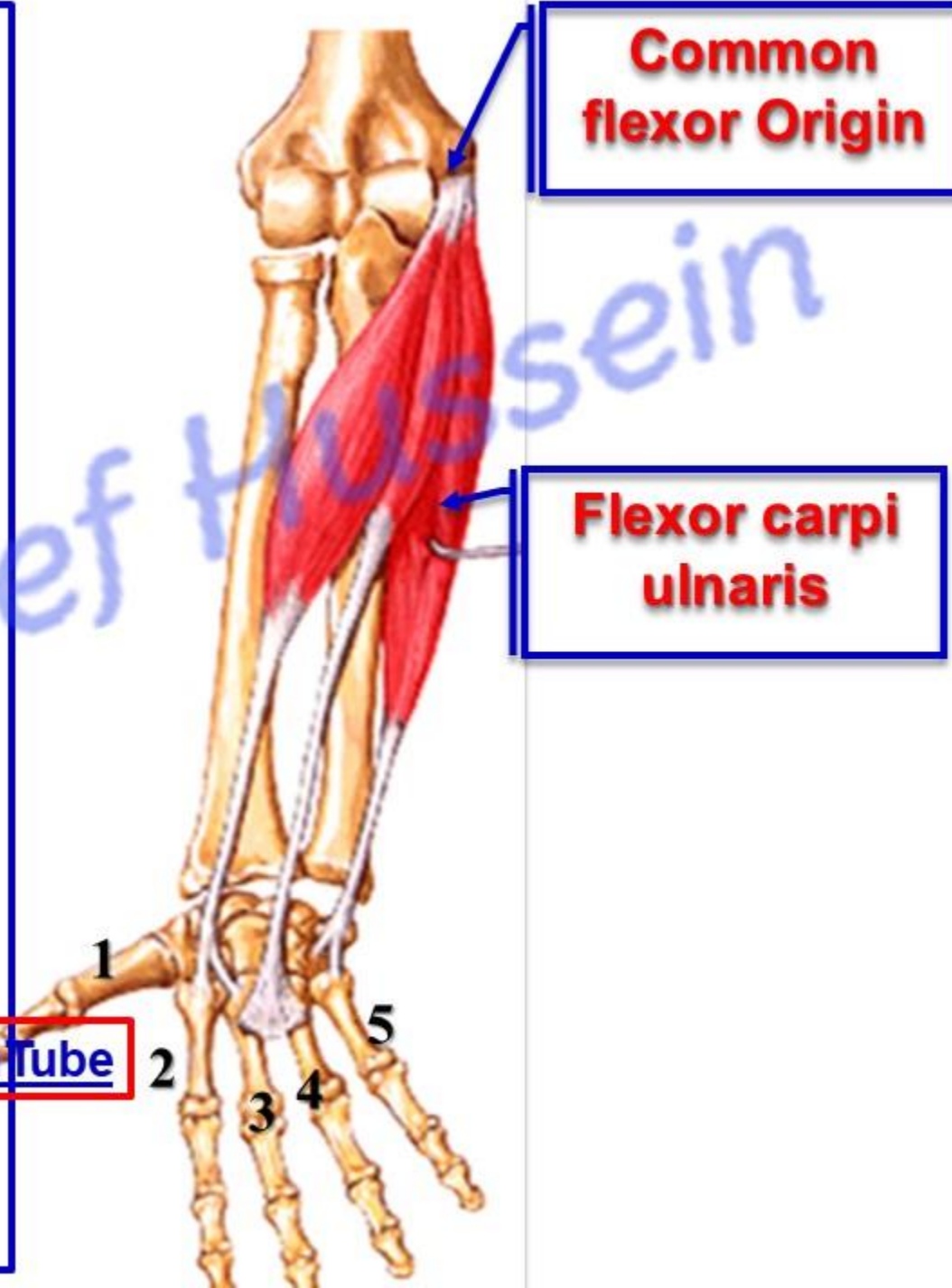
**** Insertion:**

- 1) Pisiform bone (main insertion).
- 2) Hook of hamate through ~~pisohamate ligament~~.
- 3) Base of the 5th metacarpal bone through ~~pisometacarpal ligament~~.

**** Nerve supply:** ulnar nerve.

**** Actions:** [Prof. Dr. Youssef Hussein Anatomy - YouTube](#)

- a- Flexion of the wrist joint.
- b- Adduction of the hand at wrist joint.

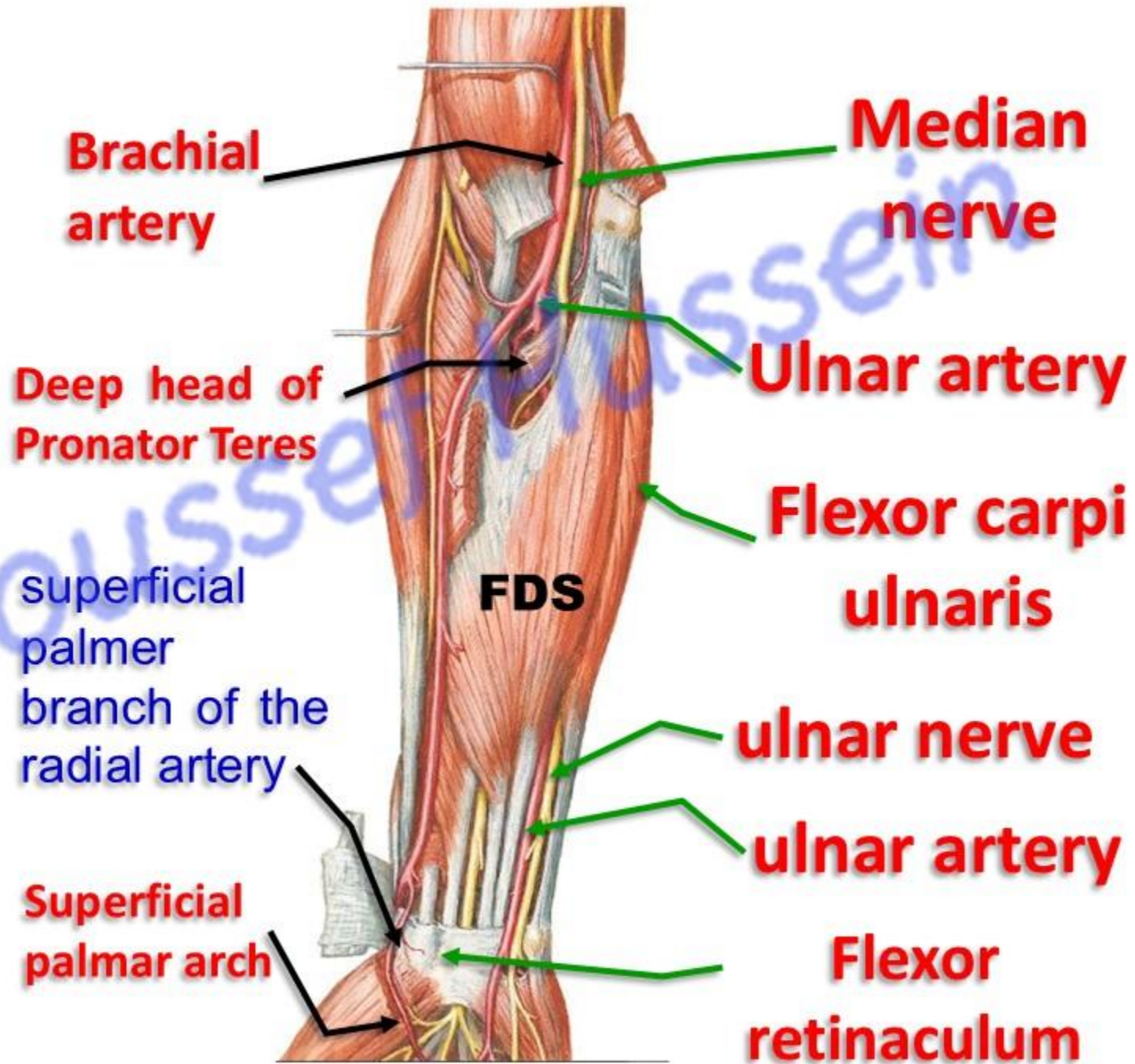


• Ulnar Artery

**** Beginning:** the larger of two terminal branches of brachial artery in the cubital fossa at the level of the neck of radius.

**** Course:**

- It descends medially deep to the deep head of pronator teres that separates it from the median nerve.
- It descends vertically deep to Flexor carpi ulnaris and lateral to ulnar nerve.
- **Above wrist joint:** between Flexor carpi ulnaris and flexor digitorum superficialis, covered by skin, superficial fascia, deep fascia (**dangerous position**). FDP (post)
- It **enters the hand** superficial to flexor retinaculum and anastomosis with superficial palmar branch of radial artery to form **superficial palmar arch**.

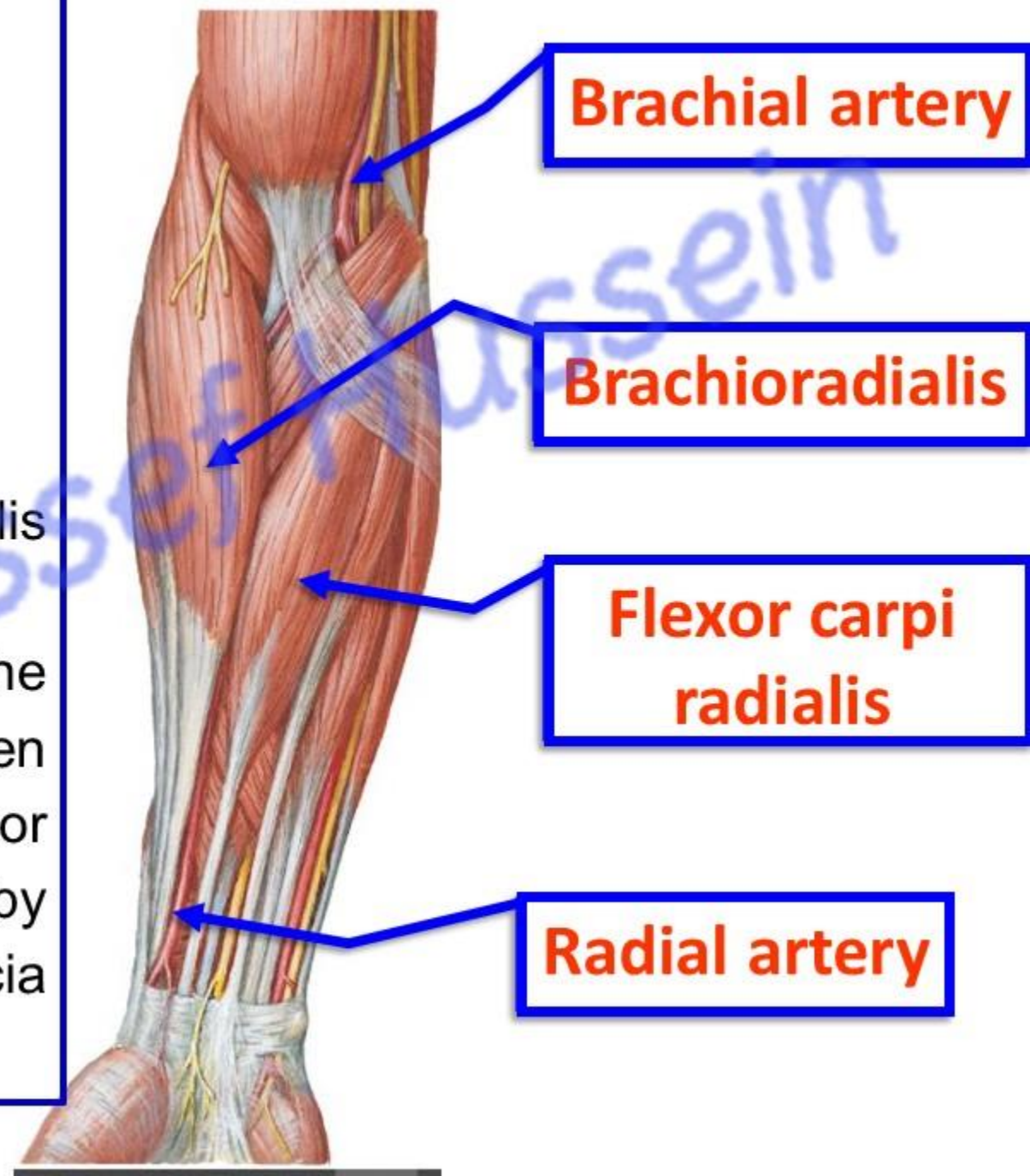


- **Radial Artery of the forearm**

**** Begin:** one of the two terminal branches of the brachial artery in the cubital fossa at the level of the neck of the radius.

**** End;** in the palm of the hand as **deep palmer arch**.

- **Course:** It passes deep to brachioradialis muscle with the radial nerve
- **In the lower one third**, it descends on the distal end of the radius between brachioradialis muscle (**laterally**) and flexor carpi radialis (**medially**) and covered only by skin, superficial fascia and deep fascia (**where you can feel arterial pulsation**).



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- The radial pulse is the most commonly used one for feeling and counting the arterial pulsations.
- Pulsations of the radial artery are easily palpated when the artery is compressed by the tips of the fingers against the distal end of the radius (Bone).





Superficial Group of Extensor muscles forearm

Superficial groups

**** They arranged from lateral to medial**

- 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.**

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Anconeus

Brachioradialis

Ext carpi rad
longus

Ext carpi rad
brevis

Ext digitorum

Ext digiti
minimi

Ext carpi
ulnaris



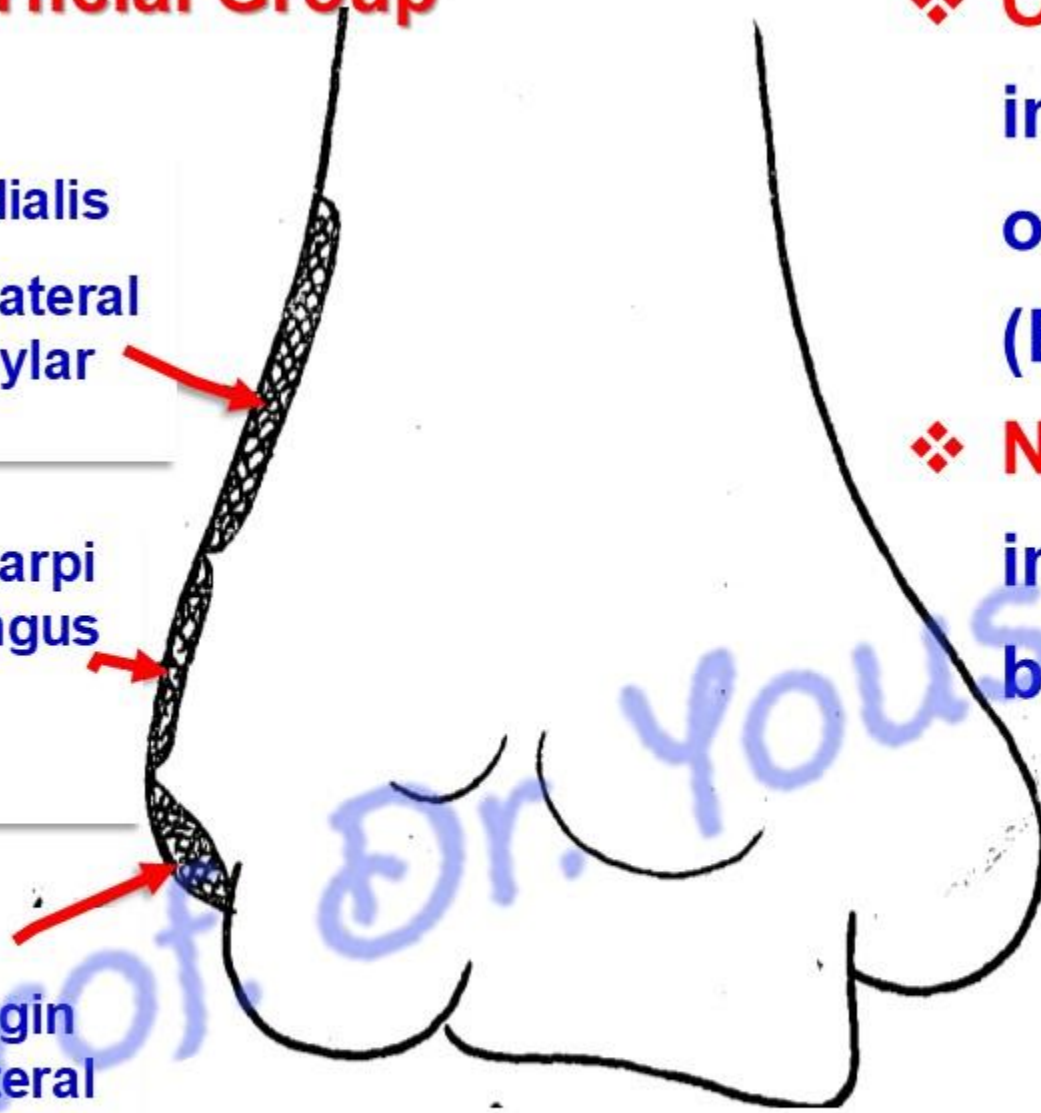
Superficial Group

Brachioradialis

Upper 2/3 lateral supracondylar ridge

Extensor carpi radialis longus lower 1/3

Common extensor origin in front of lateral epicondyle of humerus



Anconeus from back of lateral epicondyle of humerus

- ❖ **Origin:** common extensor origin in front of the lateral epicondyle of the humerus **except** 1, 2 & 7 (BEA).
- ❖ **Nerve supply:** posterior interosseous nerve **except** 127 by radial nerve.

• 1- Brachioradialis

**** Origin:** from the upper 2/3 of the lateral supracondylar ridge of the humerus.

**** Insertion:** into the lateral side of the distal end of the radius at the base of the styloid process.

**** Nerve supply:** radial nerve.

**** Actions:**

1- Initiates pronation and supination of the forearm.

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2- Flexion of the forearm in the midprone position. It is the muscle of military salute.



- **2- Extensor Carpi Radialis Longus**

**** Origin:** from the lower 1/3 of the lateral supracondylar ridge of the humerus.

**** Insertion:** dorsum of the base of the **2nd** metacarpal bone.

**** Nerve supply:** radial nerve.

**** Actions:**

- 1- Extension of the wrist.
- 2- Abduction of the hand.



- **3- Extensor Carpi Radialis Brevis**

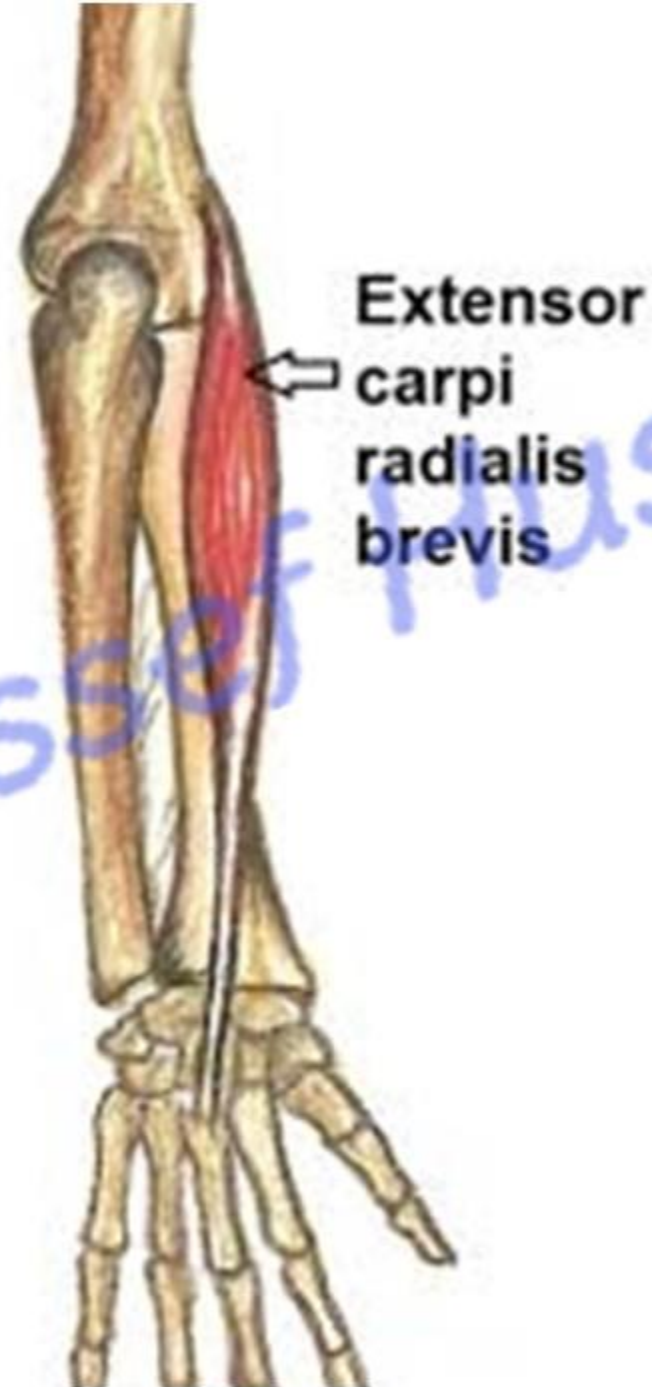
**** Origin:** common extensor origin.

**** Insertion:** dorsum of the base of the **3rd** metacarpal bone.

**** Actions:**

1- Extension of the wrist.

2- Abduction of the hand.



• 4- Extensor Digitorum

**** Origin:** common extensor origin.

**** Insertion:** four tendons to **extensor expansions** of the medial four fingers (middle and terminal phalanges) .

**** Actions:** Extension of wrist, and all joints of the medial 4 fingers

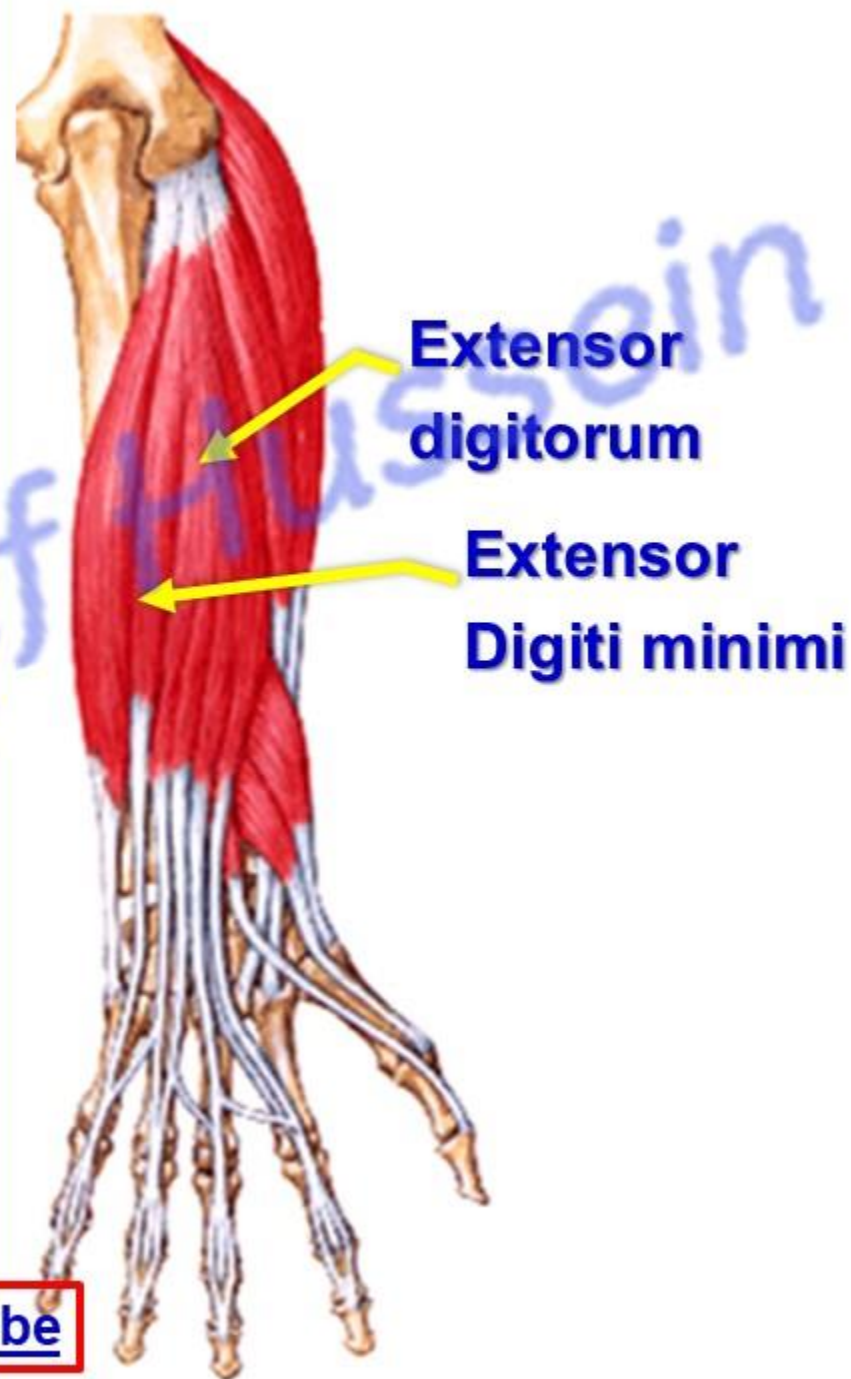
• 5- Extensor Digiti Minimi

**** Origin:** from the common extensor origin.

**** Insertion:** into the **extensor expansion** of little finger.

**** Actions:** Extension of wrist, and all joints of the little finger.

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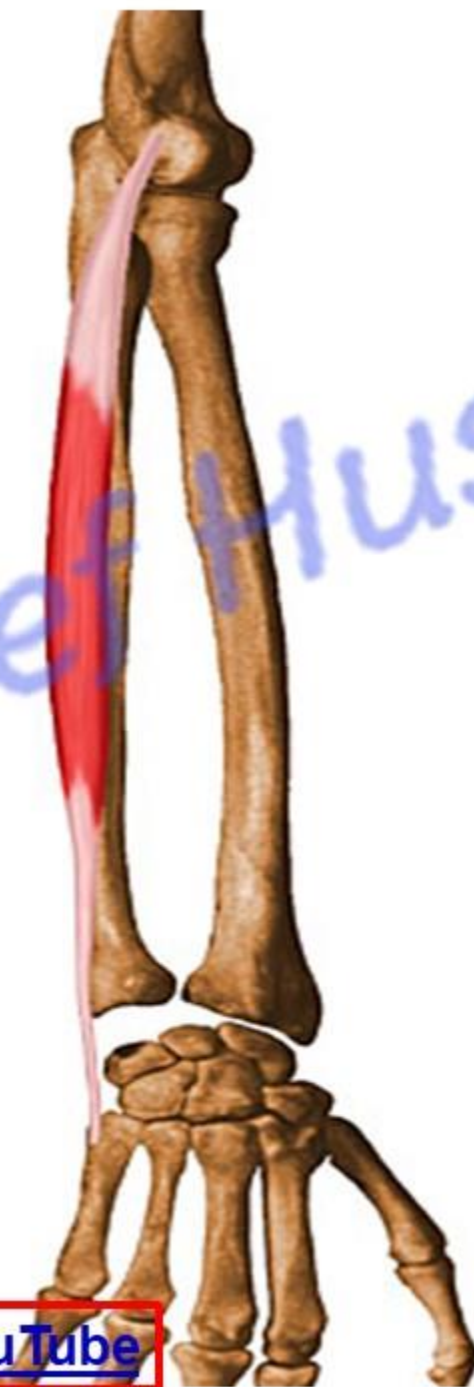
• 6- Extensor Carpi ulnaris

**** Origin:** common extensor origin (humeral head) and posterior border of the shaft of the ulna.

**** Insertion:** dorsum of the base of the 5th metacarpal bone.

**** Actions:**

- 1- Extension of the wrist.
- 2- Adduction of the hand.



• 7- Anconeus

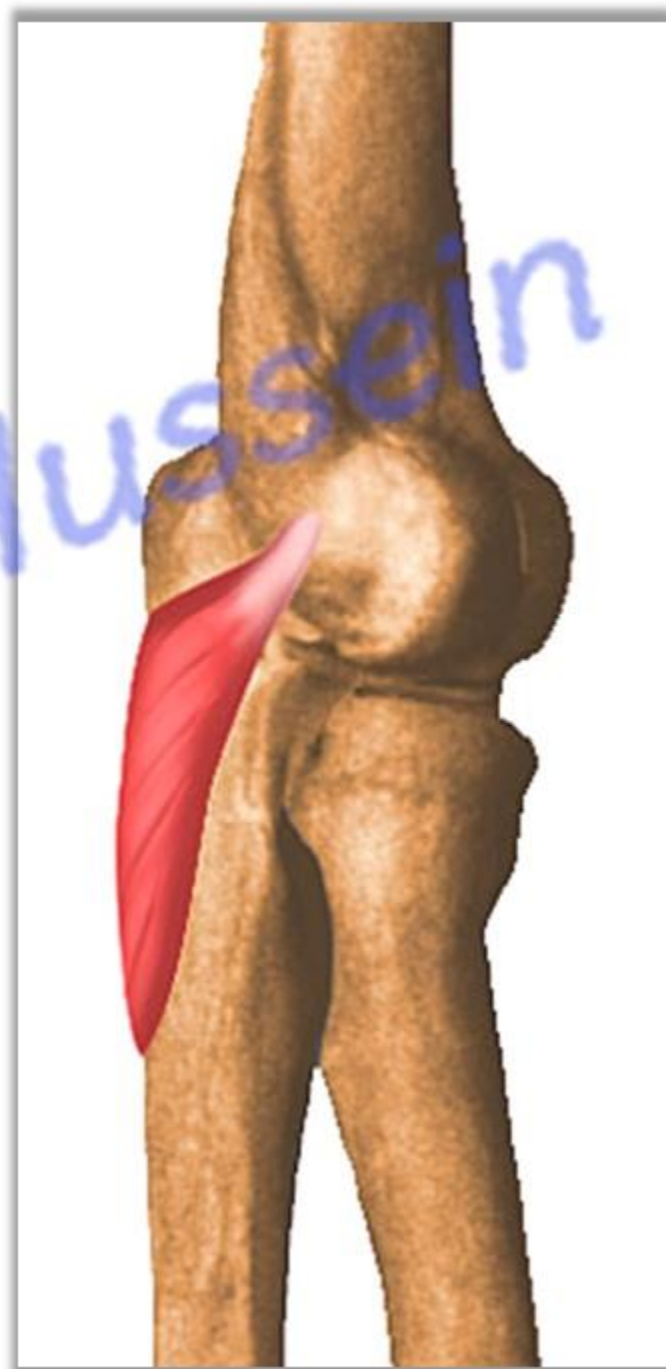
- It the **only** one of the superficial muscles which lies **on the back** of the elbow.

**** Origin:** back of lateral epicondyle of humerus.

**** Insertion:** a triangular area on the **lateral surface** of the olecranon and **upper part** of the posterior surface of the ulna.

**** Nerve supply:** radial nerve **through nerve** that supplied **medial head of triceps** muscle.

**** Action:** extension of the elbow joint.



Deep Group Of Extensor muscles forearm

Deep groups

**** They Arranged from lateral to medial**

- 1- **Supinator.**

- 2- Abductor pollicis **longus.**

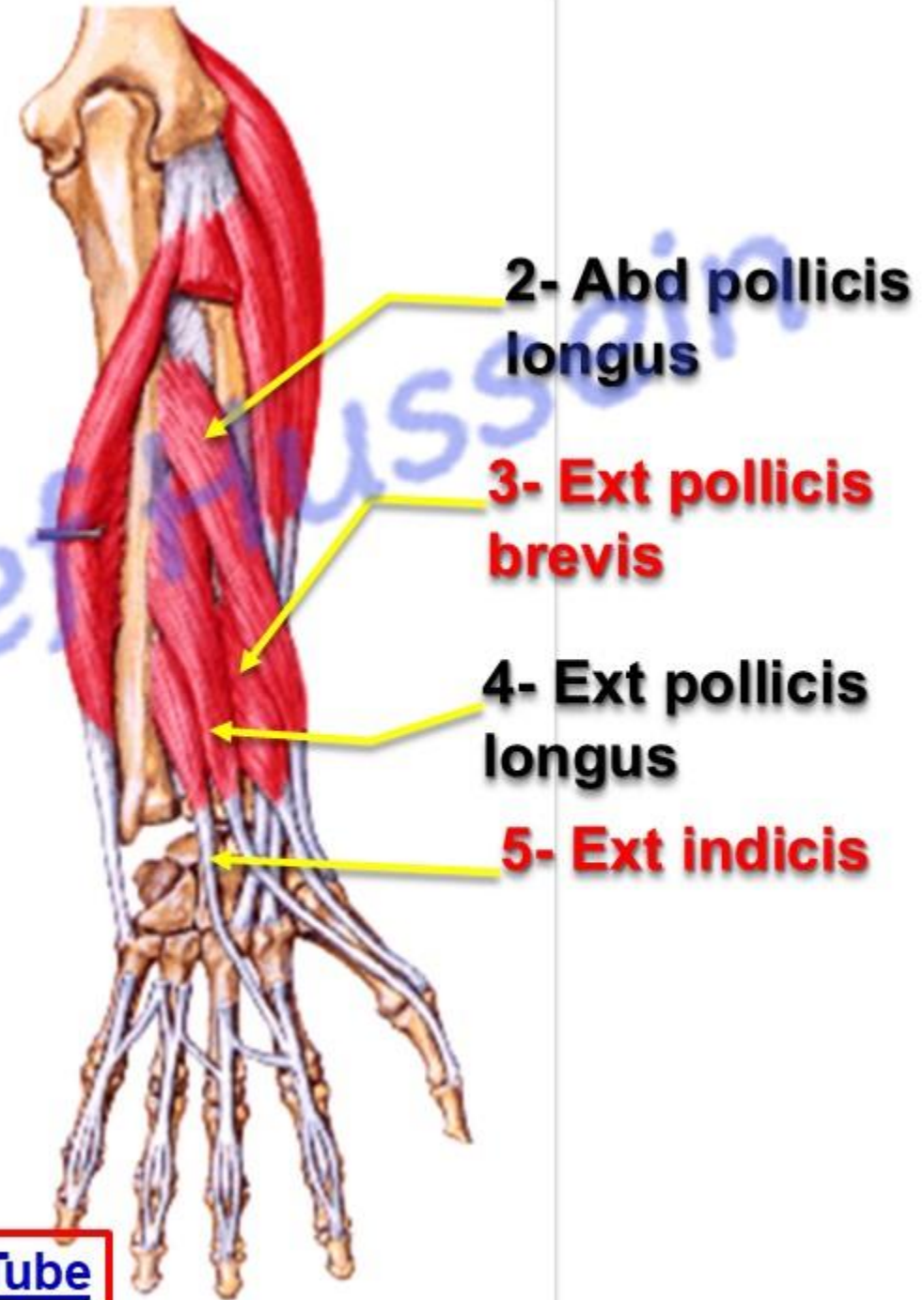
- 3- Extensor pollicis **brevis.**

- 4- Extensor pollicis **longus.**

- 5- Extensor **indicis.**

**** Nerve supply:** posterior interosseous nerve.

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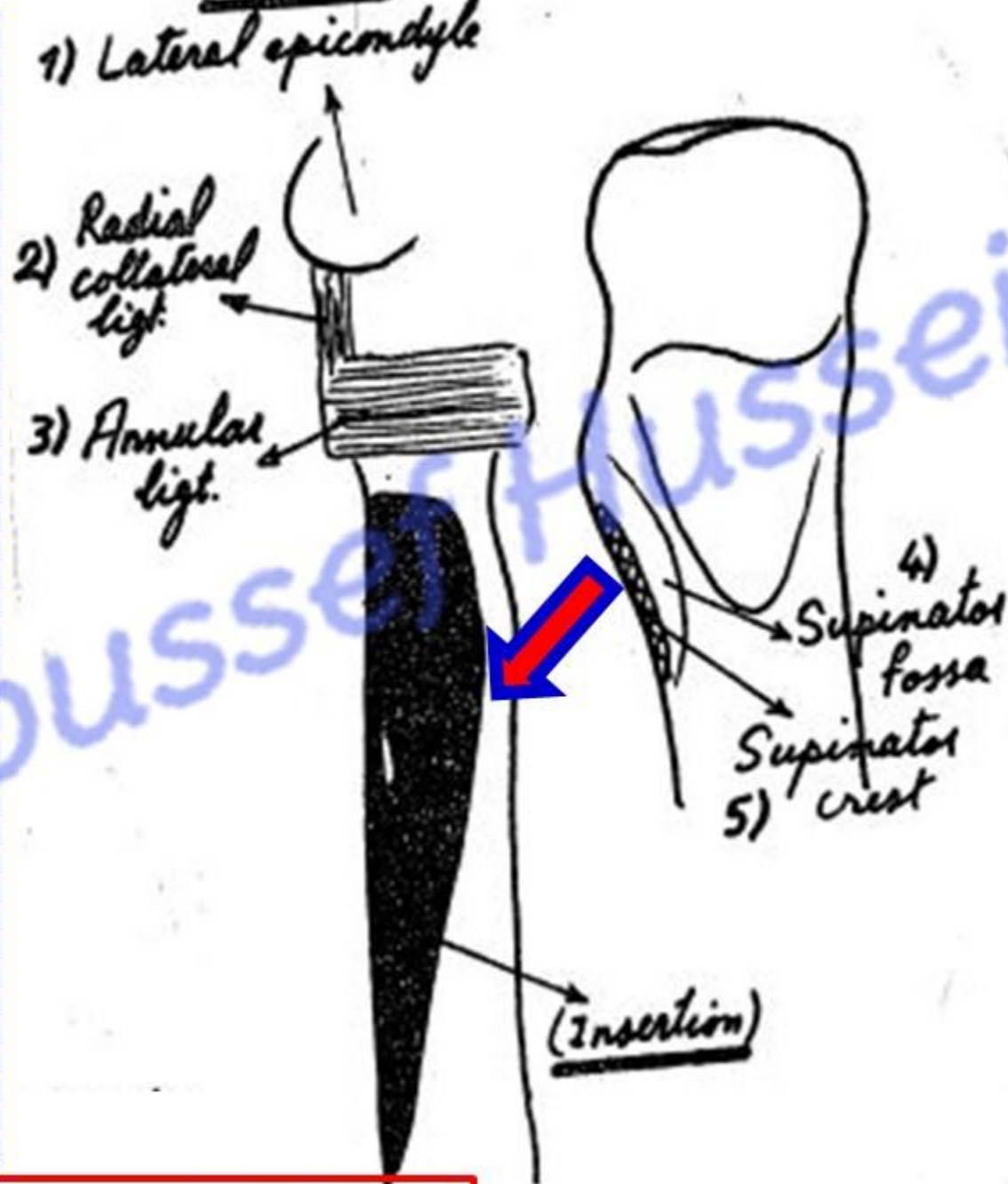
• 1- Supinator

** Origin:

- 1- Lateral epicondyle of the humerus,
- 2- Radial collateral ligament
- 3- Annular ligament.
- 4- Supinator fossa of ulna
- 5- Supinator crest of ulna.

** **Insertion:** Upper 1/3 of the anterior, lateral and posterior surfaces of the shaft of radius.

** **Actions:** Supination of the extended forearm.



• 2- Abductor Pollicis Longus

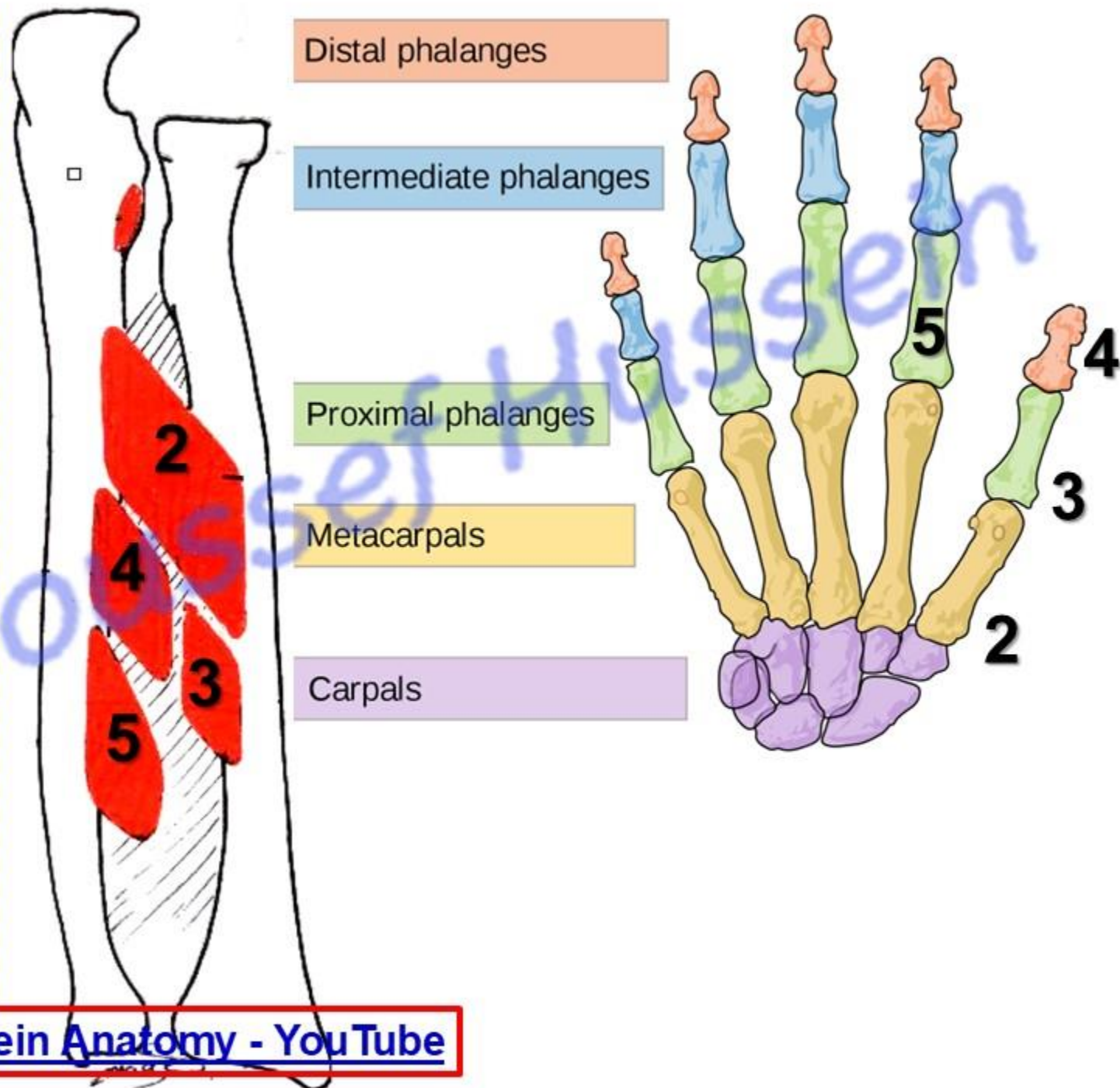
** Origin:

- 1- Upper 1/3 of the posterior surface of the ulna.
- 2- Middle 1/3 of the posterior surface of the radius.
- 3- Interosseous membrane.

**** Insertion:** base of the 1st metacarpal bone.

** Actions:

- 1- Abduction of the thumb.
- 2- Extension of the thumb.



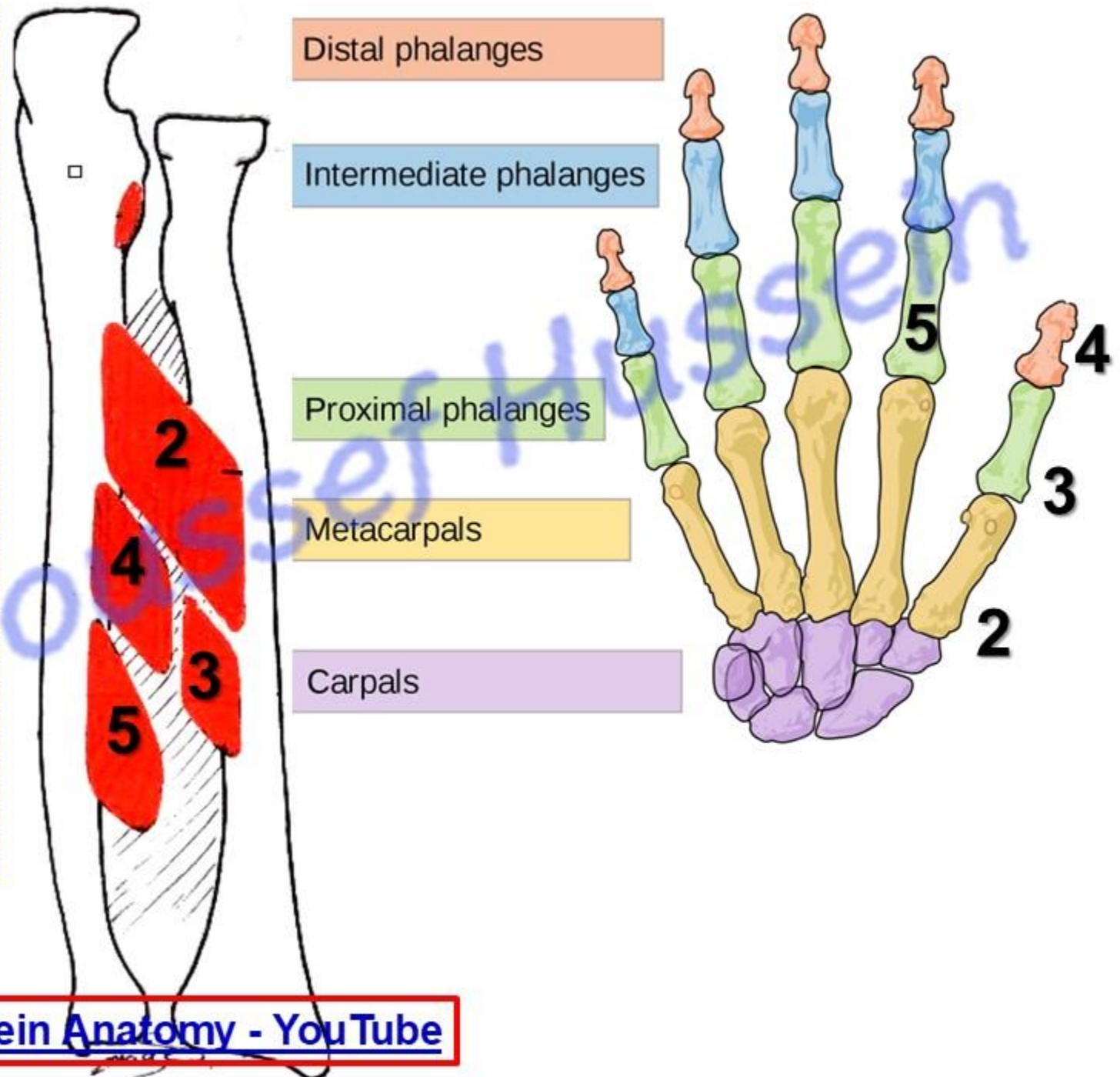
• 3- Extensor Pollicis Brevis

** Origin:

- 1- Lower 1/3 of the posterior surface of the radius.
- 2- Interosseous membrane.

** **Insertion:** base of the **proximal** phalanx of the thumb.

** **Actions:** extension of the metacarpophalangeal joints of the thumb.



• 4- Extensor Pollicis Longus

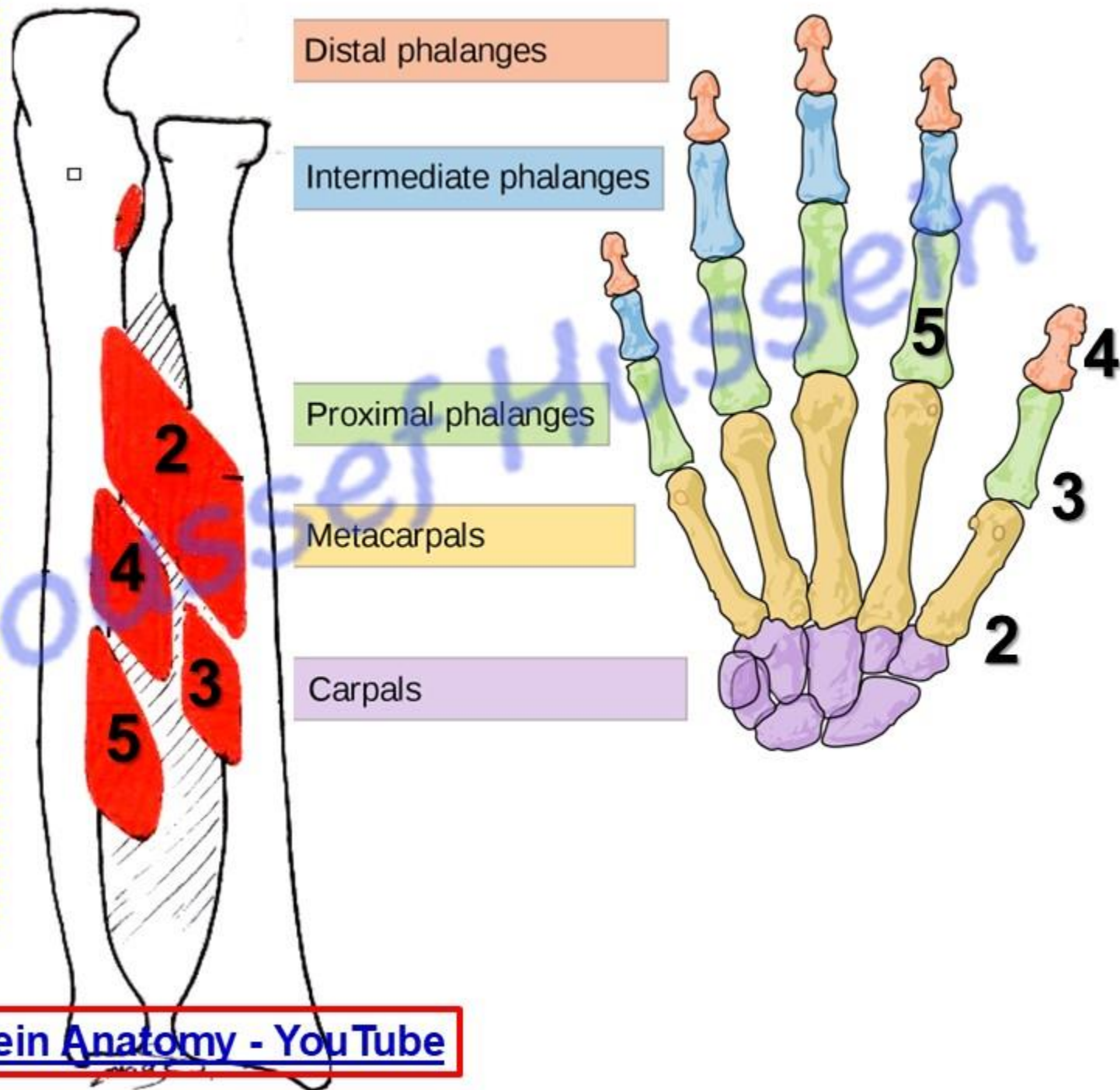
** Origin:

- 1- Middle 1/3 of the posterior surface of the ulna.
- 2- Interosseous membrane.

** **Insertion:** base of the **terminal** phalanx of the thumb.

** Actions:

- 1- Extension of all joints of the thumb.
- 2- Helps in abduction of the thumb.



• 5- Extensor Indicis

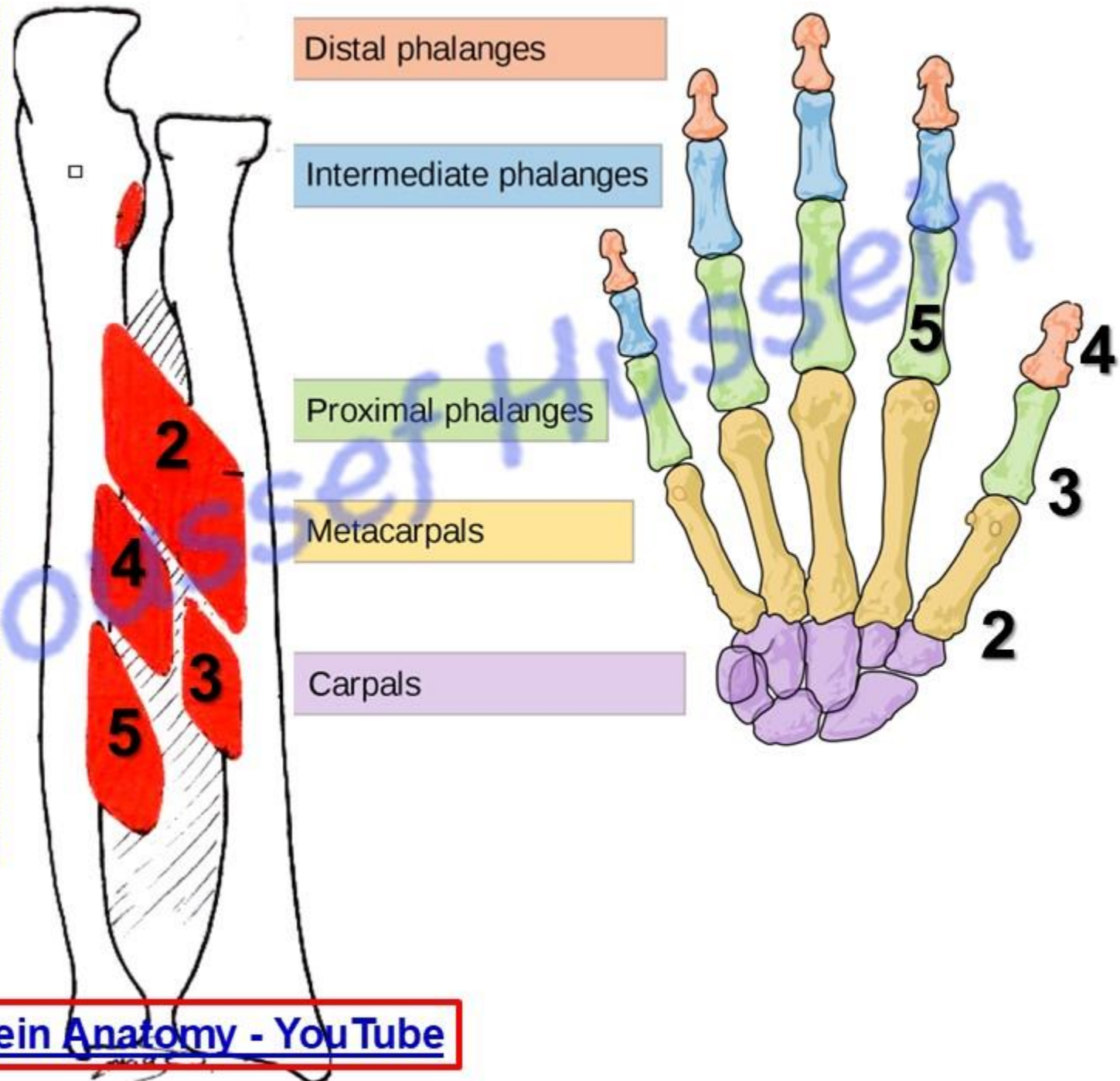
** Origin:

- 1- Lower 1/3 of the posterior surface of the ulna.
- 2- Interosseous membrane.

** **Insertion:** extensor expansion of the index finger.

** Actions:

- 1- Extension of all joints of the index finger.
- 2- Helps in extension of the wrist.



https://www.youtube.com/channel/UCVSNqbibj9UWYaJdd_cn0PQ

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Questions

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