



Muscles of The lateral and Posterior compartment of the forearm

By

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Learning Objectives

- 1-Identify Muscles of back of Forearm.
- 2- Know attachment ,nerve supply and action of back Forearm muscles
- 3-Demonstrate the hand movements

Muscles

Lateral compartment

- 1.Brachioradialis
- 2.Extensor carpi radialis longus.

Posterior compartment

Superficial

1. Extensor carpi radialis brevis.
- 2.Extensor digitorum.
3. Extensor digiti minimi.
4. Extensor carpi ulnaris.
5. Anconeus.

Deep

- 1.Supinator
- 2.Abductor pollicis longus.
- 3.Extensor pollicis brevis.
- 4.Extensor pollicis longus.
- 5.Extensor indicis.

General Rules (lateral and posterior forearm)

1- Supination means Lateral rotation of the forearm by movement of radius at radioulnar joint

2-Origin

- All lateral compartment muscles originate from lateral supracondylar line
- **All superficial muscles of posterior compartment** take origin from the common extensor origin (*front of the lateral epicondyle*)
EXCEPT Anconeus (from back lateral epicondyle)

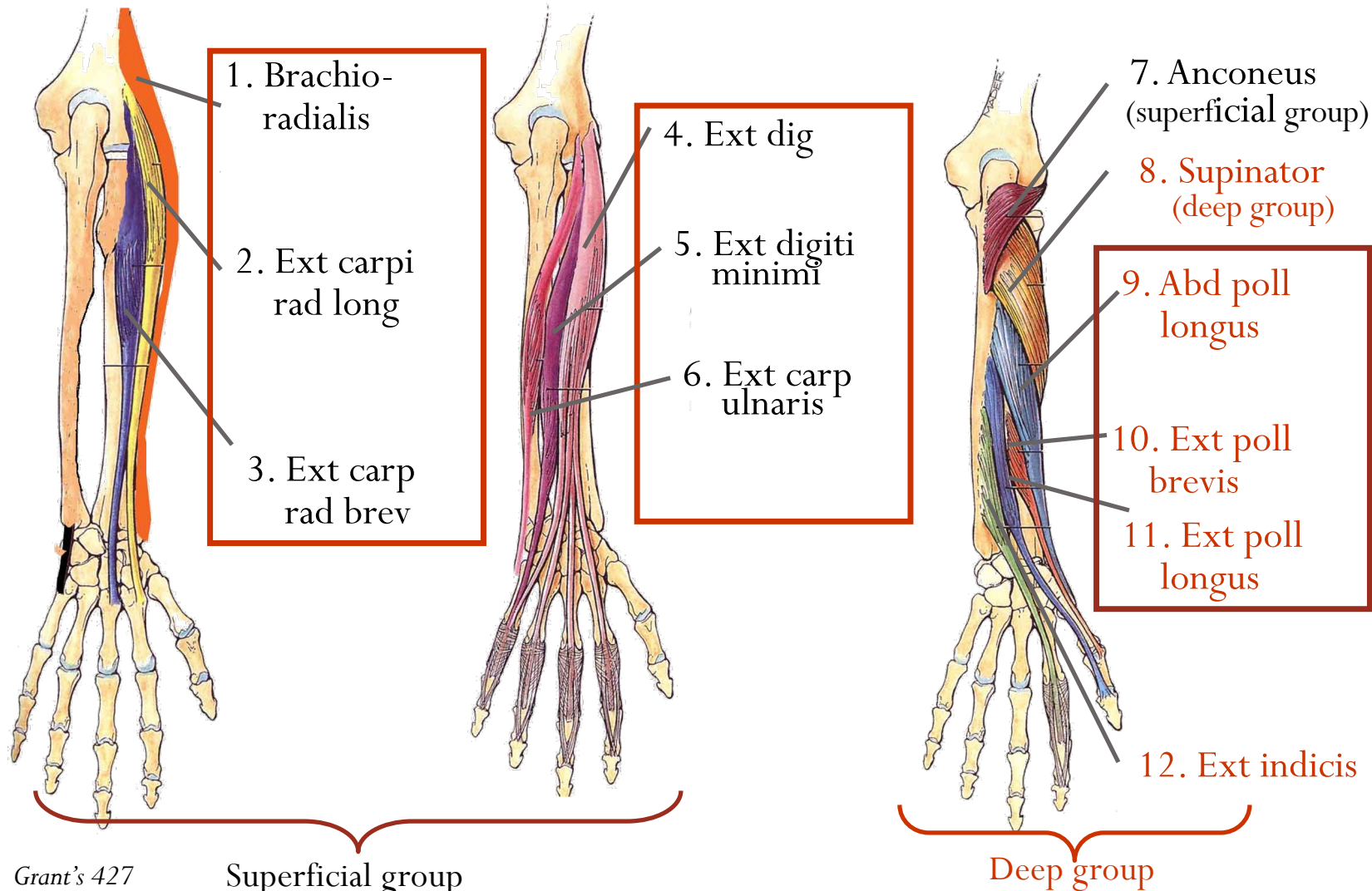
3-Action

Is mainly extension

4-Nerve Supply

- All **lateral compartment muscles** are supplied **radial nerve**
- All **posterior compartment muscles** are supplied by **deep branch of radial nerve** (posterior interosseous nerve) **EXCEPT Anconeus**

(By radial nerve)



Grant's 427

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Triceps brachii

Anconeus

**Flexor carpi
ulnaris**

Brachioradialis

**Extensor carpi
radialis longus**

**Extensor
digitorum**

**Extensor carpi
radialis brevis**



Lateral compartment

1. Brachioradialis
2. Extensor carpi radialis longus.

Brachioradialis



Origin:

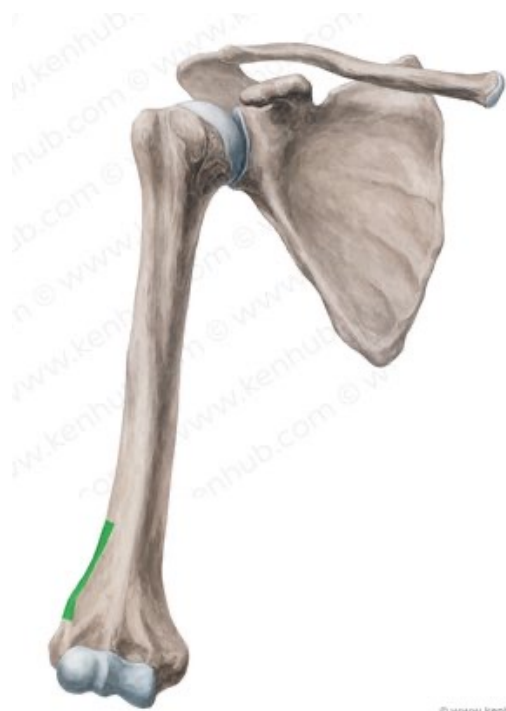
Upper 2/3 of the lateral Supracondylar ridge.

Insertion

Base of the styloid process of the radius.

Nerve supply:

Radial Nerve.



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lateral Supracondylar ridge styloid process of the radius

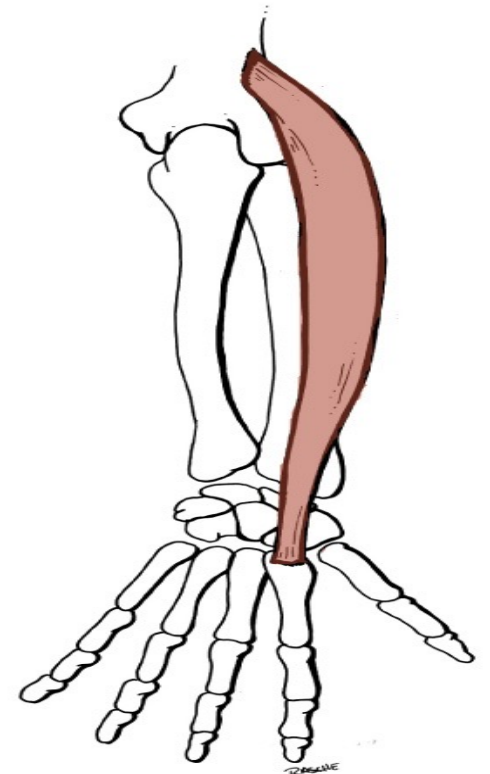
Action:

1. Flexes the elbow joint when the forearm is in the midprone position.
2. Initiates pronation or supination of the forearm.



Extensor carpi radialis longus

Dr.Ahmed Salman



Origin:

Lower 1/3 of the lateral supracondylar ridge.

Insertion

Base of the 2nd metacarpal bone.

Nerve supply:

Radial Nerve.

Action:

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

Know insertion ,nerve supply and action



Superficial Group

1. Extensor carpi radialis brevis.
2. Extensor digitorum.
3. Extensor digiti minimi.
4. Extensor carpi ulnaris.
5. Anconeus.

Extensor carpi radialis Brevis

Origin:

Common extensor origin .

Insertion

Base of the 3rd metacarpal bone.

Nerve supply:

Deep branch of Radial Nerve.

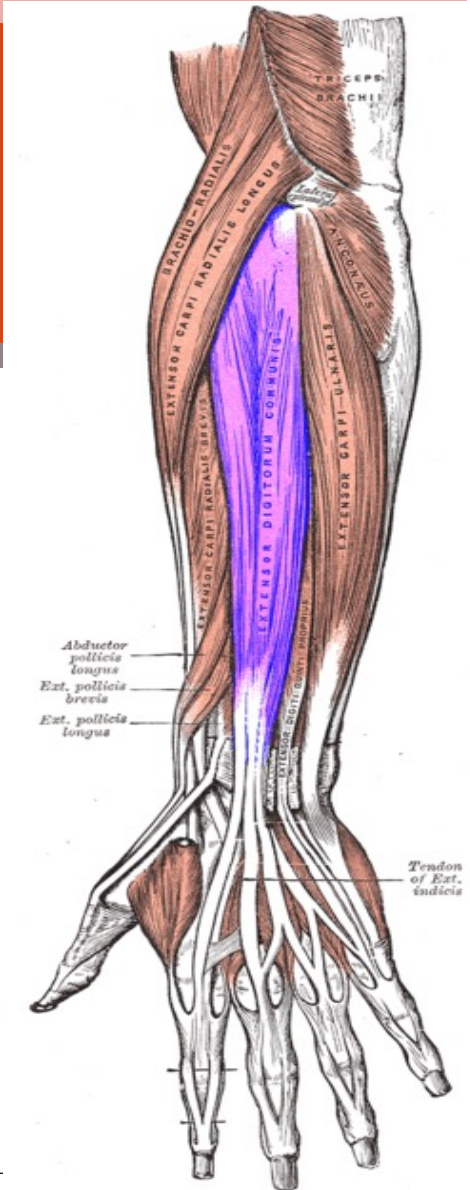
Action:

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

Know insertion ,nerve supply and action



Extensor Digitorum



Origin:

Common extensor origin .

Insertion

By 4 tendons which join the extensor expansion of the medial 4 fingers.

Nerve supply:

Deep branch of Radial Nerve.

Action:

- 1.It extends the metacarpophalangeal and the interphalangeal joints of the medial 4 fingers.
- 2.It helps in extension of the wrist.

Know insertion ,nerve supply and action



Extensor Expansion →





Extensor Digiti minimi



Origin:

Common extensor origin .

Insertion

The tendon join the extensor expansion of the little finger.

Nerve supply:

Deep branch of Radial Nerve.

Action:

- 1.It extends the metacarpophalangeal and the interphalangeal joints of little finger.
- 2.It helps in extension of the wrist.

Know insertion ,nerve supply and action



Extensor Digitorum



Brachioradialis

Extensor Digiti Minimi

Extensor Carpi Ulnaris

Dr.Ahmed Salman



Origin:

Common extensor origin .

Insertion

Base of the 5th metacarpal bone.

Nerve supply:

Deep branch of Radial Nerve.

Action:

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

Know nerve supply and action



Anconeus



Origin:

Back of Lateral epicondyle of humerus.

Insertion

Lateral surface of olecranon process of ulna.

Nerve supply:

Radial Nerve.

Action:

Helps triceps in extension of the elbow.

Know nerve supply and action



Rt. side

Brachioradialis

Ext carpi rad long

Common ext origin
(ext. carpi rad. br.
+ ext digitorum
+ ext dig minimi
+ ext carpi ulnaris
+ anconeus).

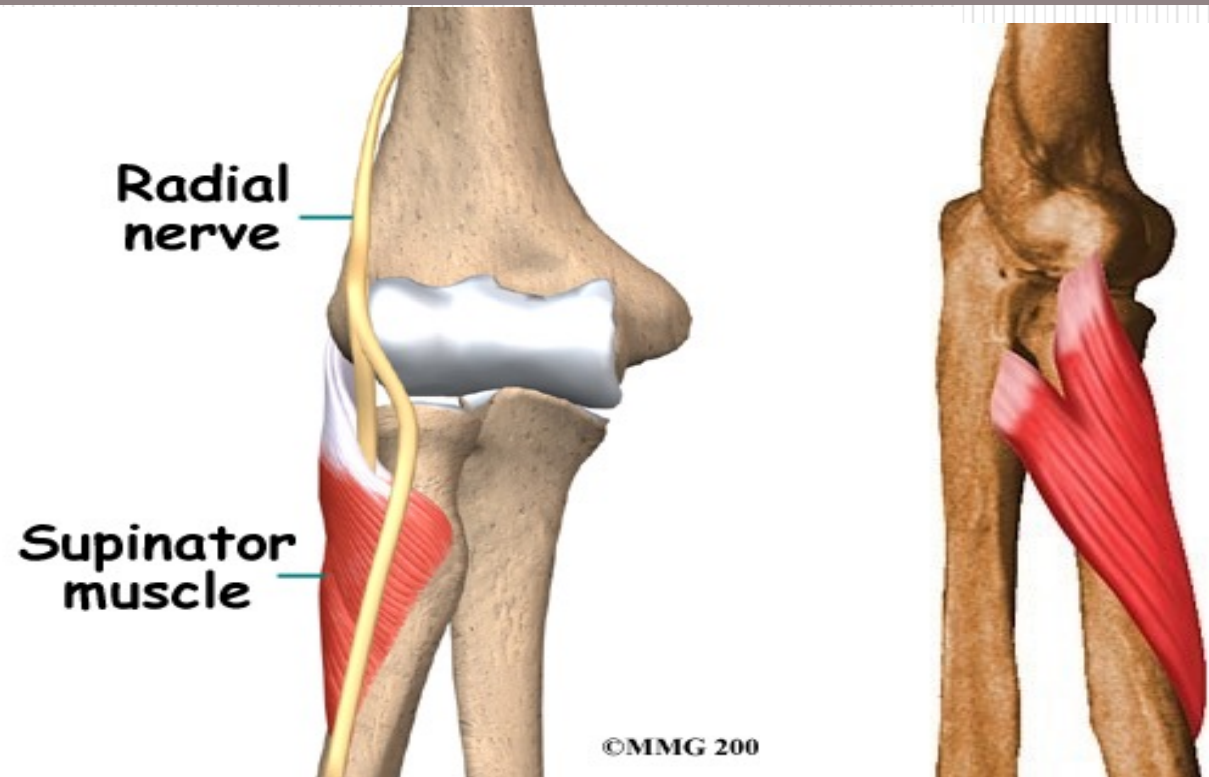


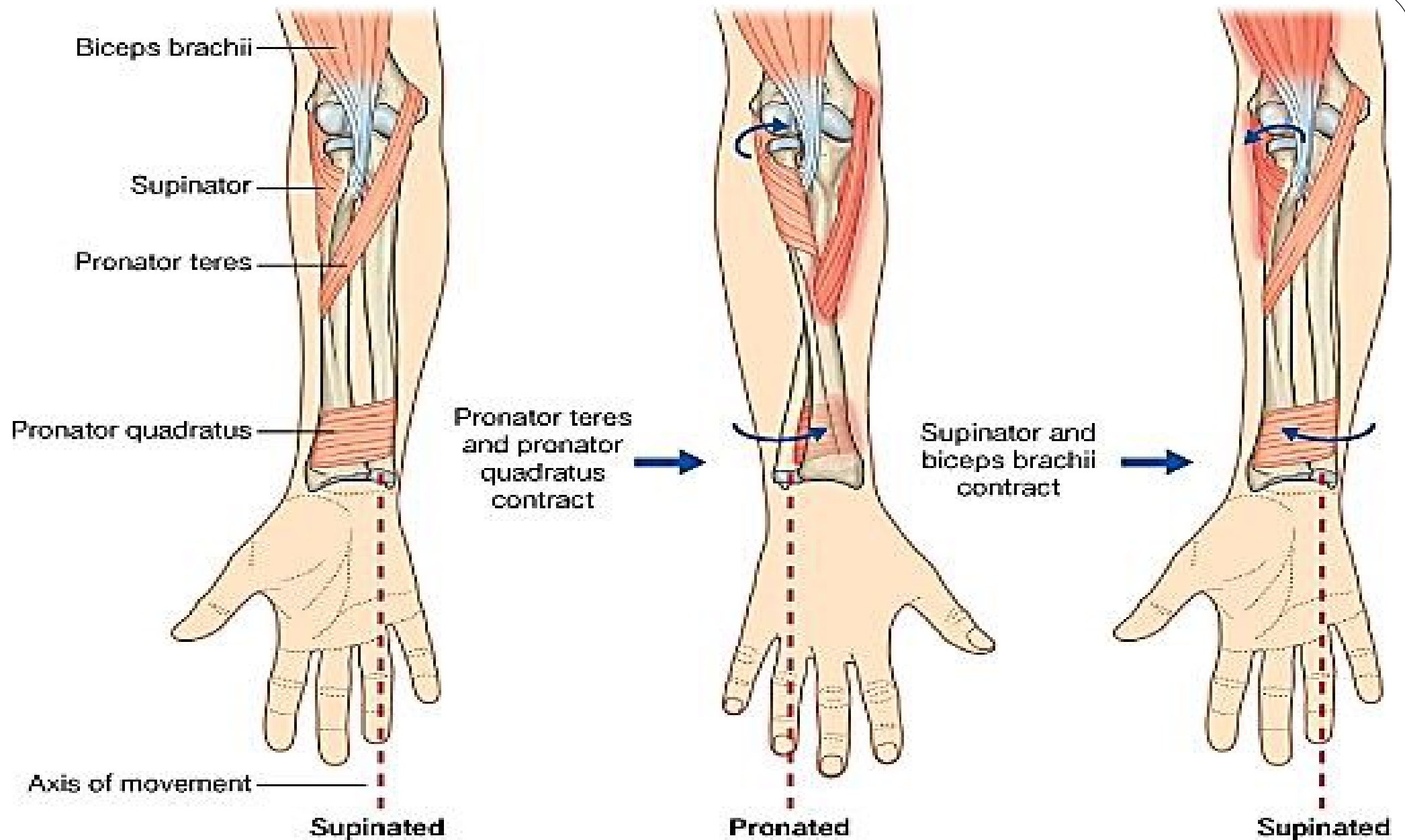
Deep Group

1. Supinator
2. Abductor pollicis longus.
3. Extensor pollicis brevis.
4. Extensor pollicis longus.
5. Extensor indicis.

ORIGIN IS NOT REQUIRED

Supinator





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Origin:

1. Lateral epicondyle of humerus.
2. Radial collateral ligament of elbow joint.
3. Supinator fossa and supinator crest of the ulna.

Insertion

Front and lateral and posterior surfaces of the upper 1/3 of the radius.

Nerve supply:

Deep branch of Radial Nerve.

Action:

Supination the forearm



Abductor Pollicis Longus



Origin:

Posterior surface of shafts of radius and ulna.

Insertion

Base of the 1st Metacarpal bone.

Nerve supply:

Deep branch of Radial Nerve.

Action:

Abducts and extends thumb



Extensor Pollicis Brevis

Origin:

Posterior surface of shafts of radius

Insertion

Base of the proximal phalanx of the thumb.

Nerve supply:

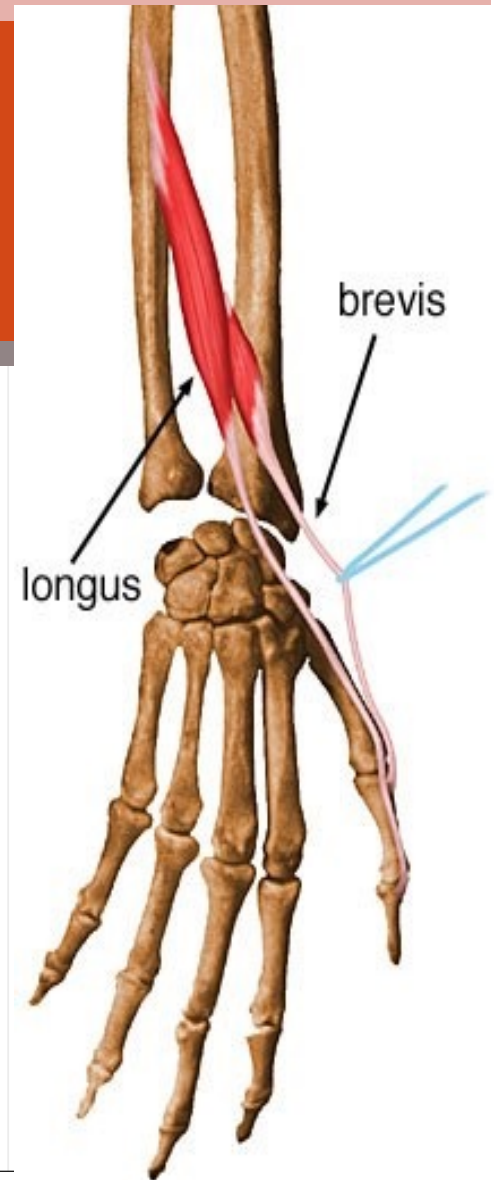
Deep branch of Radial Nerve.

Action:

Extends Metacarpophalangeal joint of the thumb.



Extensor Pollicis Longus



Origin:

Posterior surface of shafts of Ulna.

Insertion

Base of the distal phalanx of the thumb.

Nerve supply:

Deep branch of Radial Nerve.

Action:

Extends the distal phalanx of the thumb.



Extensor indicis



Origin:

Posterior surface of shafts of Ulna.

Insertion

Its tendon joins the extensor expansion of the index finger.

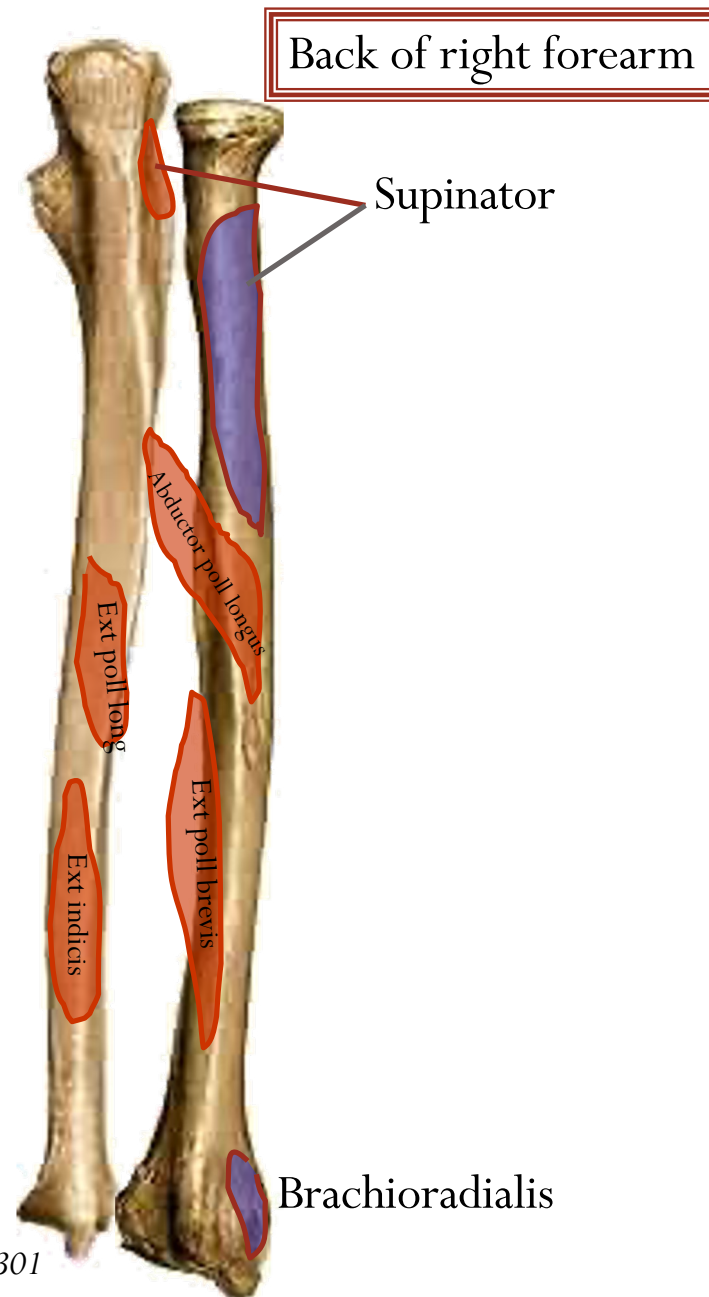
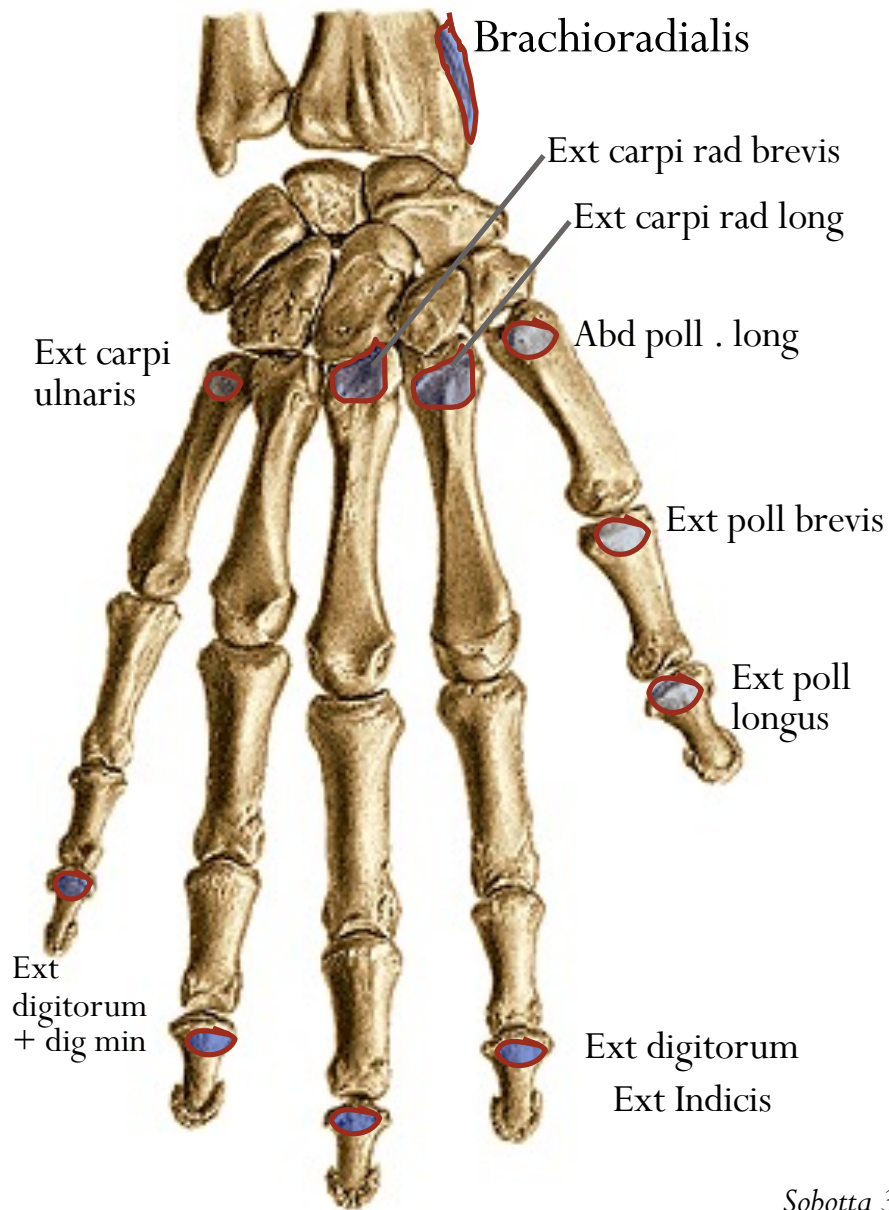
Nerve supply:

Deep branch of Radial Nerve.

Action:

Extends all the joints of the index finger.



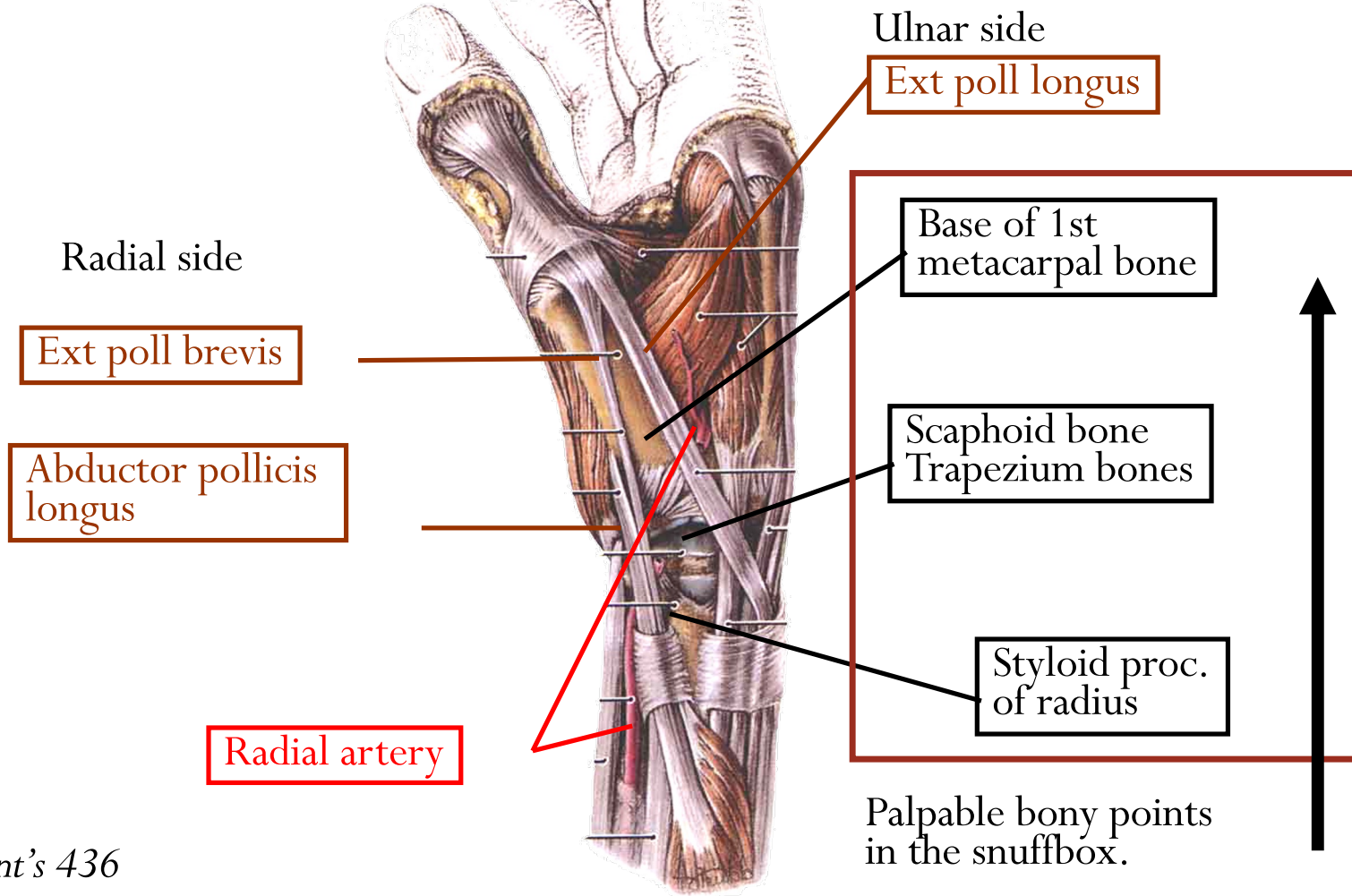


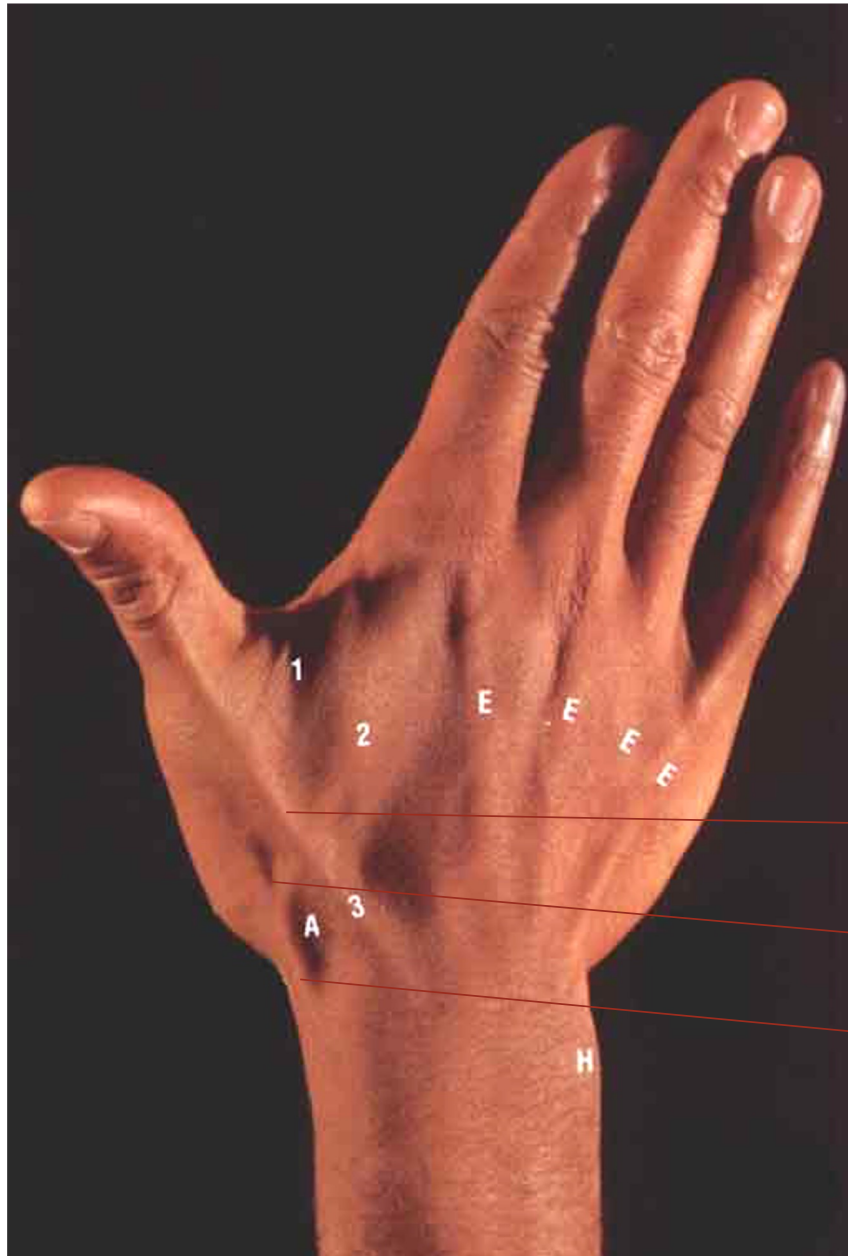
Sobotta 301

The anatomical snuff box

The anatomical snuff box

If thumb is fully extended, the snuffbox could be demonstrated





Anatomical snuff box

Extensor poll longus

Extensor poll brevis

Abductor poll longus

Grant's 436

Position: it is a hollow on the lateral part of the wrist.

Boundaries: can be identified when the thumb is abducted and extended.

Laterally (anteriorly): The tendons of abductor pollicis longus and extensor pollicis brevis.

Medially (posteriorly): The tendon of extensor pollicis longus.

Floor:

Scaphoid and trapezium.

Content:

1. The radial artery
2. Beginning of the cephalic vein.
3. The superficial terminal branch of the radial nerve.

Thank
you