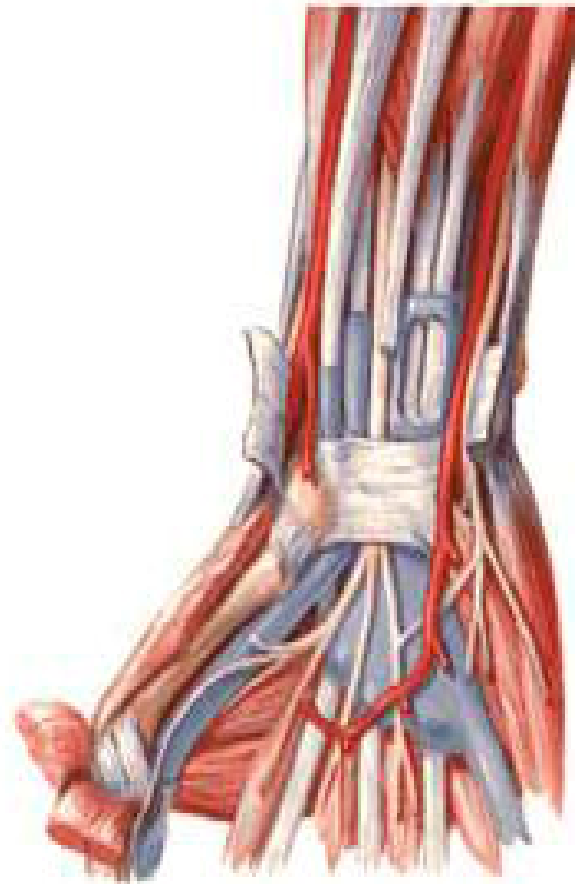


# ARTERIES OF THE PALM

- Ulnar art. –S/F palmar arch
- Radial art – Deep palmar arch

Flexor Tendons, Arteries and Nerves at Wrist  
Palmar View

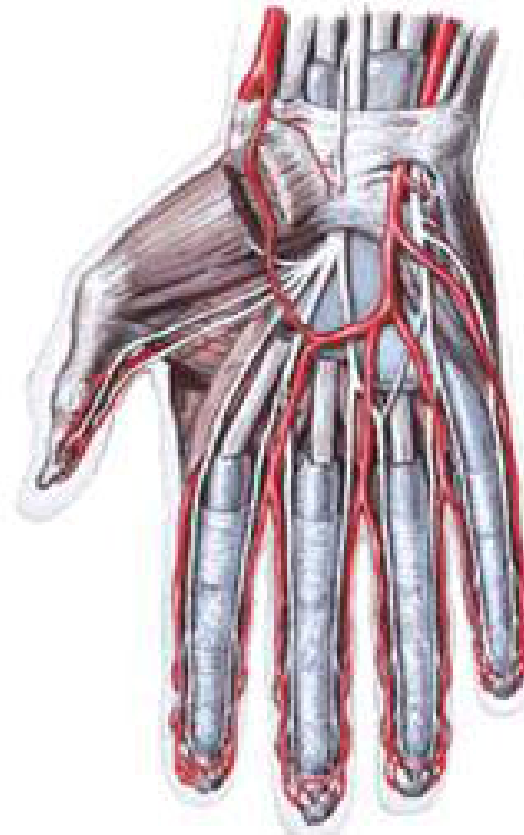
- ULNAR ARTERY
- S/F –flex. Ret.
- DEEP - palmaris brevis(div of ulnar art into s/f & deep br. )
- MEDIAL –ulnar n.
- LATERAL – pisiform bone



# SUPERFICIAL PALMAR ARCH

- **Formation** – s/f ter. br. of ulnar art. Completed on lat. side by one of the following
  - a) s/f palmar br. of radial art
  - b) arteria princeps pollicis
  - c) arteria radialis indicis
  - d) arteria nervi mediana
- **Relations**
  - Deep – palmar aponeurosis
  - In front- long flex. Tendons,
  - lumbrical muscles & palmar dig. brs. of median n.
- **Branches** -4 palmar dig. Art. (1 med.-proper p.d. a., 3 lat.-common p.d.a.)
  - join by palmar metacarpal art. of deep palmar arch

Arteries and Nerves of Hand  
Palmar View



# DEEP PALMAR ARCH

Arterial arcade formed between

i –term. end of radial art.

ii- deep br. of ulnar art.

Radial art > two heads of 1st

Dorsal intr. > between oblique & tr.

Head of adductor pollicis > deep  
palmar arch

|<

Below hook of hamate(rad.art. Divides  
into arteria princeps pollicis  
& arteria radialis indicis )

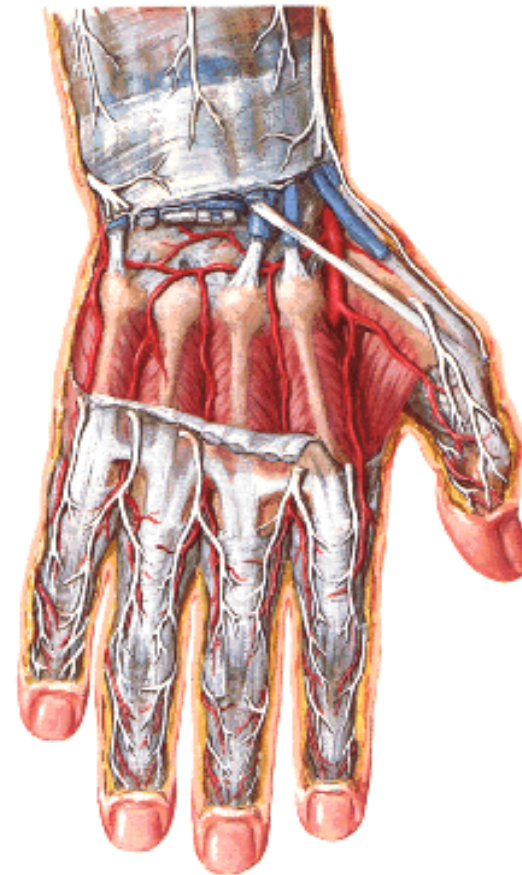
|

Between abductor digiti minimi &  
flexor digiti minimi

|

deep br. Of ulnar art. With deep br. Of  
ulnar n.( within its concavity)

Wrist and Hand  
Deep Dorsal Dissection

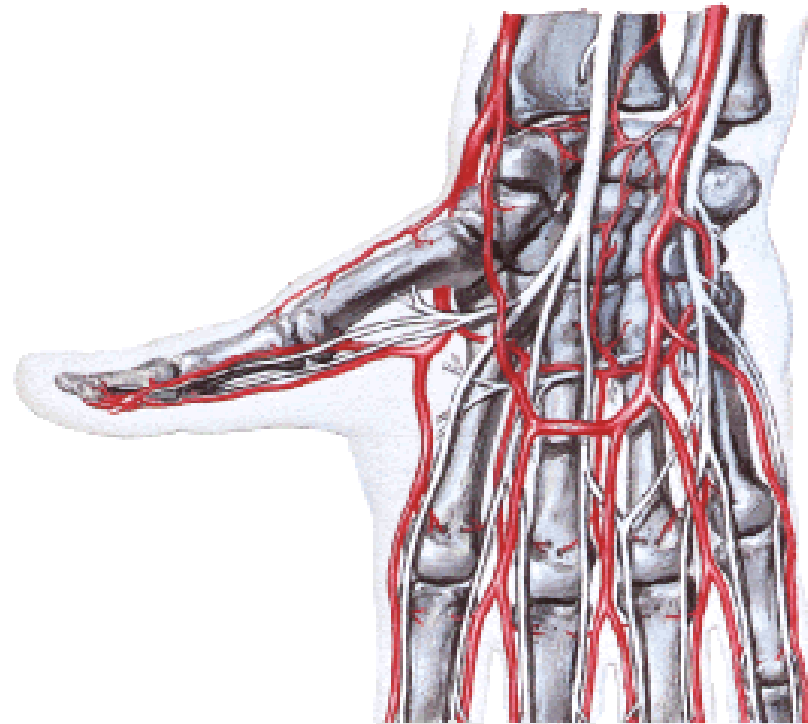


# DEEP PALMAR ARCH

## Arteries and Nerves of Hand

### Deep Palmar View

- **Relations**
- Deep- oblique head of adductor pollicis, long flex. Tendons & lumbricals
- Infront- bases of metacarpals & interossei
- **Branches-**
  - i) 3 palmar metacarpal arteries
  - ii) 3 perforating arteries (**passes between two heads of 2<sup>nd</sup> to 4<sup>th</sup> dorsal intros., accompany veins drain the palm into dorsal v. arch**)
  - iii) Recurrent br.-anastomose with ant. Carpal arch



# FASCIAL SPACES IN PALM

- Surgical importance
- Potential spaces limited by fibrous septa
- - mid palmar
- -Thenar
- -Pulp

## CENTRAL PALMAR SPACE

between thenar & hypothenar eminences

**Infront** – Palmar aponeurosis, long flex. tendons with synovial sheath and lumbrical muscles

**Deep** – Dense fascia covering the interossei and the metacarpals

**Medial** – Medial palmar septa (hypothenar eminence)

**Lateral** – Lateral palmar septa (thenar eminence)

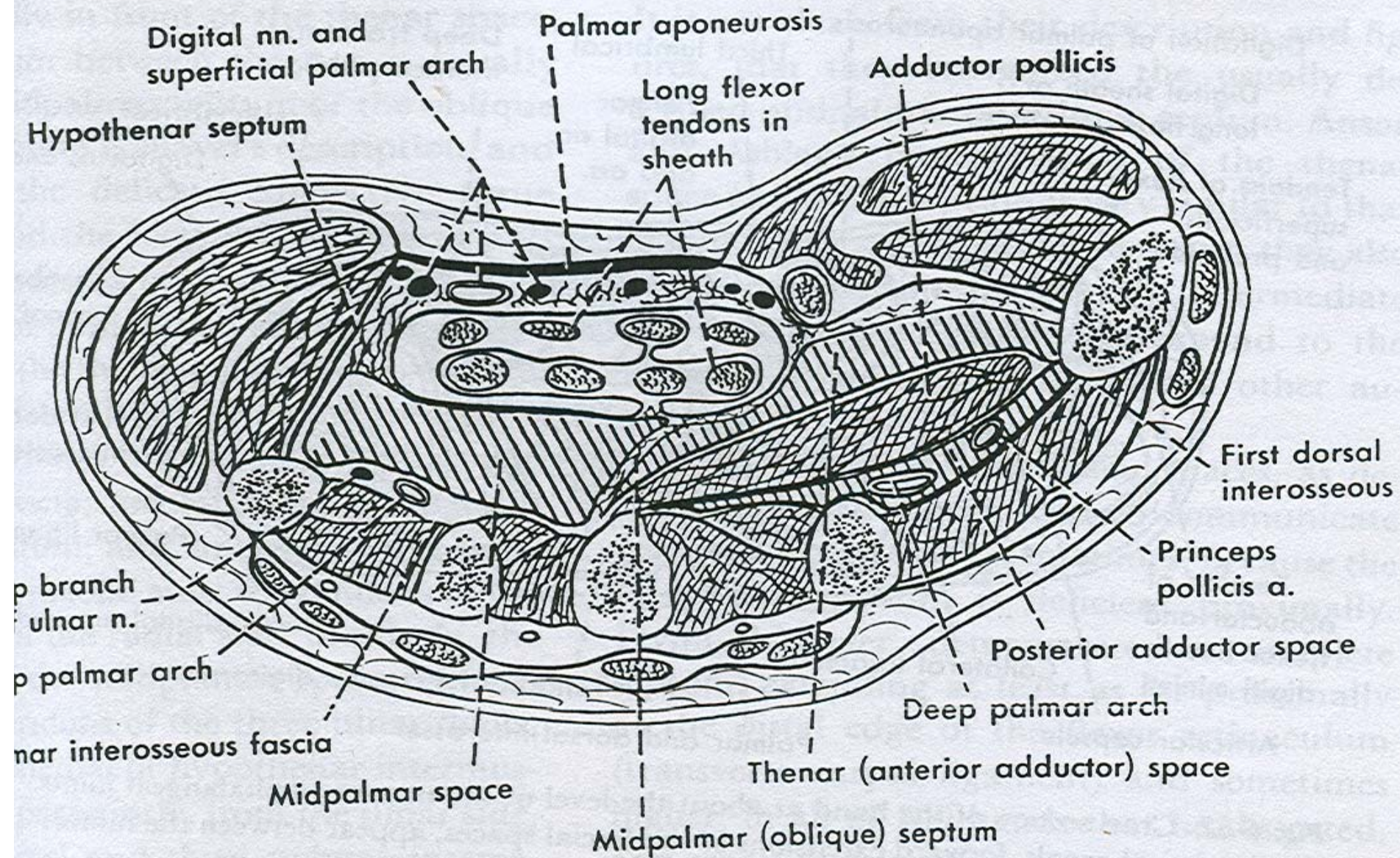
- The C. palmar space divided by intermediate fiber septa into
  - Mid palmar space on ulnar side
  - Thenar space on radial side

## Bursae, Spaces and Tendon Sheaths of Hand

### Palmar View







# Mid palmar space

- Triangular in shape

## **Boundaries –**

### **Infront –**

- a) Fl. tendons of little, ring & middle finger with their synovial sheath
- b) Third and fourth lumbrical muscles

### **Behind –**

Dense fascia covering the interossei and metacarples of third and fourth sapce.

### **Lateral –**

Intermediate palmar septa

### **Medial –**

Hypothenar muscles separated by medial palmar septum

### **Proximal-**

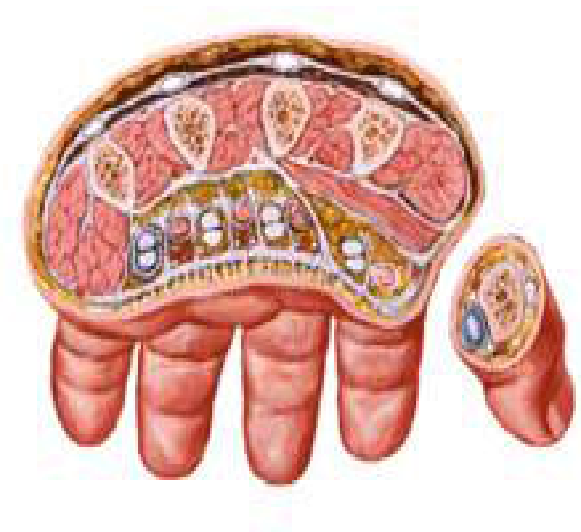
closed

### **Distal-**

Extends as diverticula along fascial sheath of 3<sup>rd</sup> & 4<sup>th</sup> lumbrical muscles

**Applied-** pus drained by splitting web betwreen 3<sup>rd</sup> & 4<sup>th</sup> or 4<sup>th</sup> & 5<sup>th</sup> &exploring lumbical canals

**Bursae, Spaces and Tendon Sheaths of Hand**  
Cross Section





Triangular in shape

## **Boundaries-**

**Infront-**a) muscles of thenar eminence

b) flex. Tendons of index

c) 1<sup>st</sup> & 2<sup>nd</sup> lumbrical muscles

**Behind-** adductor pollicis

**Lateral-** tendon of flex. Pollicis its sheath separated by lat. Palmar septum from thenar muscles

**Medial-** Intermediate septum

**Proximal-** closed

**Distal** – 1<sup>st</sup> & 2<sup>nd</sup> lumbricals

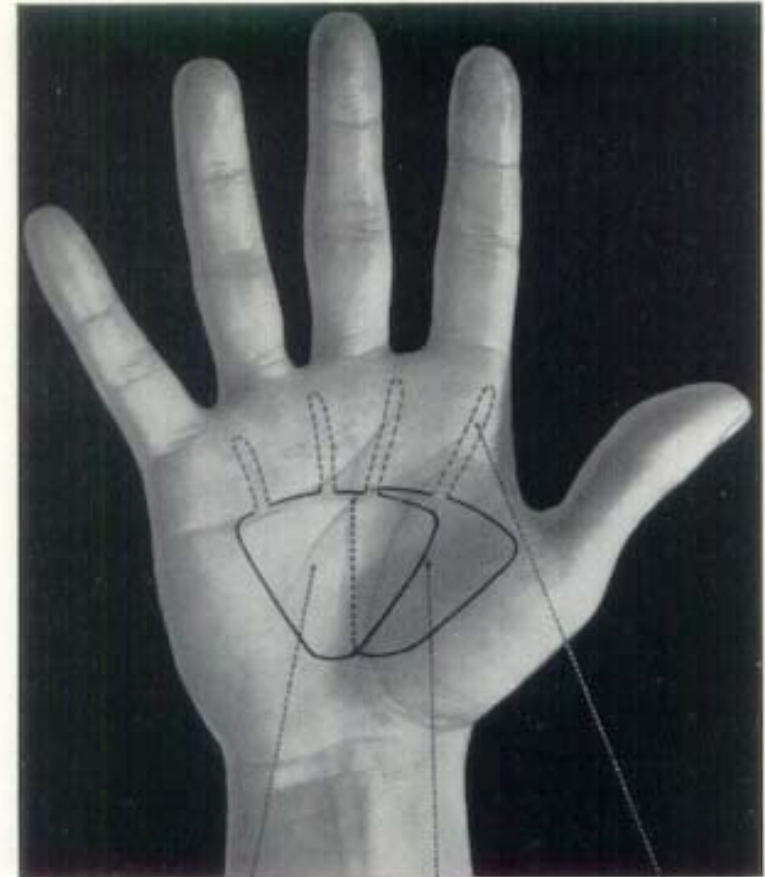
2<sup>nd</sup> lumbrical canal connect with mid palmar space

Digital synovial sheath of 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup> extend upto distal border of mid palmar & thenar space. Pus may burst into them

# Thenar space

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SURFACE AND RADIOLOGICAL

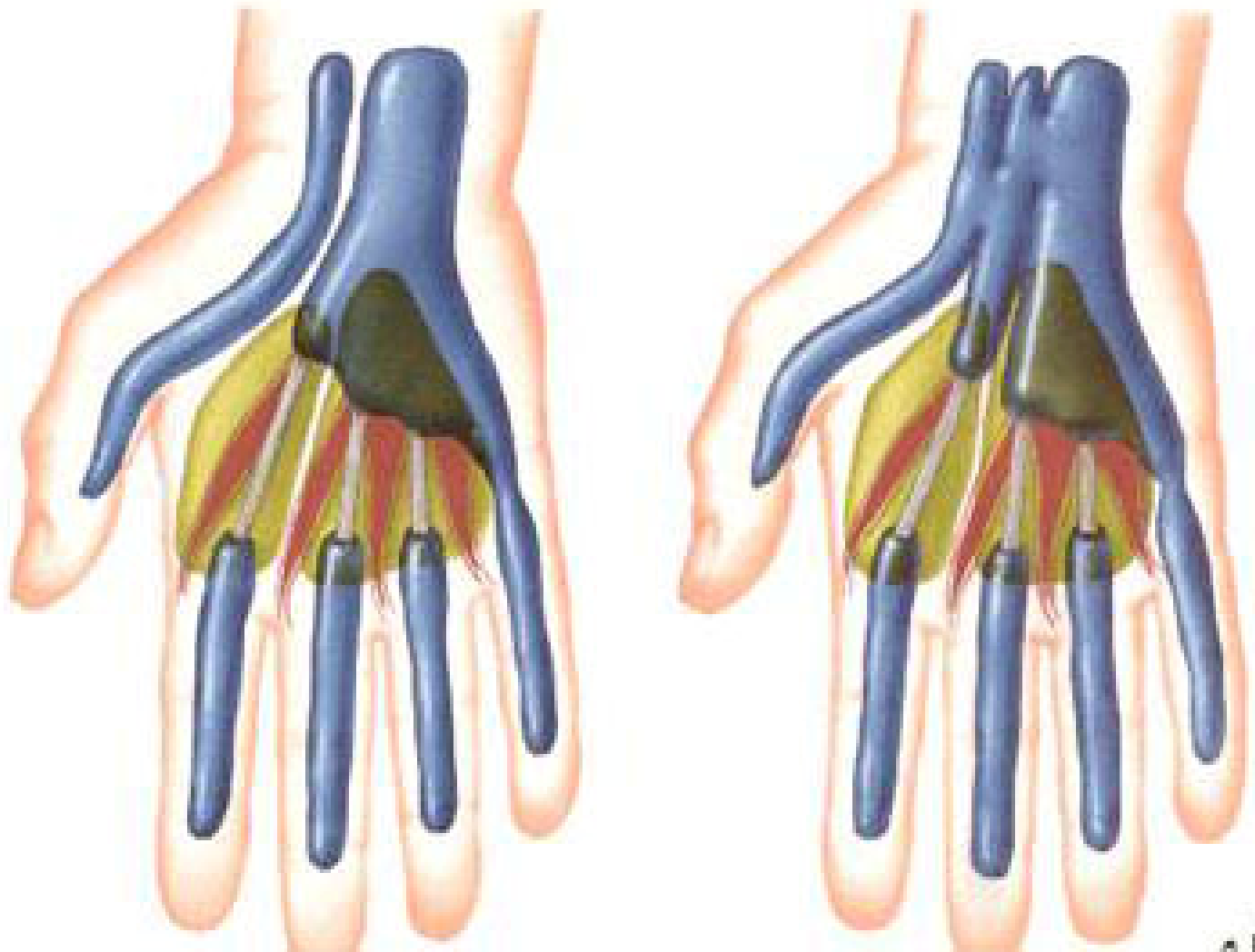


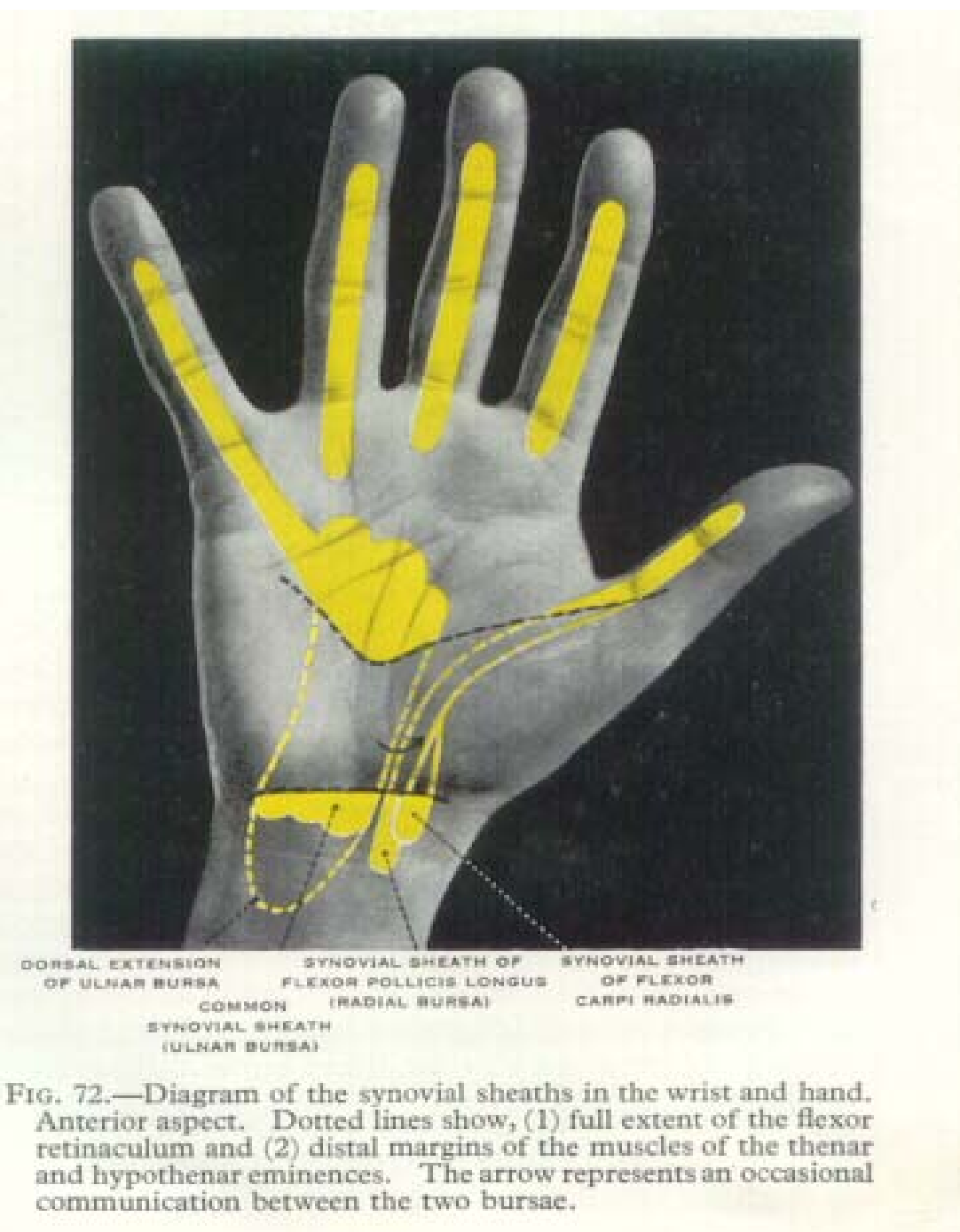
MEDIAL PALMAR SPACE LATERAL PALMAR SPACE 1<sup>ST</sup> LUMBRICAL CANAL

FIG. 73.—Palm of hand showing positions of fascial spaces in the middle of the palm (adapted from Kanavel and Mainland). The medial space is known also as the "midpalmar space," the lateral one as the "thenar space." The ulnar bursa (Fig. 72) overlaps the medial space.



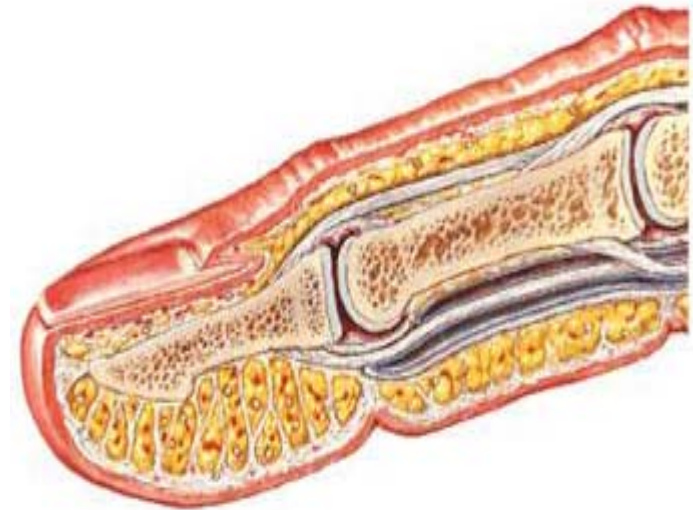
## Lumbrical Muscles and Bursae, Spaces and Sheaths Schema





# Pulp space

- **Location-** between palmar skin & distal phalanges lies distal to fibrous flex. Sheath of flexor tendons
- Tight compartments containing s/c fat & bl v.
- Distal 4/5<sup>th</sup> distal phal. – gets digital arteries by penetrating fibrous septa
- **PROXIMAL 1/5<sup>TH</sup> WITHOUT TRAVERSING THE SEPTA**
- **Applied** – whitlow (infection)
- Throbbing pain.> **neglected**> **avascular** necrosis



Fingers  
Cross Section through Distal Phalanx

