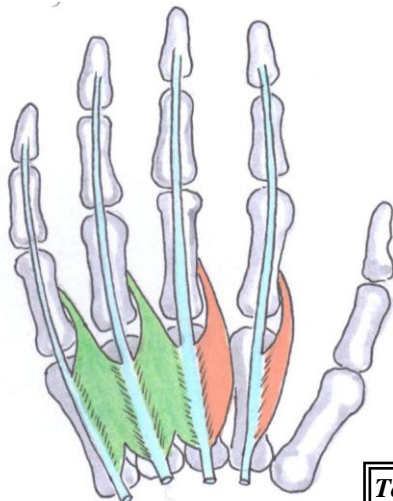


## Short muscles of the Hand

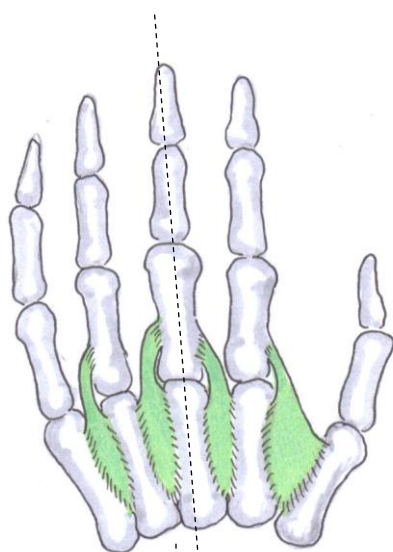
- there are 4 lumbricals, 4 dorsal interossei, and 3 palmar interossei; you count them starting at the THUMB



### The LUMBRICALS

- Originate from the tendons of the **FLEXOR DIGITORUM PROFUNDIS**
- Sit in the central compartment of the palm
- From the palm, cross over to the dorsum of the hand
- Insert into the extensor expansions on the dorsum of the proximal phalanges
- The **FIRST** and **SECOND** lumbricals are innervated by the median nerve. All other short muscles are innervated by the deep branch of the ulnar nerve
- The **THIRD** and **FOURTH** lumbricals are bipennate; the other two are unipennate
- **FLEX** the metacarpophalangeal joints
- **EXTEND** the proximal interphalangeal joints

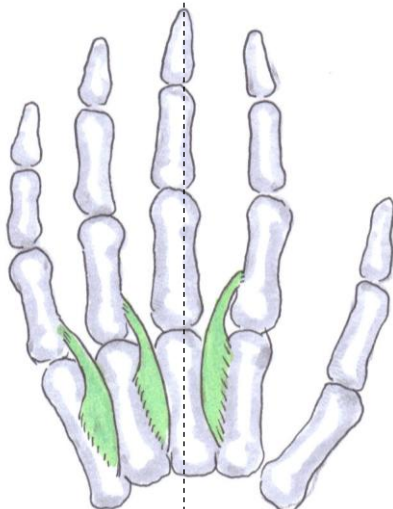
*Together the short muscles all produce the “Z” movement of the fingers; the MCPs are flexed, and the PIPs extended. This is the opposite of what happens in ulnar nerve palsy (“claw hand”) when the MCPs are extended and the PIPs are flexed.*



### The DORSAL INTEROSSEI

- Originate from the sides of two metacarpals (ALL of them are bipennate)
- Sit in their own INTEROSSEOUS compartment of the hand
- Insert into the bases of the proximal phalanges and into the extensor expansions
- **ABDUCT** the hand away from the axis of the middle finger (the axis as shown)- hence “**DAB**” (“**D**orsal **I**nterosei **AB**duct”)
- Also help the lumbricals flex the MCPs and extend the PIPs
- When the thumb is flexed, the first dorsal interossei can be seen as the lump that appears on the dorsum of the hand.

*The Interossei all live inside the INTEROSSEOUS compartment. The Palmar interossei occupy the anterior (palmar )part of it, and the dorsal interossei are more properly between the metacarpals.*



### The PALMAR INTEROSSEI

- Originate from the palmar surfaces of the metacarpals
- Sit in the anterior part of the INTEROSSEOUS compartment of the hand
- Inset into the bases of the proximal phalanxes and into the extensor expansions
- **ADDUCT** the fingers towards the middle finger, hence “**PAD**”- **P**almar **I**nterosei **AD**duct
- There are only 3 palmar interossei; the deep part of the Flexor Pollicis Brevis can be described as the 4<sup>th</sup>, because it does much the same thing as the rest, and is innervated by the same nerve