

## "The clinical anatomy of the Hand"

The distal part of the upper limb is divided in to three regions:

- 1. The wrist (carpus)
- 2. The hand (metacarpus)
- 3. The digits (fingers)

**The landmarks of this regions are** the head and the styloid process of the ulna; the styloid process of the radius; pisiform bone; proximal wrist crease, distal wrist crease; proximal palmer transverse crease, distal palmer transverse crease, the thenar eminence; the hypothenar eminence; mesothenar; 5-th metacarpal bones; the proximal, middle and distal phalanx; the tendons of abductor policis longus, extensor policis brevis from the on site and extensor policis longus from the over site bounds the anatomical snuff box.

#### Landmarks of Wrist and Palm of the left hand



**Distal transverse crease** 

(middle compartment)

#### Anterior surface of the left forearm and wrist

**Palmaris longus** 

Flexor diggitorum superficialis

19 7:51 рм

## The projection ligne of the metacarpophalangeal, proximal and distal interphalangeals Joints







Anatomical snuff box

pollicis longus end extensor pollicis brevis

Extensor pollicis longus

Anatomic al snuff box



The prohibited area ( the branches of the medianus nerve



### The layers of the palmar regions of the wrist

- 1. The skin is thin
- 2. The subcutaneous tissue is thin
- 3. The superficial fascia
- 4. The deep fascia make here retinaculum flexorum between the bones of the wrist: from the radial site Scaphoid + Trapezium and Pisiform + Hamate – osseofibrous Carpal tunnel formed by retinaculum stretches between the ends of these bones.
- The carpe ulnar tunnel, covered by superficial fascia, lie laterally to the tendon on the flexor carpi ulnaris. the contents of this channel are – a.v.n.ulnaris.
- 6. The carpe-radialis channel contents is tendon of m. flexor carpe-radialis.



#### The layers of the dorsal region of the wrist

- 1. The skin is thin
- 2. The subcutaneous tissue is thin (v. basilica, v. cephalica
- 3. The retinaculum extensorum: under retinaculum extensorum there are **6** synovial sheaths which occup six osseofibrous tunnels and contain nine tendons:
- I. M.abductor pollicis longus and extensor pollicis brevis;
- II. Mm. Extensoris carperadialis longus et brevis;
- III. M.extensor pollicis longus
- IV. Mm.extensor digitorum communis and indicis.
- V. m.extensor digiti minimi.
- VI.m. extensor crape-ulnaris.





## The layers of the palmar region of the hand

- The skin is thick because it is required at the work and play it is richly supplied with sweat glands
- The subcutaneous tissue contain fibrous septums which pass it from skin to palmer aponeurosis and make cells full with fat tissue.
- The deep fascia is thin over the thenar and hypothenar, it is thick in the middle region (mesothenar), it forms the palmar aponeurosis with tendon of palmar longus m.
- Between palmar aponeurosis and the flexor tendons are the subaponeurotic space (palmar arterial superficial arch (between a. unaris and palmar branch of radial artery), 4 digital common arteries, brances of the ulnar and median nerves)



5. The 8 tendons of the flexor digitoru superficialis and profundus.

6. The subtendinous space in which are the lumbricales muscles

7. Palmar interossei muscles.

8. Dorsal interossei muscles.



## The layers of the dorsal region of the hand

- 1. The skin is thin, loose and is covered by hair especially in males.
- 2. Superficial fascia.
- 3. The subcutaneous tissue is thin contain veins network, the beginning of the cephalic and basilica veins; superficially branches of the radialis nerve and dorsalis branches of the ulnar nerve. fibrous septums which pass it from skin to palmer aponeurosis and make cells full with fat tissue.
- 4. The deep fascia.
- 5. Palmar interosseus dorsales muscles.



1.Dorsal digital artery; 2. Tendon of the extensor digity; 3. the bone of phalanges; 4. ;5.flexor digitorum superficialis; 6.the synovial sheaths of the tendons (layers of sheath parietal(8) and visceral(9)) is a lubrificating device that envelops the long digital tendons which contain synovial fluid; 7. Mesotendon;
10. flexor digital profound tendon.11. Palmar digital vessels and nerves.







Digital skin;
 Nail;

3. Nail bed;

4. Projection de la lunule unguéale marquant la limite entre matrice fertile
(7) et zone stérile du lit unguéal (6) ;
5.Eponychium;
6. Nail bed;
7.Fertile Matrix.



Arcade distale ;
 Arcade proximale ;
 Arcade pulpaire ;
 Arcade superficielle ;
 Artère collatérale palmaire.

## The incisions on the digits in case of panarices



## **Acute infection classification:**

Whitlow - The clinical term whitlow is applied to an acute infection, usually followed by suppuration, commonly met in the fingers, less frequently in the toes.

**Tenosynovitis.** Appreciable pain along the tendon sheath with passive extension of the digit often is the first clinical sign of this hand infection.

**Felon** is an abscess of the distal pulp or phalanx pad of the fingertip.

**Paronychia** is an infection of the perionychium (also called eponychium), which is the epidermis bordering the nail.

# Thanks, for your attention !!!