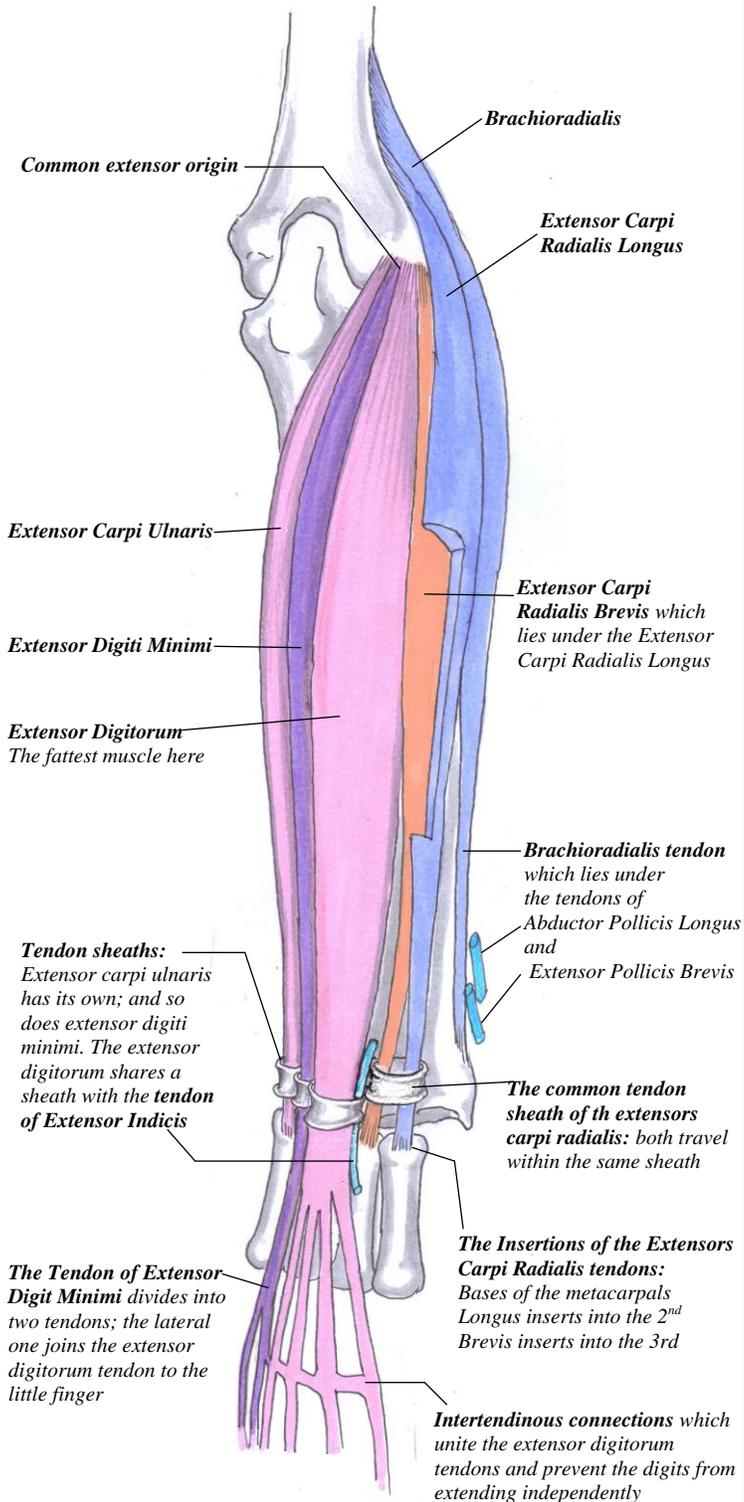


Extensor Compartment of the Forearm: Superficial layer

All extend the forearm, wrist or fingers
– EXCEPT BRACHIORADIALIS

Brachioradialis is the solitary exception:
it is in the extensor compartment, but it flexes the forearm.
It is the only flexor innervated by the radial nerve.

All supplied by the **RADIAL NERVE**, or some branch thereof
two layers: the **SUPERFICIAL** and **DEEP**



SUPERFICIAL LAYER OF EXTENSORS

two originate from the supracondylar ridge as well as the adjacent intermuscular septum:

- **Brachioradialis**
 - **radial nerve**
 - Inserts at the lateral surface of the distal end of the radius
 - Flexes the forearm, in a feeble way, and mostly when the forearm is pronated; it also acts as a shunt muscle to prevent subluxation of the head of radius. its most active in quick movements, and in movement against resistance.
 - Forms the lateral border of the cubital fossa
 - under it run the radial nerve and the radial artery
 - Distally, its tendon is covered by the tendons of Abductor Pollicis Longus and Extensor Pollicis Brevis.
- **Extensor Carpi Radialis Longus**
 - **radial nerve**
 - Inserts at the dorsum of the **2nd metacarpal**, at the base
 - extends and abducts the hand at the wrist
 - probably more involved in abduction than the ECRB
 - it is crucial in the clenching of the closed fist.

Four originate from the common extensor origin, at the lateral epicondyle of the humerus

- **Extensor Carpi Radialis Brevis**
 - **deep branch of radial nerve**
 - Inserts into the dorsum of the **3rd metacarpal** at the base
 - extends and abducts the hand at the wrist
 - it is covered by the Extensor Carpi Radialis Longus
 - They also share the same extensor tendon sheath at the wrist
 - the brevis is more involved in extension than the longus
- **Extensor Digitorum**
 - **posterior interosseous nerve which is really the continuation of the deep branch of the radial nerve**
 - inserts at the **extensor expansions** of the fingers
 - **THE EXTENSOR EXPANSIONS** are triangular aponeuroses which wrap around the metacarpal head, and the proximal phalanx. They are united with the insertions of the lumbricals and the interosseous muscles.
 - The tendons thus divide into a median band which passes to the base of the middle phalanx, and two lateral bands which insert at the base of the distal phalanx.
 - Extends the fingers, primarily at the metacarpophalangeal joint; secondarily at the distal interphalangeal joint.
 - Occupies a lot of space in the extensor compartment
 - Shares an extensor tendon sheath with the Extensor Indicis
 - **Just proximally to the metacarpophalangeal joints, the tendons are linked by intertendinous connections which prevent the fingers from being independently extended; thus you can never fully extend a finger while the others remain flexed.** This is most true of the ring finger.
- **Extensor Digiti Minimi**
 - **posterior interosseous nerve**
 - Divides into two tendons- the lateral one joins the pinky tendon of the extensor digitorum, and then together with the medial one all three insert into the **extensor expansion** of the pinky finger.
 - extends the pinky, primarily at the metacarpophalangeal joint; secondarily at the distal interphalangeal joint.
 - this is really just a detached part of the extensor digitorum
 - However, it has its own tendon sheath
- **Extensor Carpi Ulnaris**
 - **posterior interosseous nerve**
 - yes it does originate at the common extensor origin; that's the humeral head. There is also an ulnar head, which originates at the ulnar border posteriorly, via an aponeurosis. This origin is also shared with the Flexor Digitorum profundus and the Flexor Carpi Ulnaris.
 - inserts at the dorsum of the base of 5th metacarpal
 - extends the hand at the wrist joint, and abducts it
 - It has its own tendinous sheath at the wrist
 - It is also crucial to the formation of the closed fist