

PLEASE CLICK ON THE FOLLOWING LINK
TO WATCH THE LECTURE ONLINE:-

https://www.youtube.com/watch?v=ay4kSD5bUmo&list=PLuBRb5B7fa_fRRpcuUO-I1JFGuAGVF9Qy&index=5

Infections Of the Hand

By Dr Saad Haddad

Infections Of the Hand

Paronychia

Felon

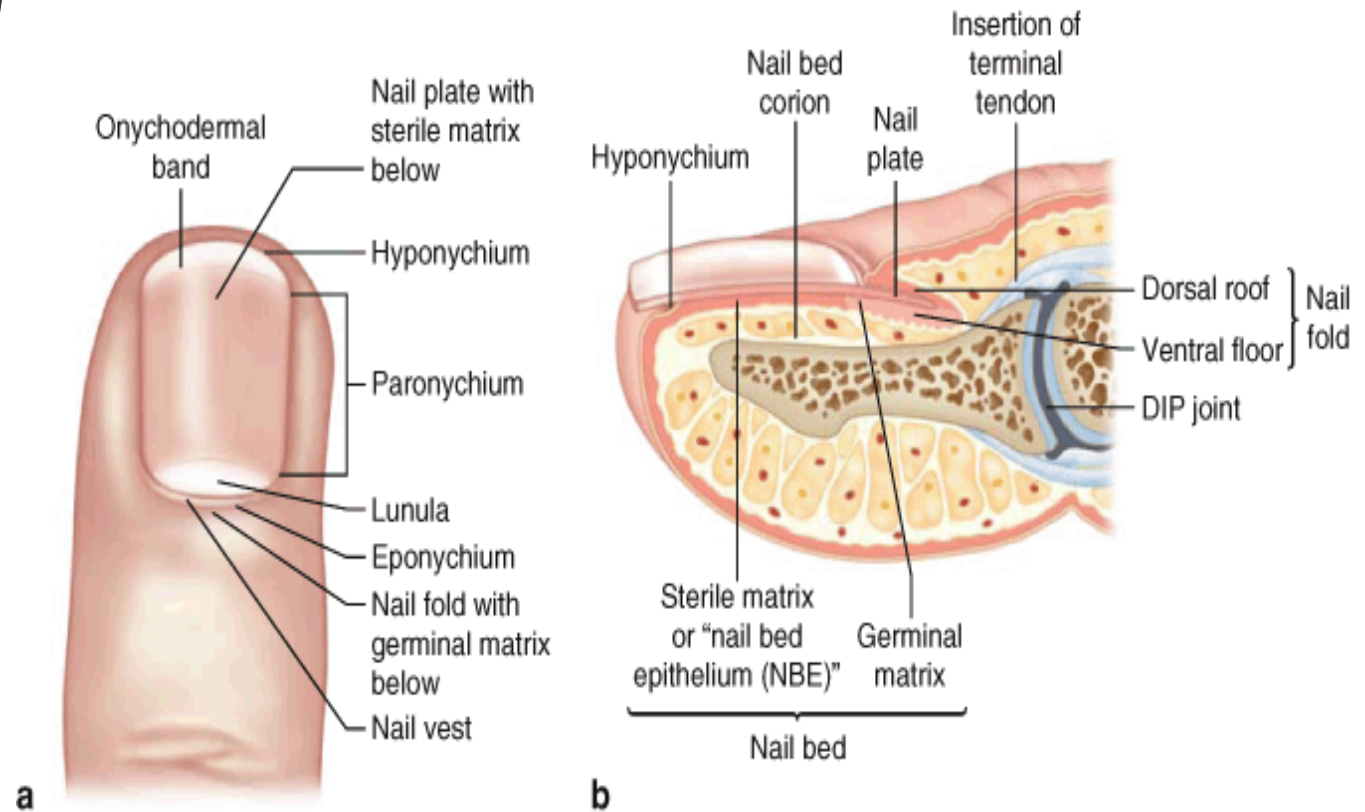
Pyogenic Flexor Tenosynovitis

Deep space and Collar Button Infections

Herpetic Whitlow

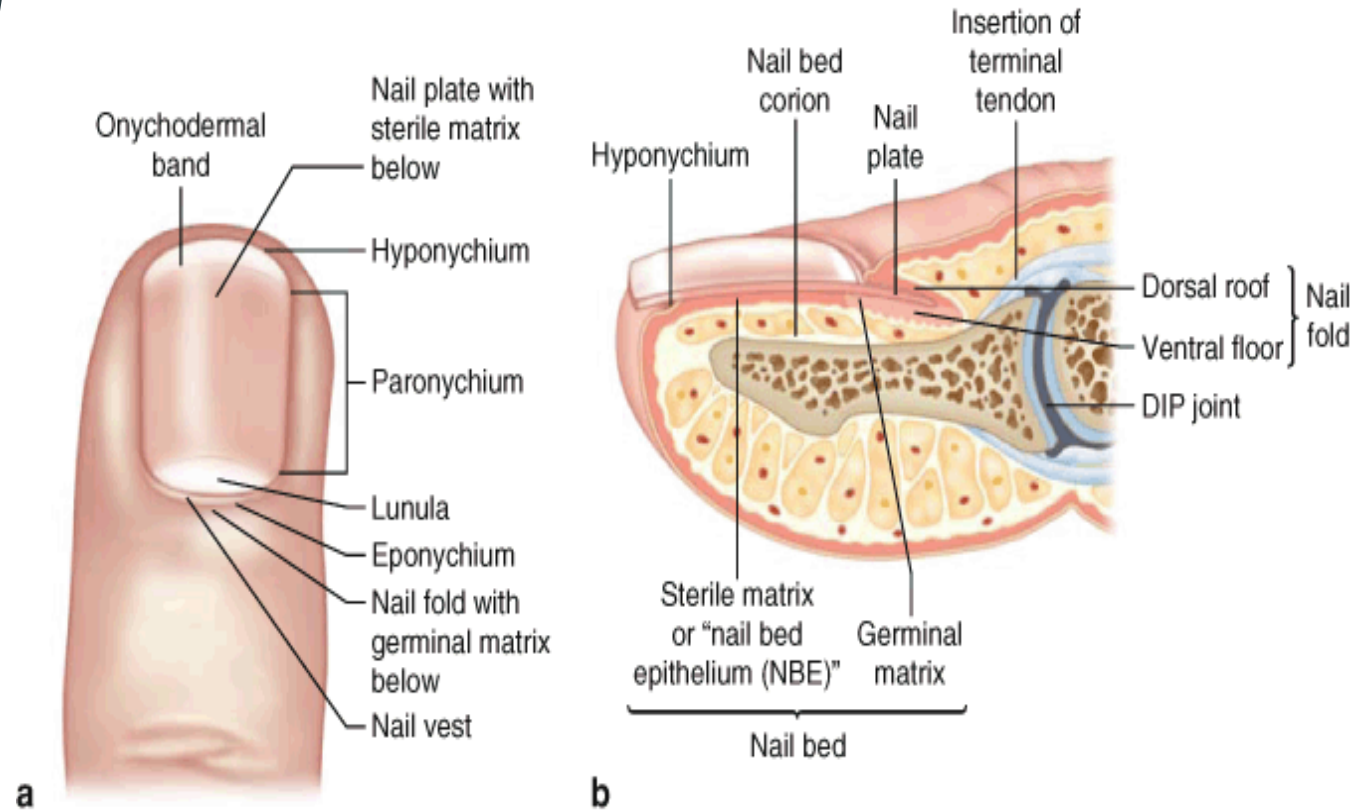
Paronychia

- ▶ Is the most common infection in the hand
- ▶ The disruption of the barrier between the nail fold and the nail plate allows the introduction of bacteria into the tissue bordering the nail.
- ▶ Although most paronychias are mixed infections, the most common infecting organism is *S. aureus*
- ▶ Patients who do not respond to empirical therapy with a first-generation cephalosporin may also have MRSA infection and may respond to a change in antibiotic therapy..



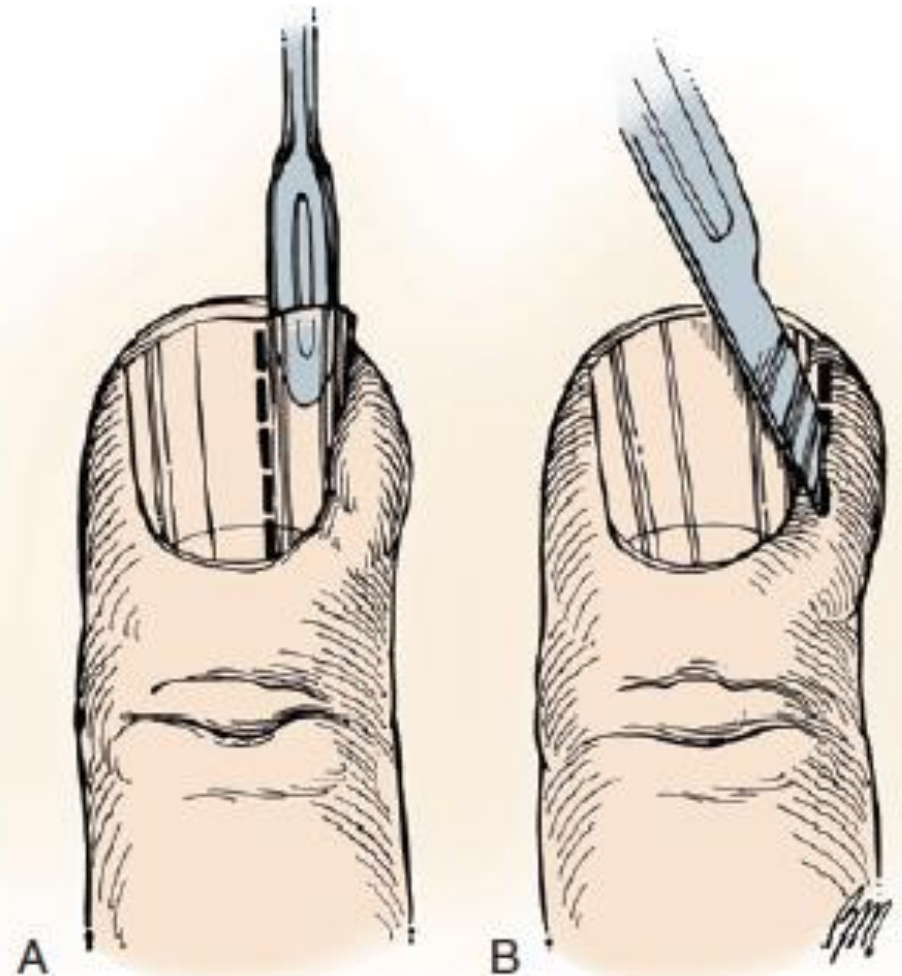
Paronychia

- ▶ Early infections can be treated nonsurgically with oral antibiotics and soaks two to three times per day in a solution of warm water +/- or warm normal saline may be used. Antibiotic treatment should cover *S. aureus*.
- ▶ Late and after abscess formation they require surgical debridement



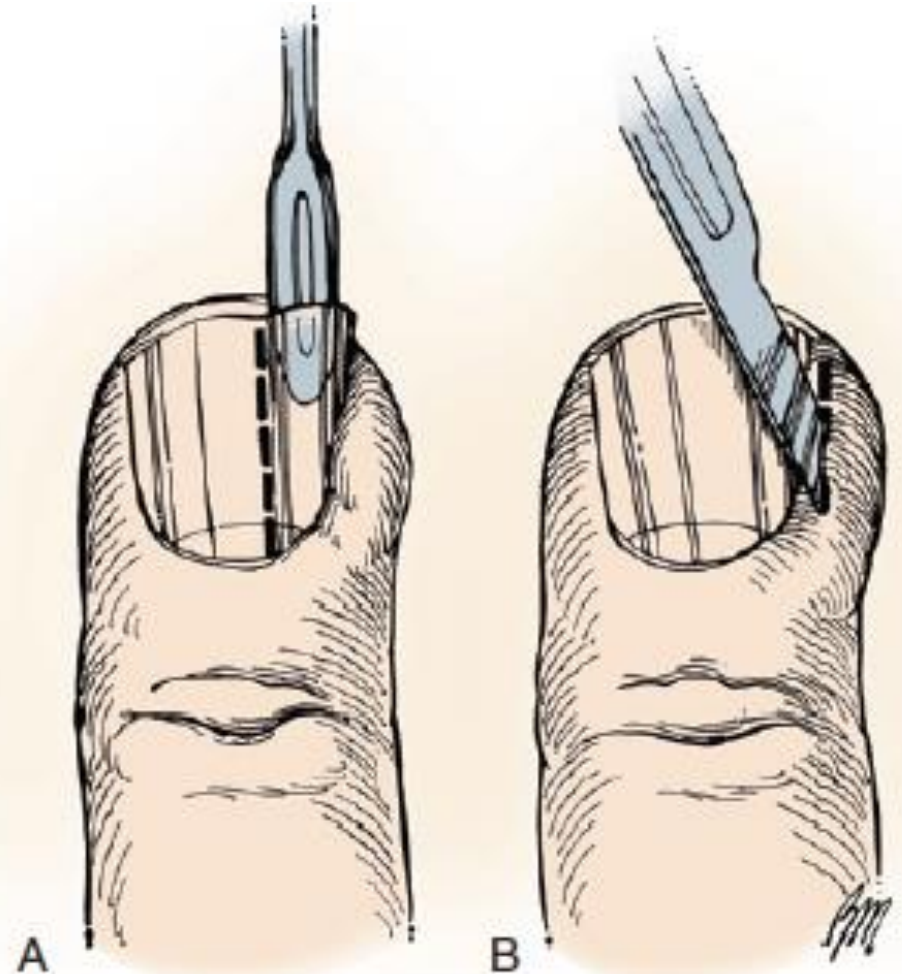
Paronychia

- ▶ The peronychial sulcus is elevated from the nail gently by a flat, blunt instrument such as the flat portion of a malleable or metal probe or a Freer elevator.
- ▶ It is generally sufficient to carry the incision only to the proximal edge of the nail, but it may extend as far proximally as the distal interphalangeal (DIP) joint.



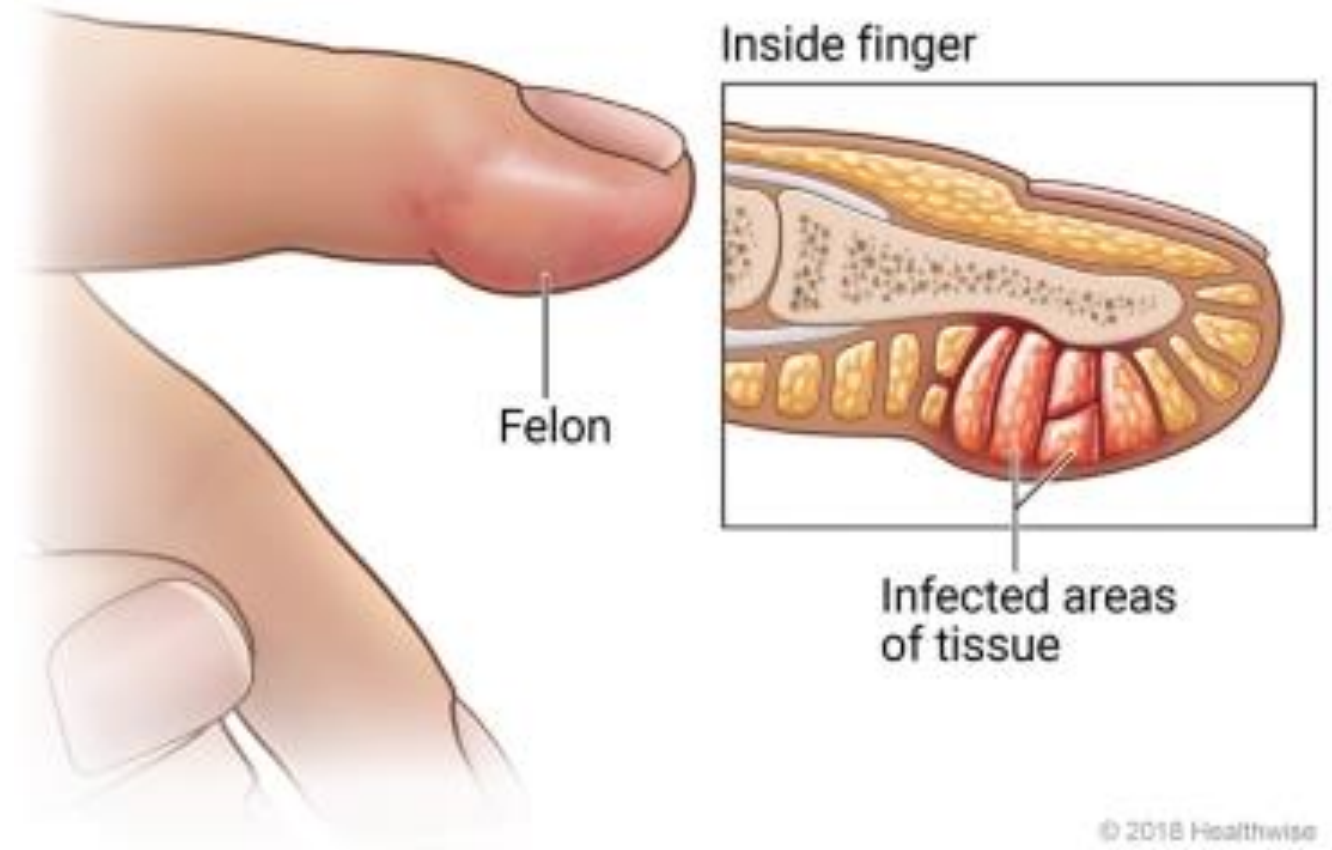
Paronychia

- ▶ When the abscess extends below the nail plate, a portion of the nail plate should be removed.
- ▶ The amount and location of nail removal depend on the location and extent of involvement.



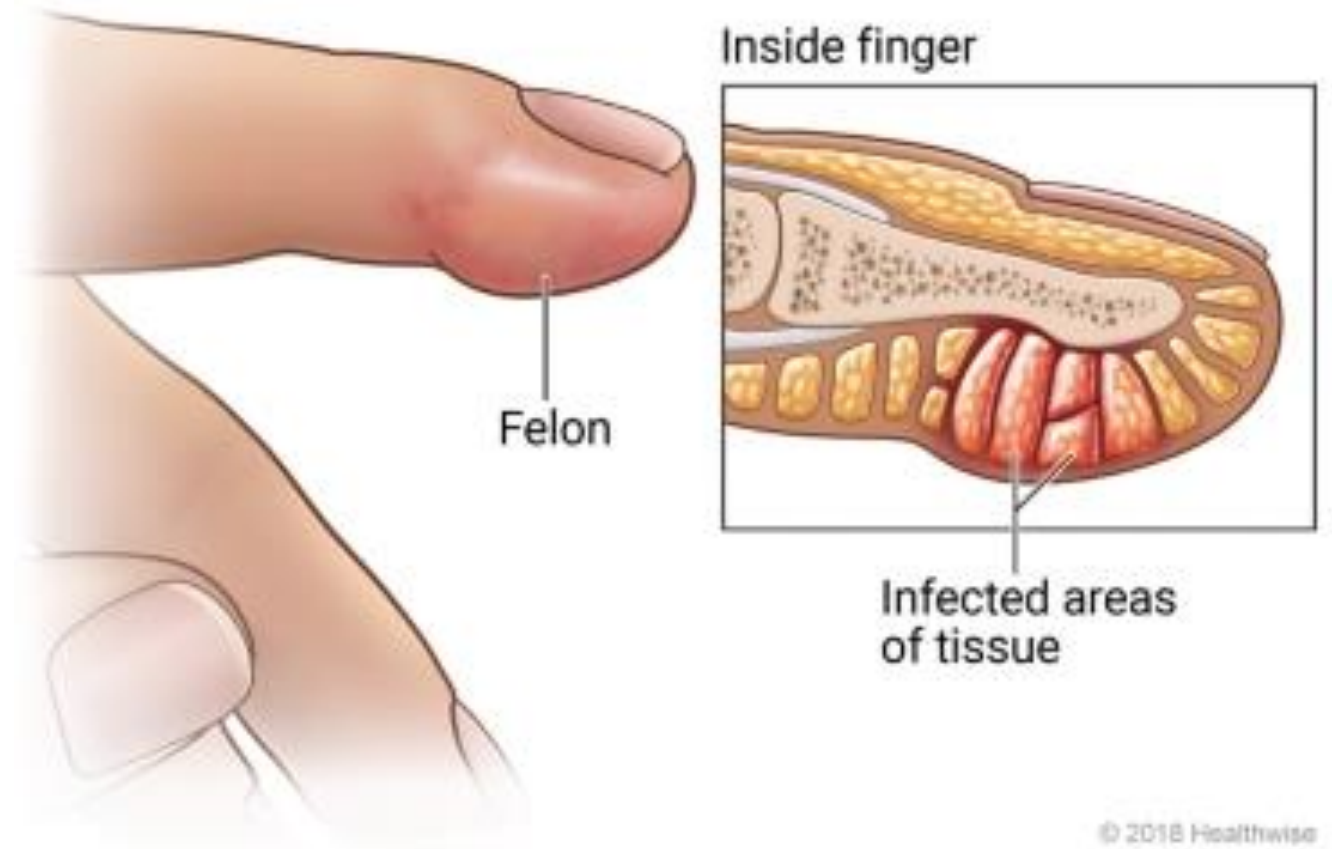
Felon

- The distal pulp described as a closed sac connective tissue framework, isolated and different from the rest of the finger.
- Multiple vertical trabeculations divide the pulp of the distal phalanx into multiple separate septal compartments.



Felon

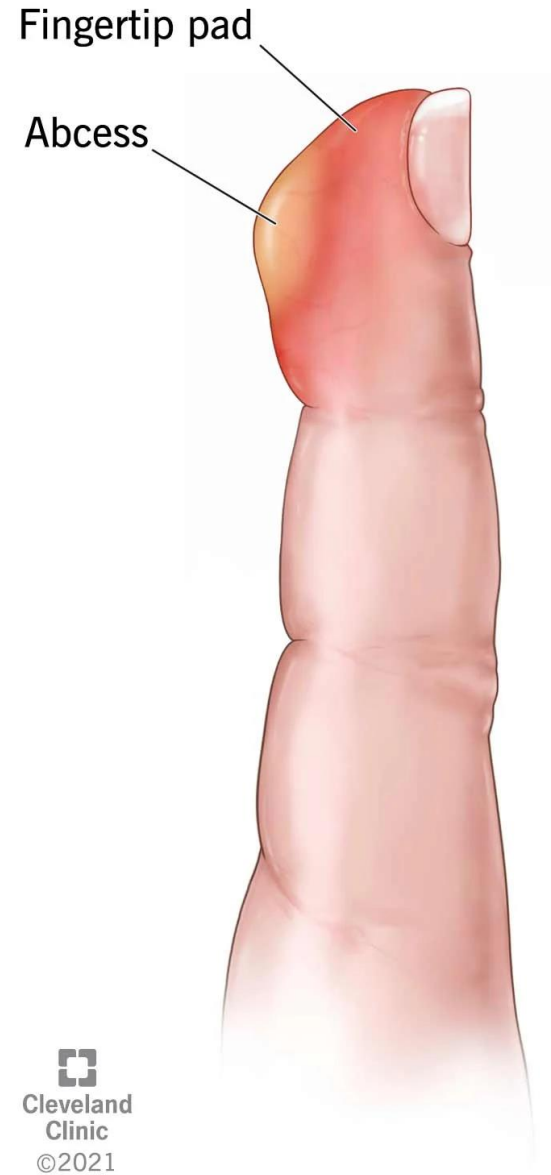
- structural support
- The highest concentration of sensory receptors in the hand
- Allows pinching and grasping.



Felon

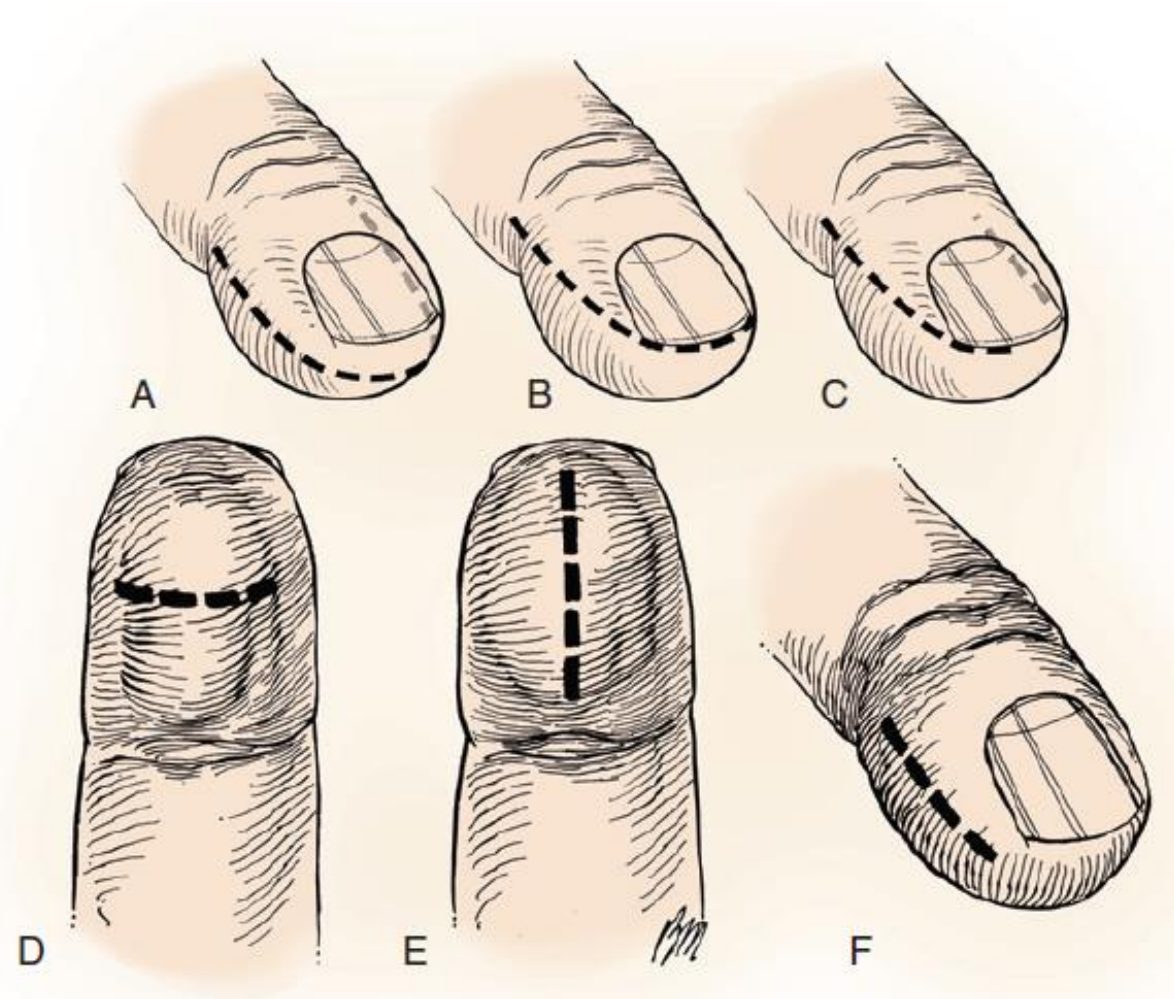
- Begin with penetrating wounds of the distal pulp or as bacterial contamination of the fat pad through the eccrine sweat glands.
- Local vascular congestion, aggravated by the closed septal anatomy of the pulp.
- Tissue necrosis and abscess formation when untreated (Compartment syndrome of the distal phalangeal pulp).


Felon finger



Felon

- ▶ **A: Fish-mouth incision (Only Historic)**
- ▶ **B: Hockey-stick incision.** The incision begins in the mid axial line, aims for the corner of the nail, and passes across the finger in the natural line between the skin and nail matrix.
- ▶ **C: Abbreviated hockey-stick incision with counter incision on the opposite side.** An alternative to the full hockey-stick incision is to make this incision shorter and make a second incision on the opposite side of the pulp.
- ▶ **D: Volar drainage** is useful if the abscess points volar ward, but this incision risks injury to the digital nerves.
- ▶ **E: Alternative volar approach.** There is less risk to the digital nerves, but the incision should not touch or cross the DIP joint flexion crease.
- ▶ **F: Unilateral longitudinal approach.**





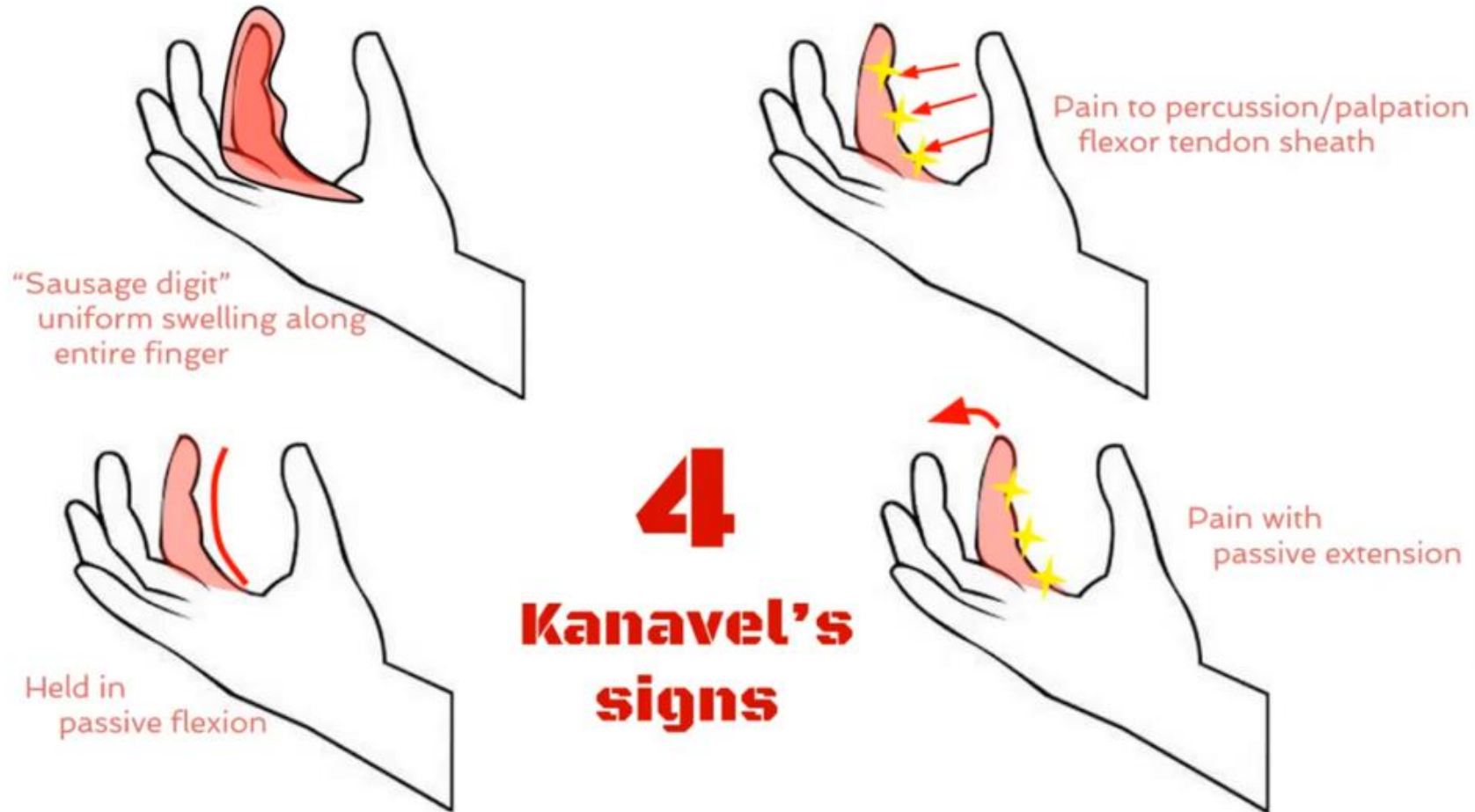
Pyogenic Flexor Tenosynovitis

- ▶ a closed-space infection of the flexor tendon sheath of the fingers or thumb
- ▶ The purulence within the flexor tendon sheath destroys the tendon gliding mechanism, rapidly creating adhesions.
- ▶ It can also destroy the blood supply, producing tendon necrosis.

Pyogenic Flexor Tenosynovitis

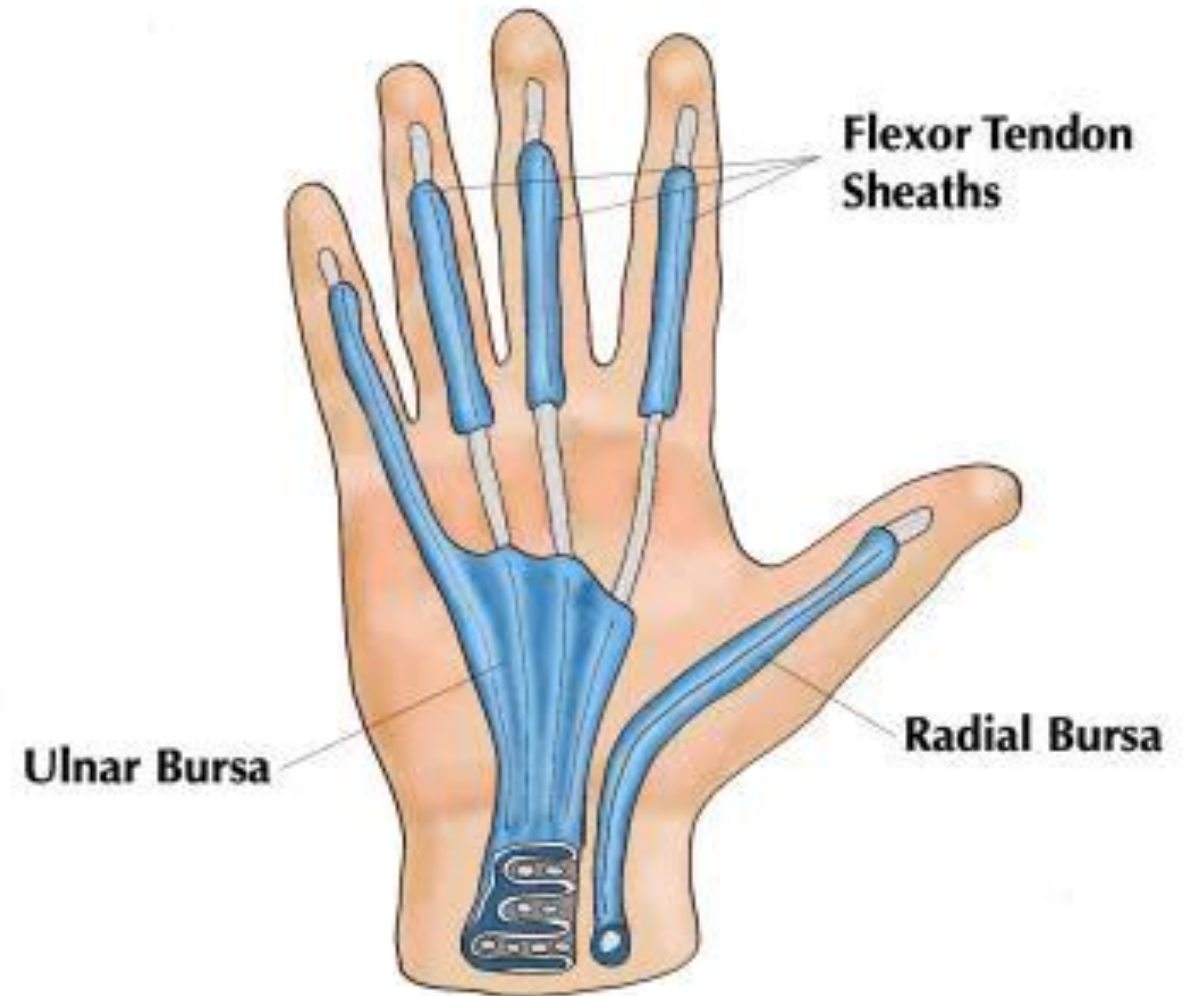
- ▶ The most common organisms responsible for disease include *S. aureus* and β -hemolytic *Streptococcus*.
- ▶ *Pasteurella multocida* is frequently cultured in infections caused by animal bites.
- ▶ A wider host of organisms should be considered in immunocompromised Patients (*Eikenella corrodens*, *Listeria monocytogenes*, and mixed gram-positive and gram-negative infections).

Pyogenic Flexor Tenosynovitis

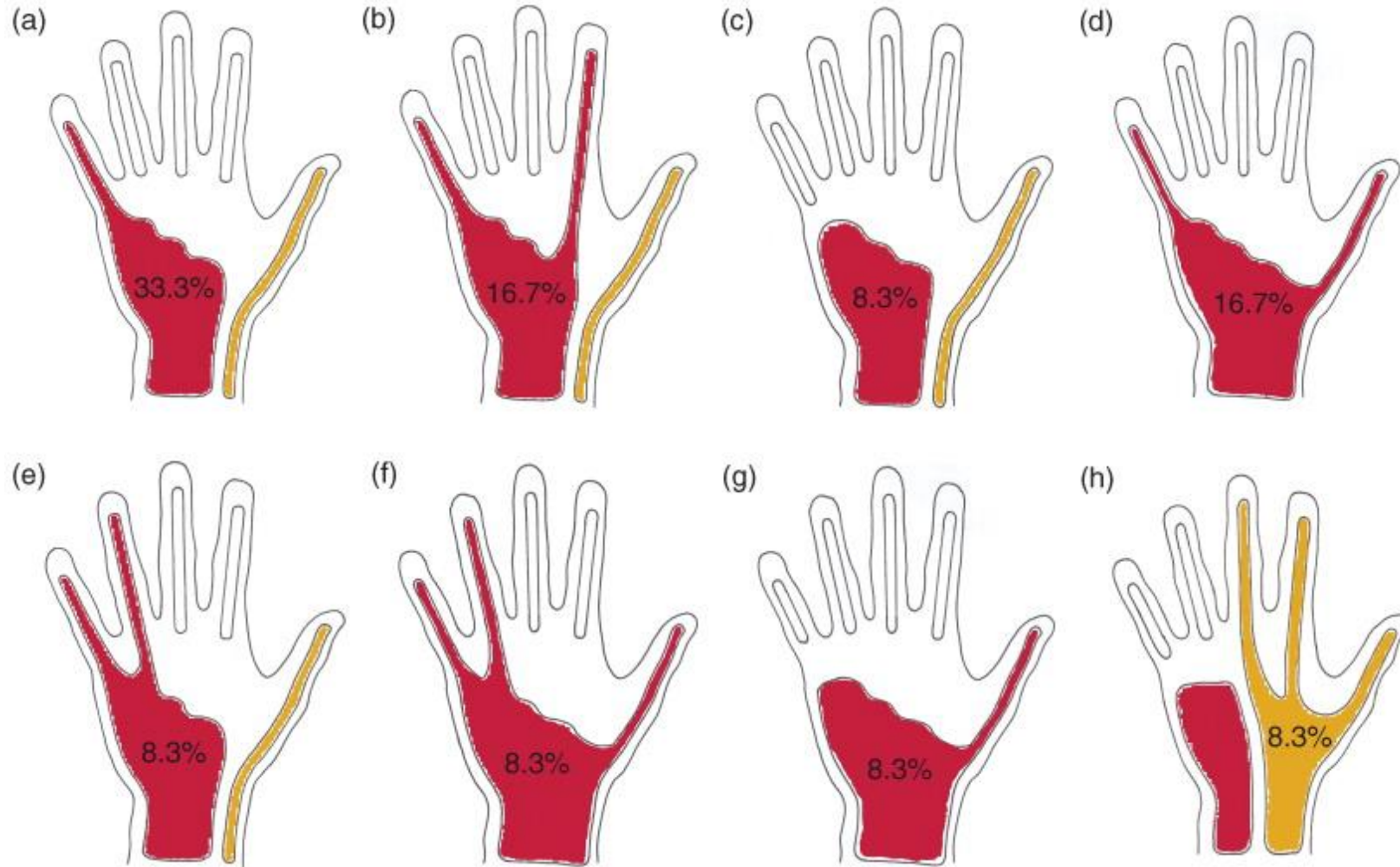


Pyogenic Flexor Tenosynovitis

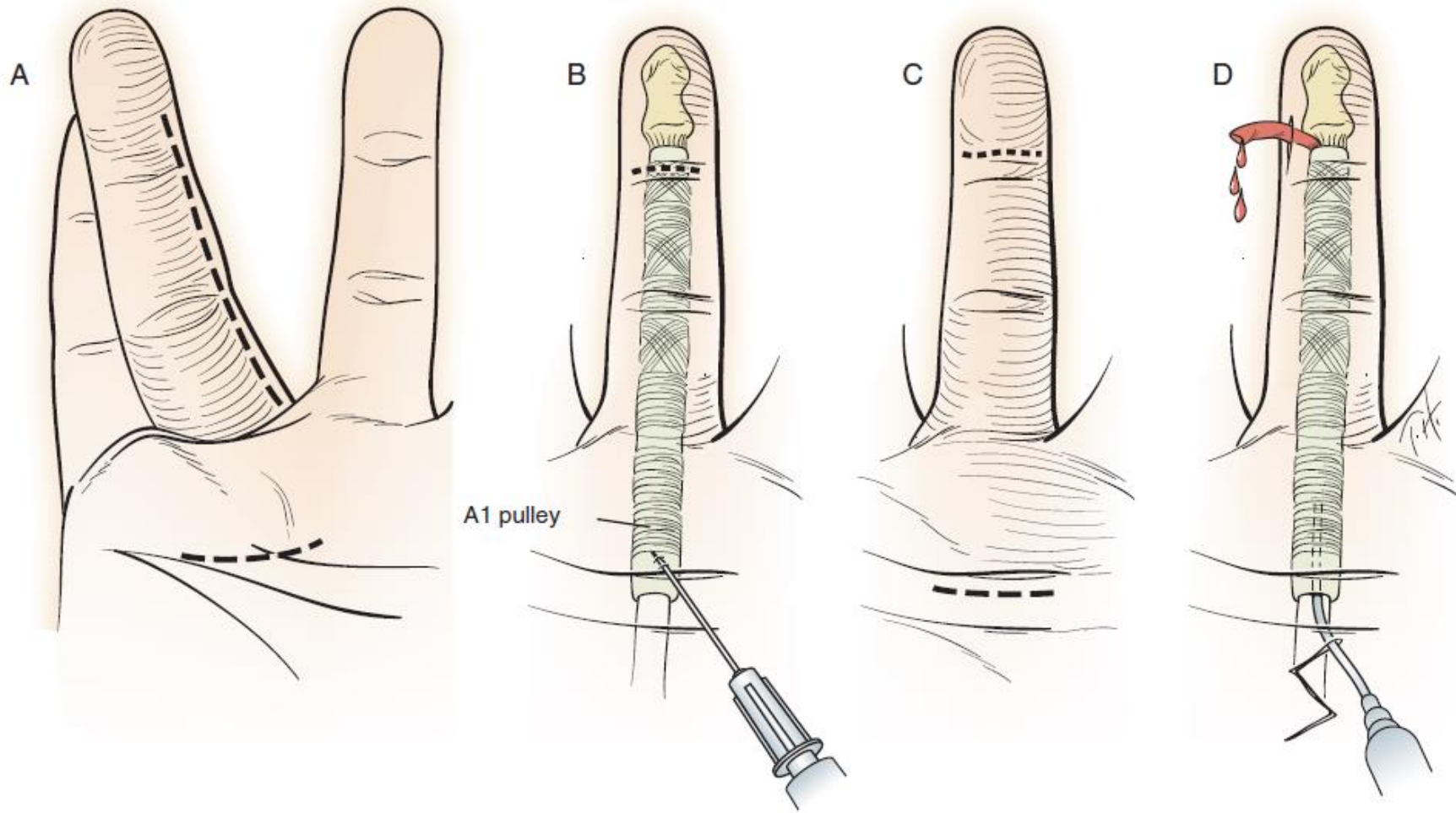
- ▶ The Horseshoe abscess.
- ▶ Communication between Radial and ulnar bursa at the level of Parona space (FDP and Pronator Quadratus)



Pyogenic Flexor Tenosynovitis

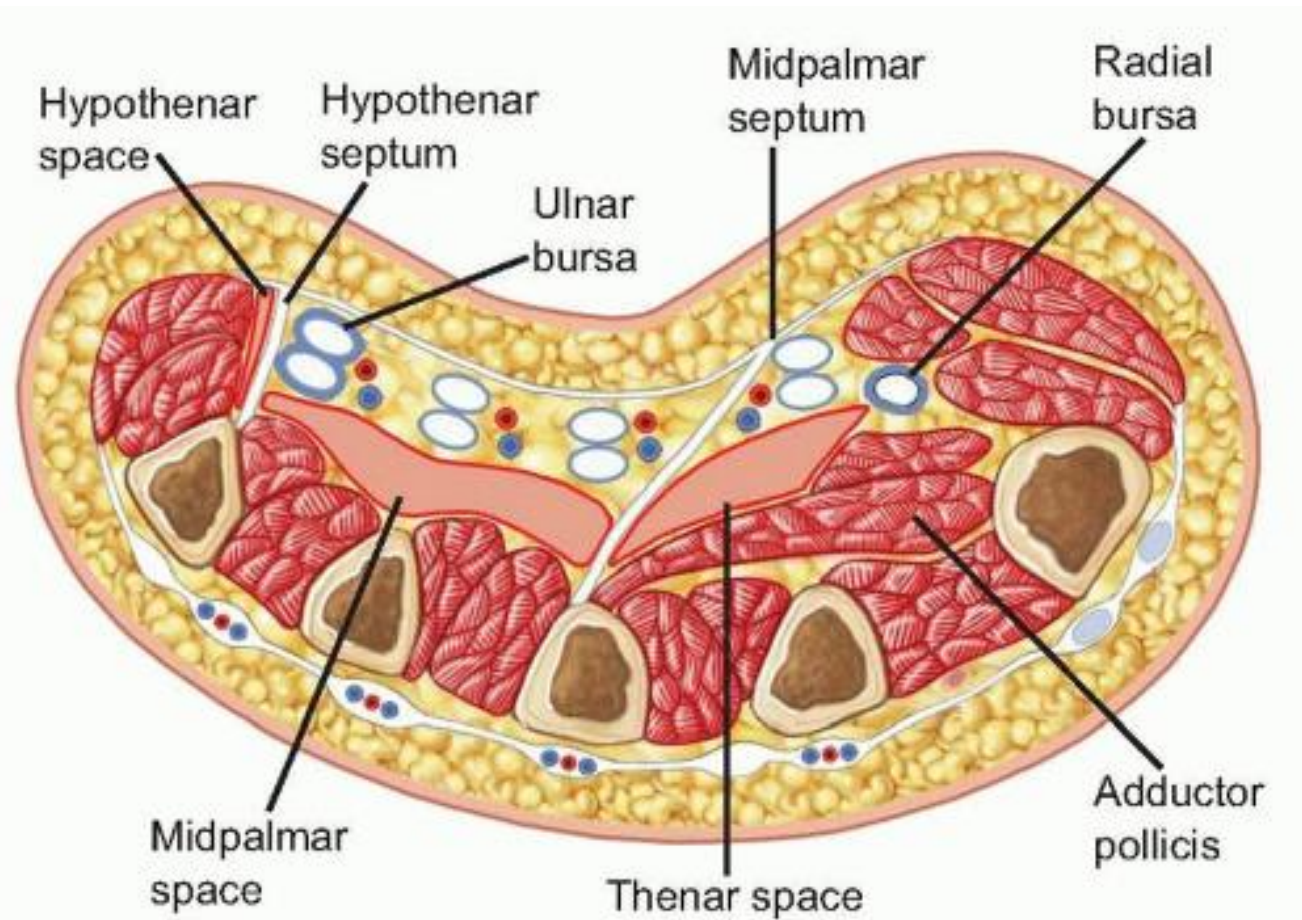


Pyogenic Flexor Tenosynovitis



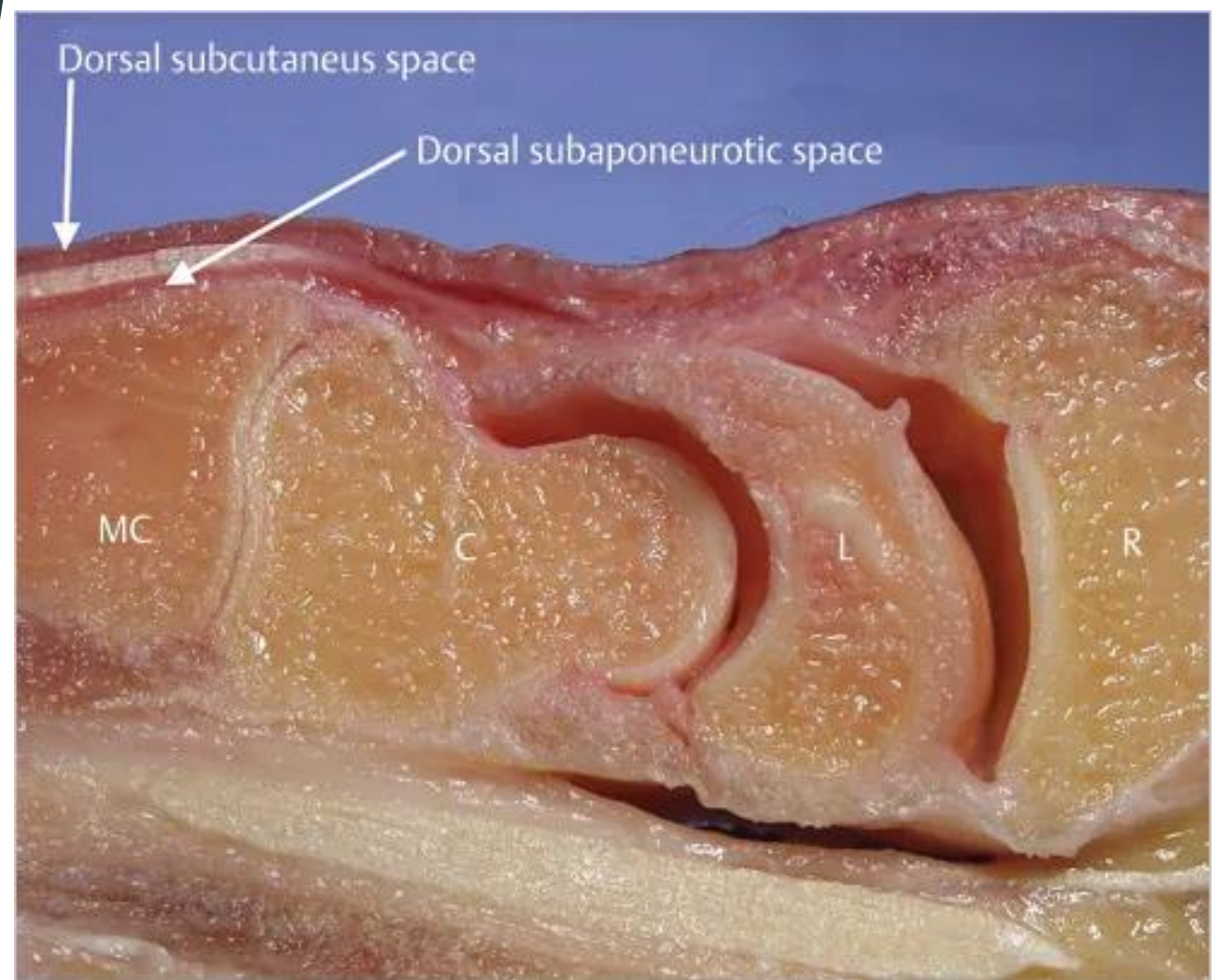
Deep Space Infections

- ▶ The hand has three anatomically defined potential spaces which lie between muscle fascial planes (thenar, midpalmar, and hypothenar spaces)



Deep Space Infections

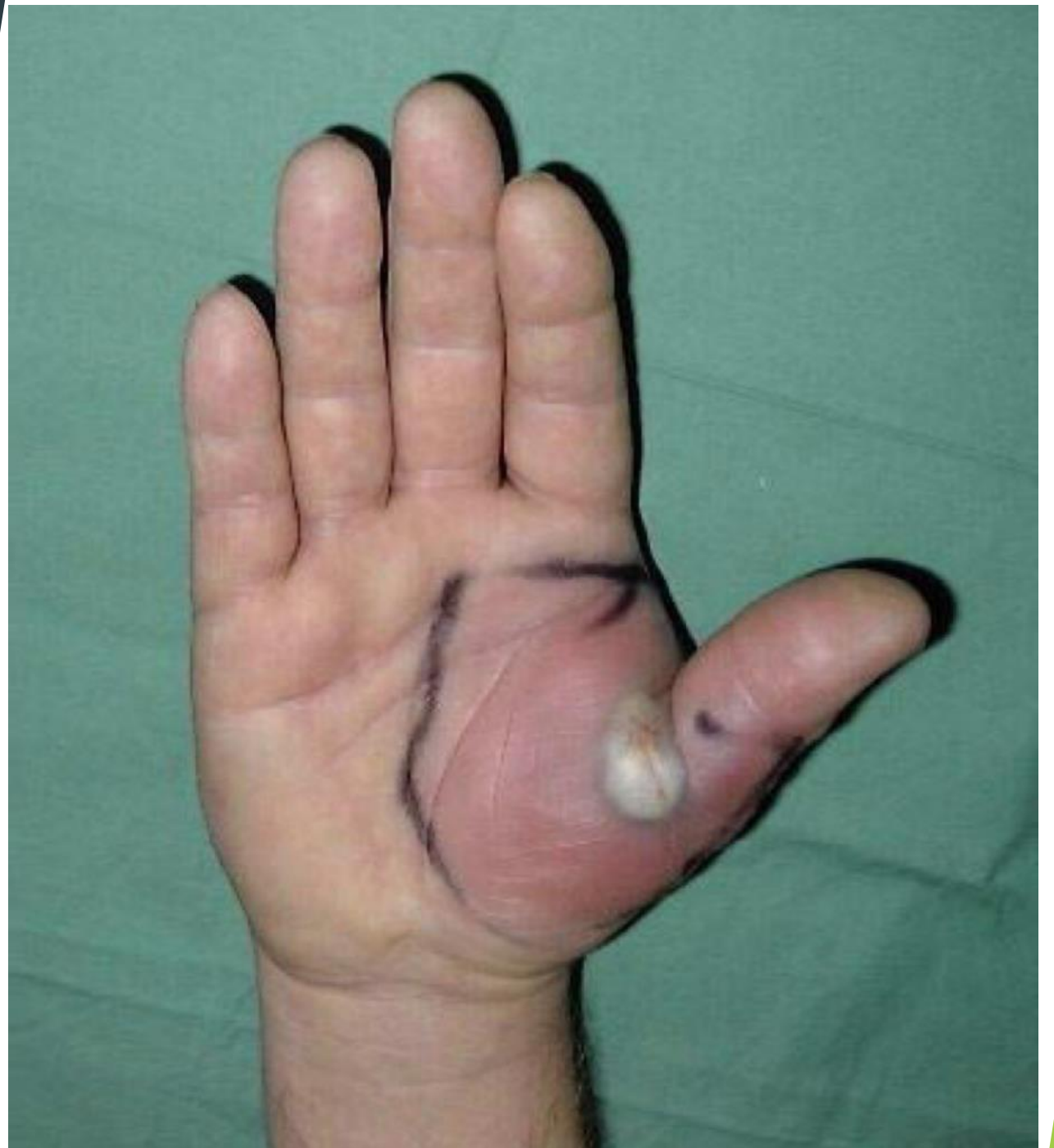
- ▶ There are three more superficial spaces (the dorsal subcutaneous space, dorsal subaponeurotic space, and interdigital web space)



Infections of these spaces are different from deep space abscesses in that they do not have well-defined anatomic borders

Deep Space Infections

- ▶ No role for nonsurgical management.
- ▶ Considered surgical emergencies
- ▶ Immediate IV antibiotics preferably after surgery and cultures, if no available immediate operation room start IV with good staphylococcal coverage, But then emergent debridement.



Deep Space Infections

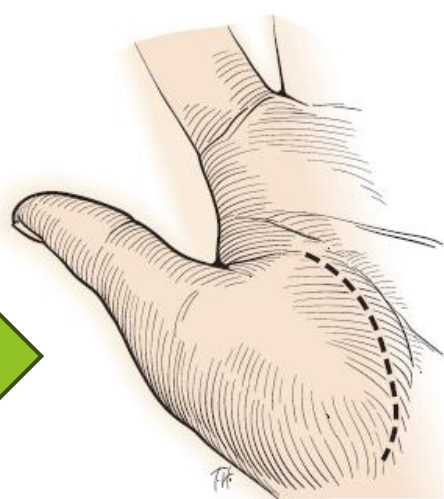
Clinical Exam

- **Thenar:** pain with thumb flexion
- **Hypothenar:** pain with small finger flexion
- **midpalmar:** pain with middle, ring, and small finger flexion



Deep Space Infections

Thenar space incisions



A

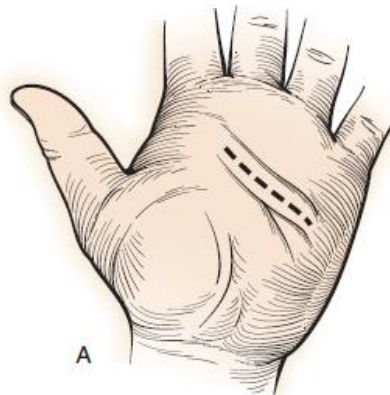


B

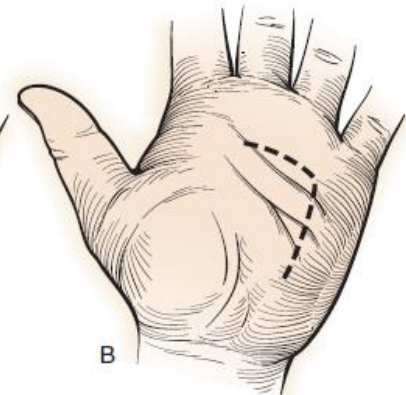


C

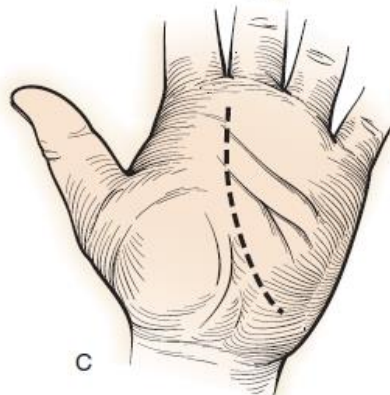
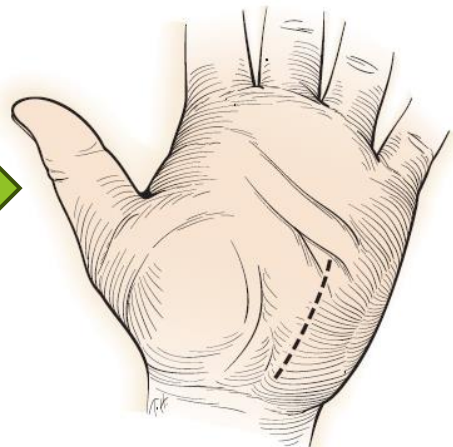
Midpalmar space
Incisions



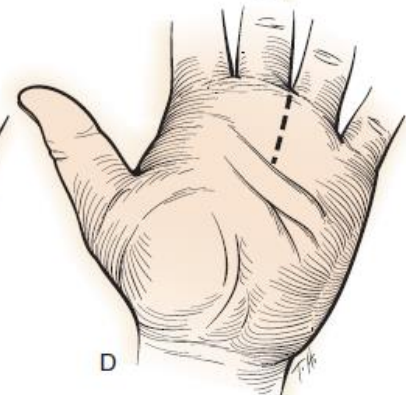
A



B

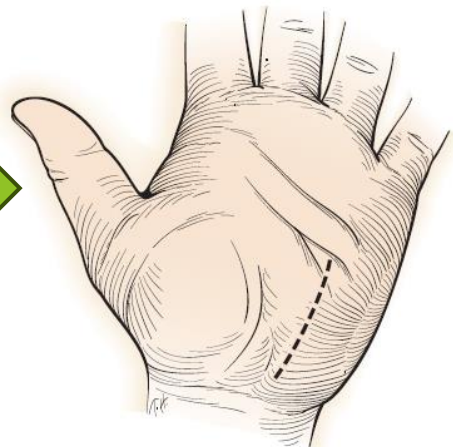


C



D

Hypothenar space
incision



Dorsal Subcutaneous and Dorsal Subaponeurotic Space Abscess

- ▶ The dorsal aspect of the hand is swollen, warm, and erythematous
- ▶ The dorsal surface is tender to palpation.
- ▶ Finger extension may be difficult and is usually painful.
- ▶ Difficult to be distinguished from the other types.

Web Space Abscess (Collar-Button Abscess)

- ▶ Hourglass shape of the abscess.
- ▶ Usually occurs through a fissure in the skin between the fingers, from a distal palmar callus, or from extension of an infection in the subcutaneous area of the proximal segment of a finger.
- ▶ The adjacent fingers lie abducted from each other.
- ▶ Surgery is always indicated.



Herpetic Whitlow

- ▶ a viral infection of the hand caused by herpes simplex virus (HSV-1)
- ▶ a small, vesicular rash and bullae.
- ▶ Treatment is observation with a short course of antiviral antibiotics (acyclovir).
- ▶ **SURGERY IS CONTRAINDICATED.**



THANK YOU

The background features abstract, overlapping geometric shapes in various shades of green, ranging from light lime to dark forest green. These shapes are primarily located on the right side of the frame, creating a modern, layered effect against the white background.