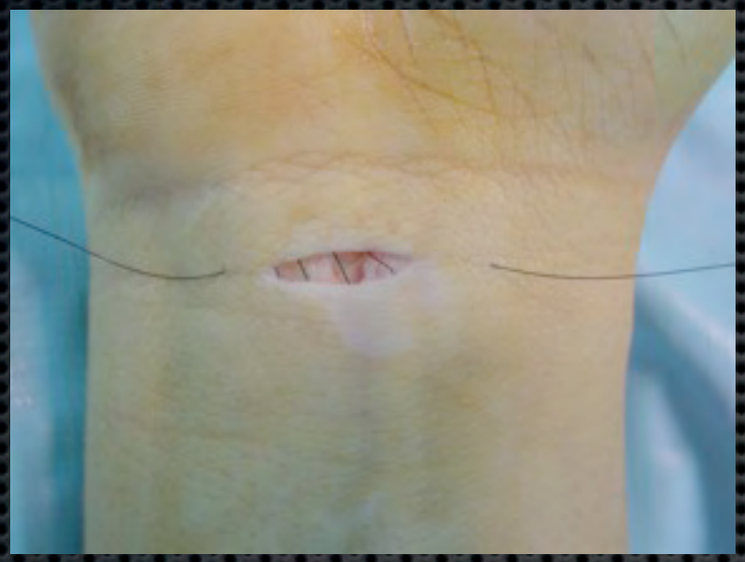
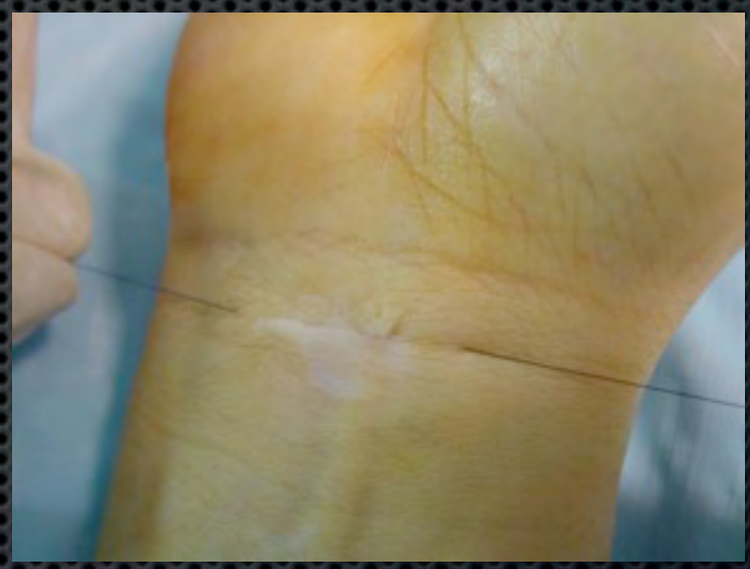
Voies d’abord de la main et du poignet





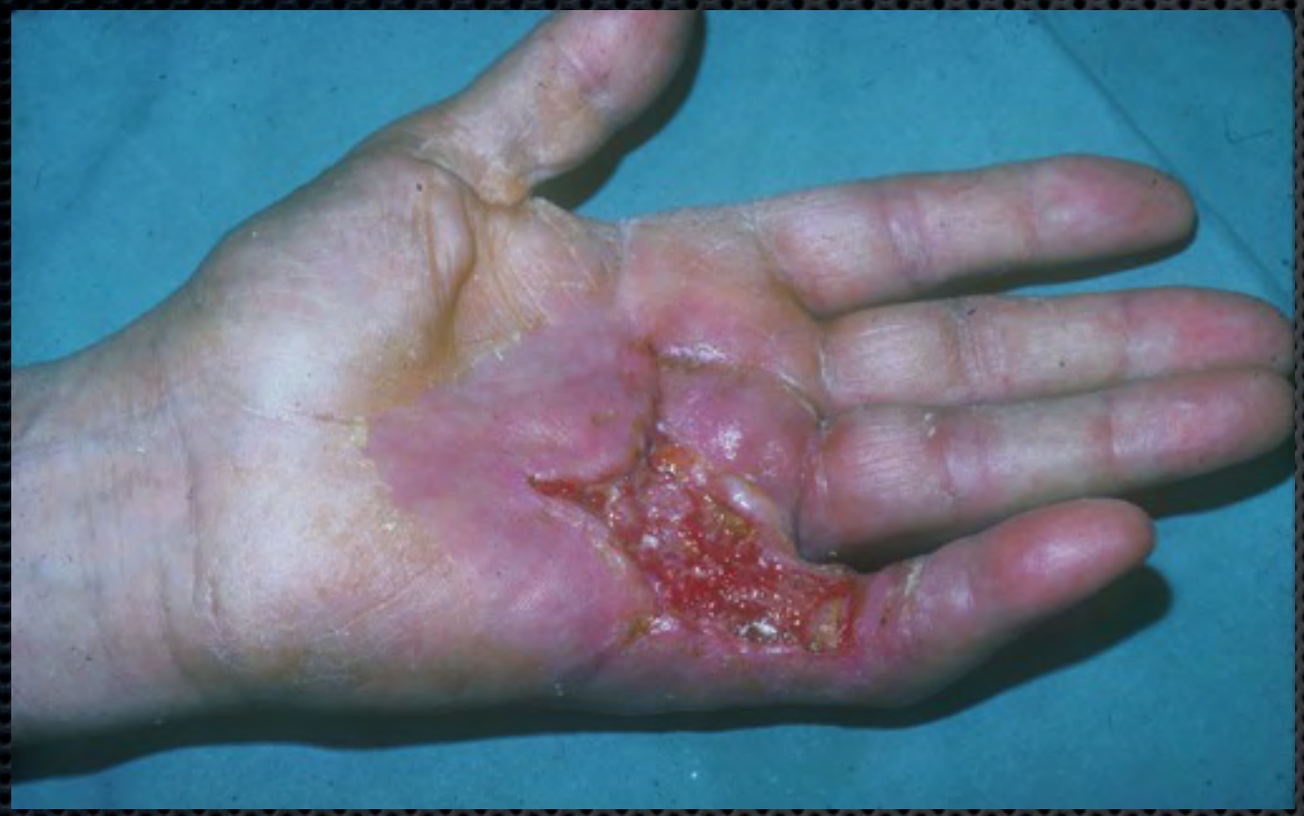
Institut de la Main

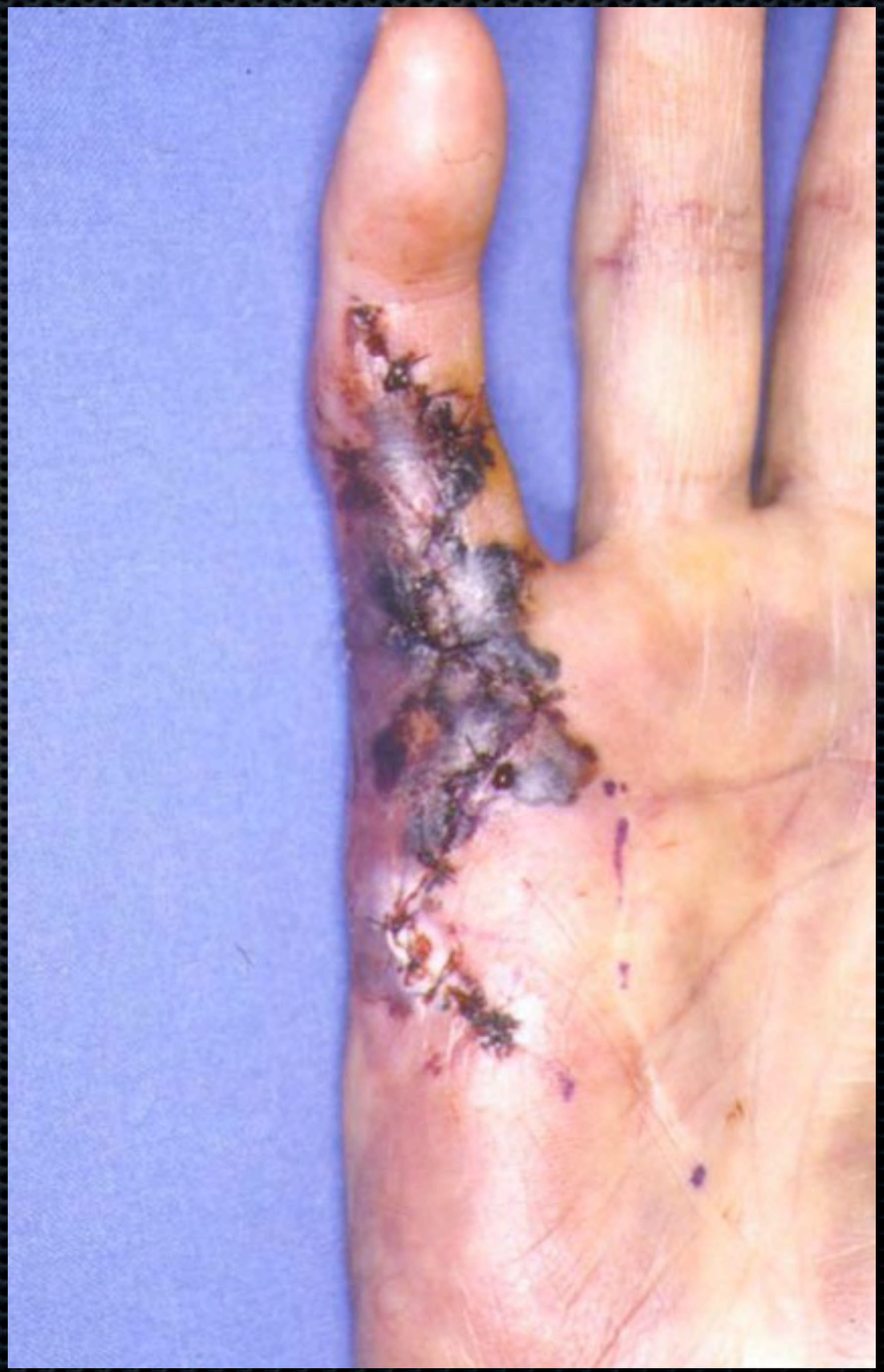
Christian Dumontier (avec l’aide de Thierry Dubert, Fabrice Duparc), Hôpital saint Antoine et Institut de la Main, Paris

Les voies d’abord

- Multiples
- Adaptées au(x) geste(s) envisagé(s)
- Poignet: palmaire et dorsal, le carpe (scaphoïde)
- Paume de la main
- Les doigts (face palmaire et dorsale)

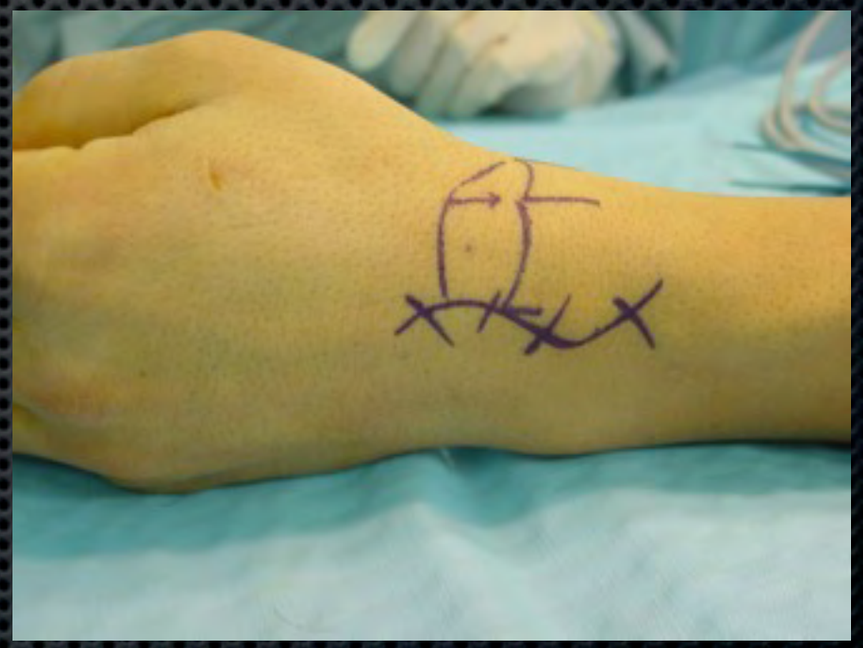
Ne devrait pas survenir

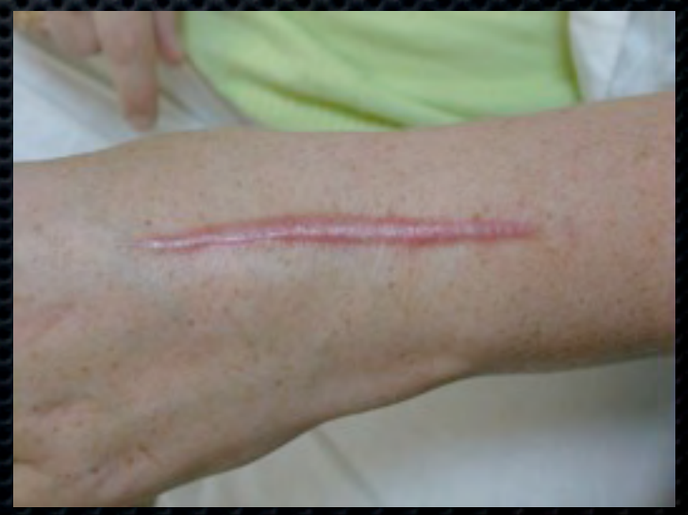




PRINCIPES

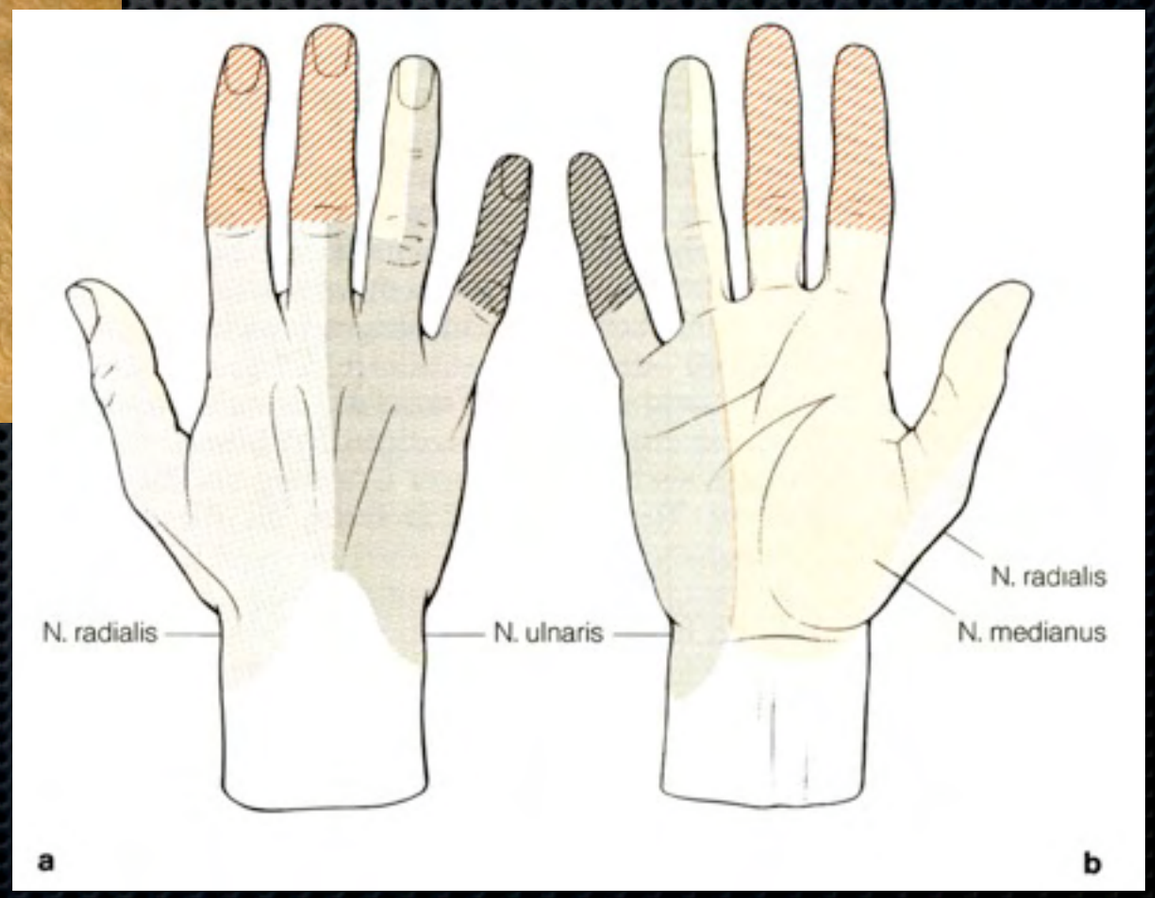
- Trajet direct si possible
- Accès suffisant
- Prévenir les complications
- Respecter la sensibilité
- Respecter les espaces de glissement
- Eviter les brides
- Considérations esthétiques





➡ Dessiner avant d’ouvrir

Respecter la sensibilité



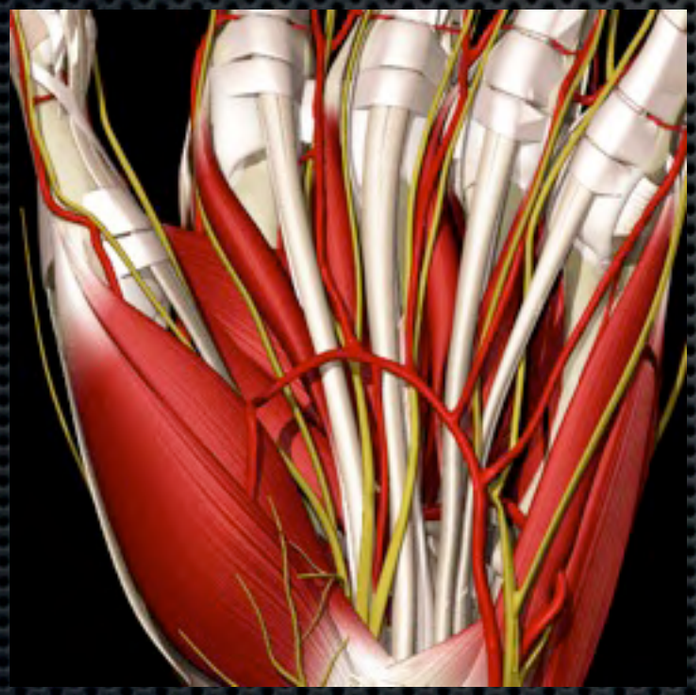
- Eviter les zones d’appui

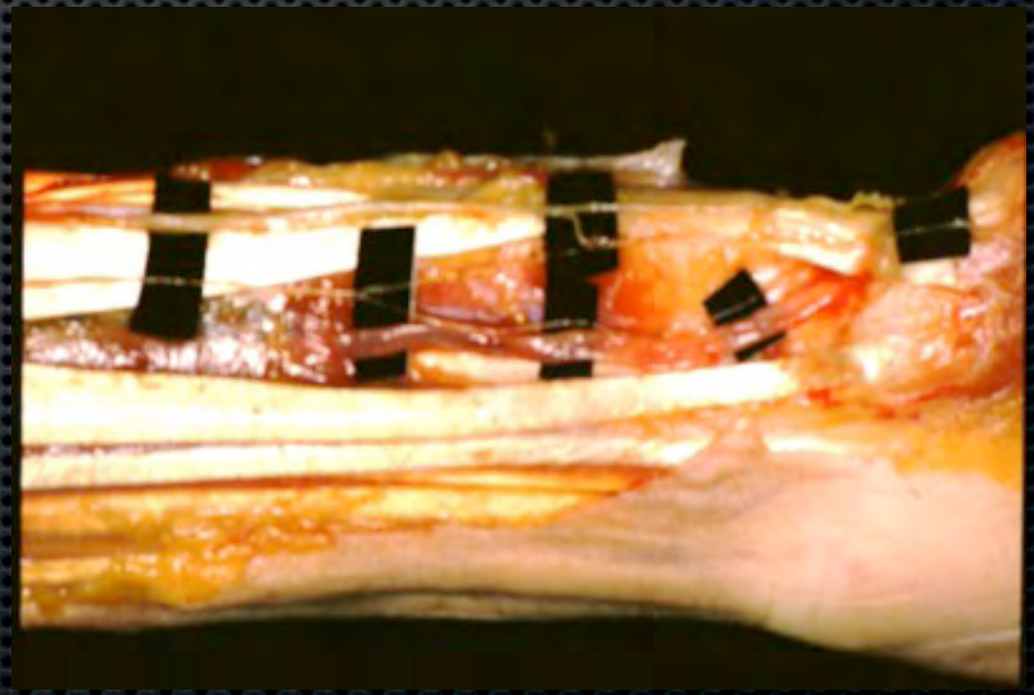
Spécificité des doigts

- Eviter

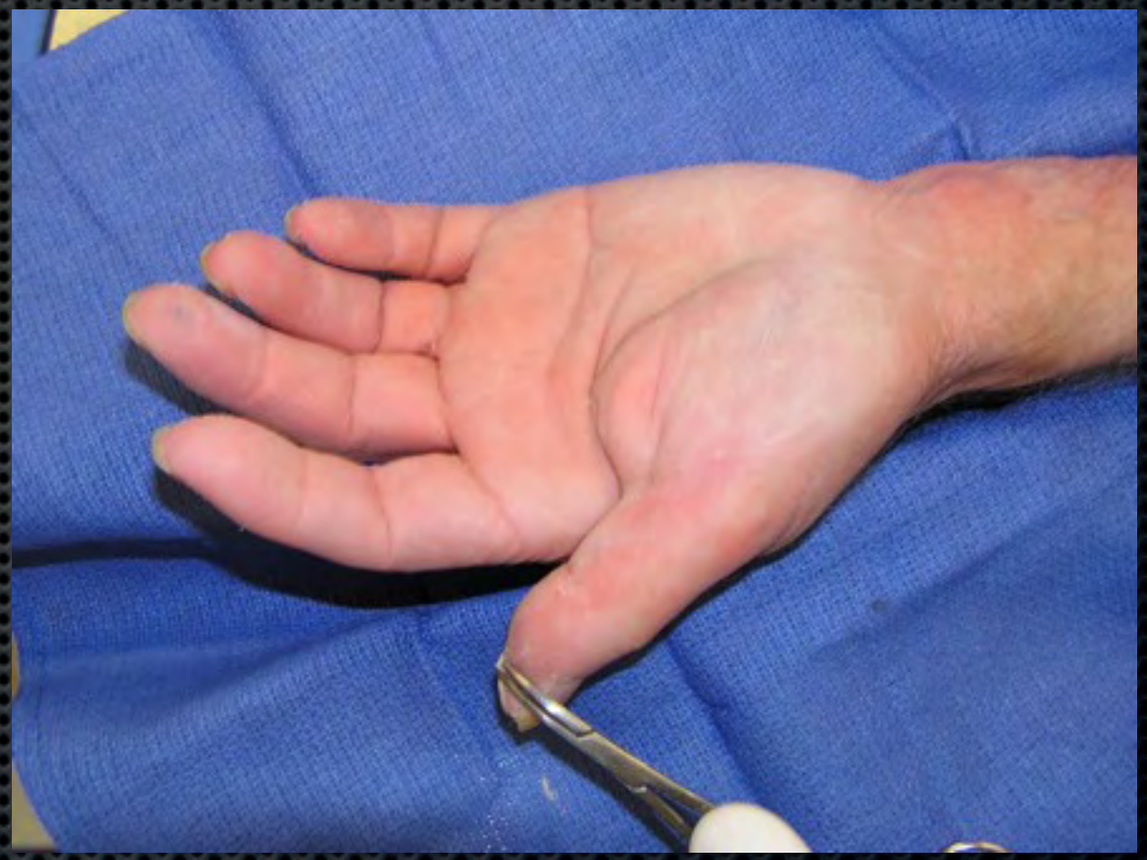
- Bord cubital du V
- Bord radial du II
- Bord médial du Pouce

- <u>Respecter les rameaux sensitifs</u>
  - Nerfs dorsaux
  - Rameau cutané palmaire du médian
  - Branches radiales (n. cut antero-lat AVB, n. radial)



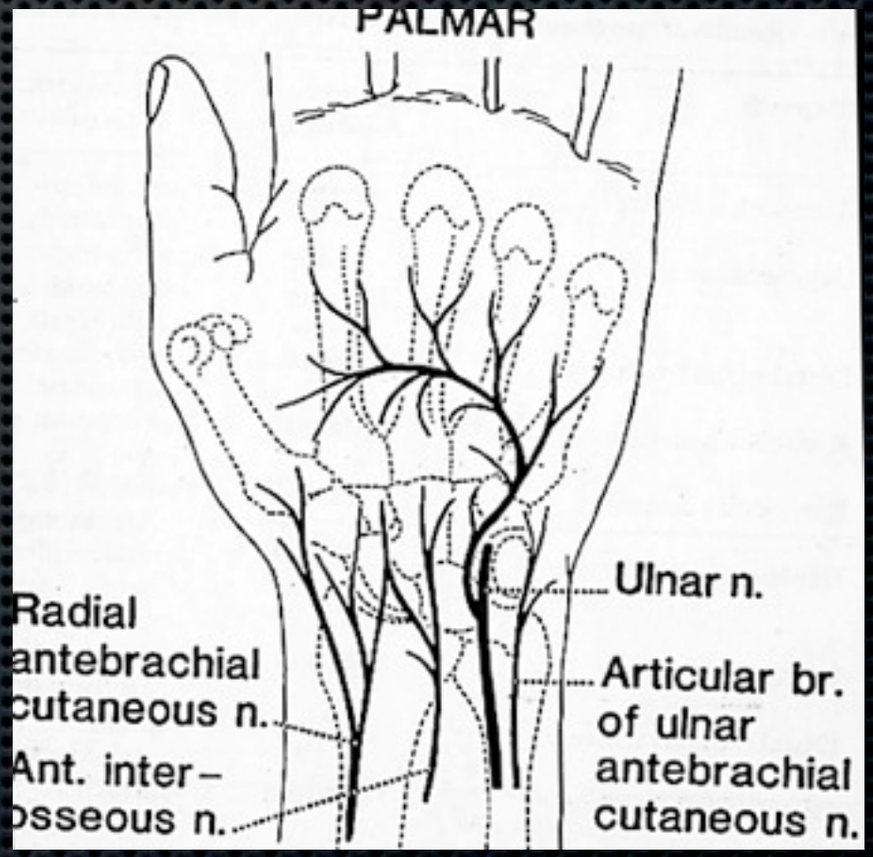


Le poignet



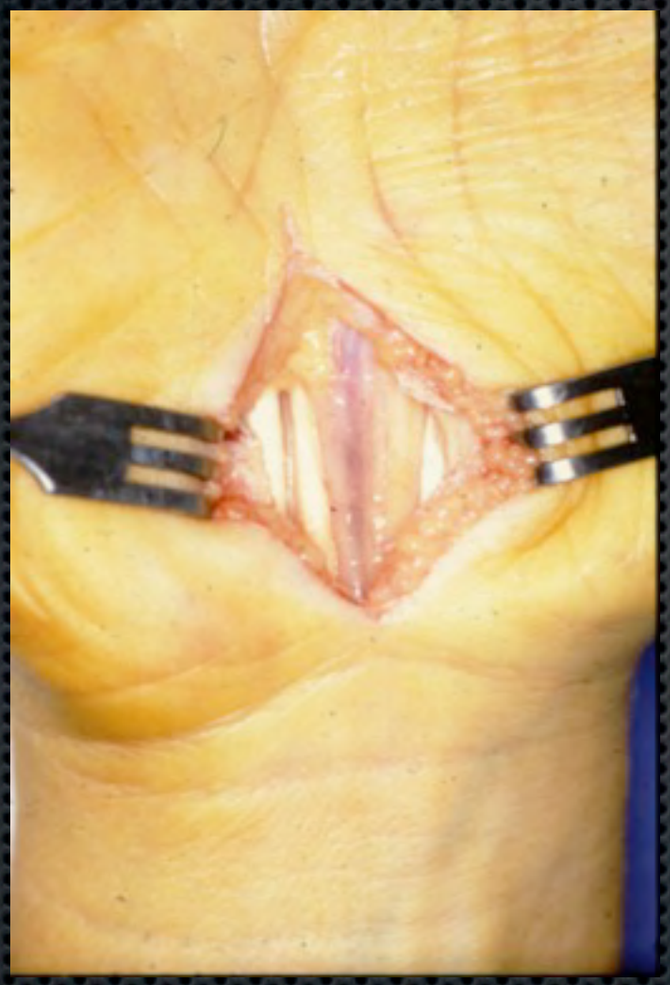
Abord palmaire proximal

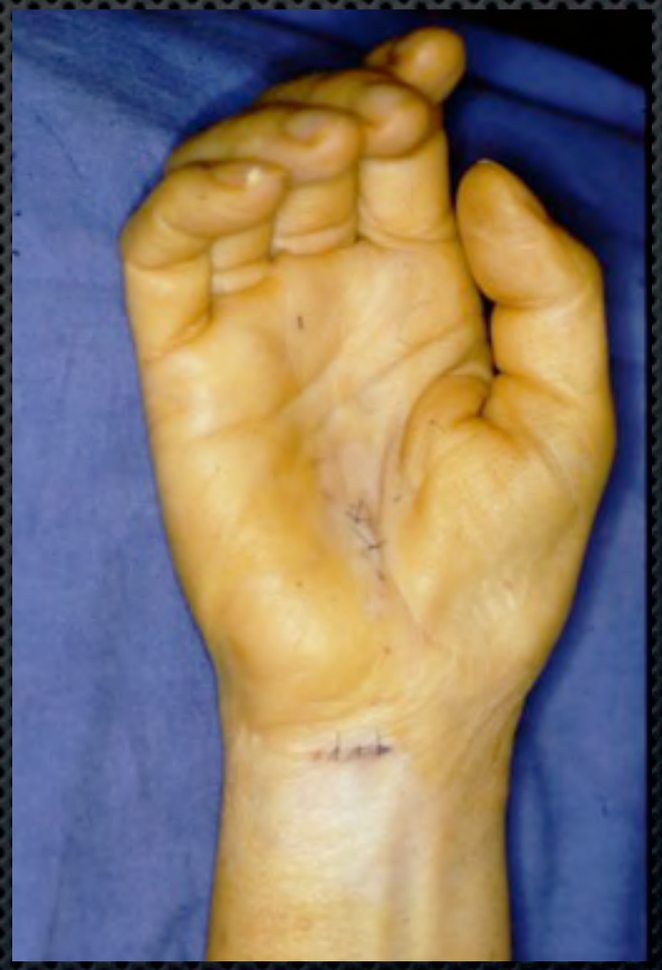
- Abord des fléchisseurs et du médian
- Abord du nerf ulnaire au canal de Guyon
- Abord du scaphoïde (carpe)

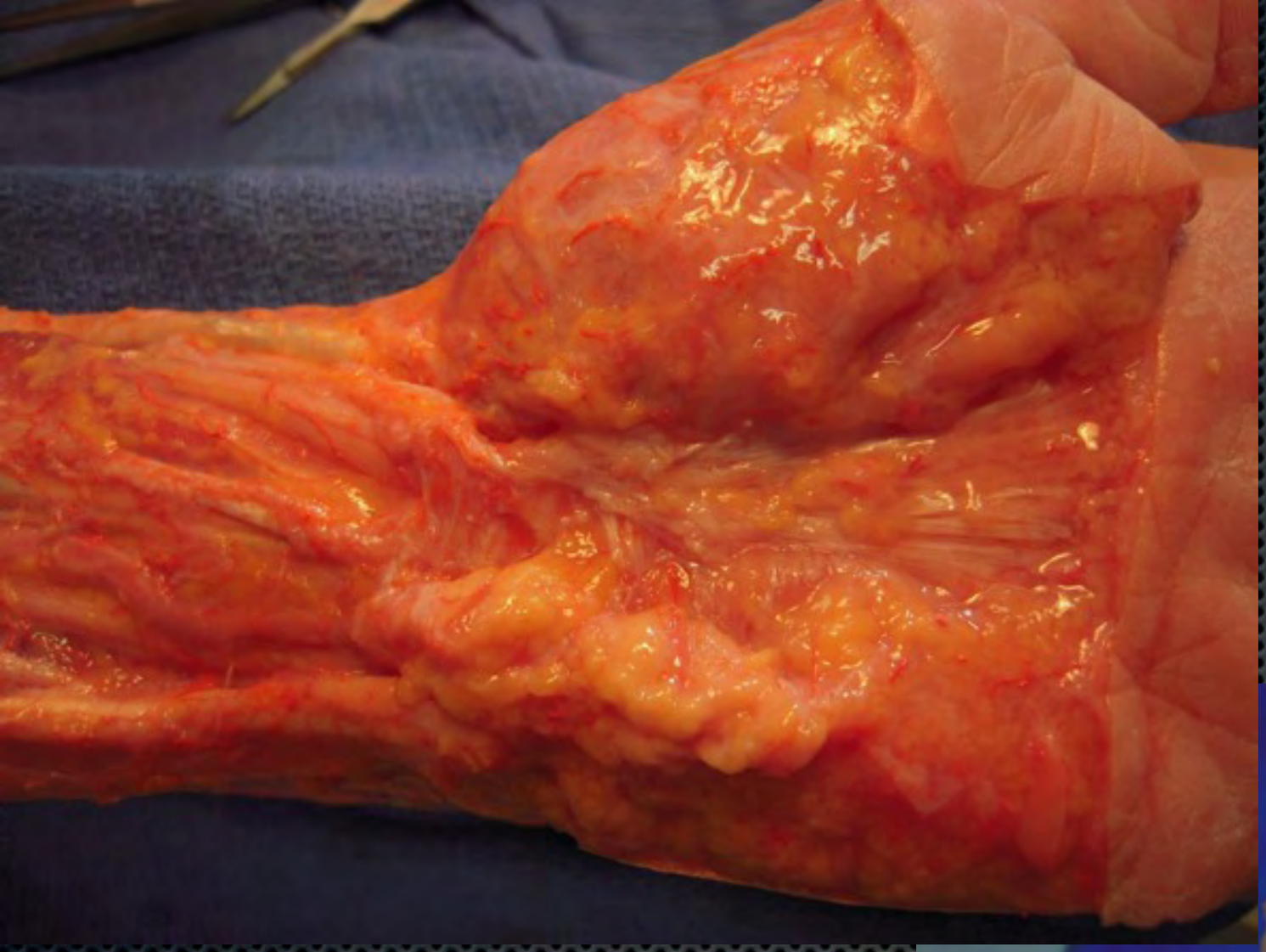


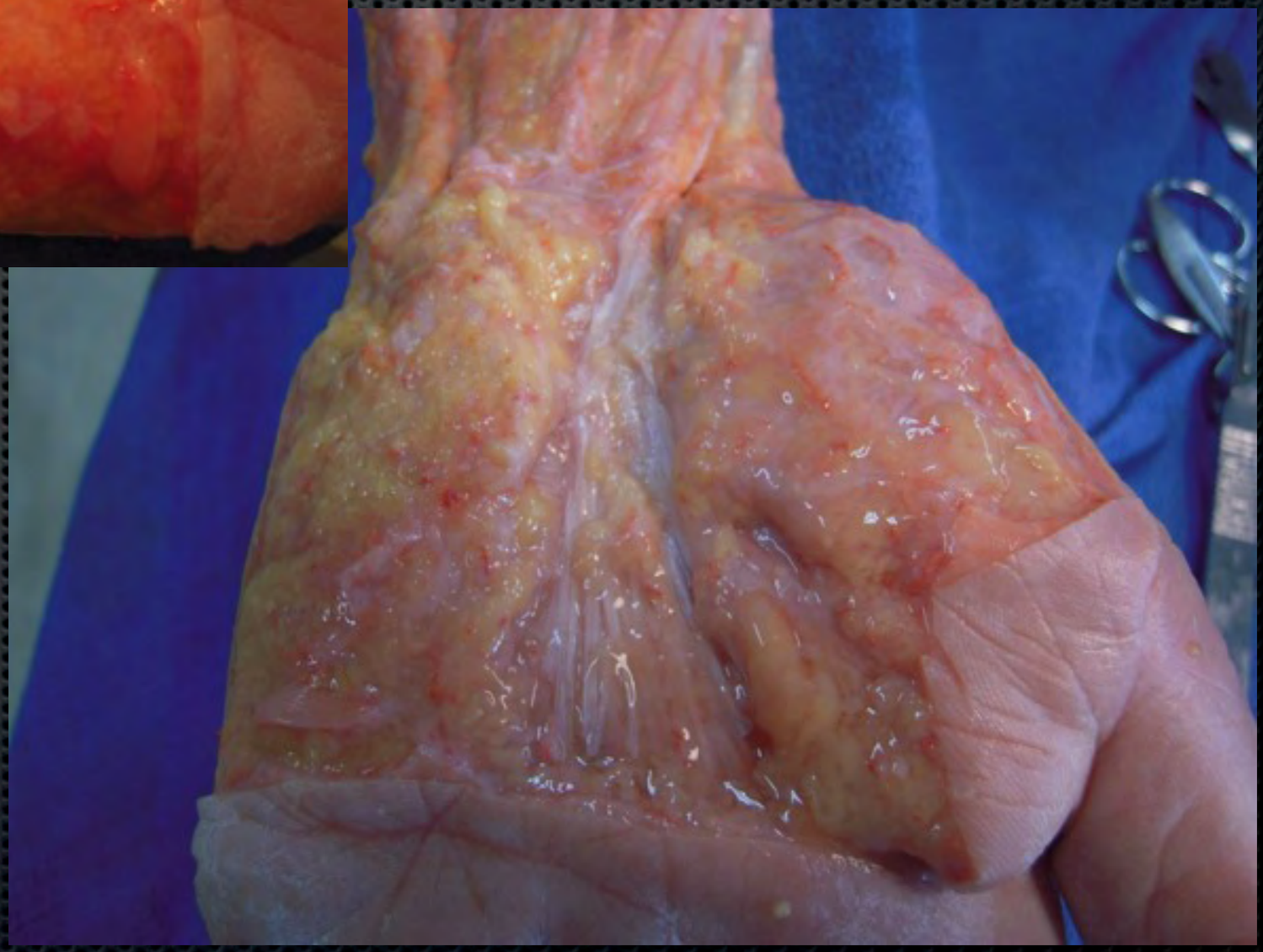
Dangers: les rameaux sensitifs sous-cutanés

Abord palmaire proximal

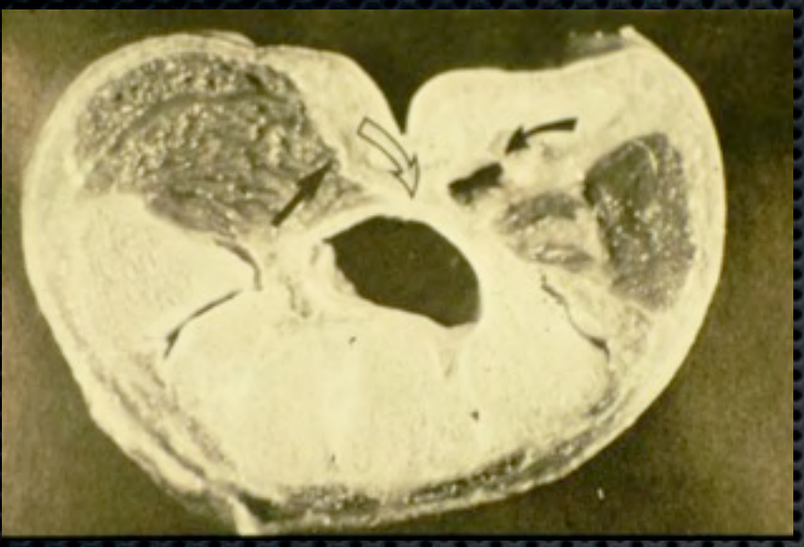


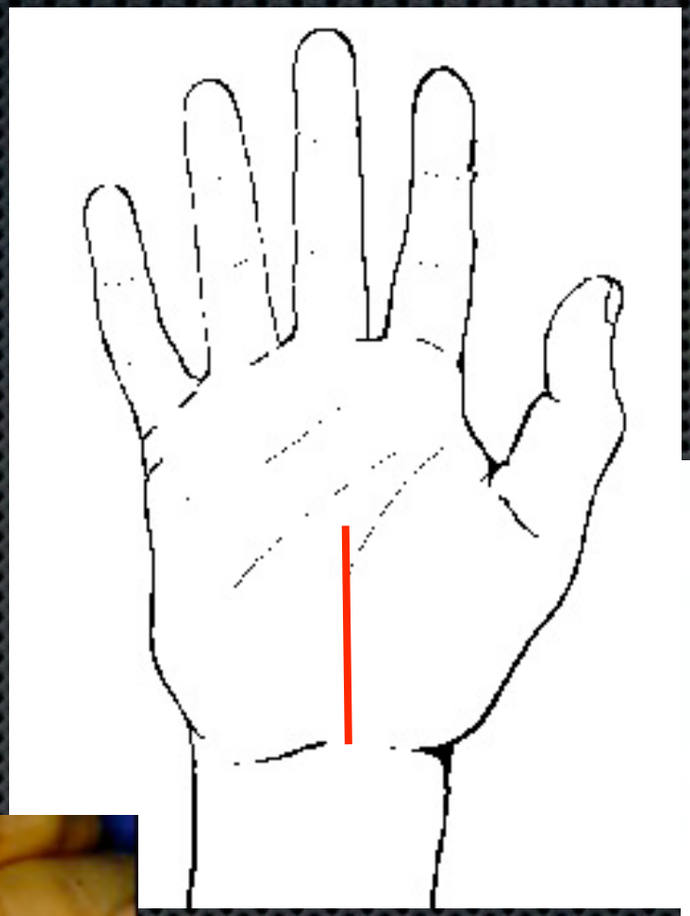


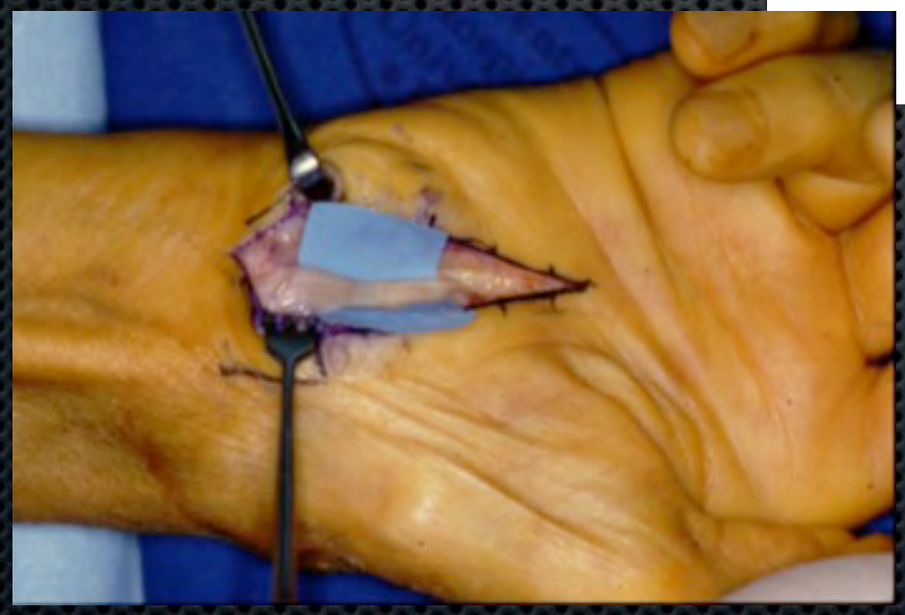


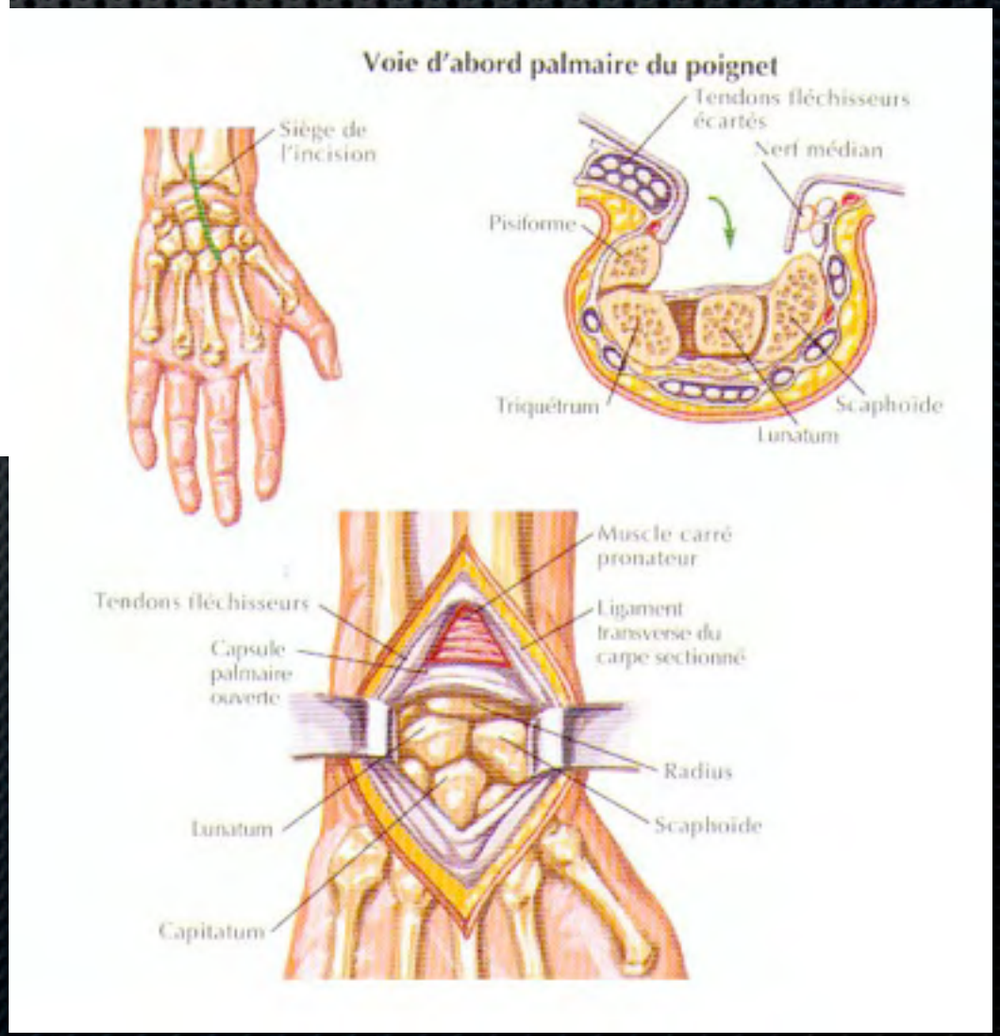


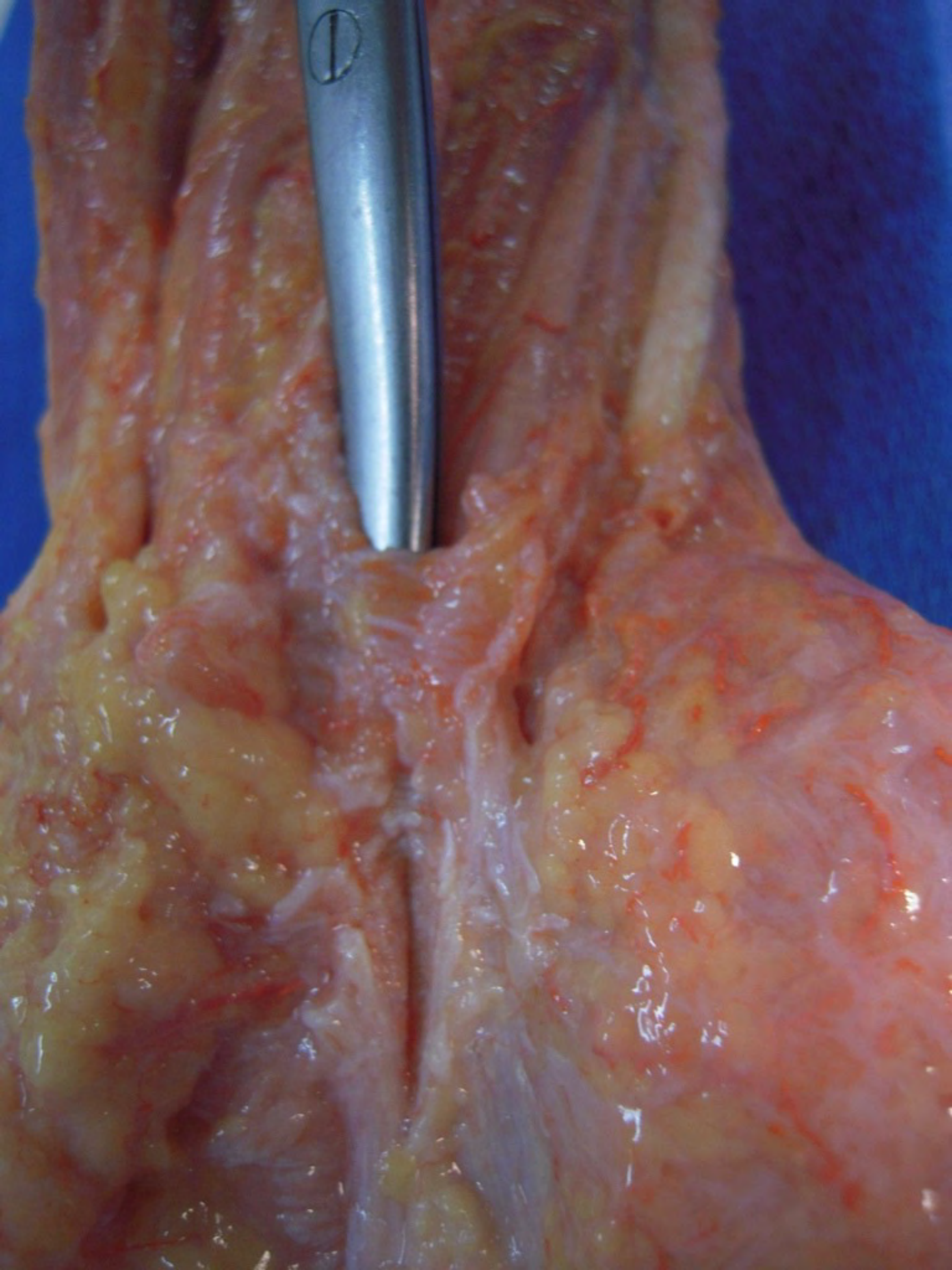
Abord palmaire proximal

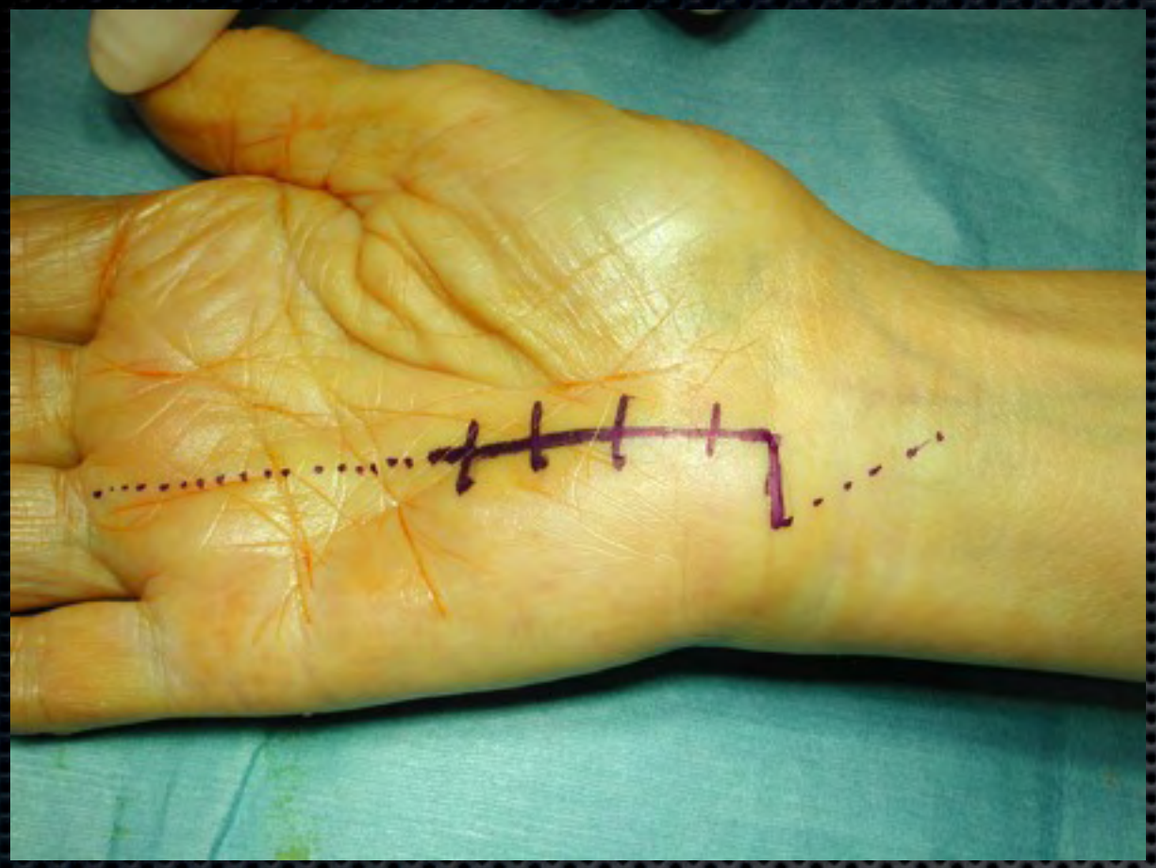


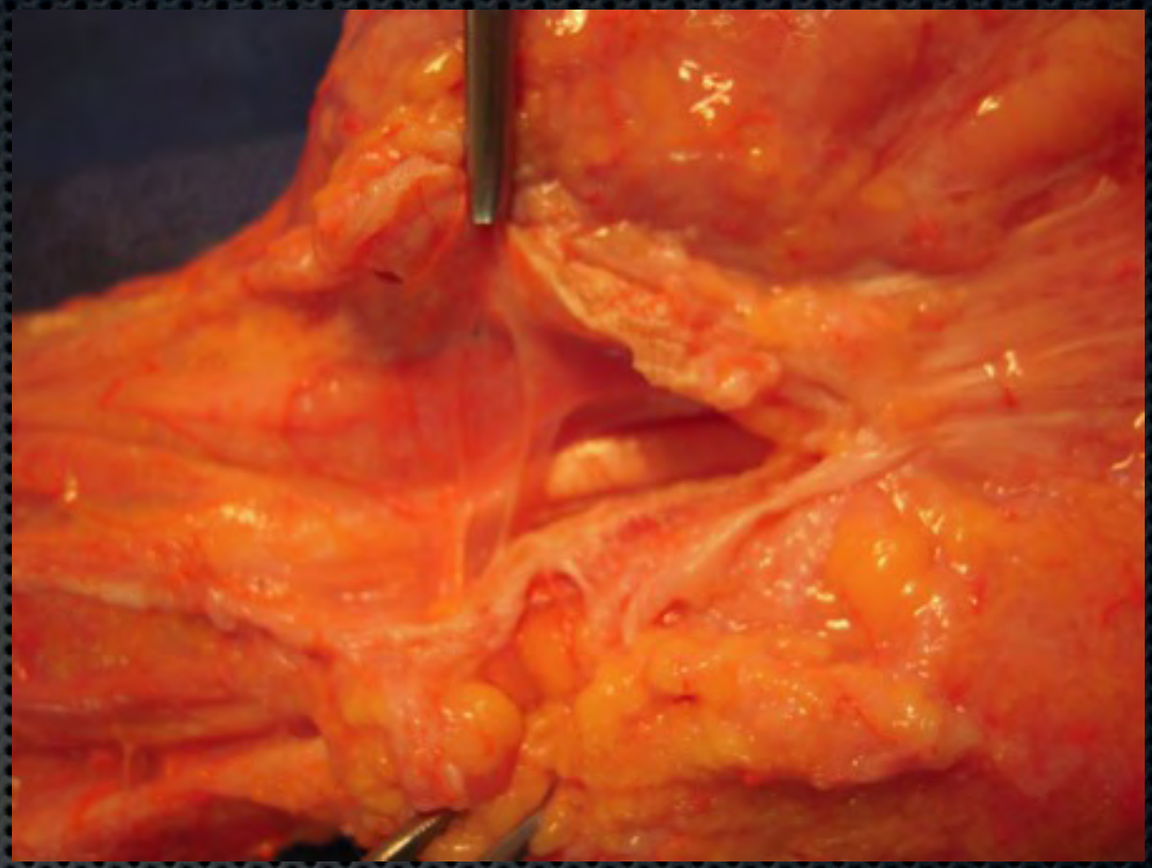


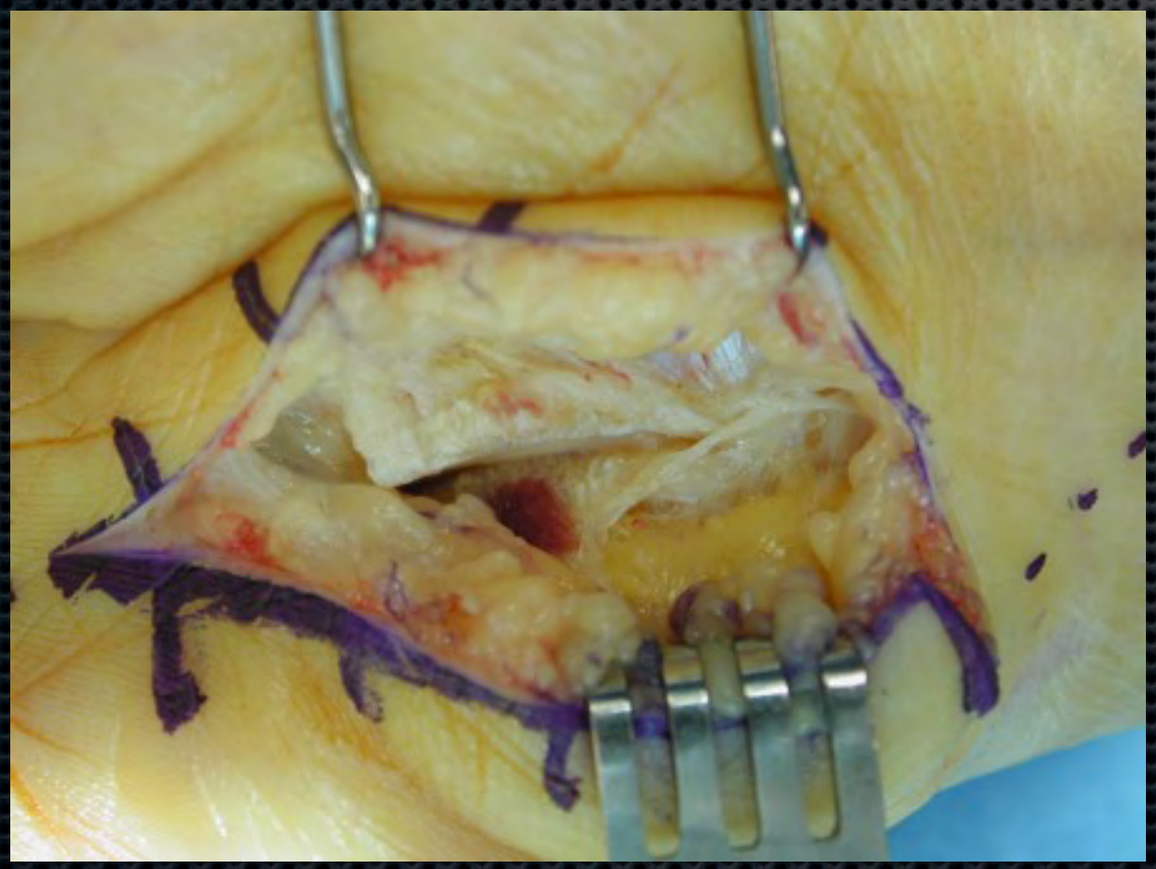


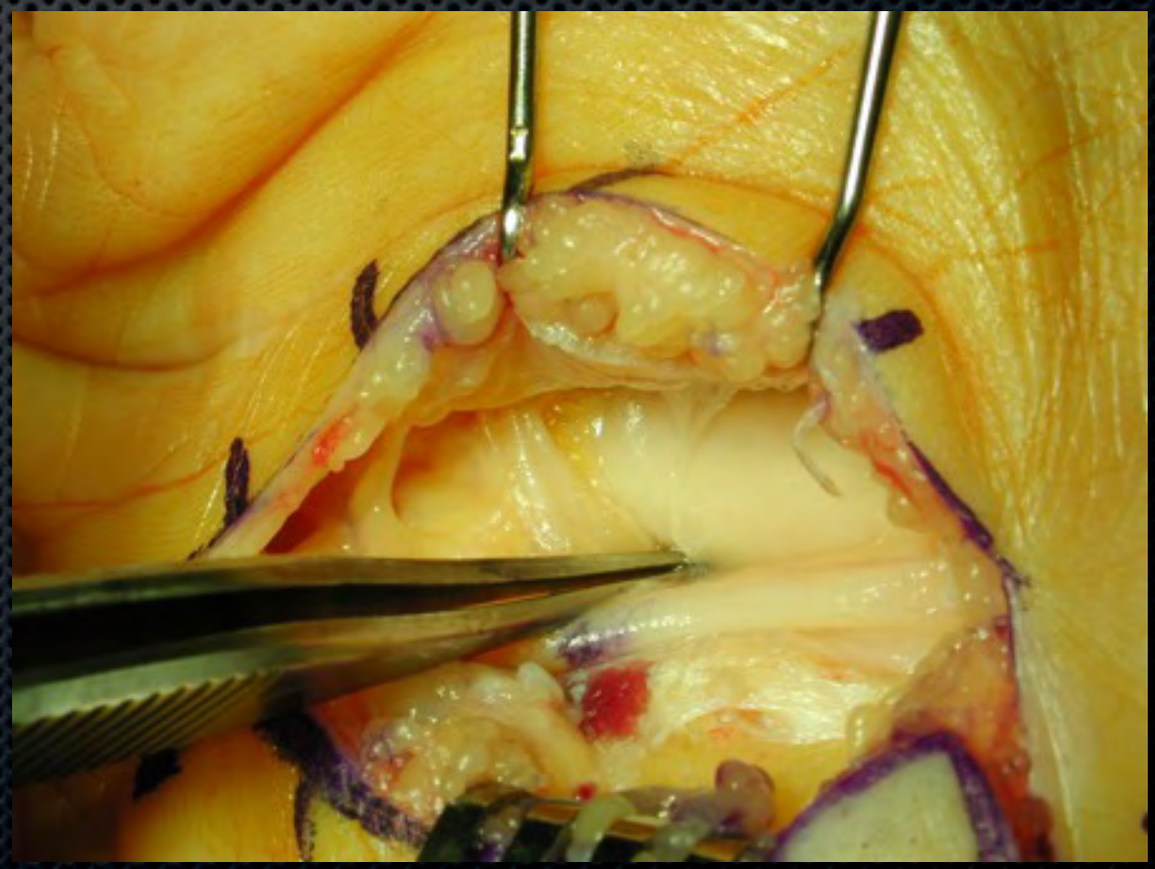


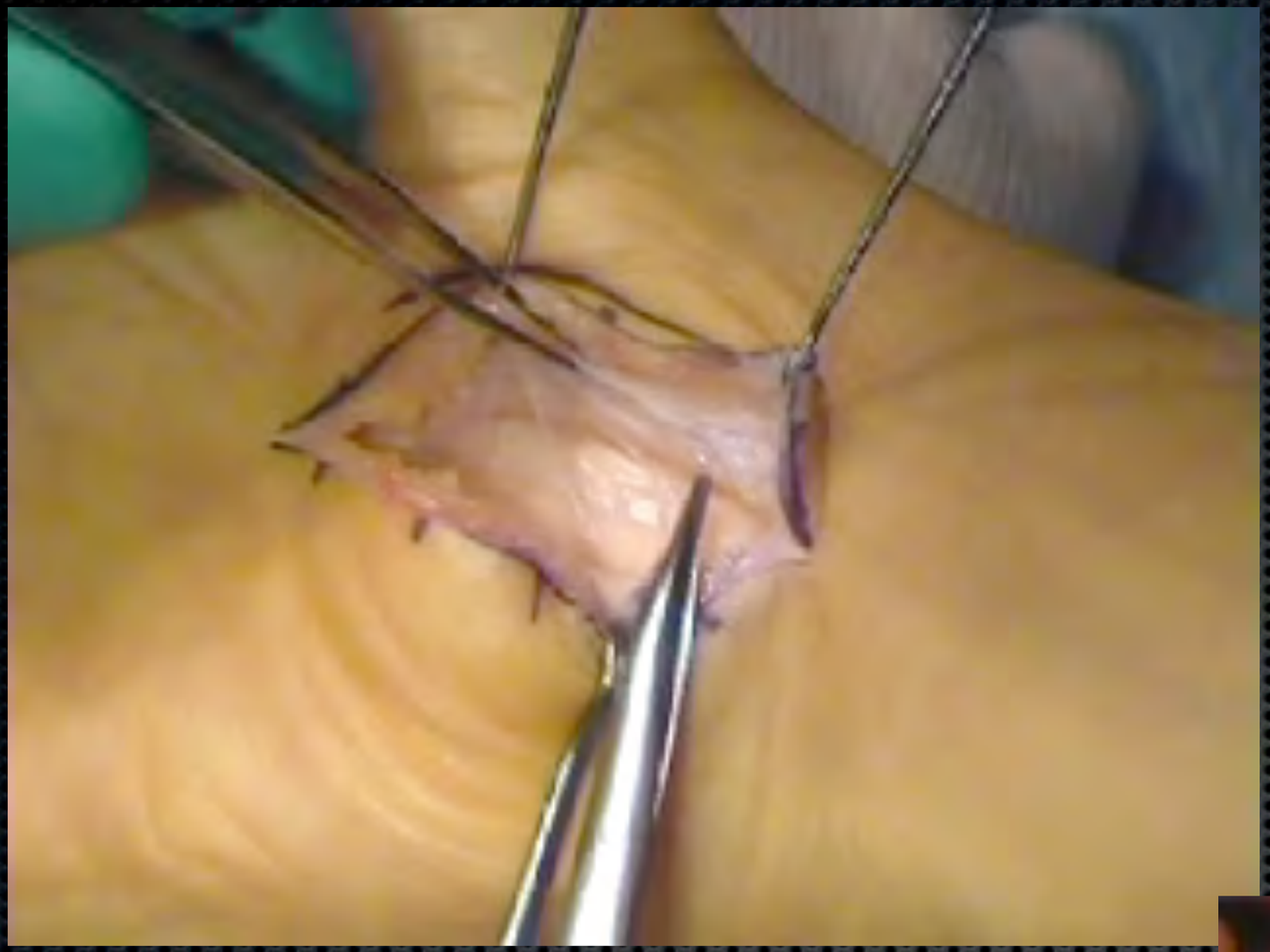


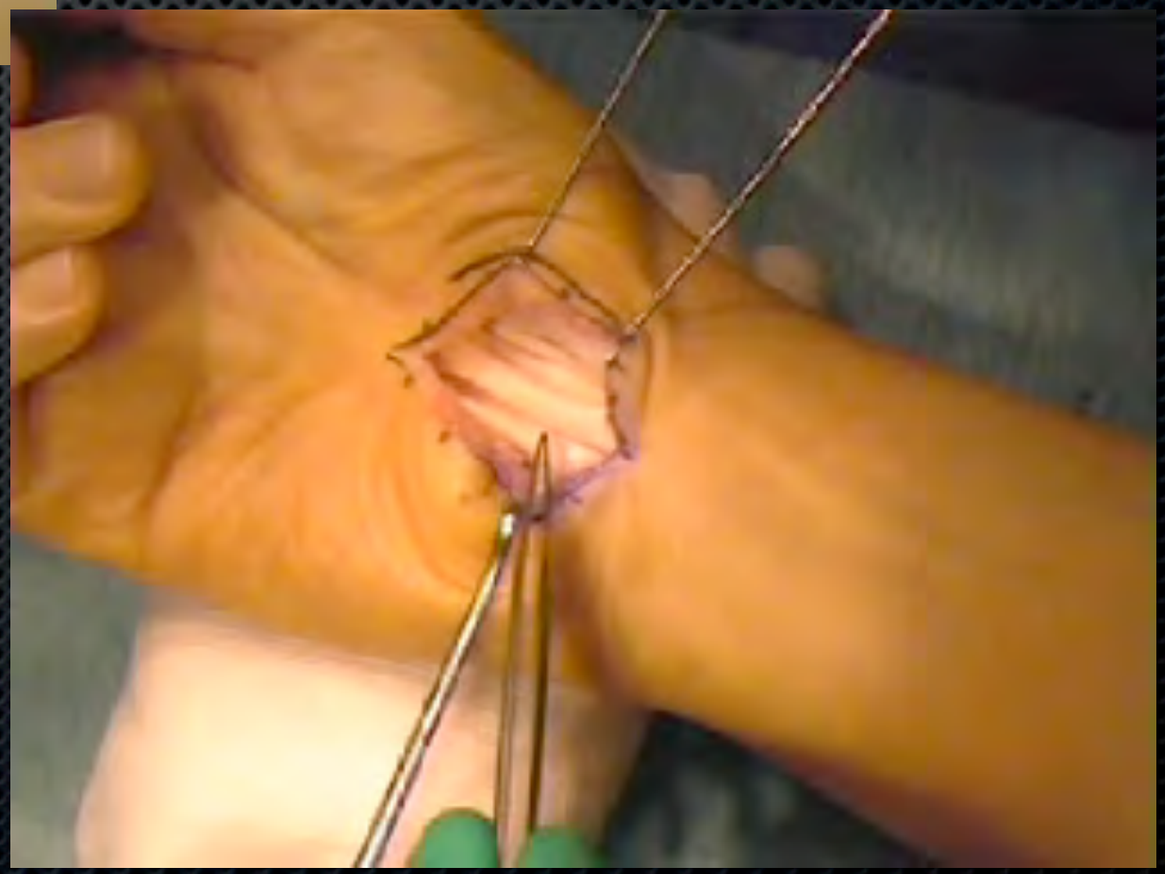


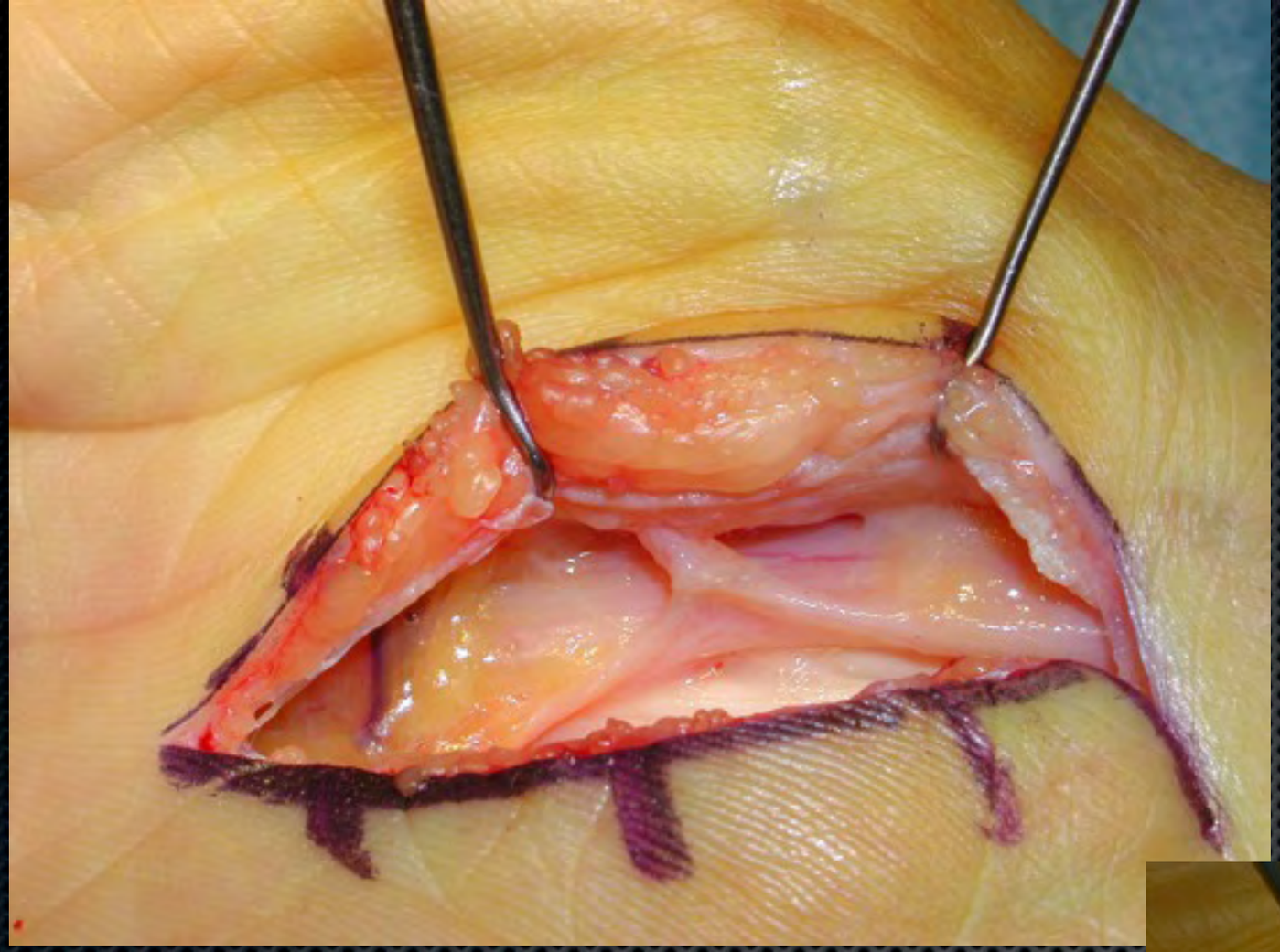


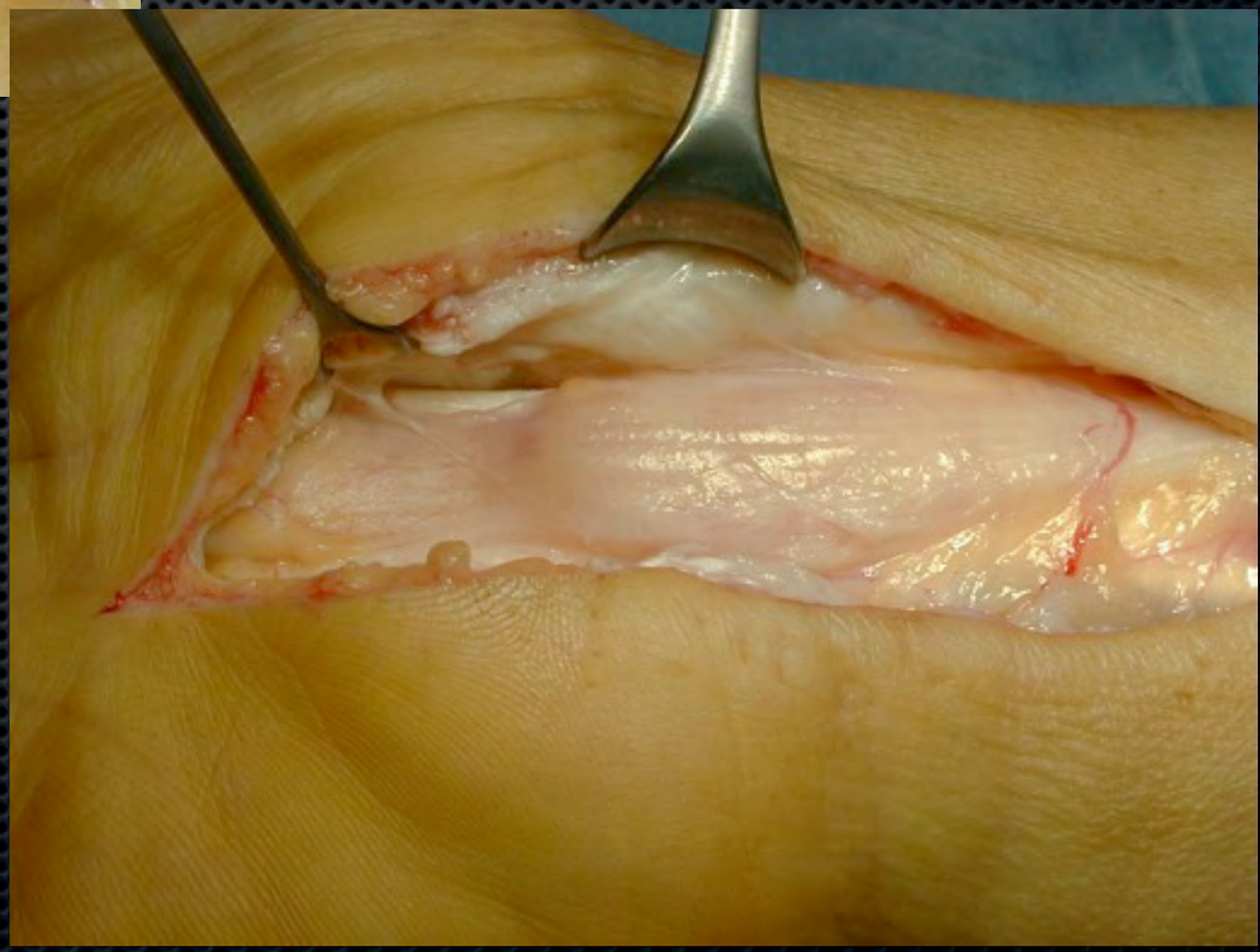


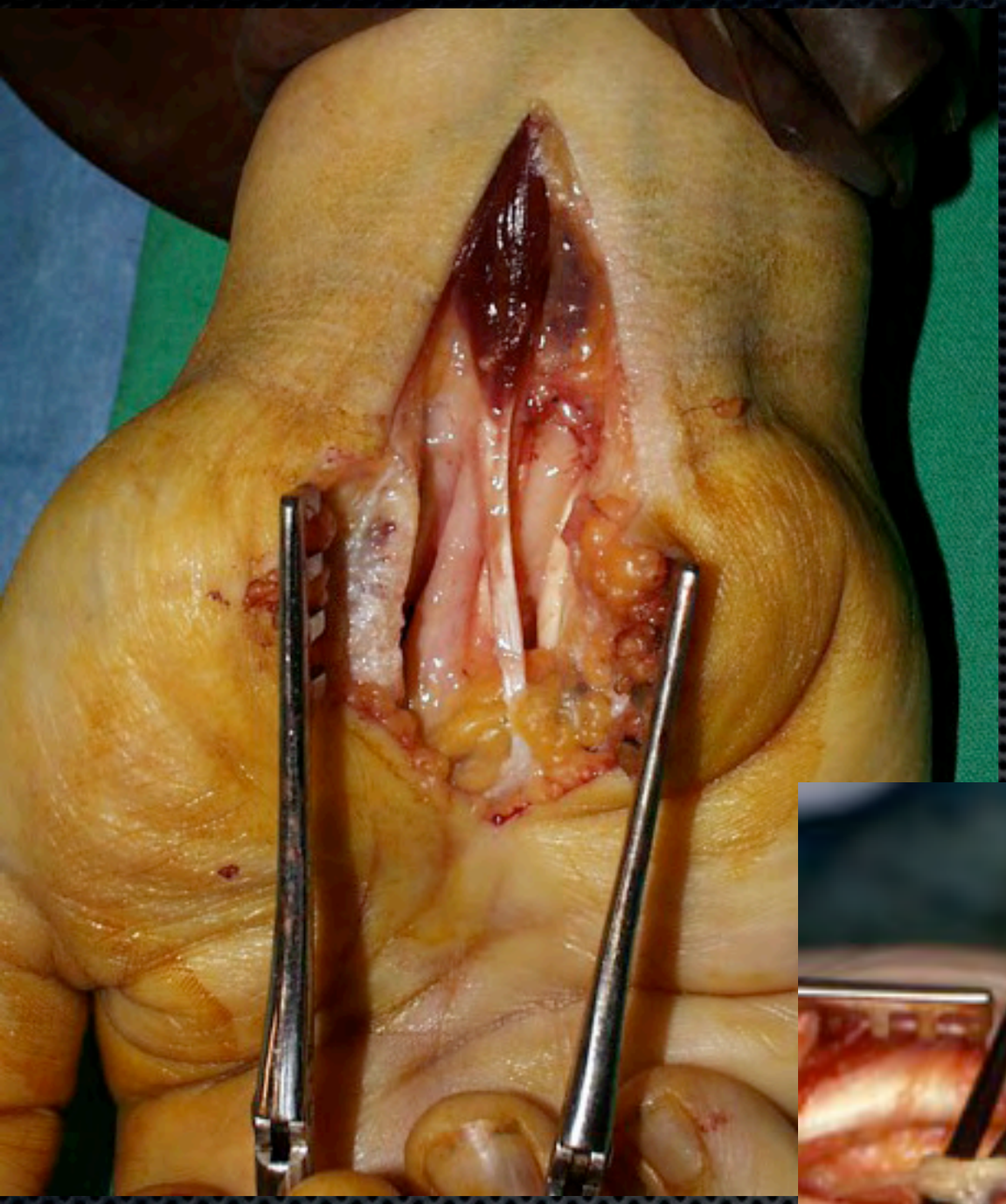


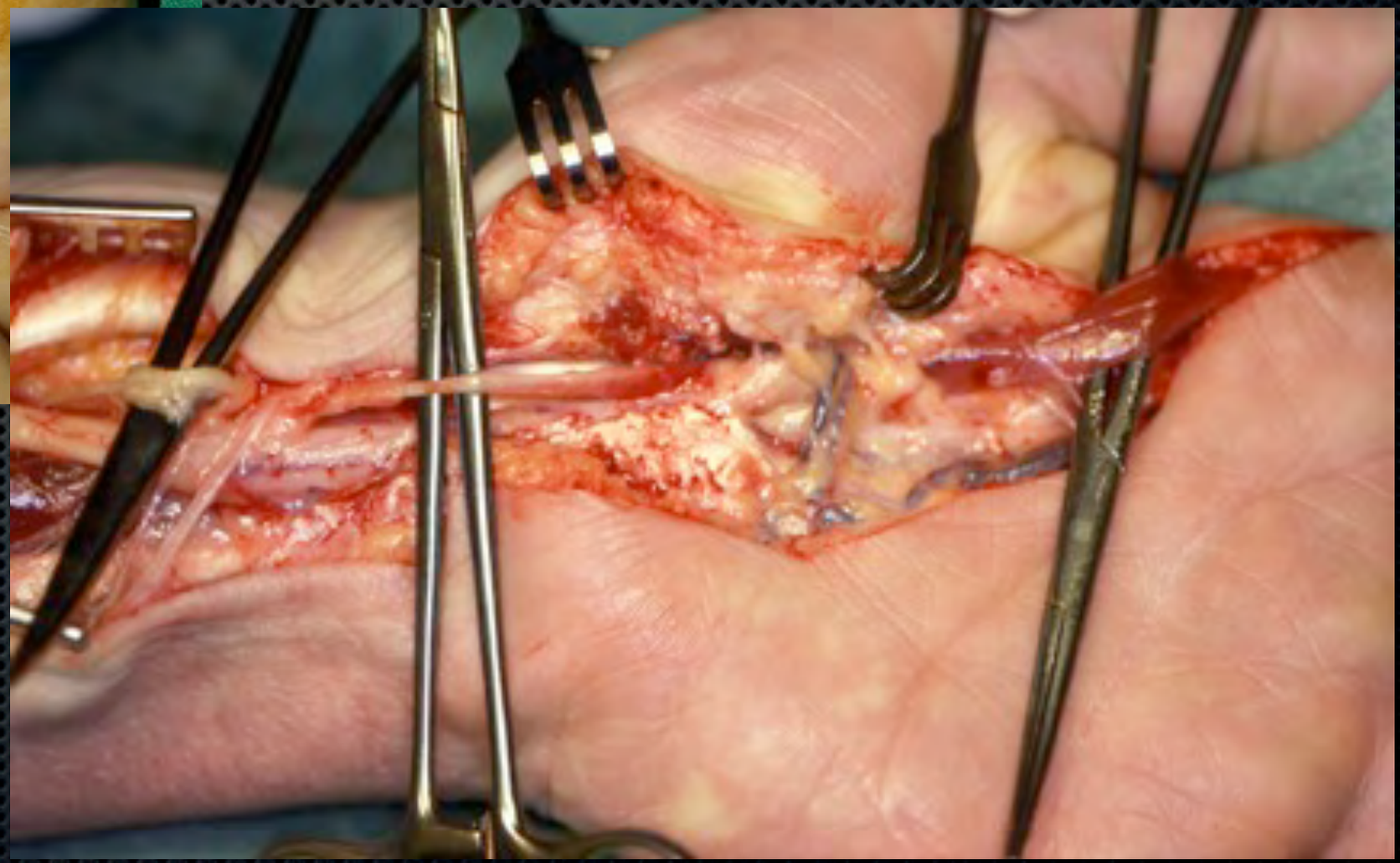






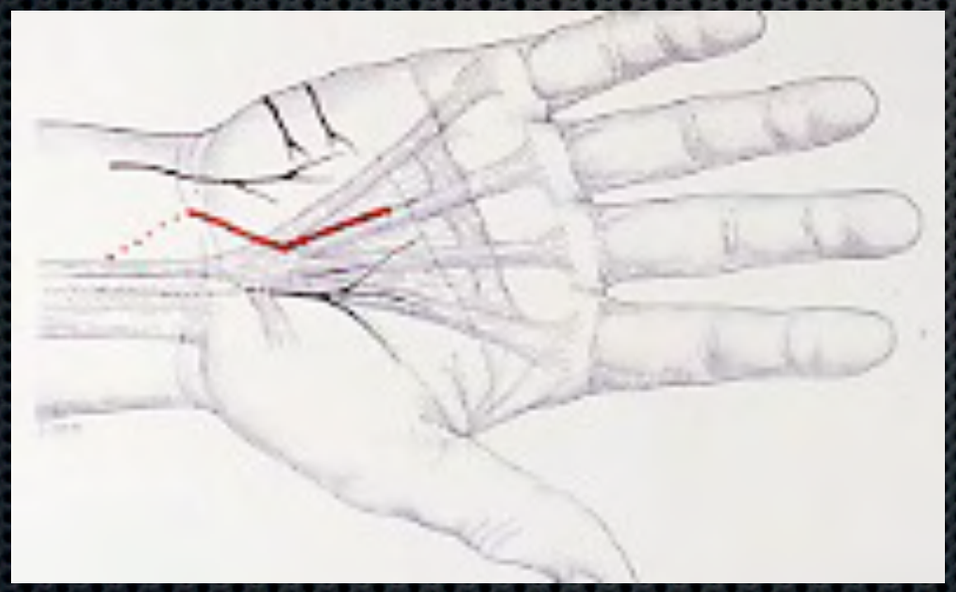


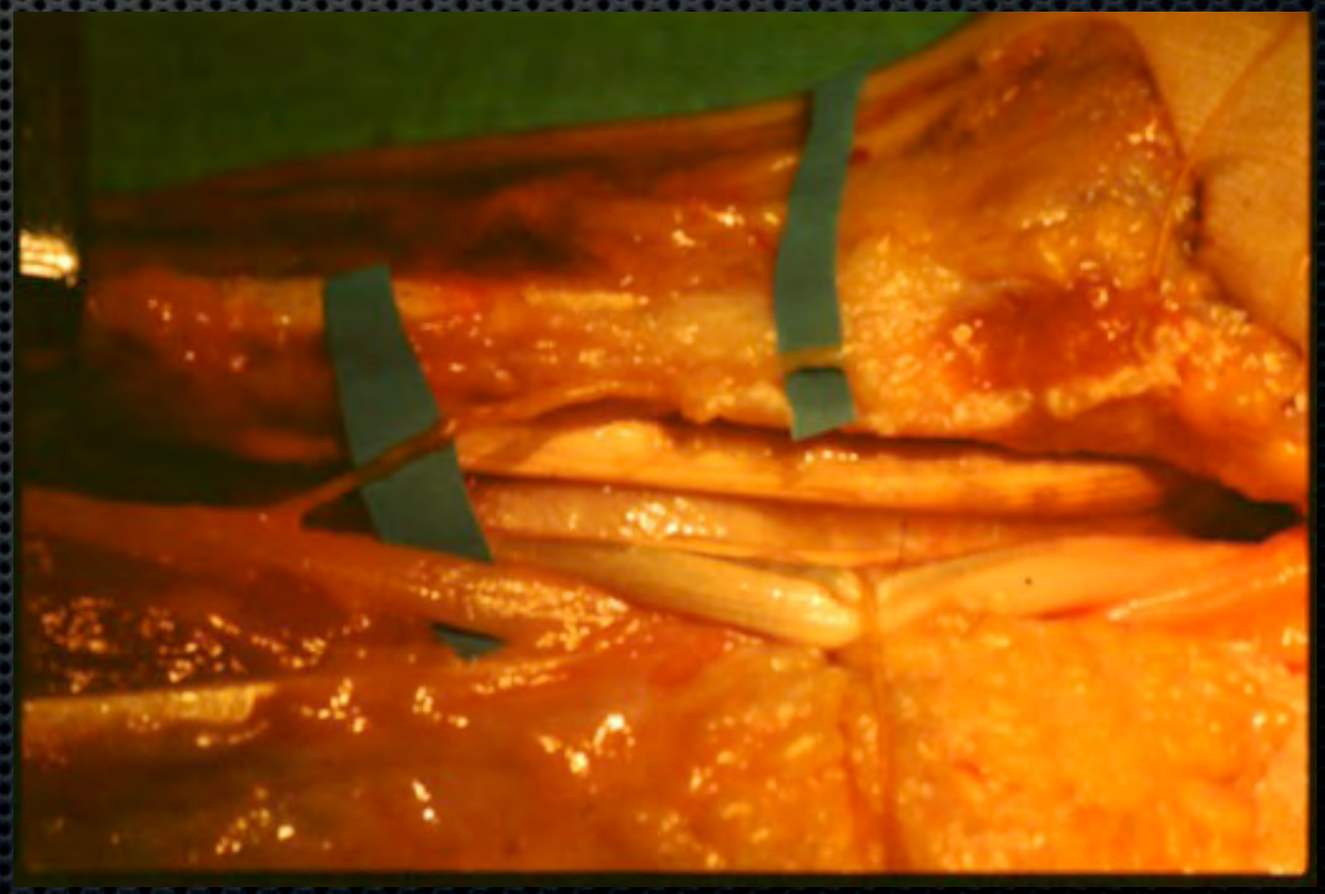


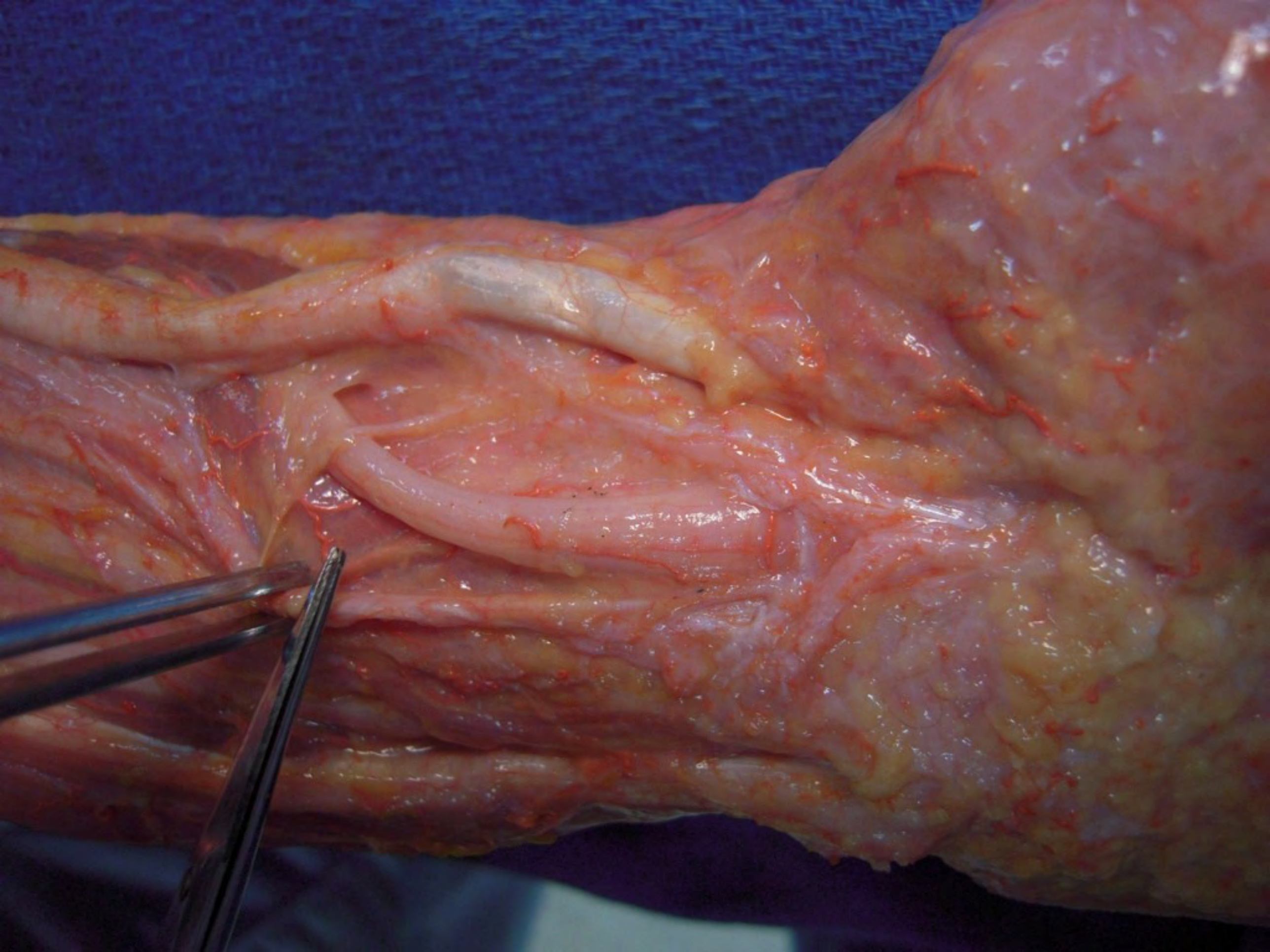


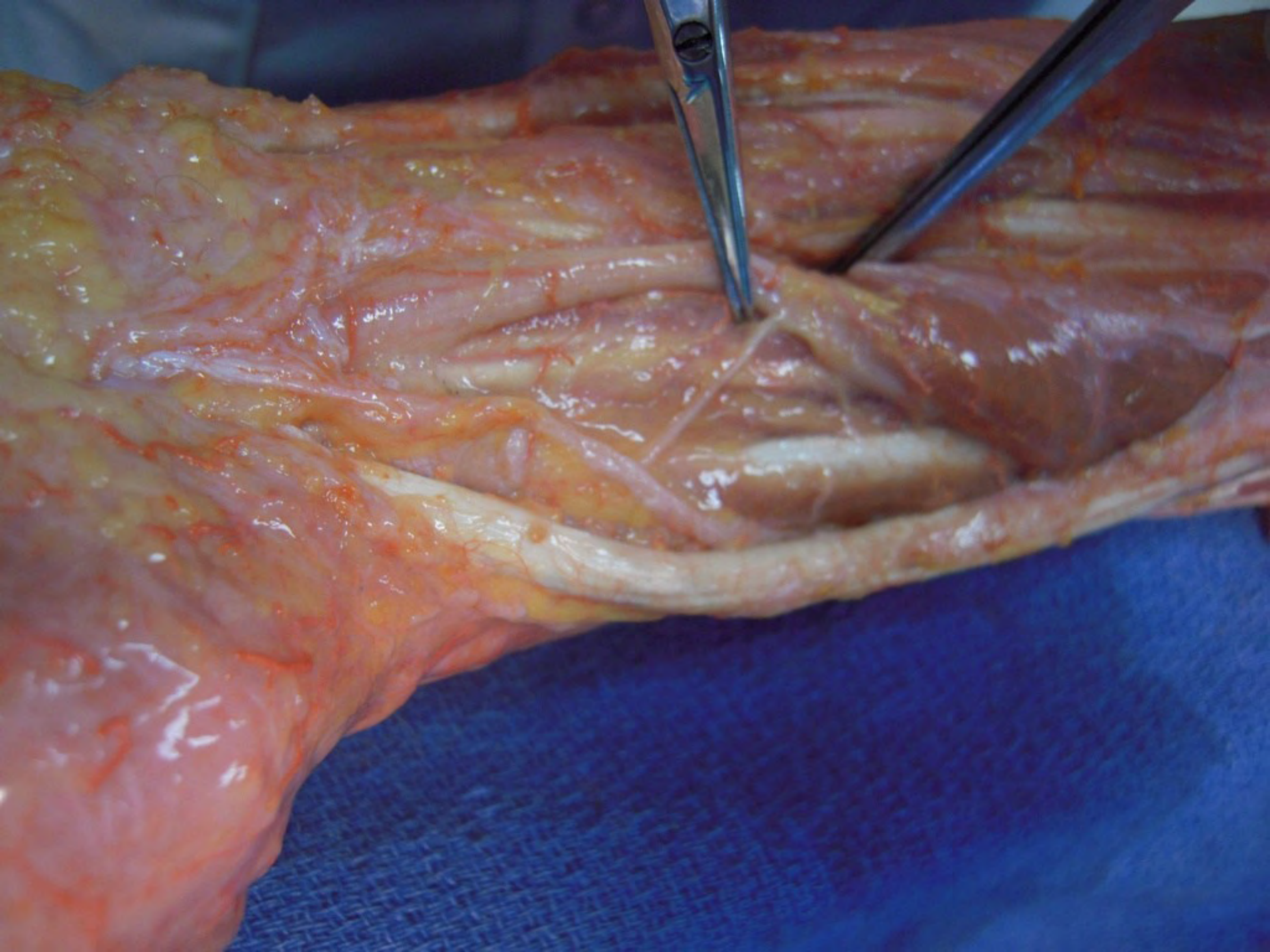
Abord palmaire proximal

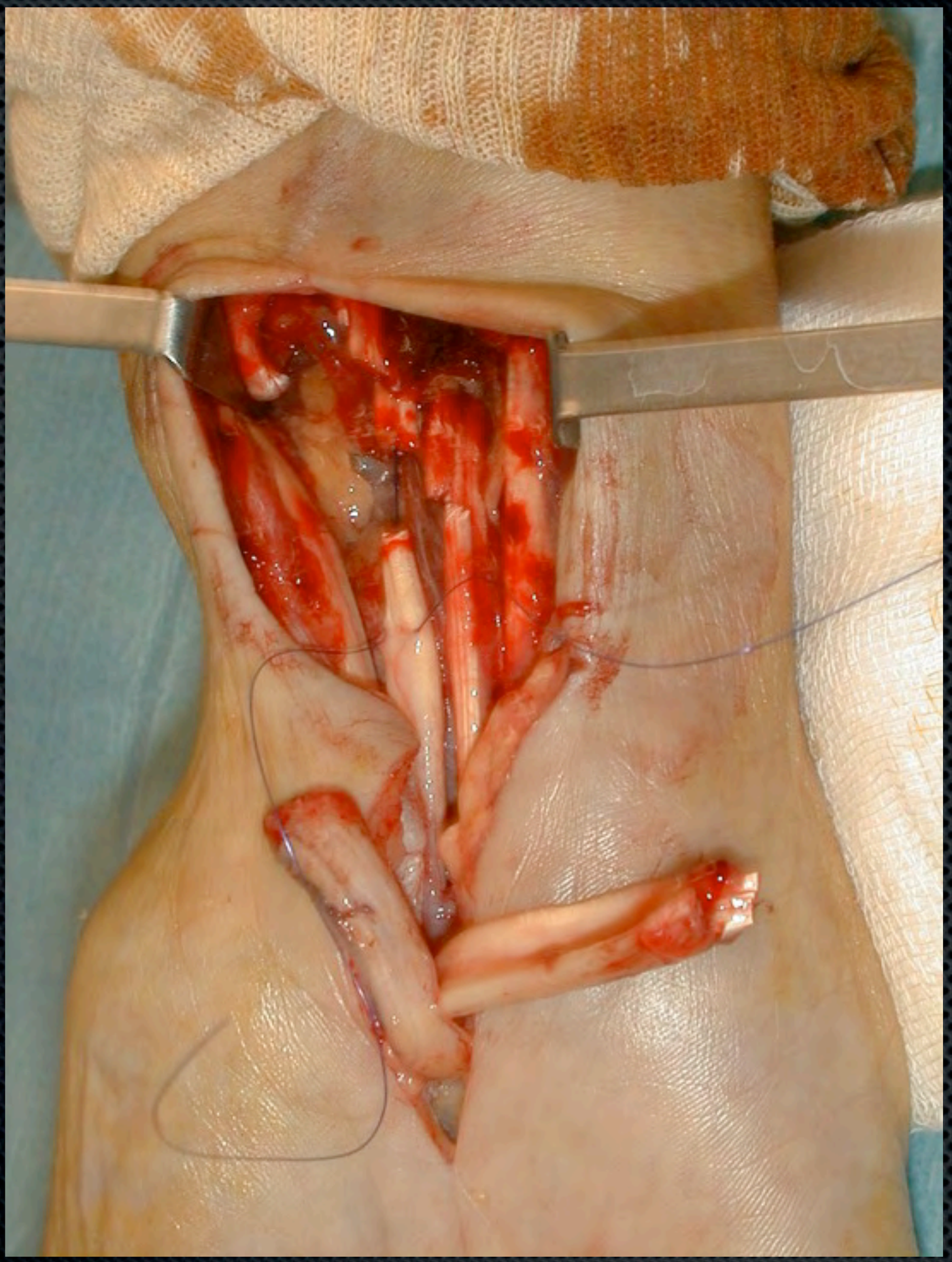
- Attention au rameau cutané palmaire du nerf médian

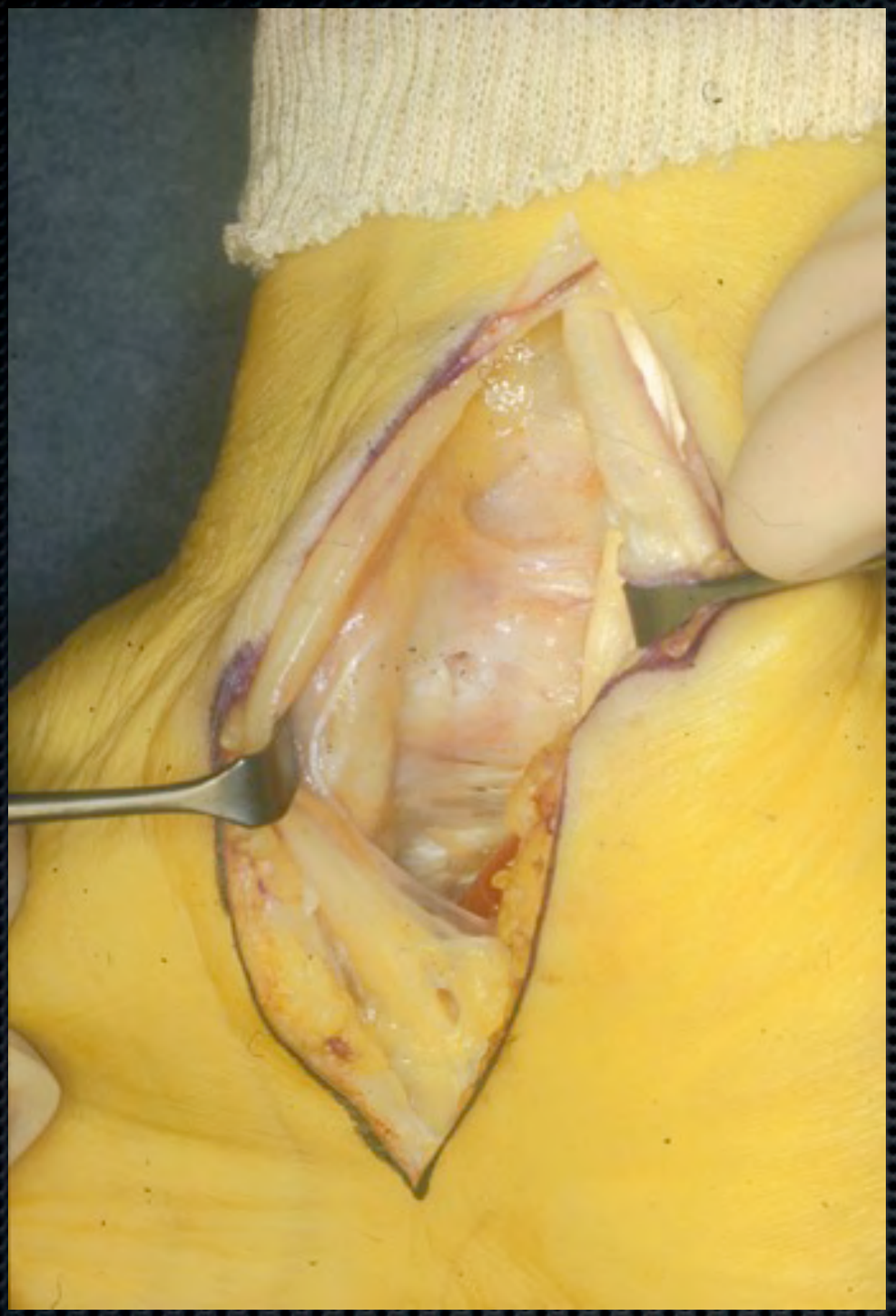


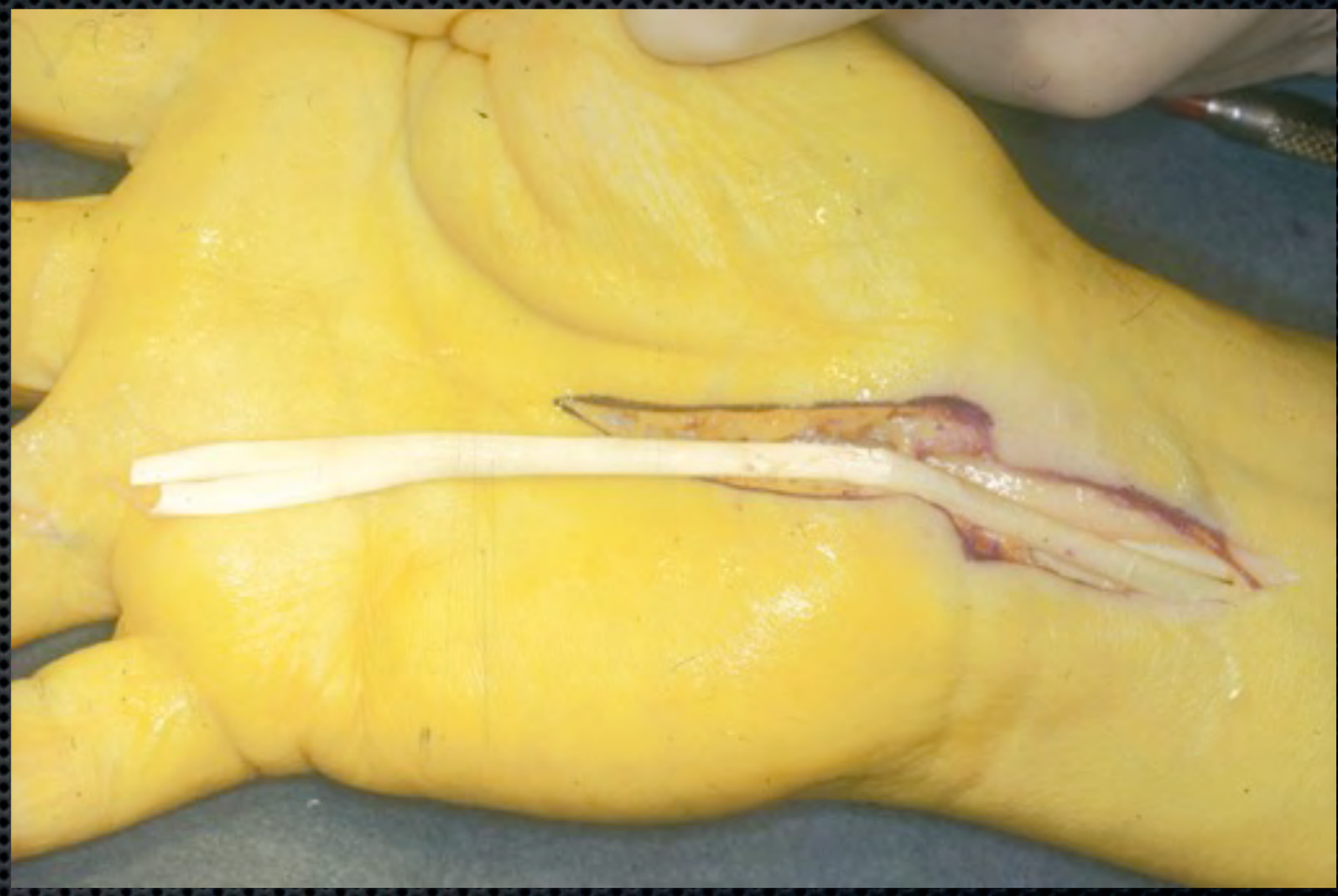




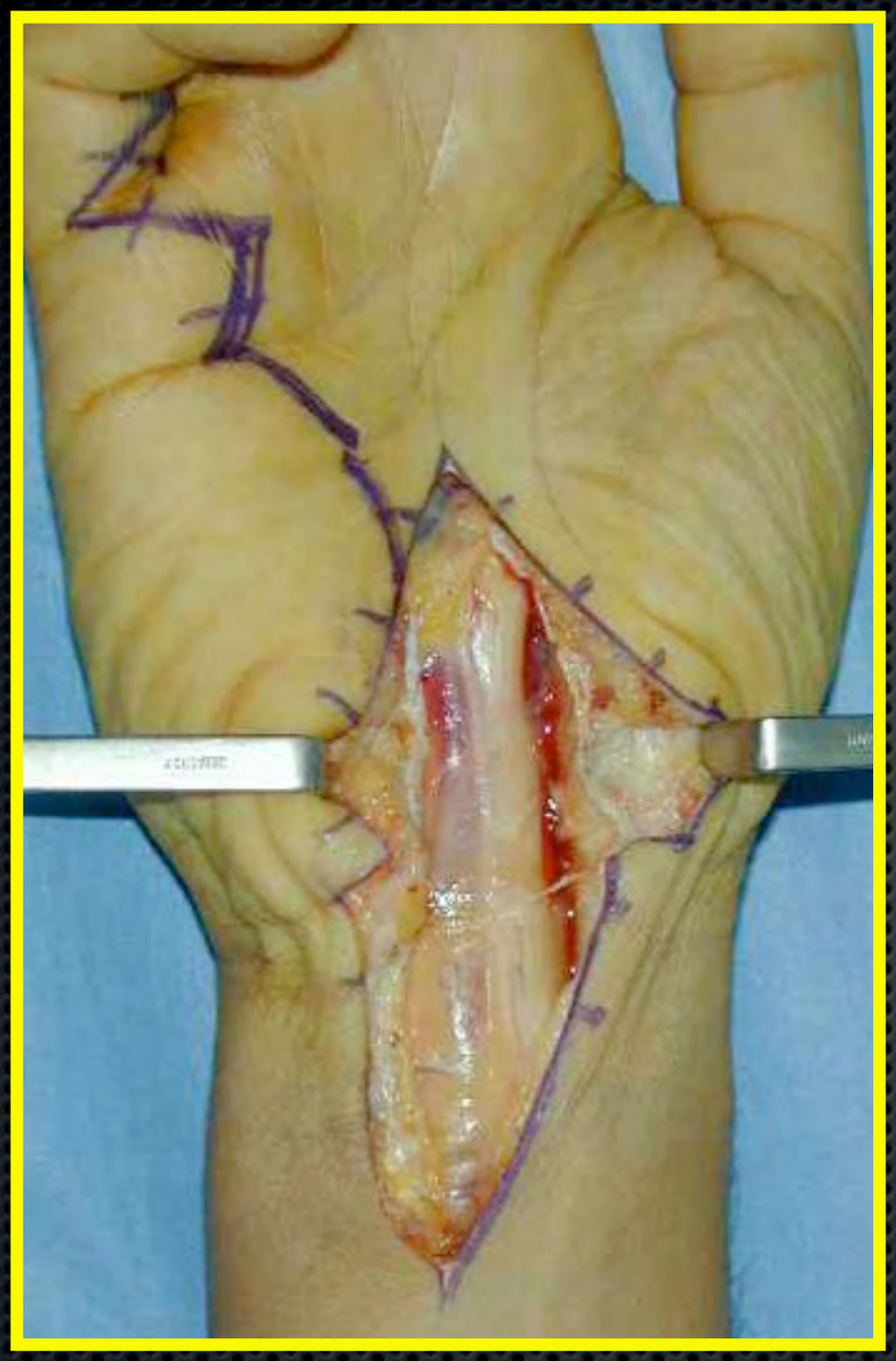


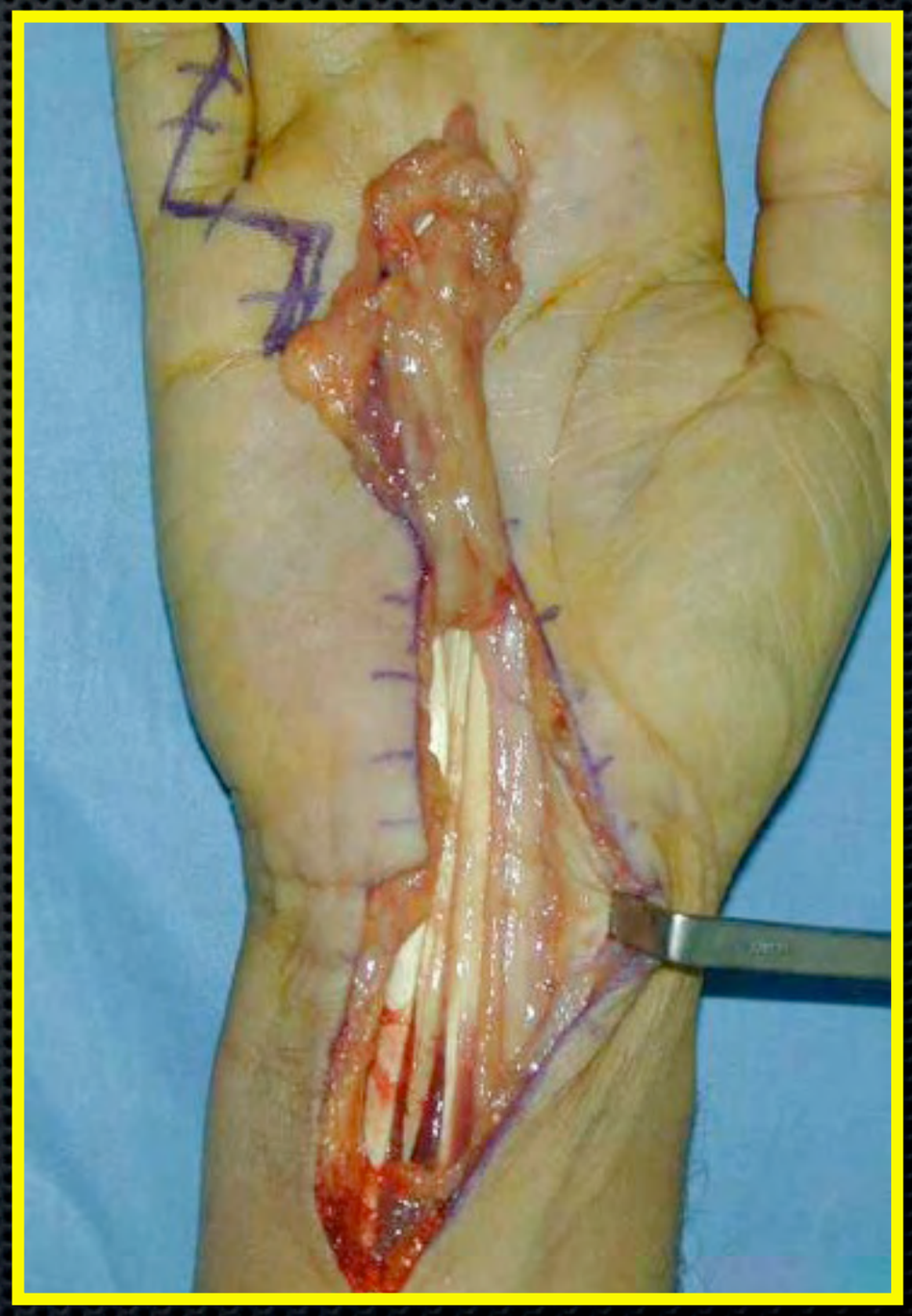






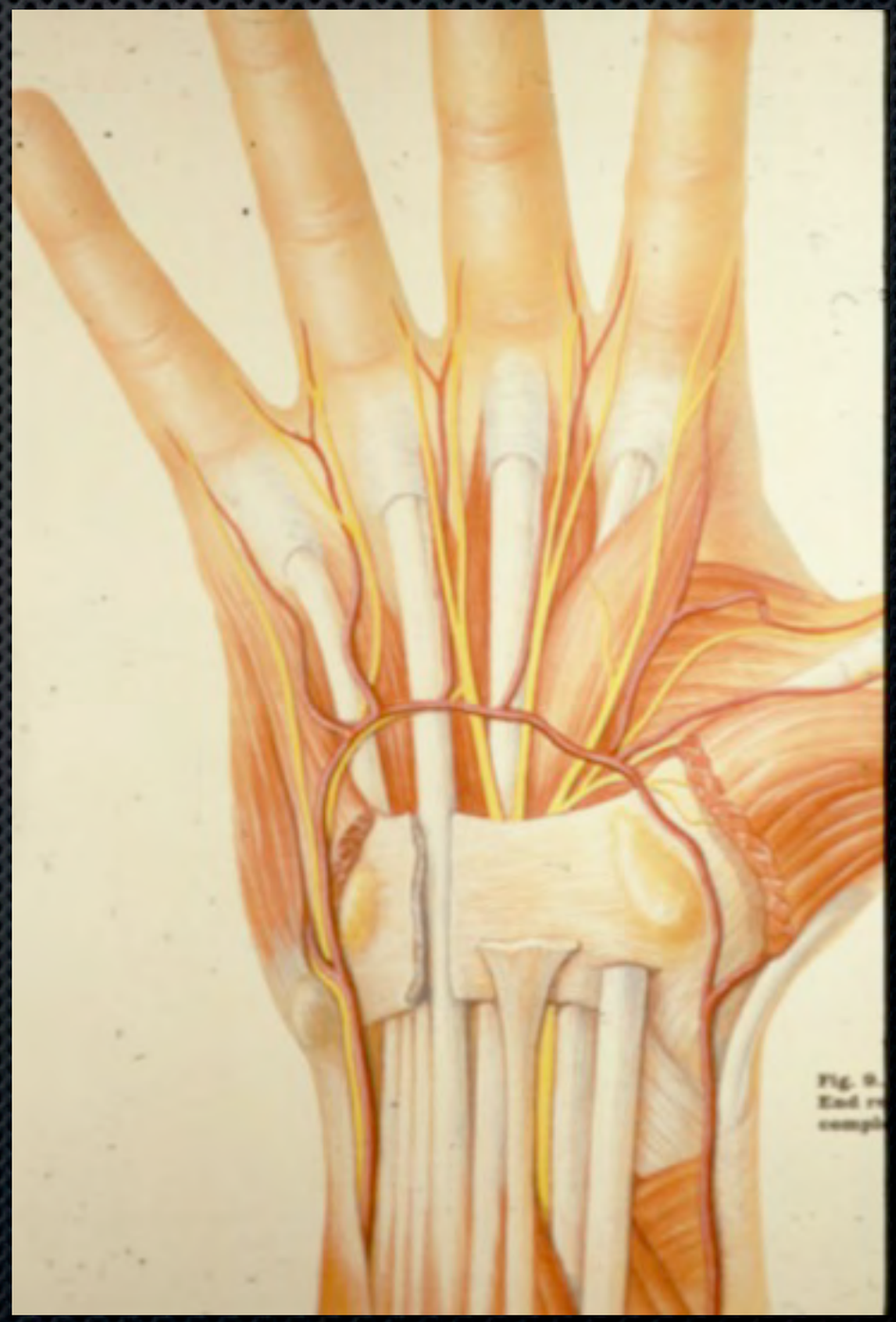
Agrandissement à la paume et au doigt

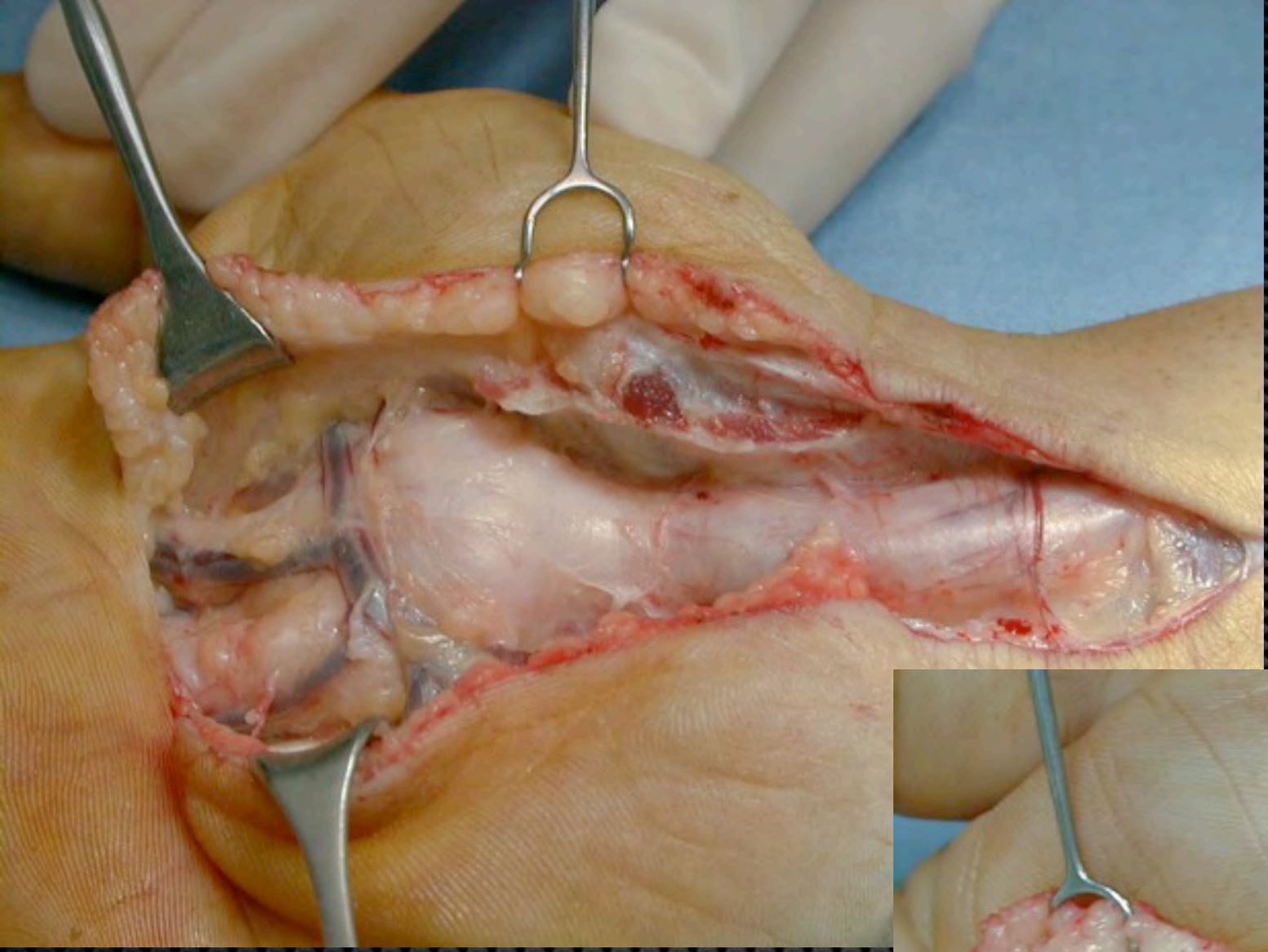


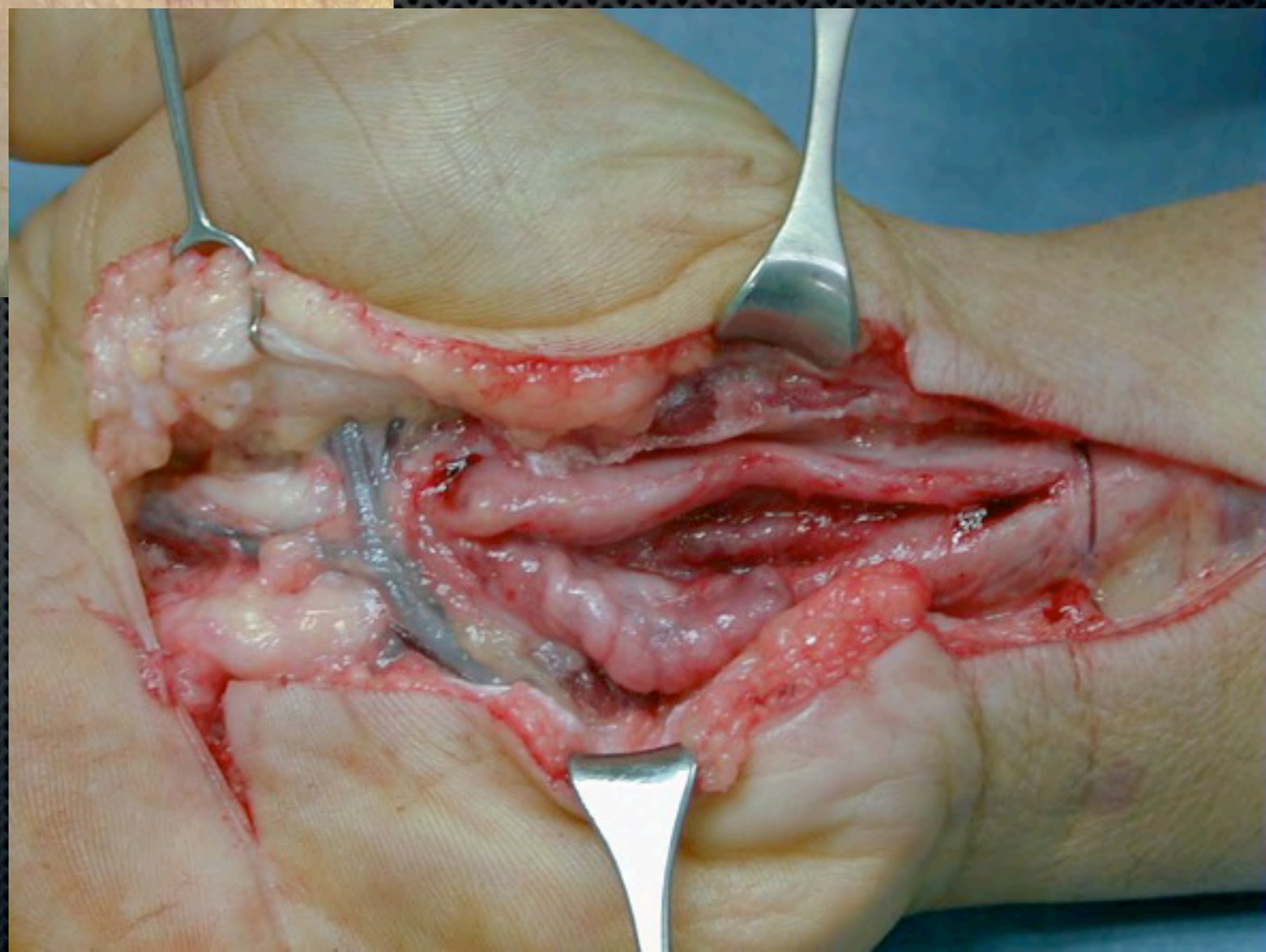


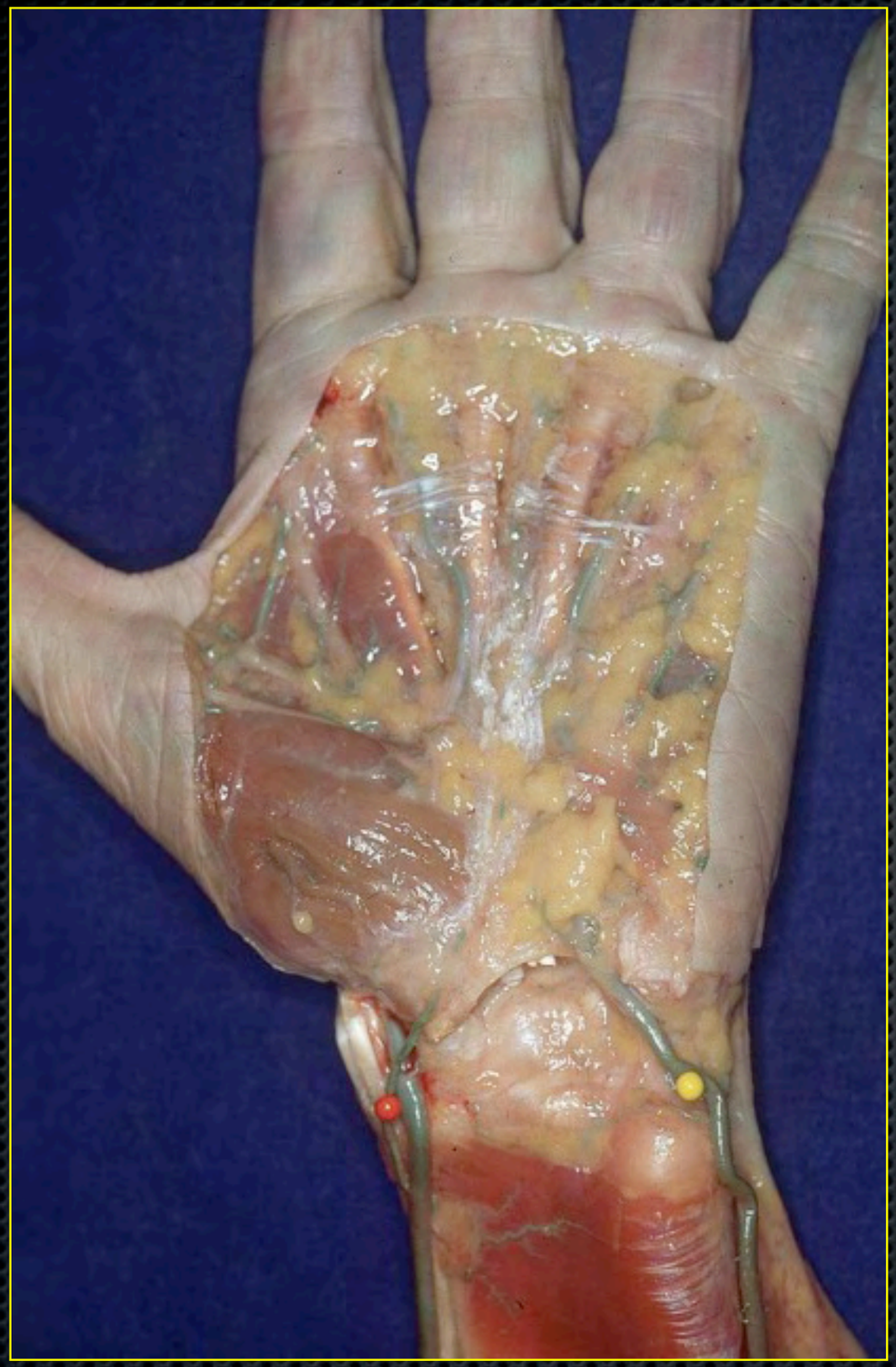
Danger

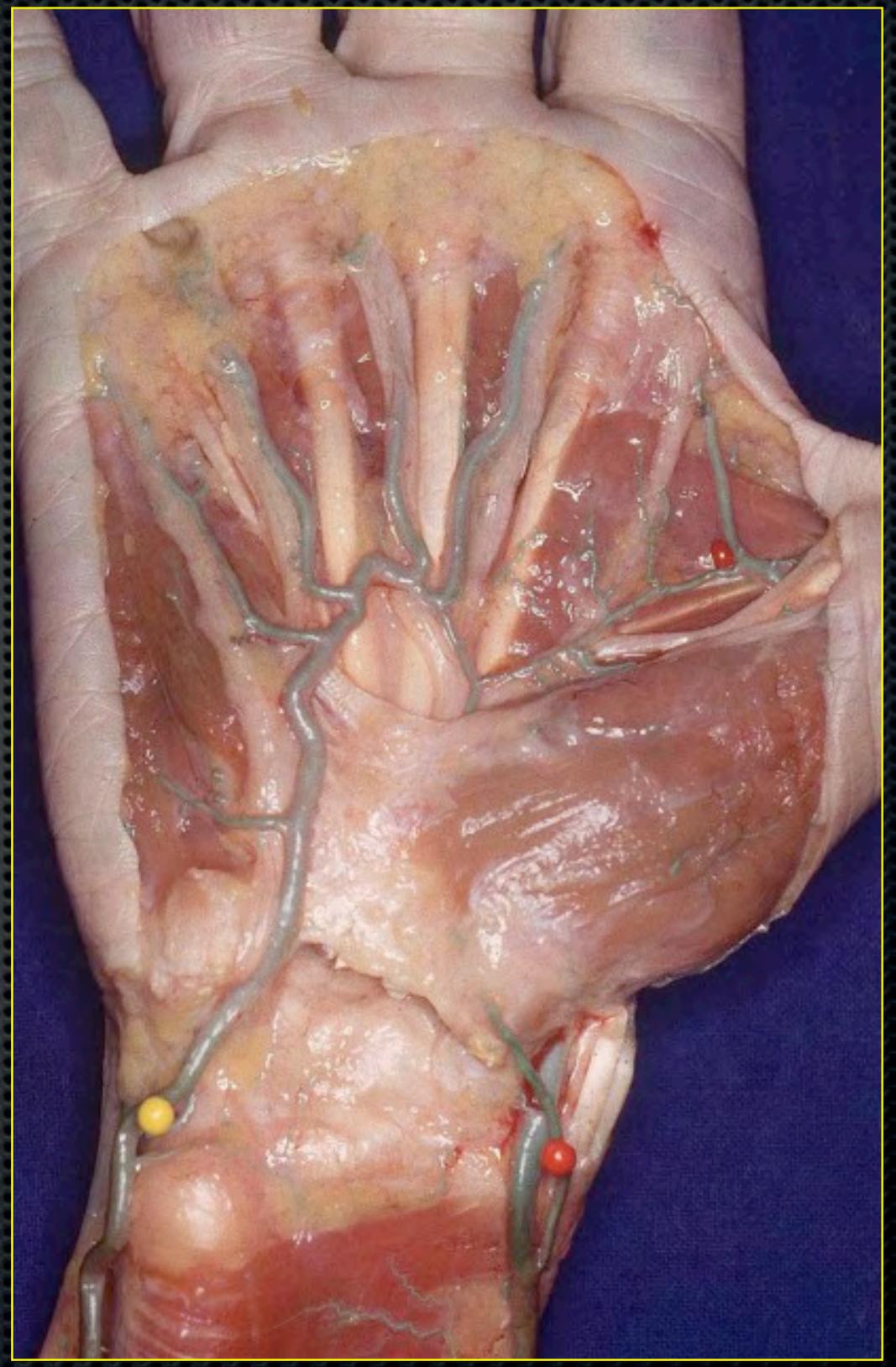
- Les arcades vasculaires (et nerveuses)



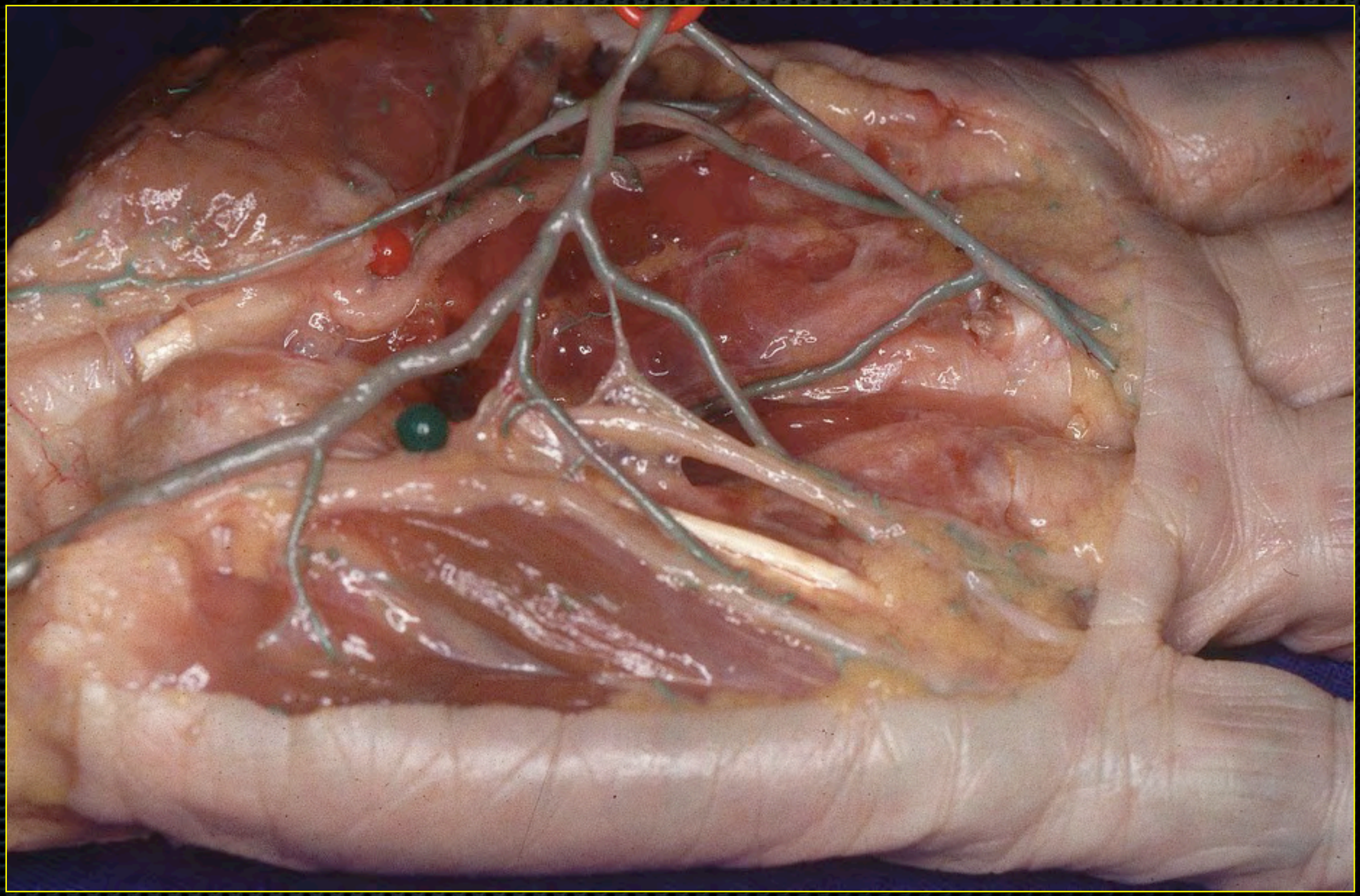




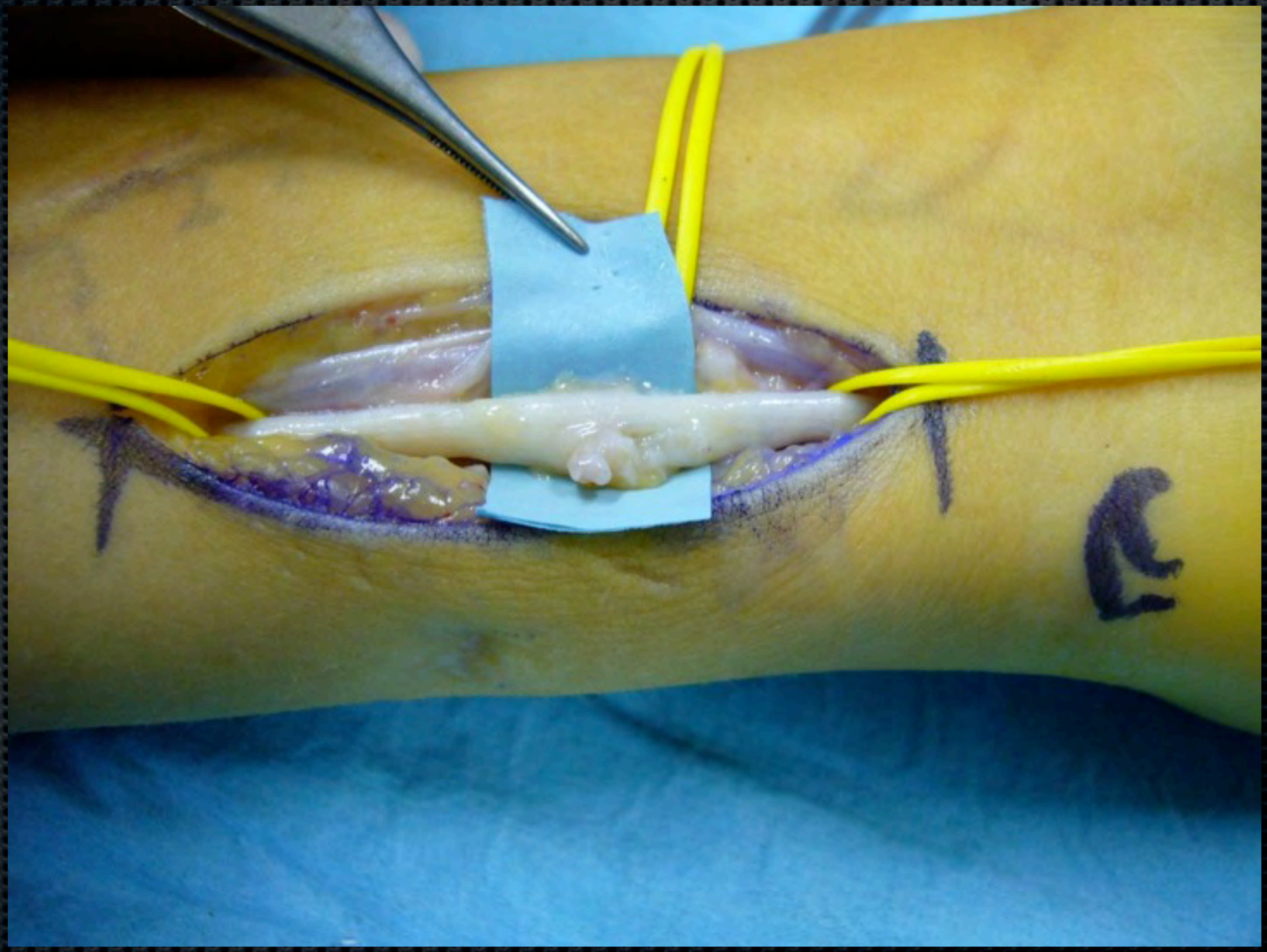




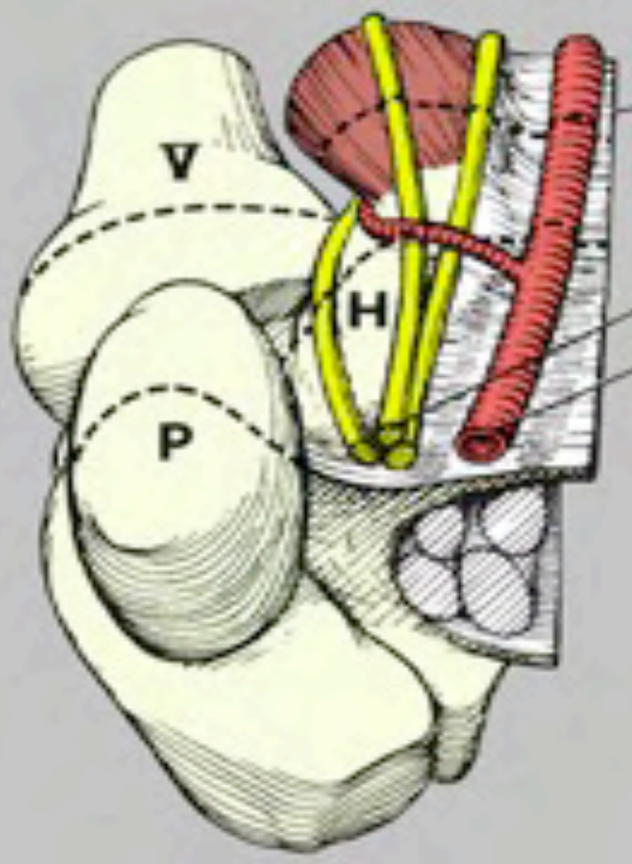
Arcade profonde



Bord ulnaire du poignet et de la paume



Carpal ulnar neurovascular space (Guyon's canal)

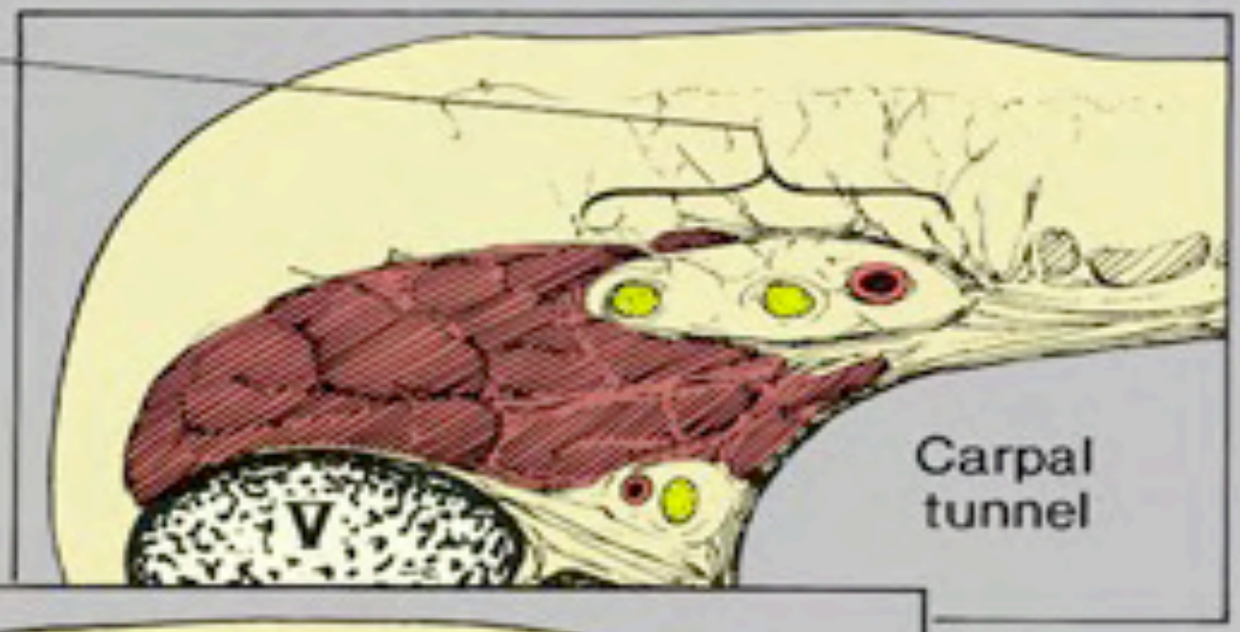


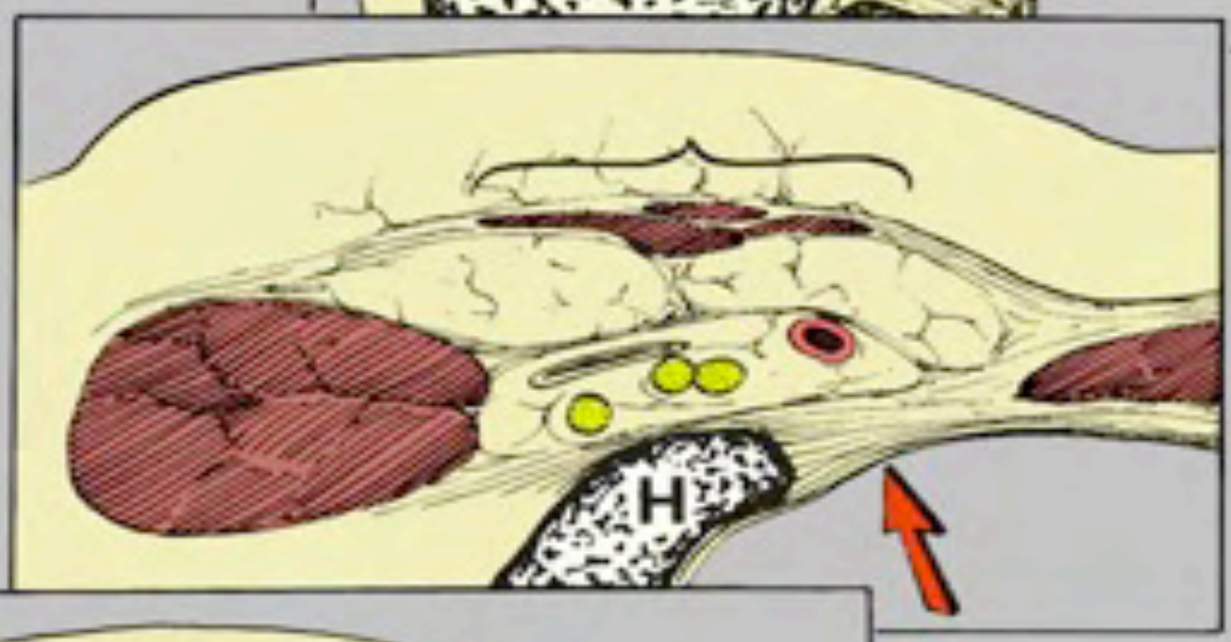
Right hand

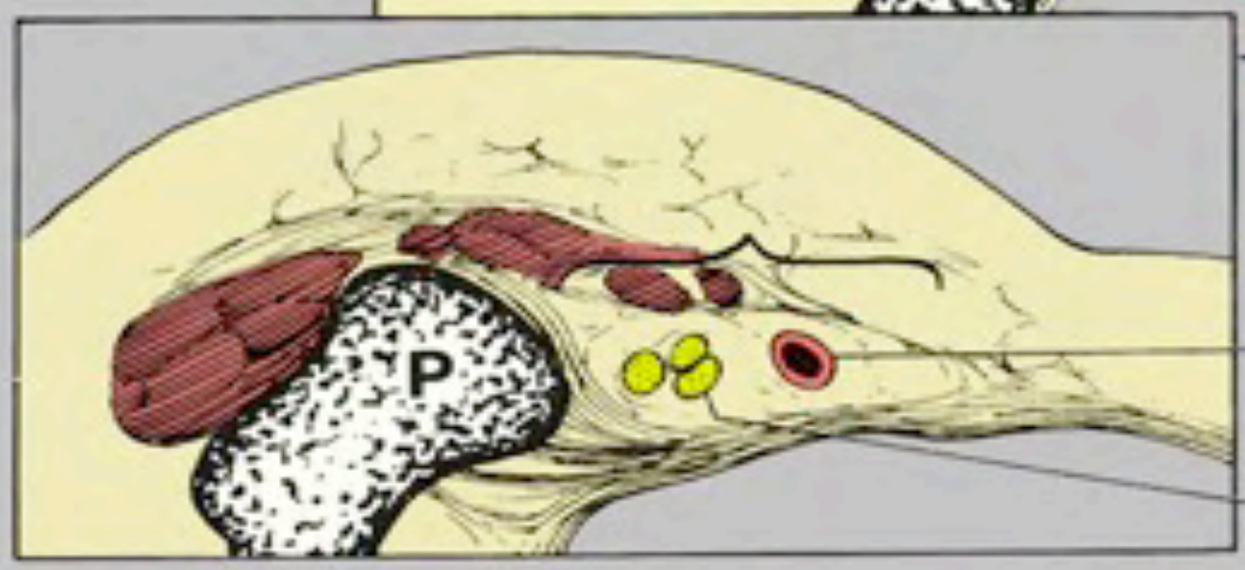
Flexor retinaculum

Ulnar n.

Ulnar a.





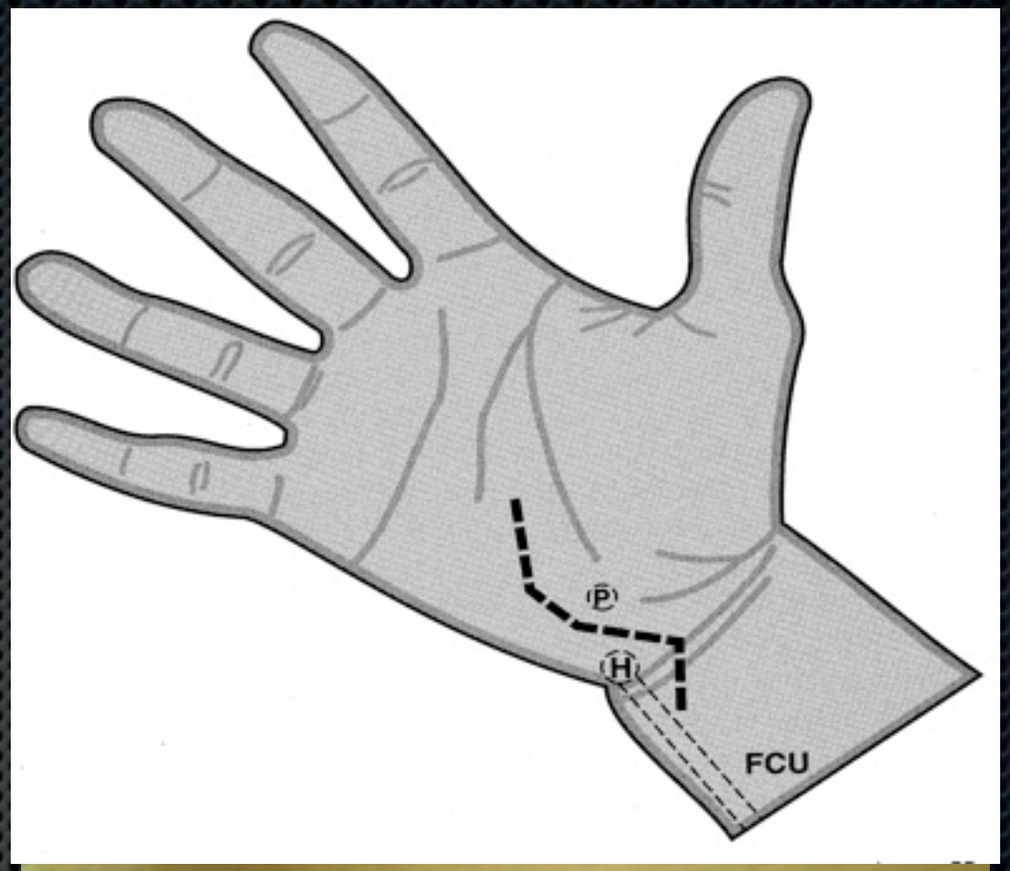


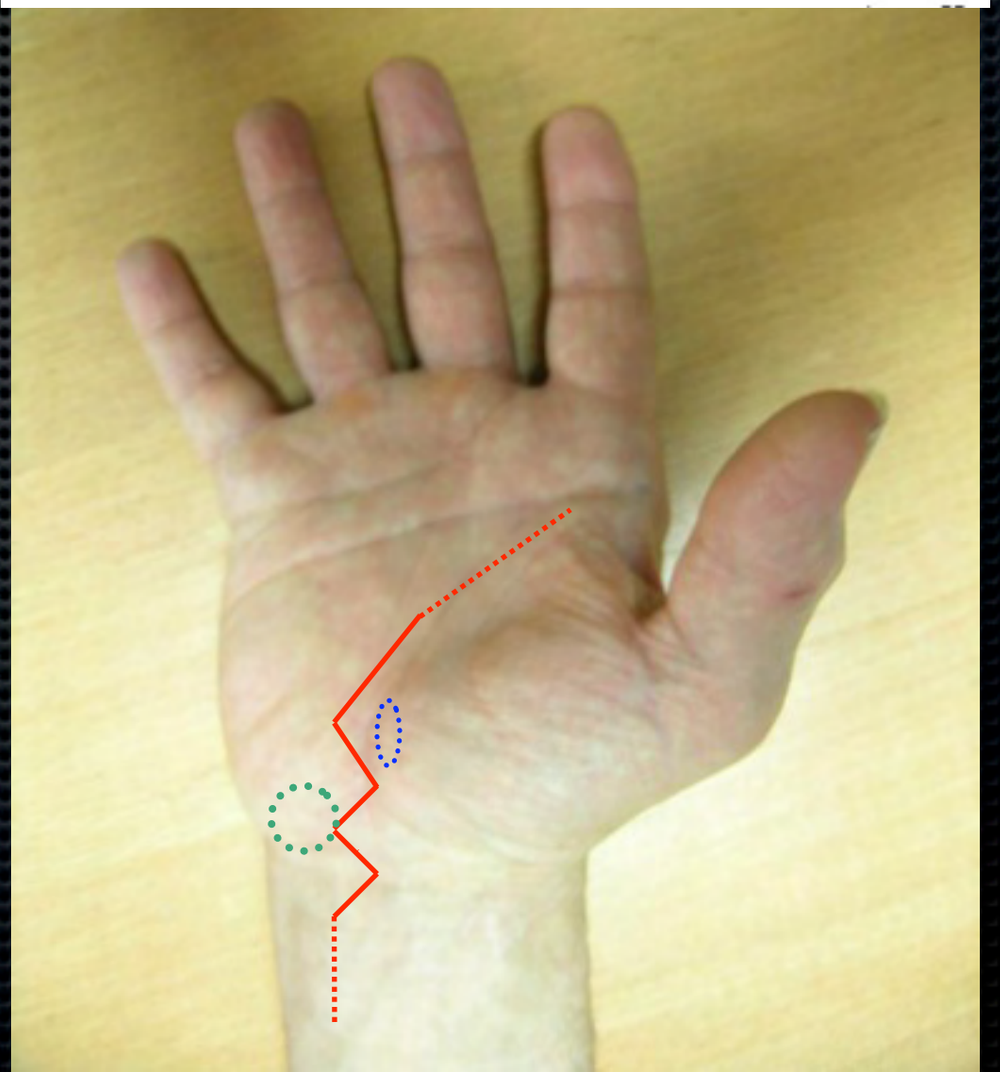
Ulnar a.

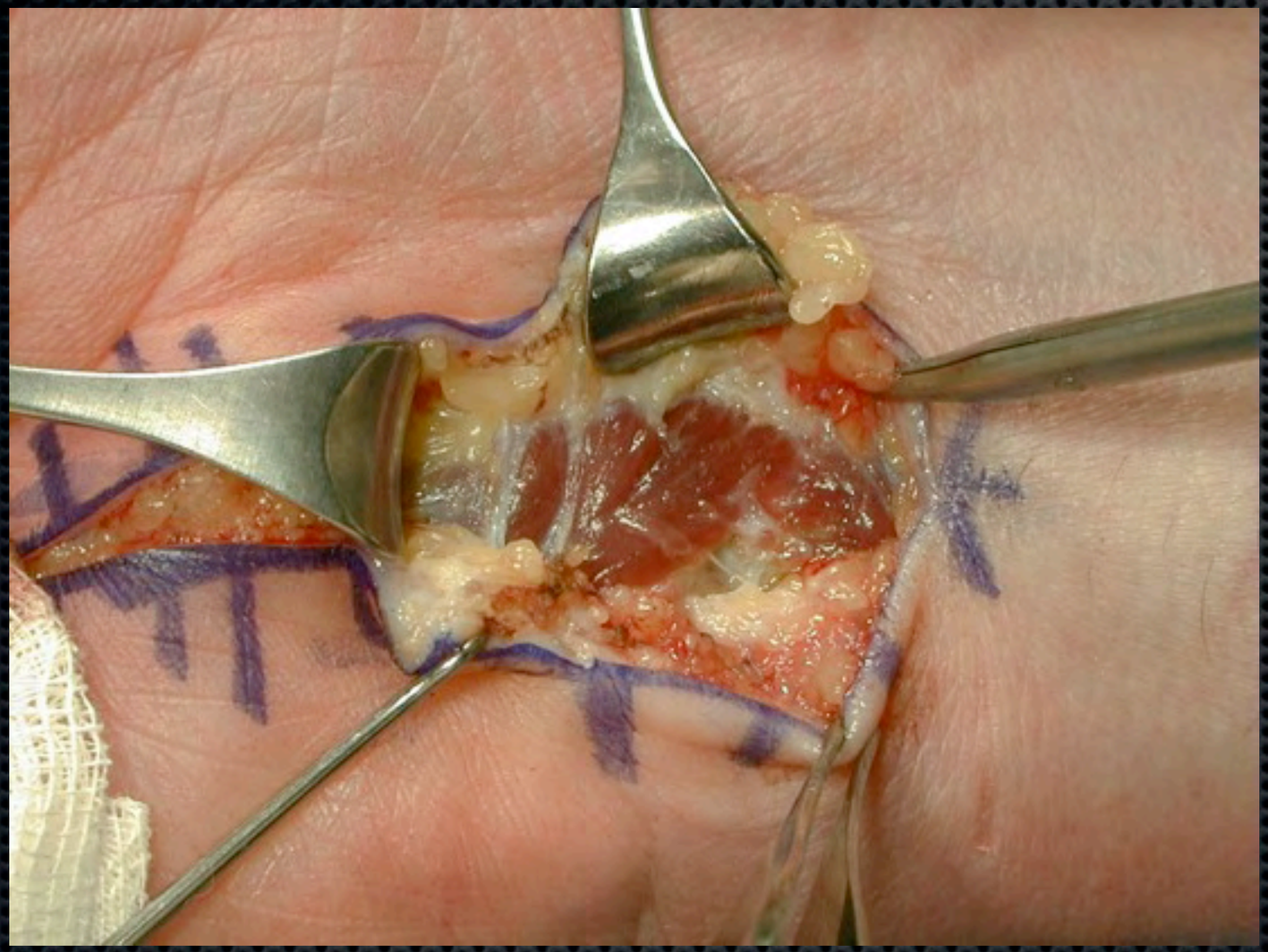
Ulnar n.

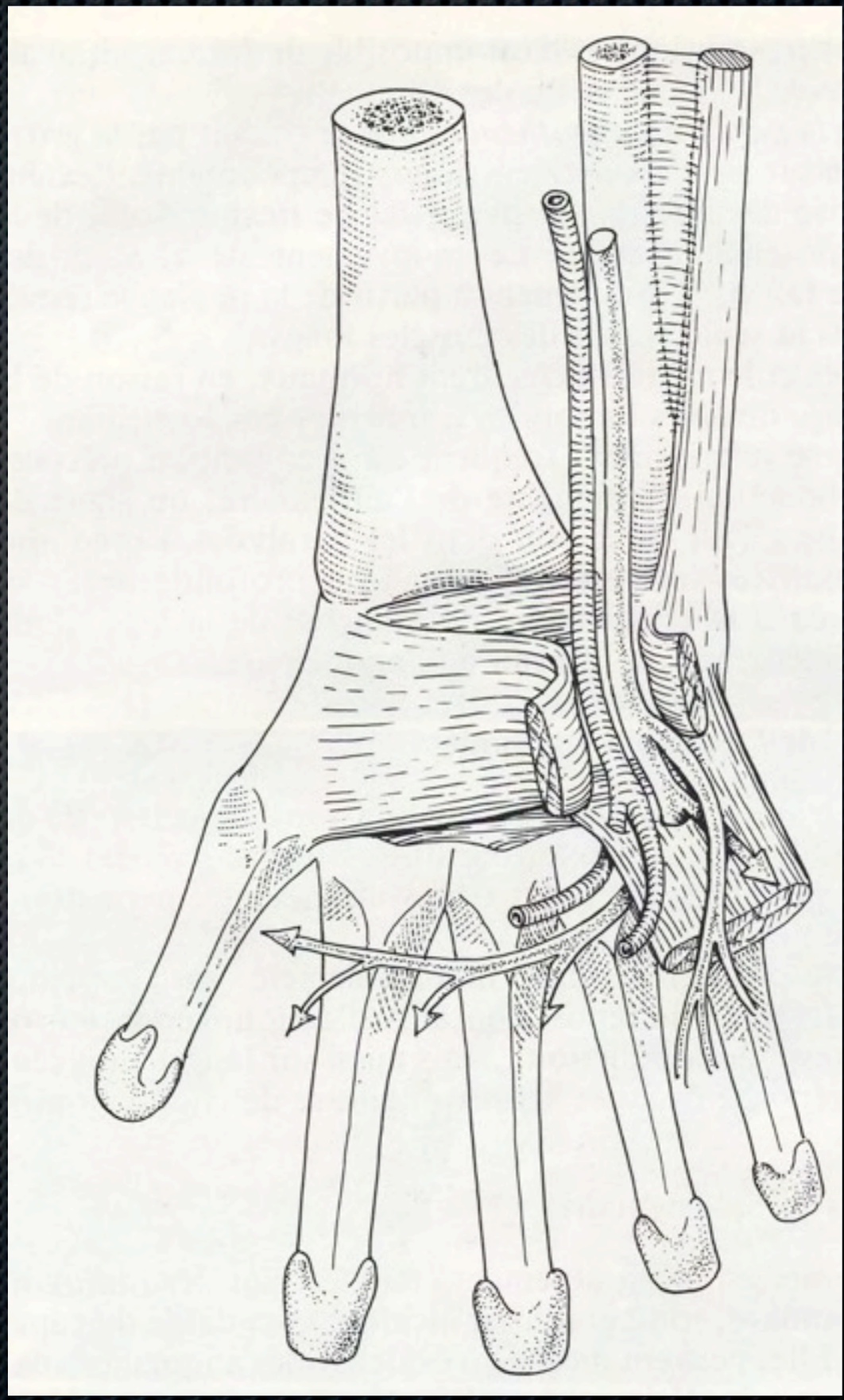
La voie d'abord du Guyon

- Radiale au FCU au poignet
- Décroché au pli du poignet
- Centrée sur le canal à la paume
  - Dangers: les rameaux sensitifs (Henlé)



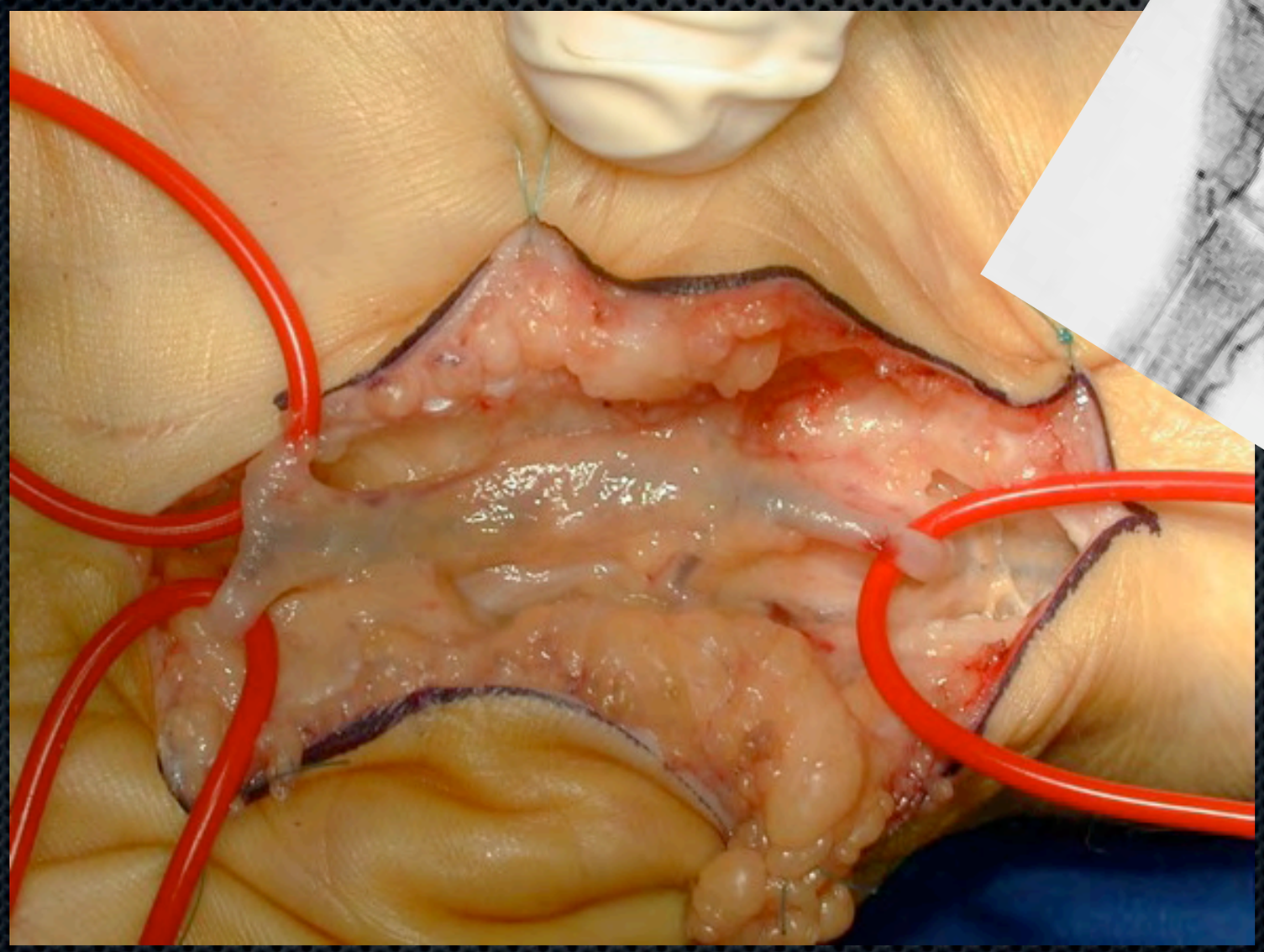


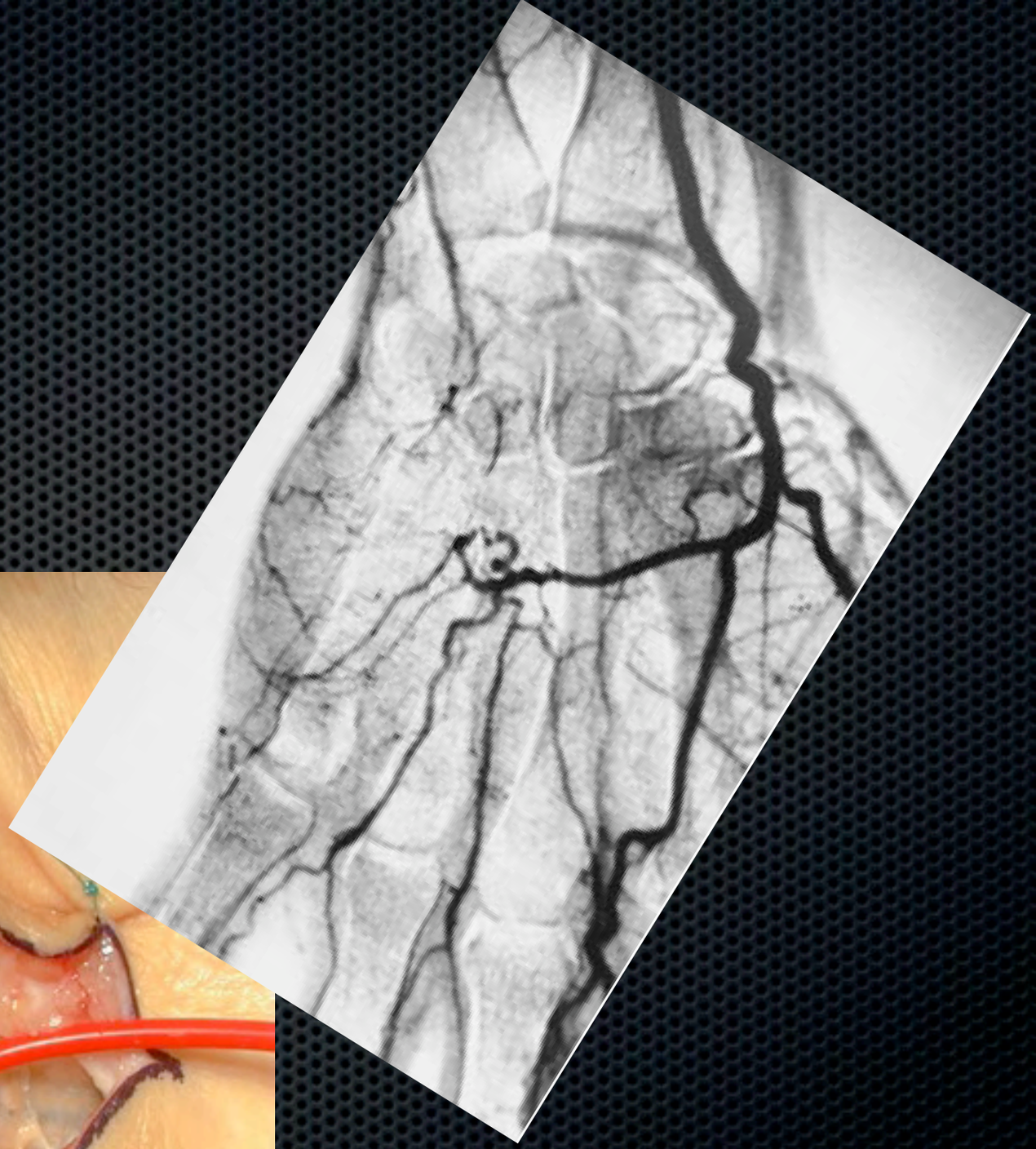




Le contenu

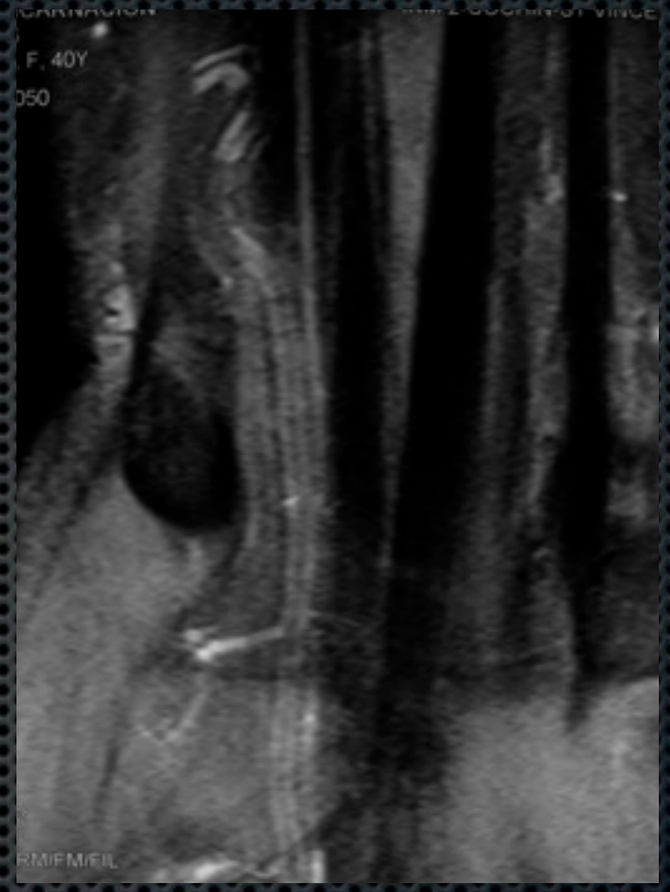
- L’artère ulnaire

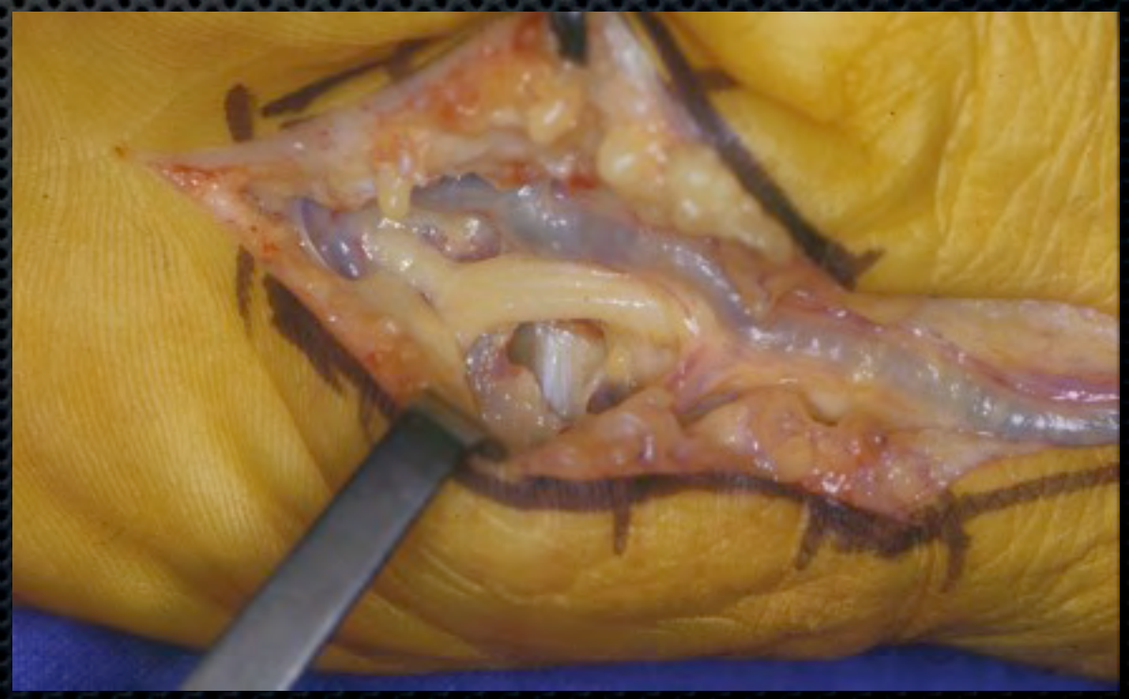




Le contenu

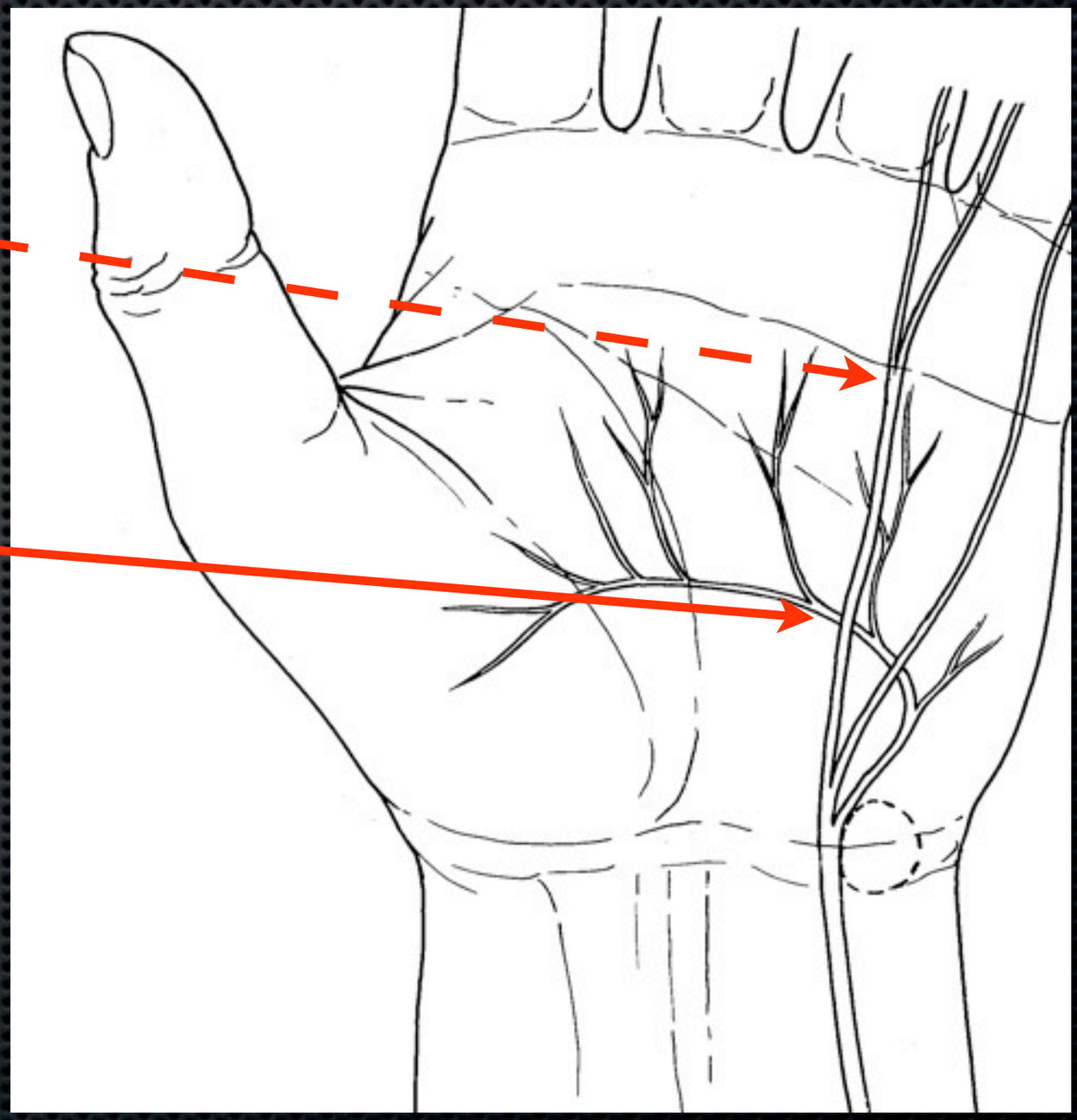
- Nerf ulnaire
  - Après la naissance de la branche cutanée dorsale
- Se divise au milieu du canal, passe en dedans puis en dessous en contournant l ’hamulus
- Est toujours inférieur et médial par rapport à l ’artère

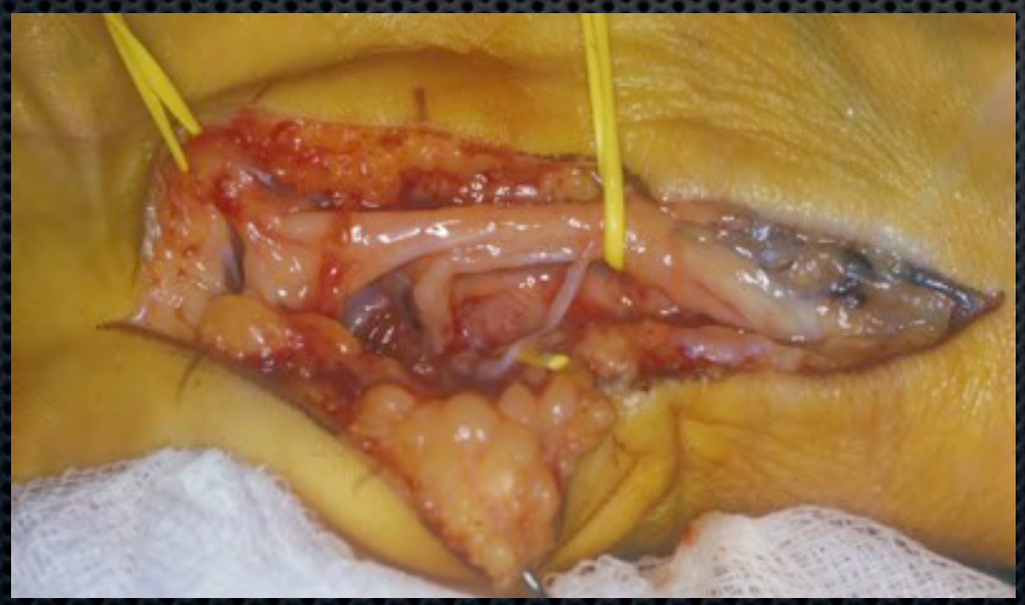


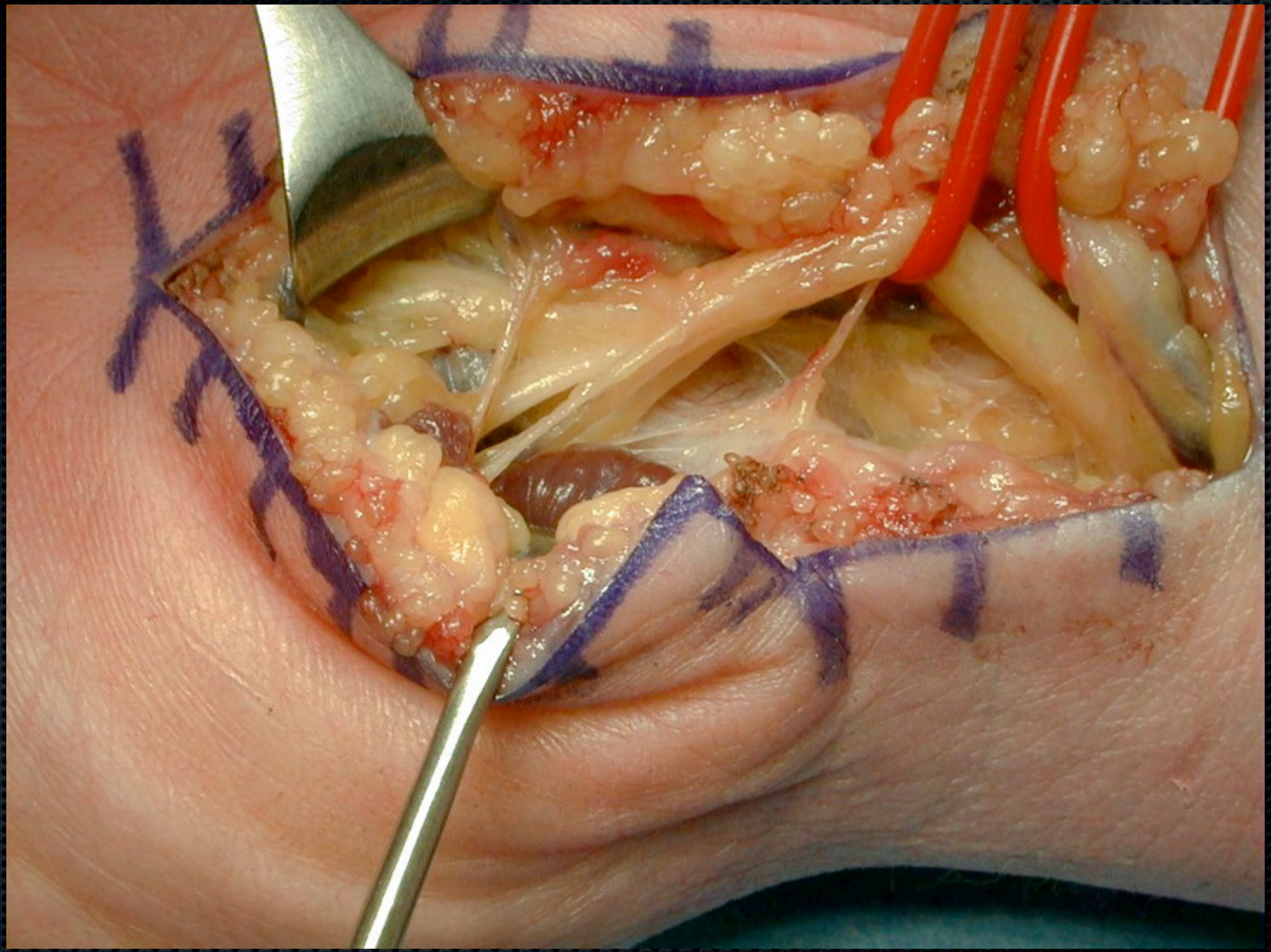


Le nerf ulnaire

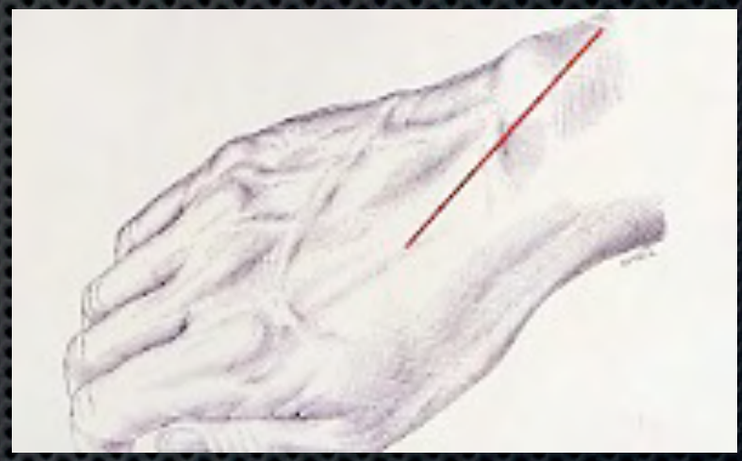
- Branche sensitive (3° & 4°lombricaux +/- P. brevis)
- Branche motrice, profonde (40% fibres sensitives, Dykes 1977)



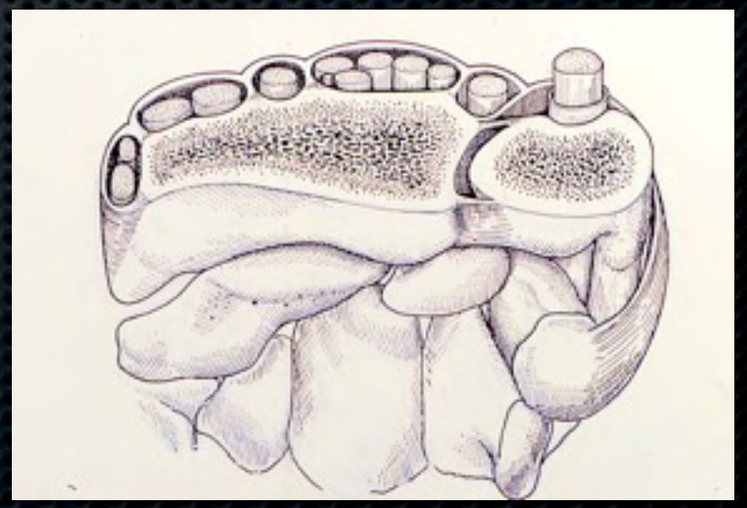


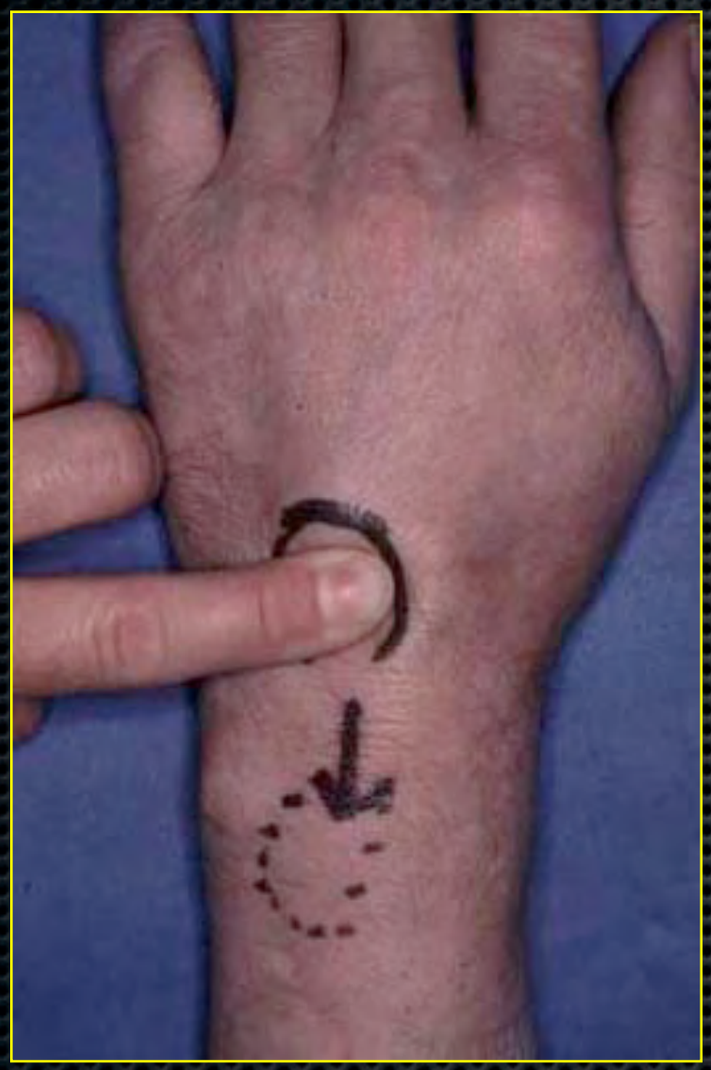


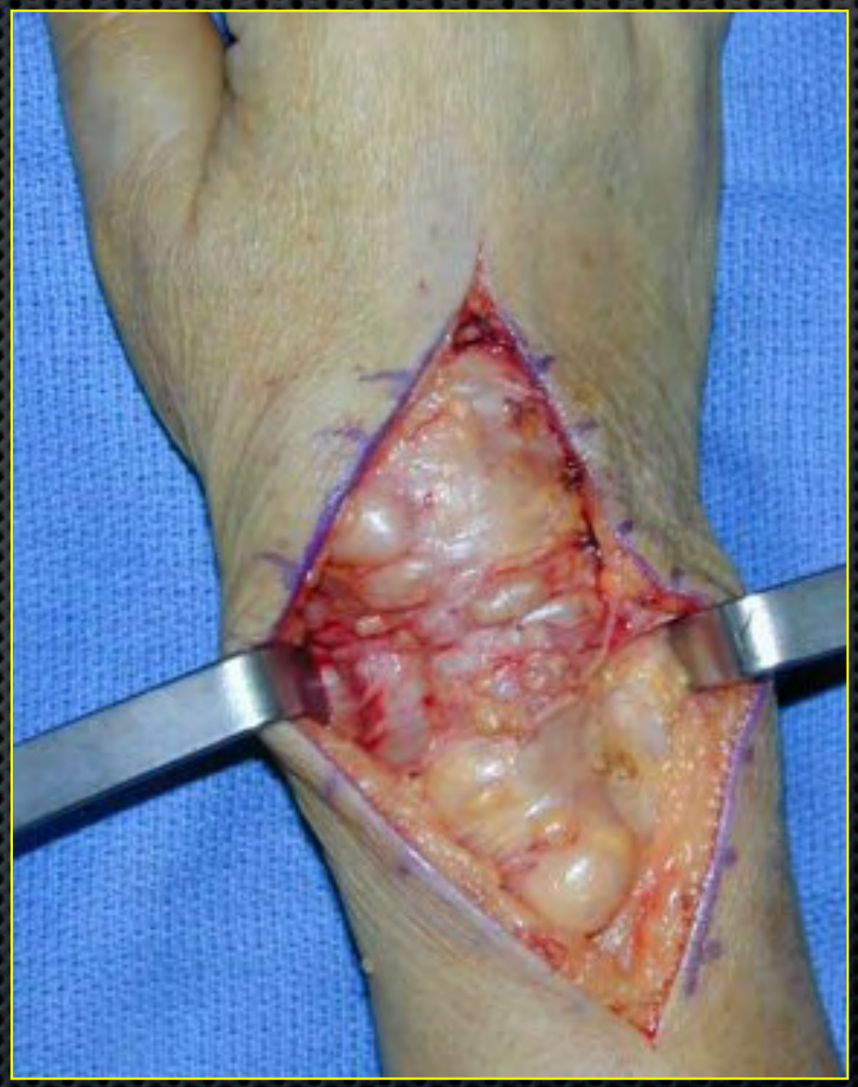
Abord dorsal du poignet

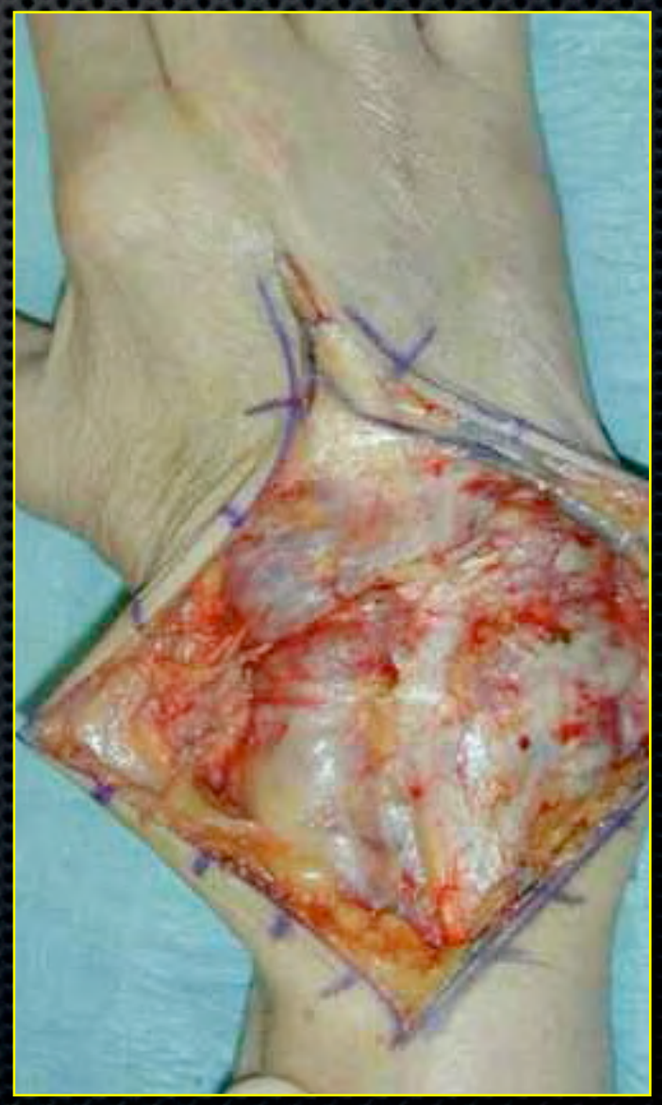


- Incisions rectilignes (peau fragile)
- Choix du compartiment

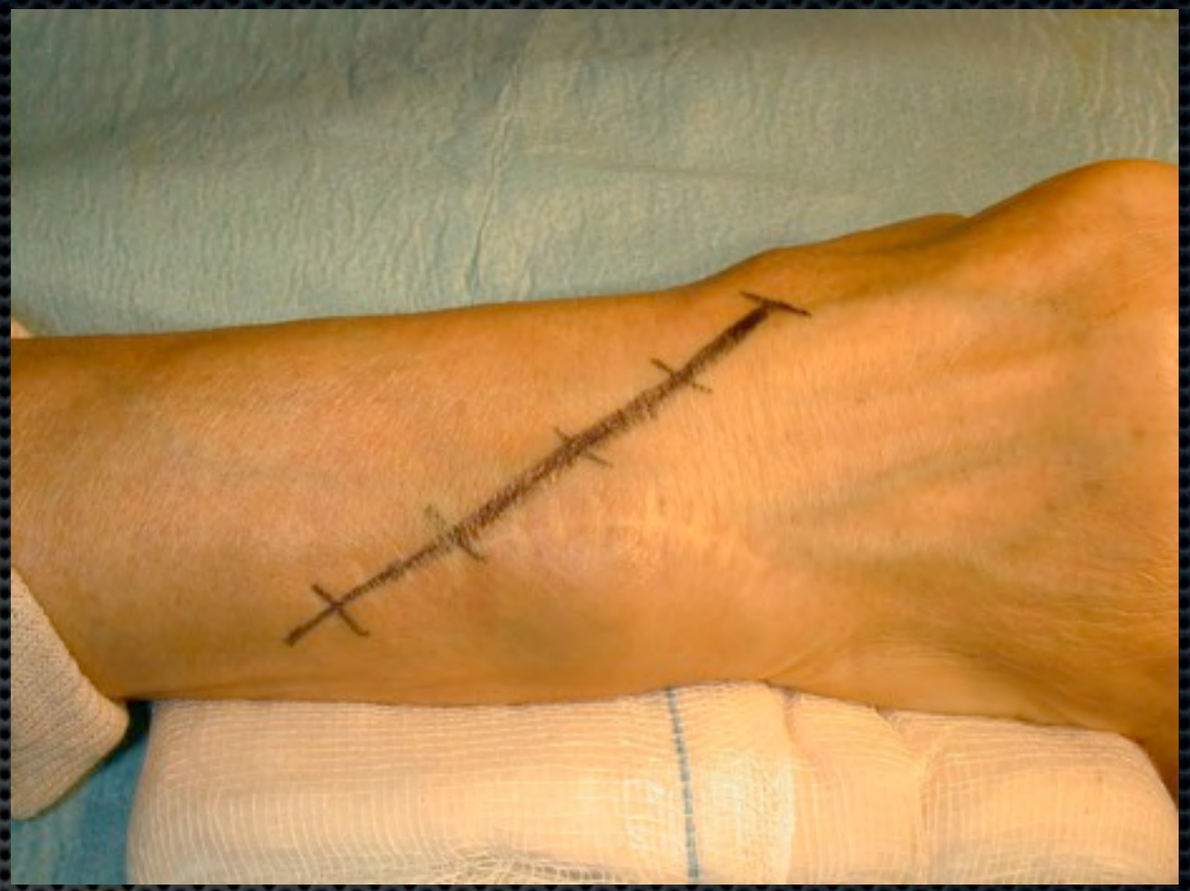


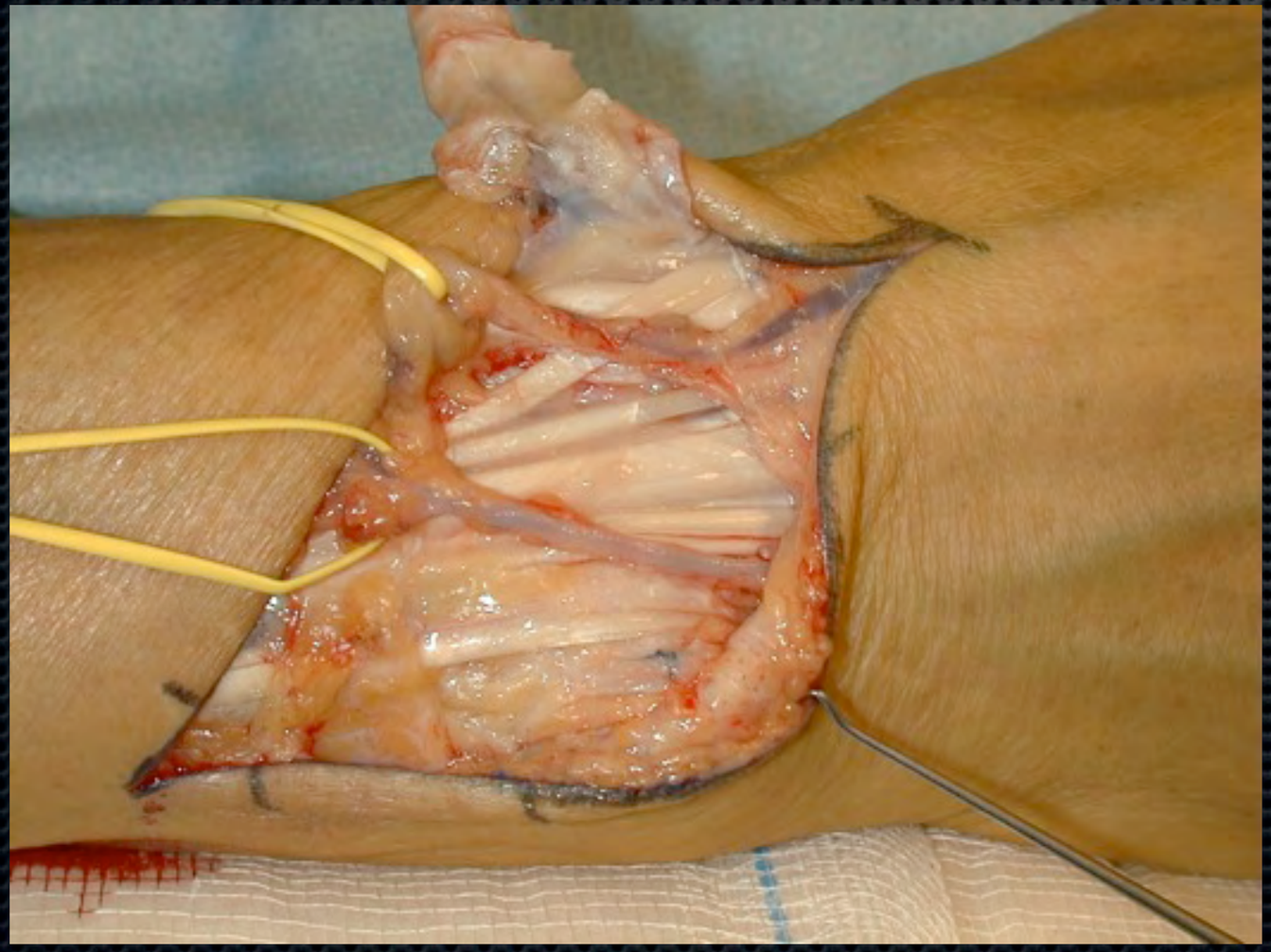




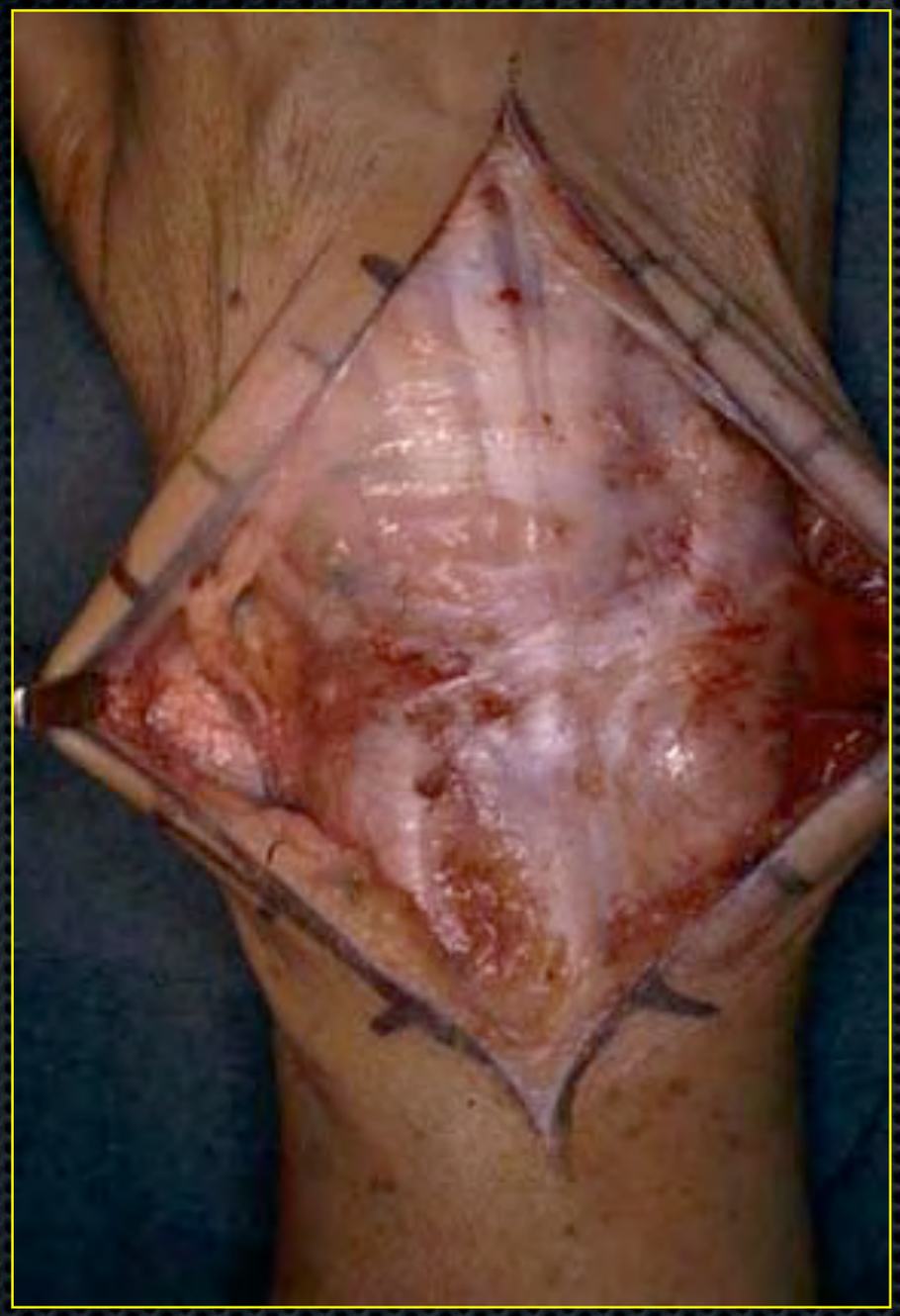


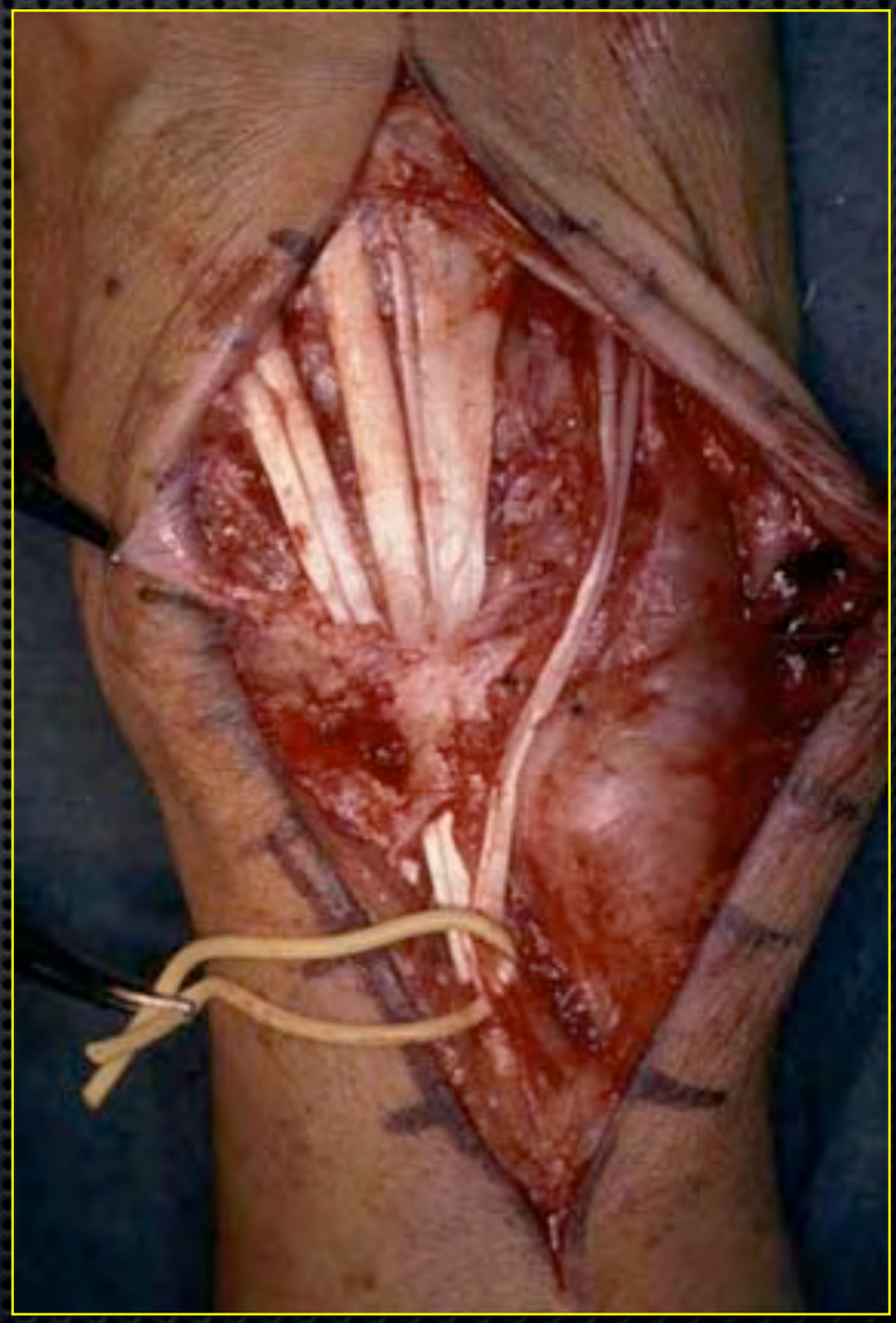
- Respect des veines sous-cutanées



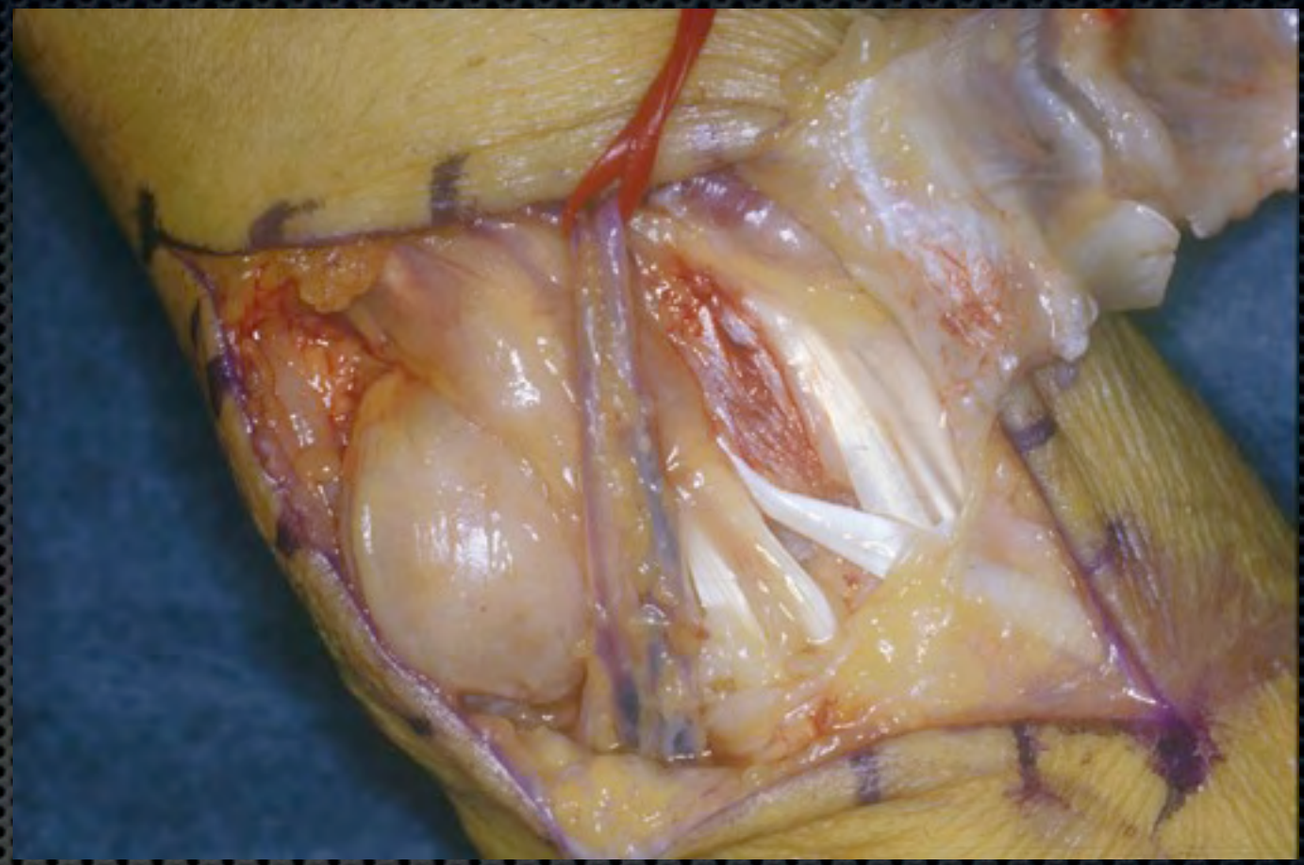


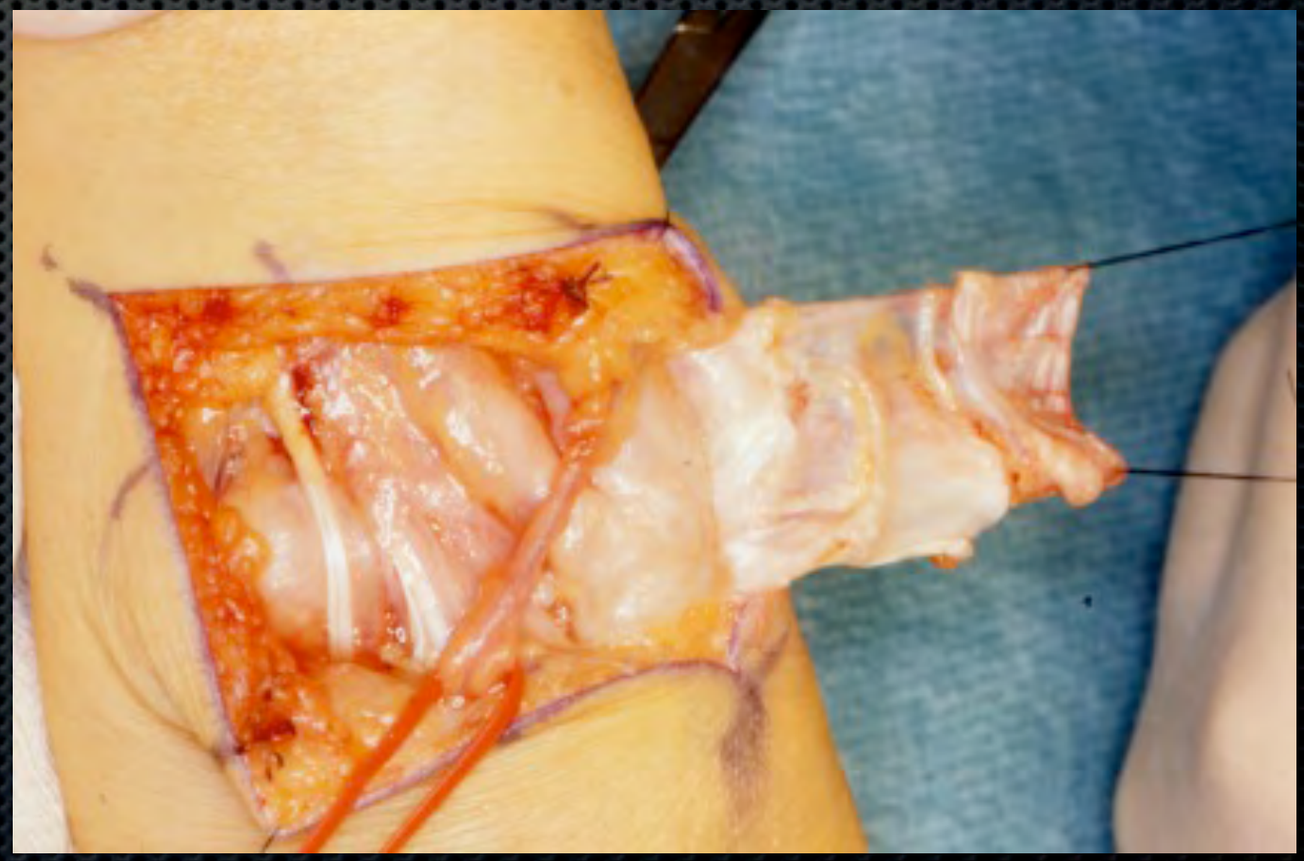
- Voie d’abord longitudinale (4ème compartiment)

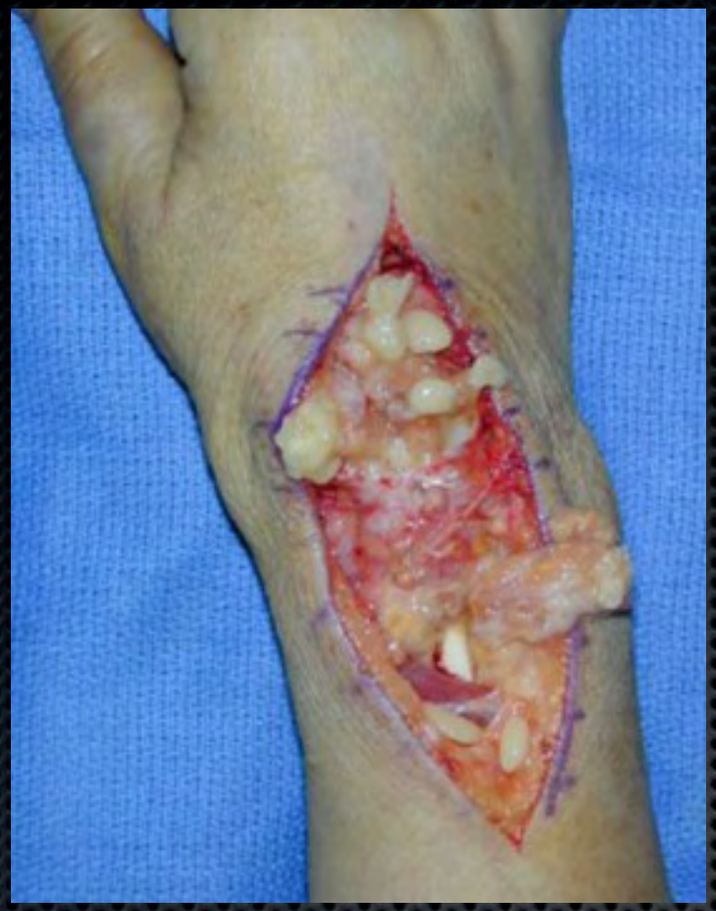


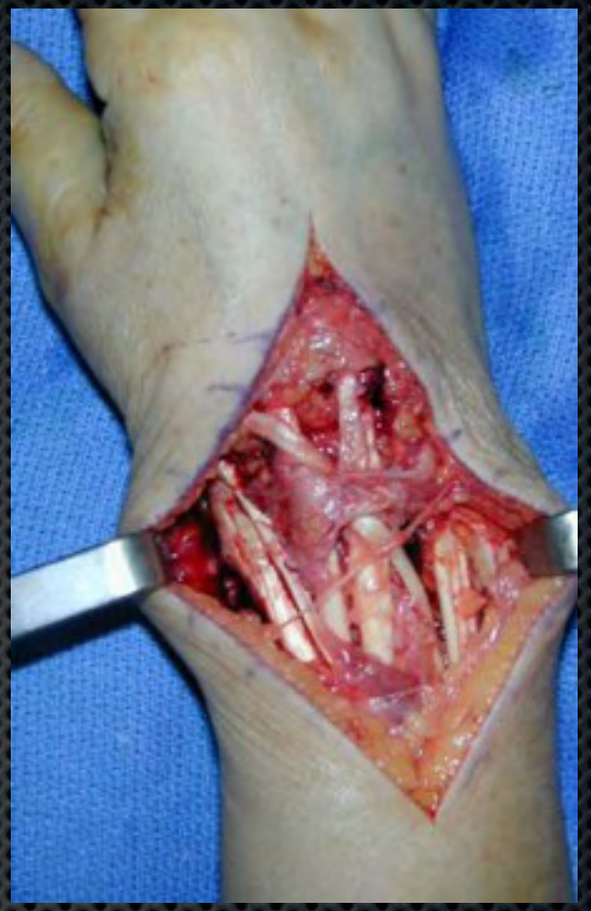


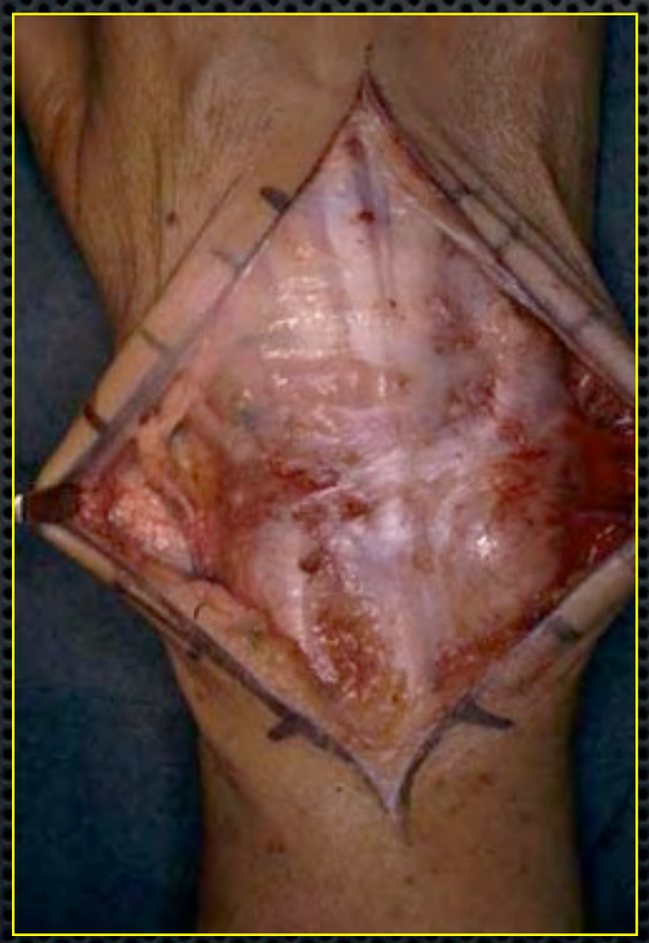
- Ouverture du retinaculum en regard de l’ECU

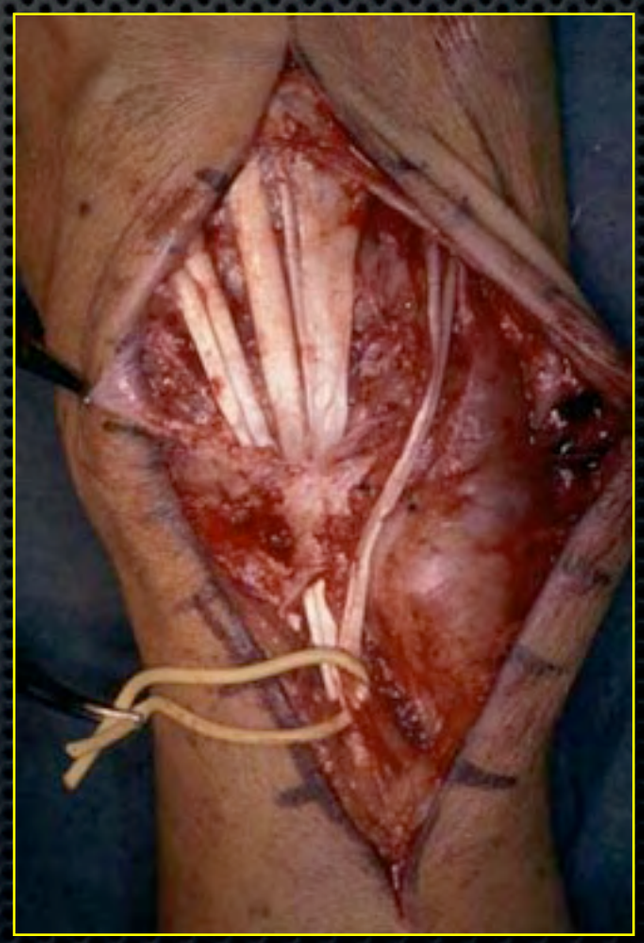




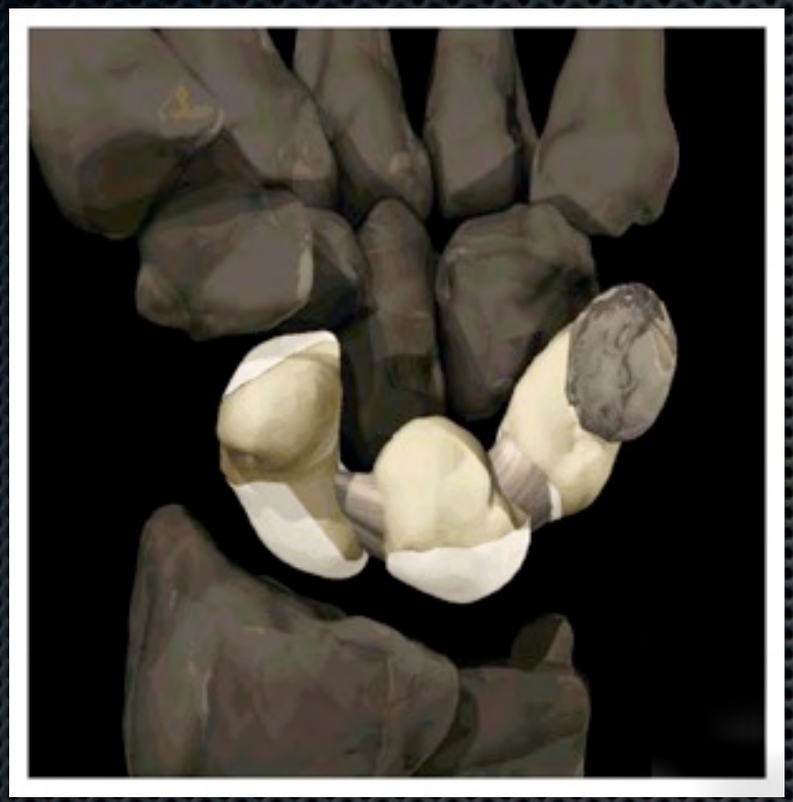








Voies d’abord du couple scapho-lunaire

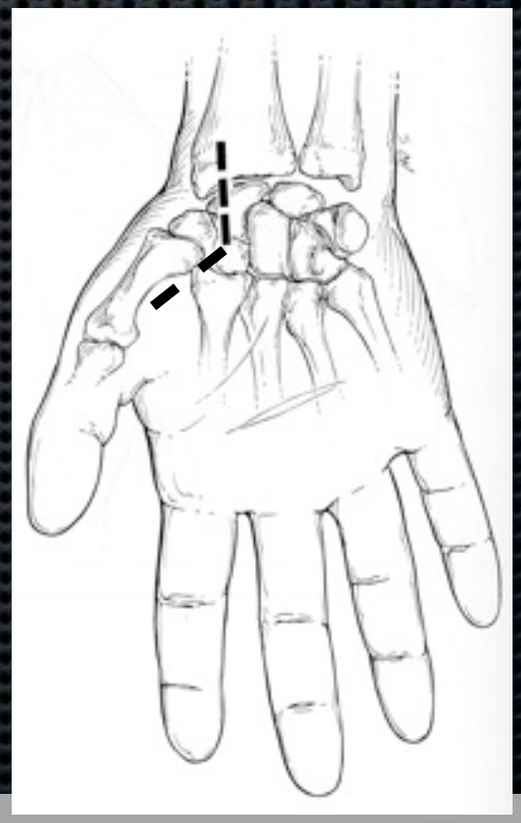


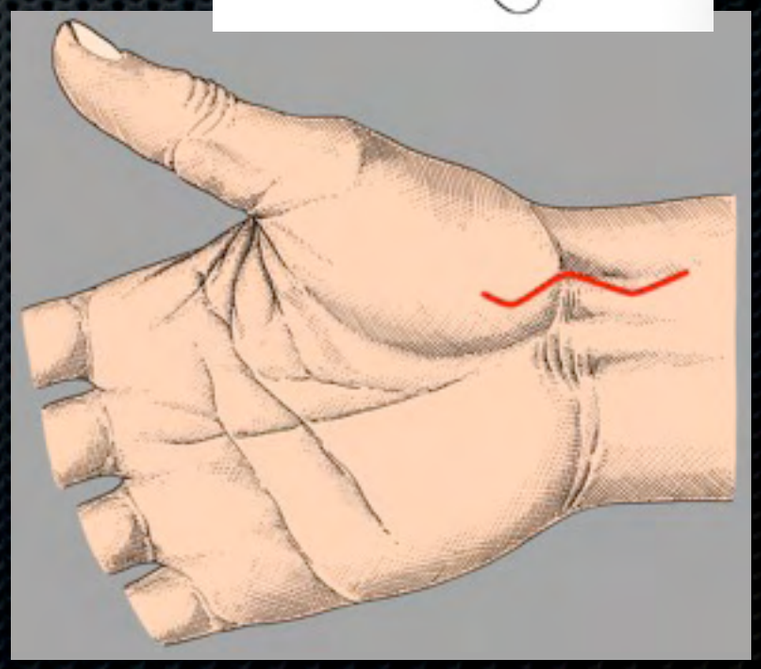
Les voies d'abord

- Antérieures
  - Voie d'abord du scaphoïde /du carpe
- Latérales
  - Voie d'abord du scaphoïde
- Postérieures
  - Voie d'abord du scaphoïde / du carpe

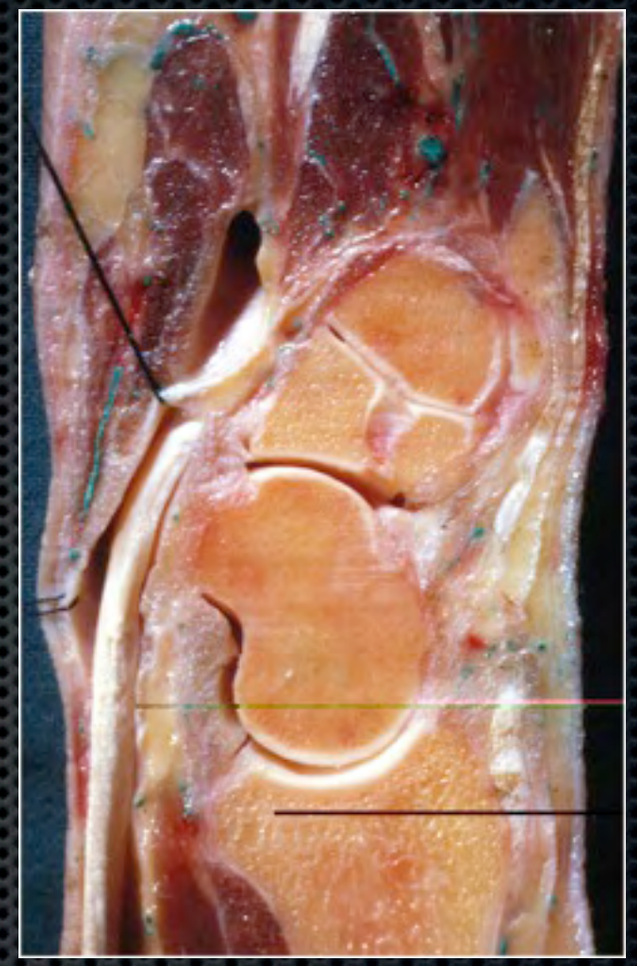
Voie antérieure du scaphoïde

- Le long de la gouttière du pouls sur l'avant-bras
- Directe de Russe (décroché en J en suivant l'éminence thénar)
- Brisée en Z

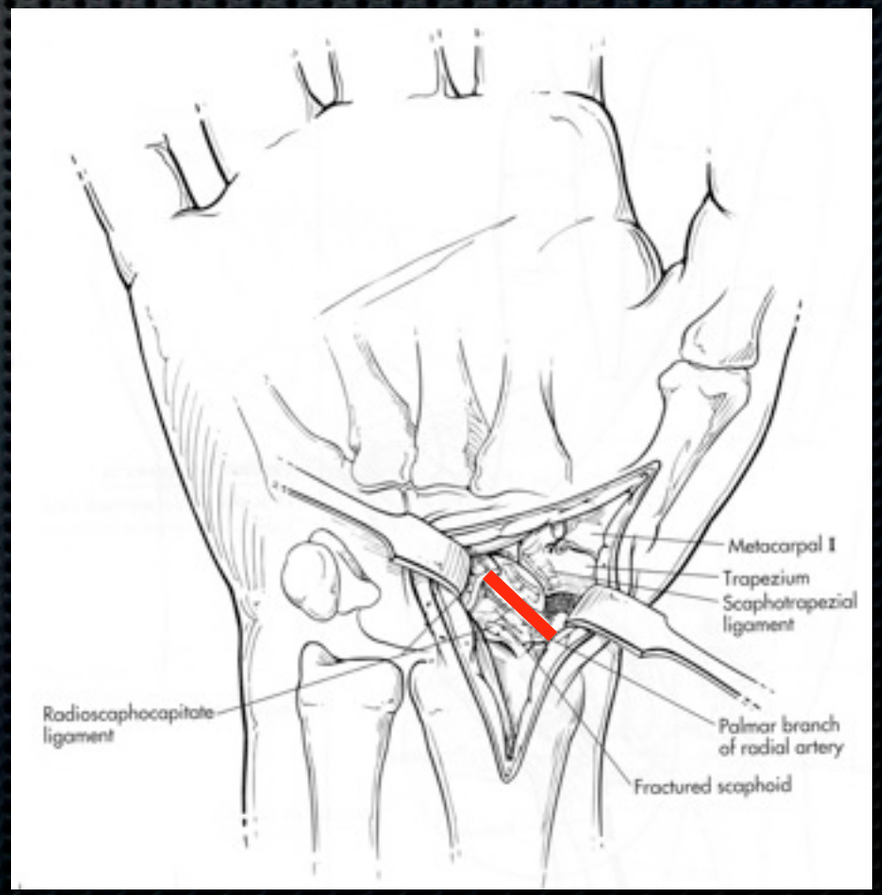




Voie antérieure du scaphoïde

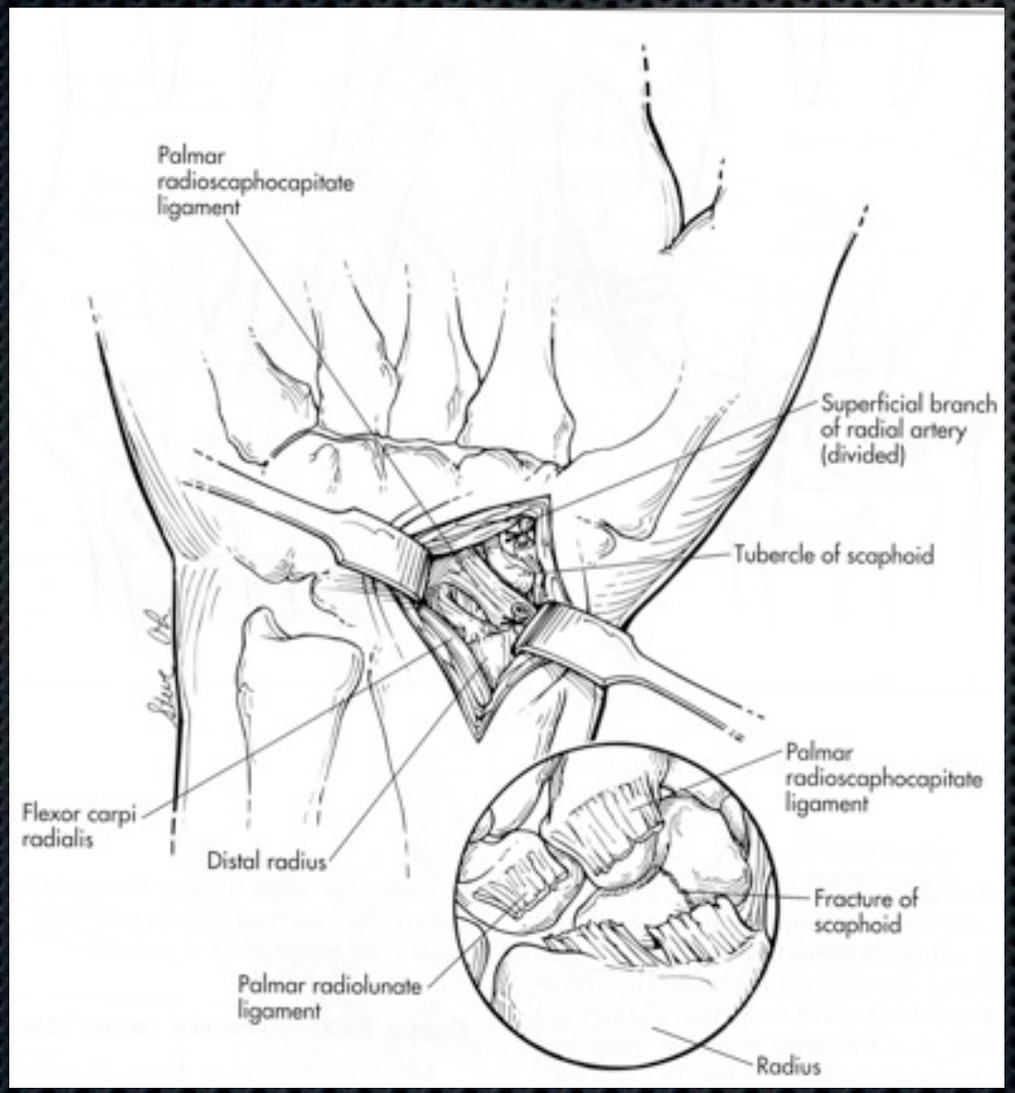


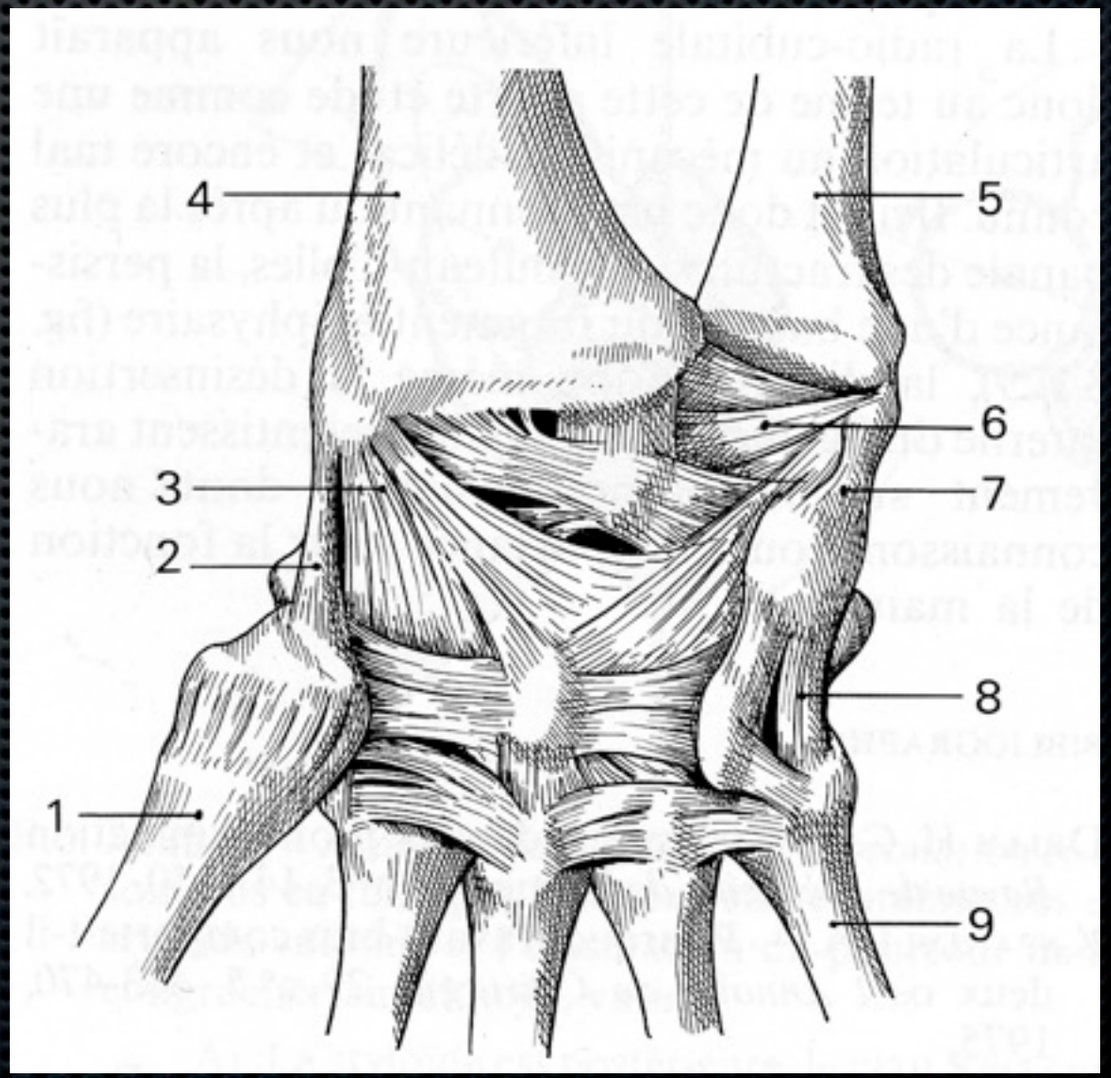
- Au bord radial du FCR
- Voie d’abord barrée par le pédicule radio-carpien

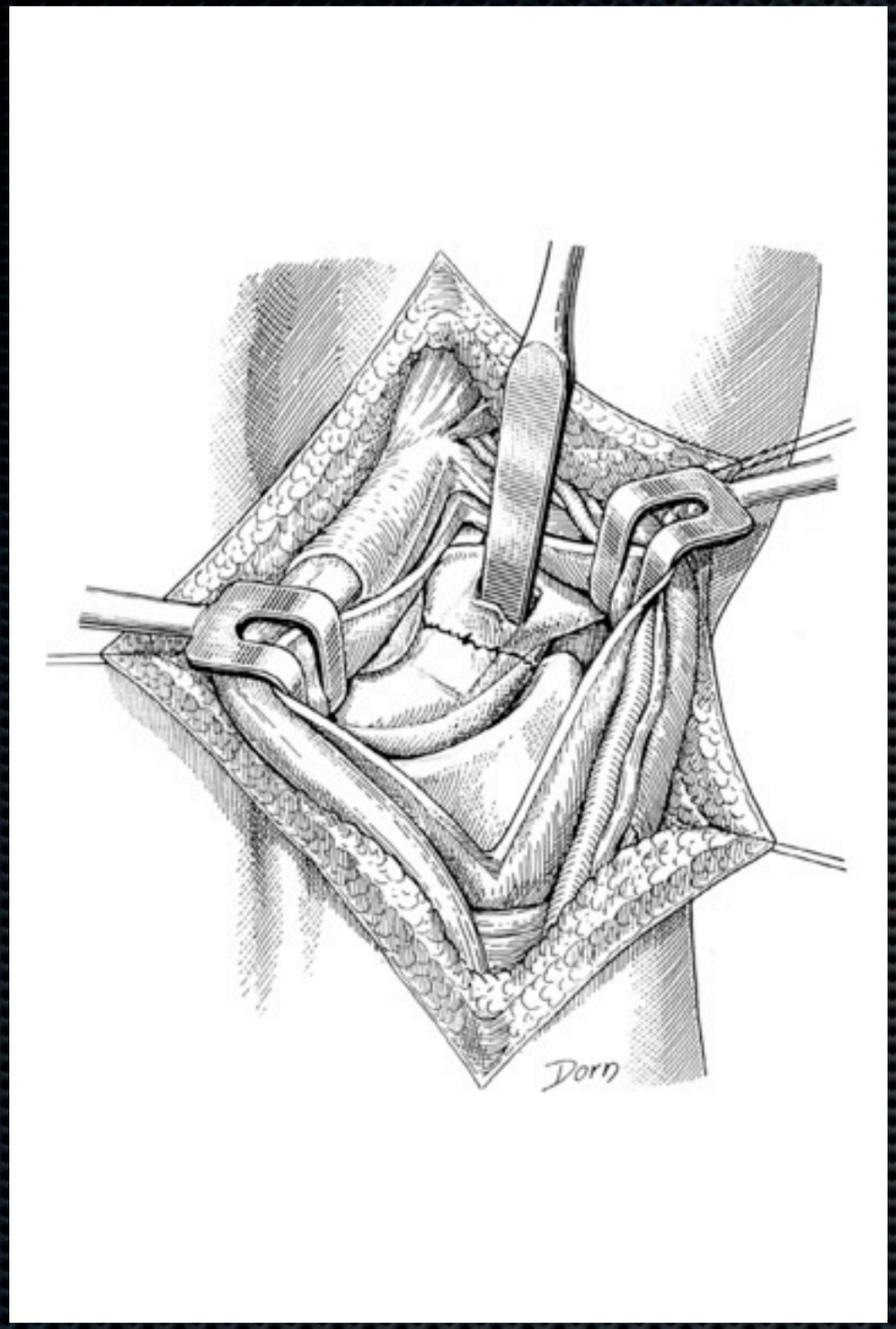


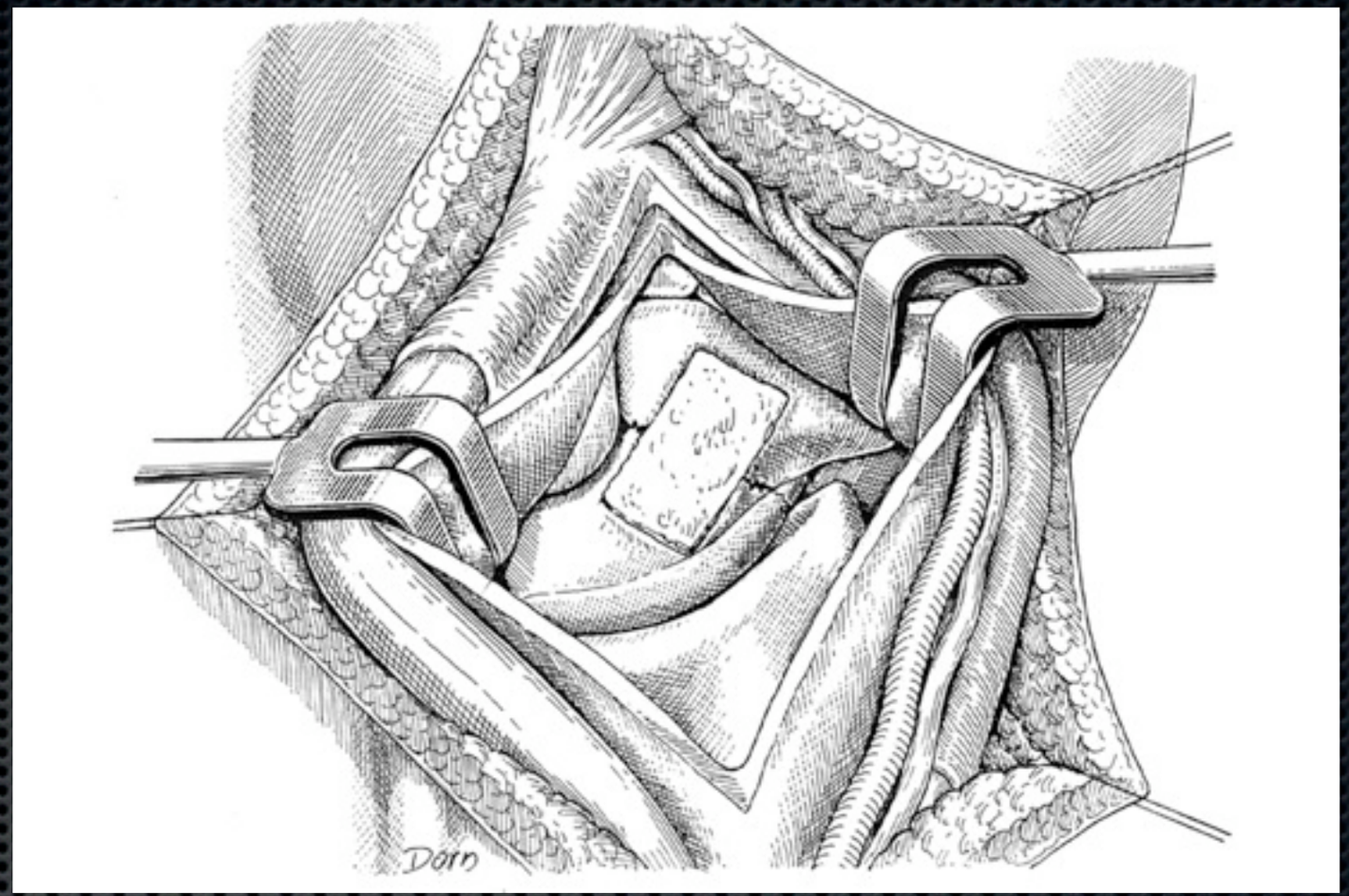
Voie antérieure du scaphoïde

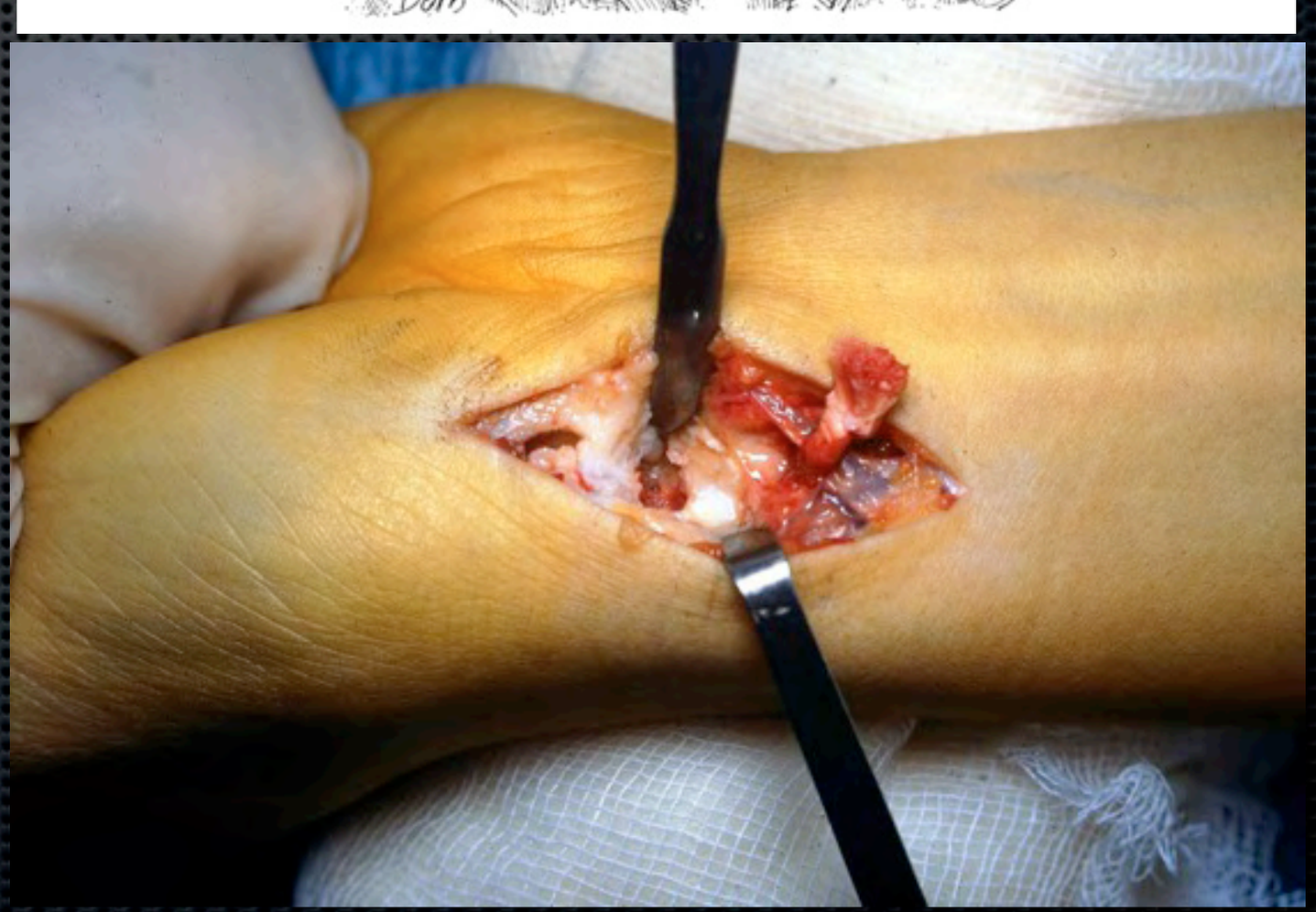
- On aborde en profondeur les ligaments radio-scapho-capitatum





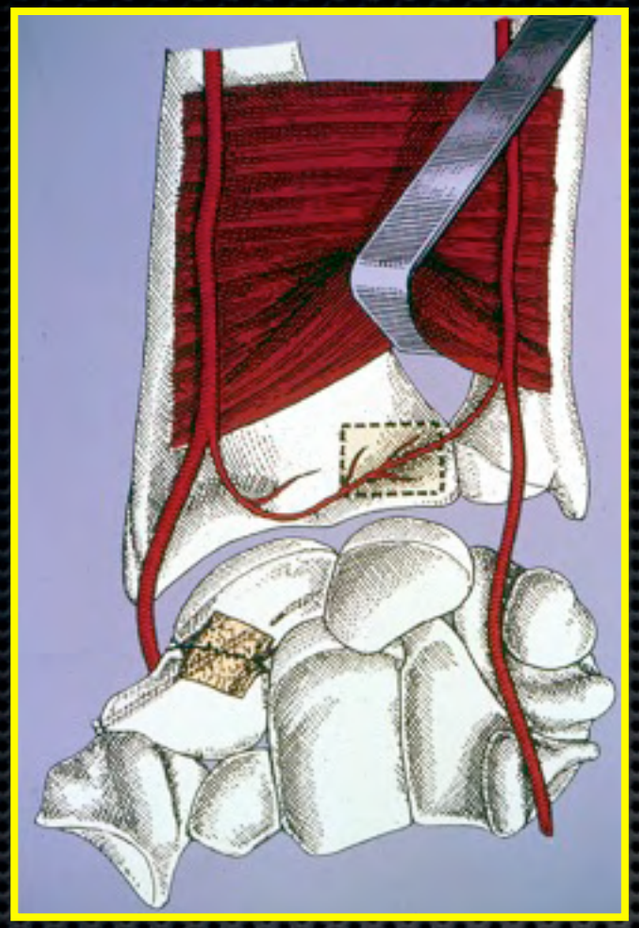

Dorn

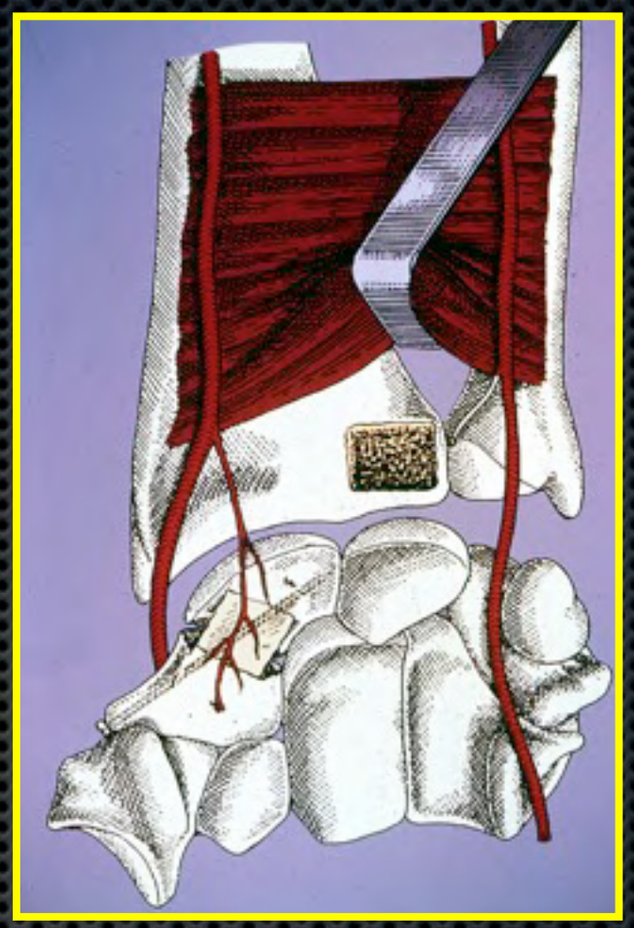

Dorn

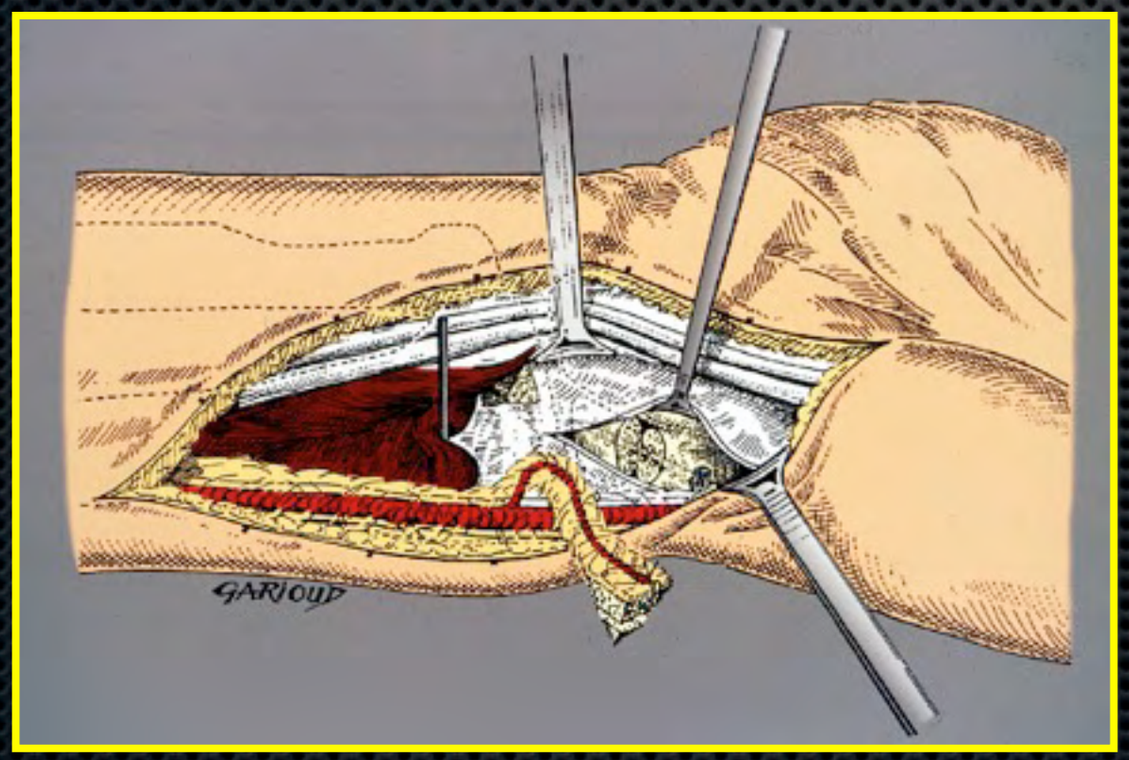


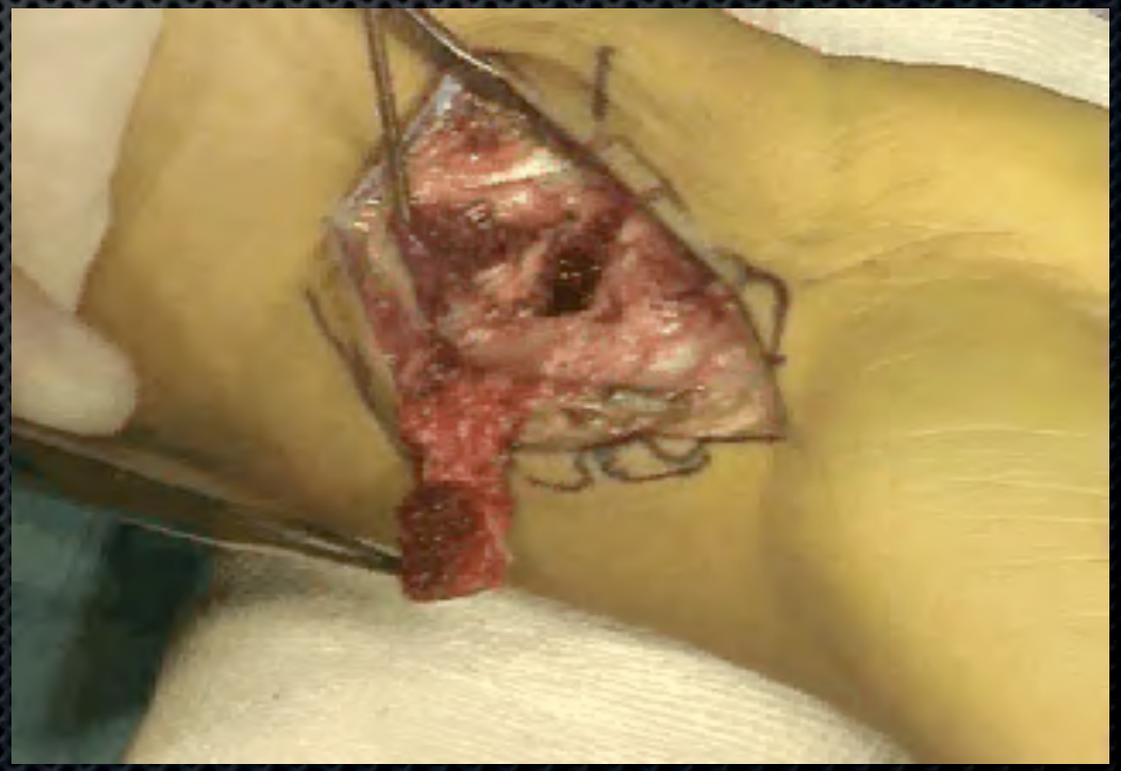
Cas particuliers

- Greffon vascularisé antérieur (Kuhlman)
- Vissage per-cutané



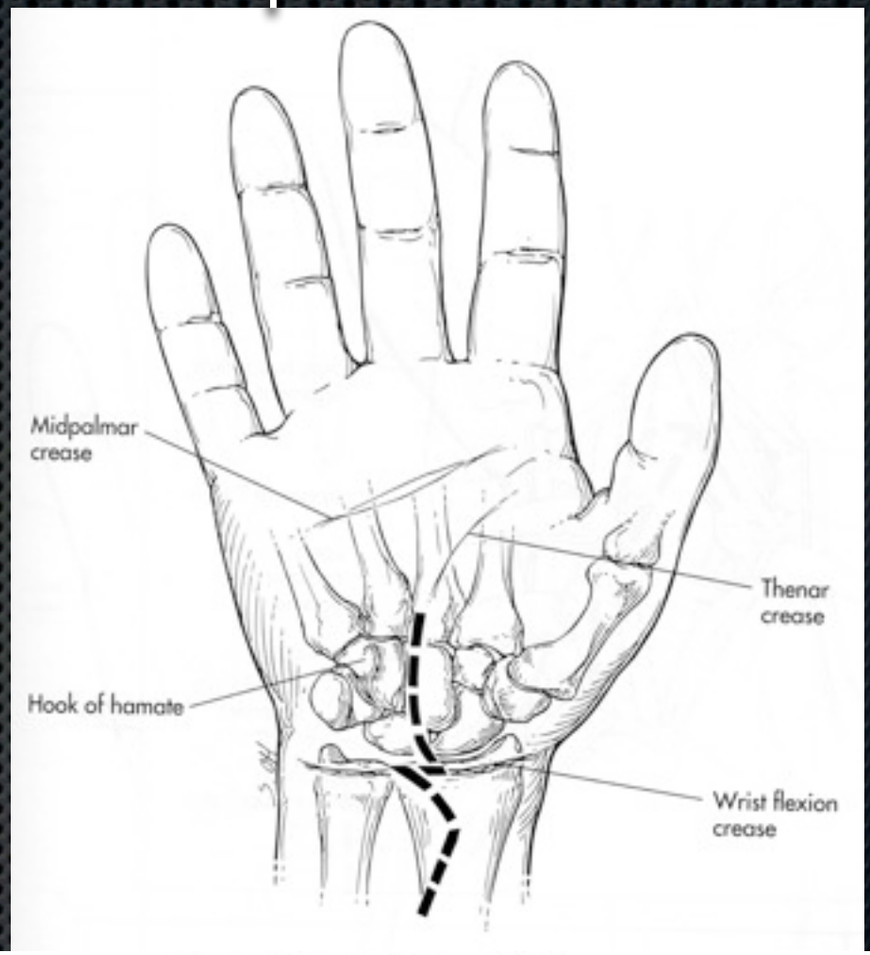


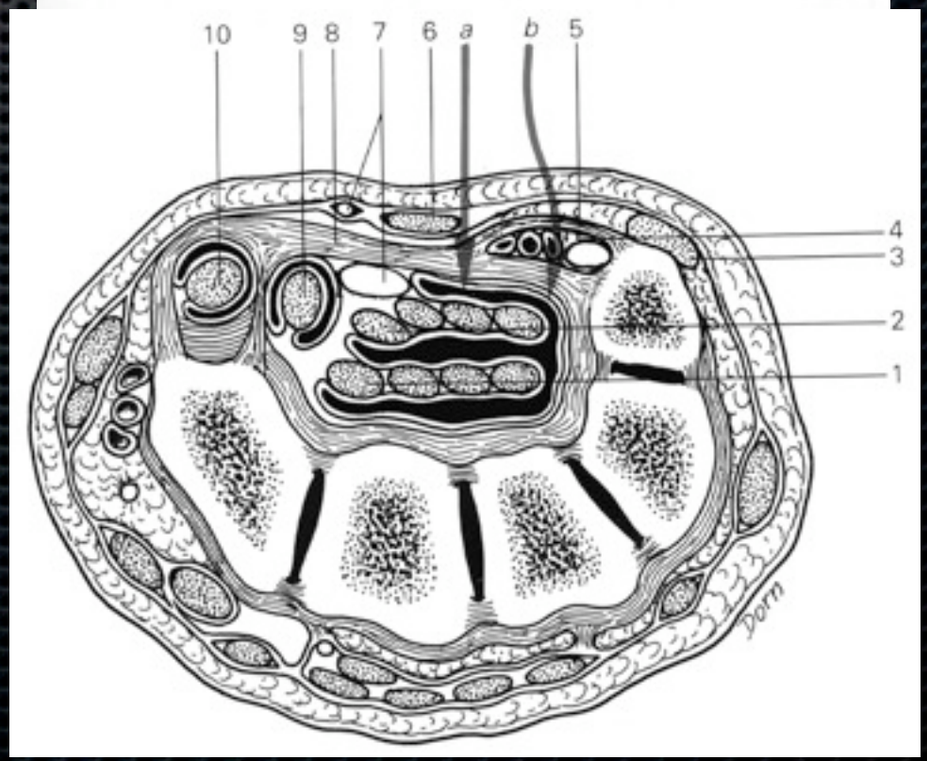

GARROUD



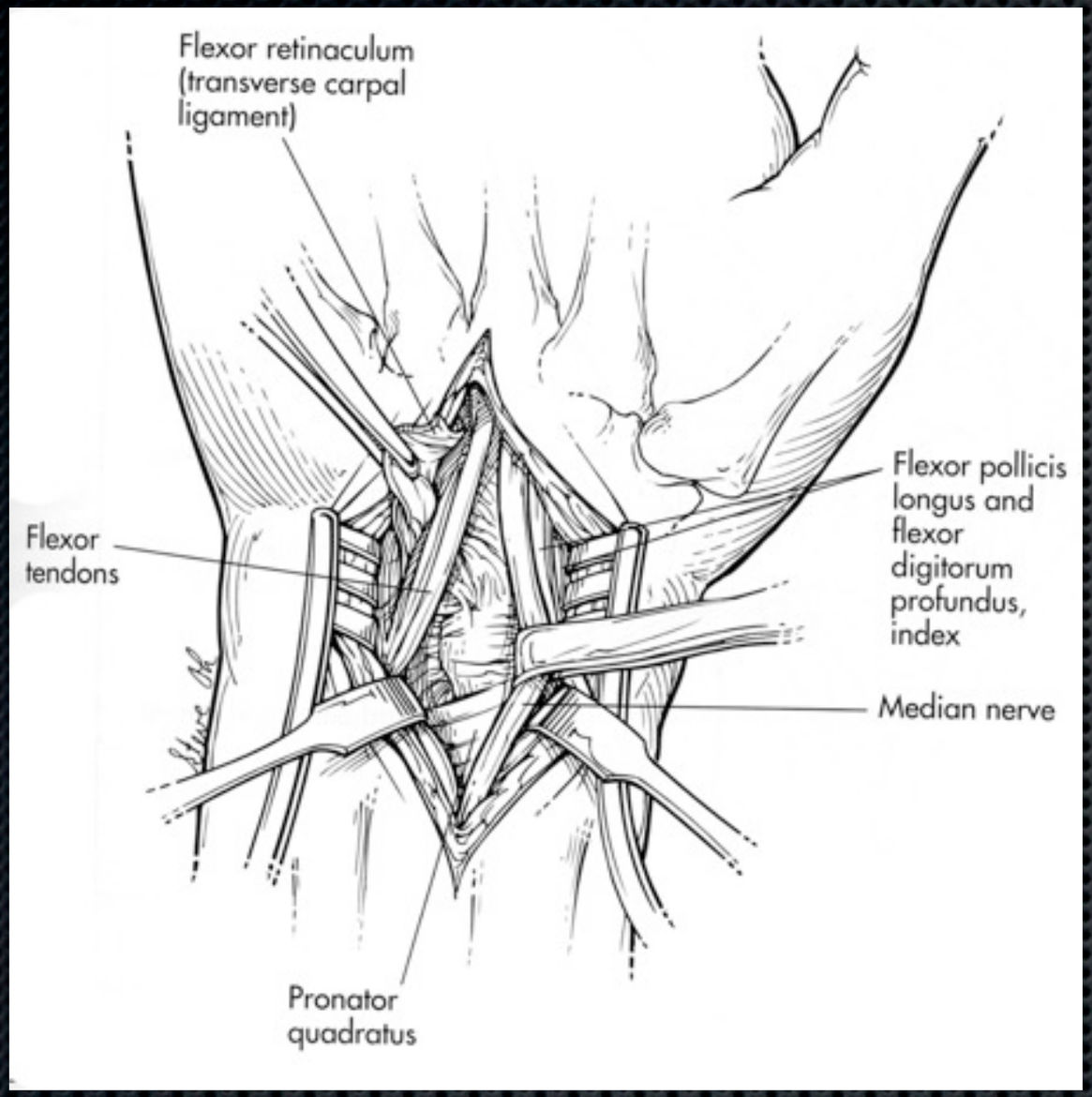
Voie antérieure à travers le canal carpien

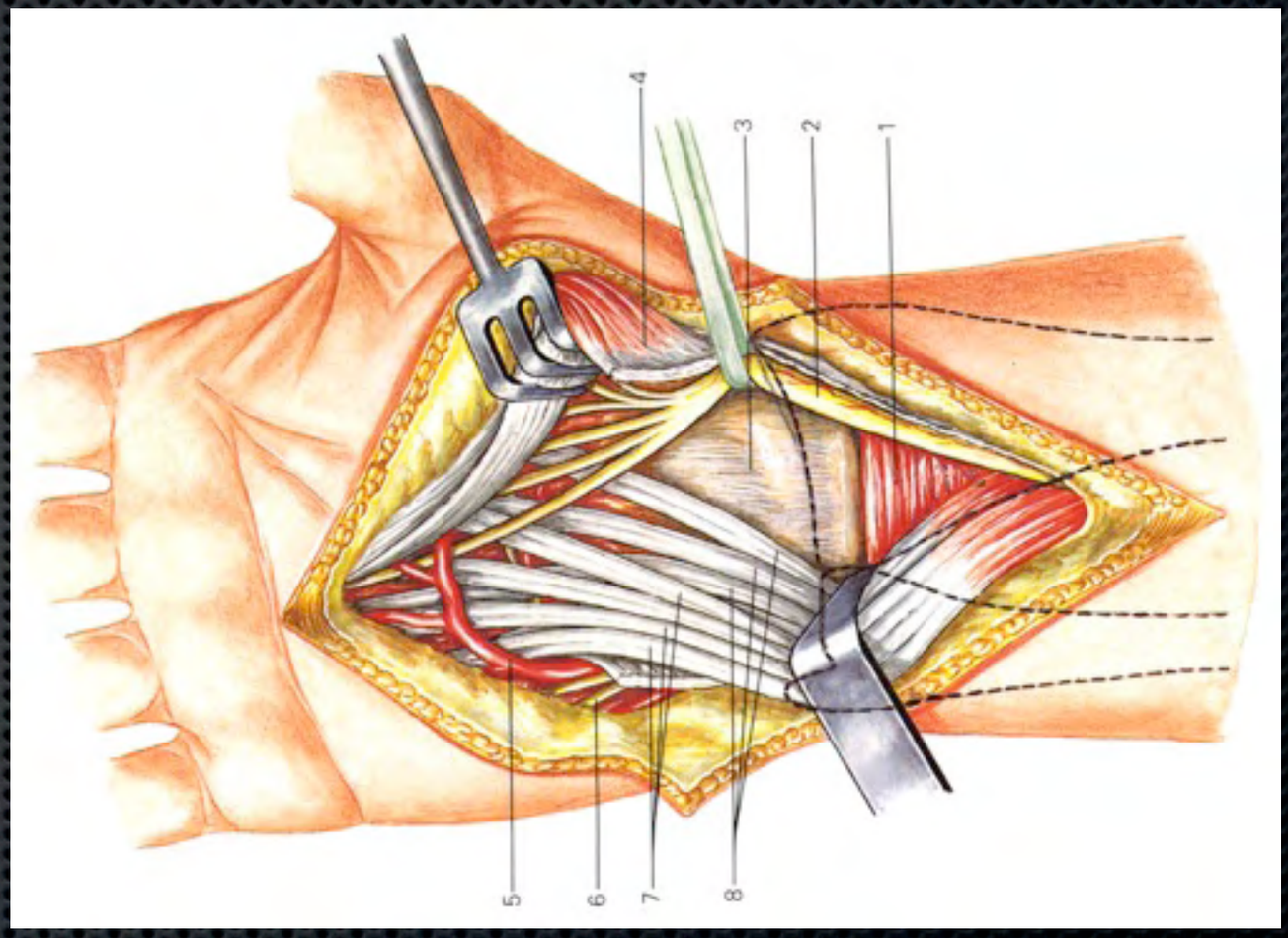
- Le scaphoïde se projette à cheval sur le pli distal du poignet
- L'incision doit être antébrachio-palmaire



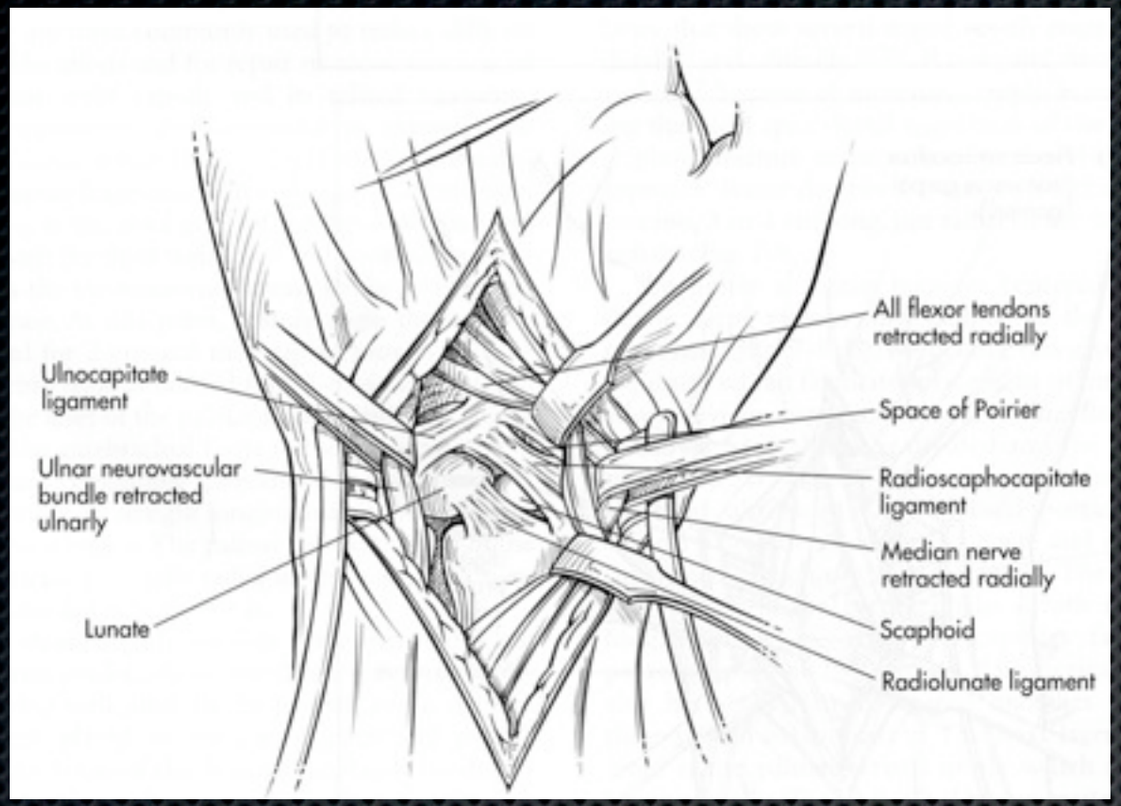


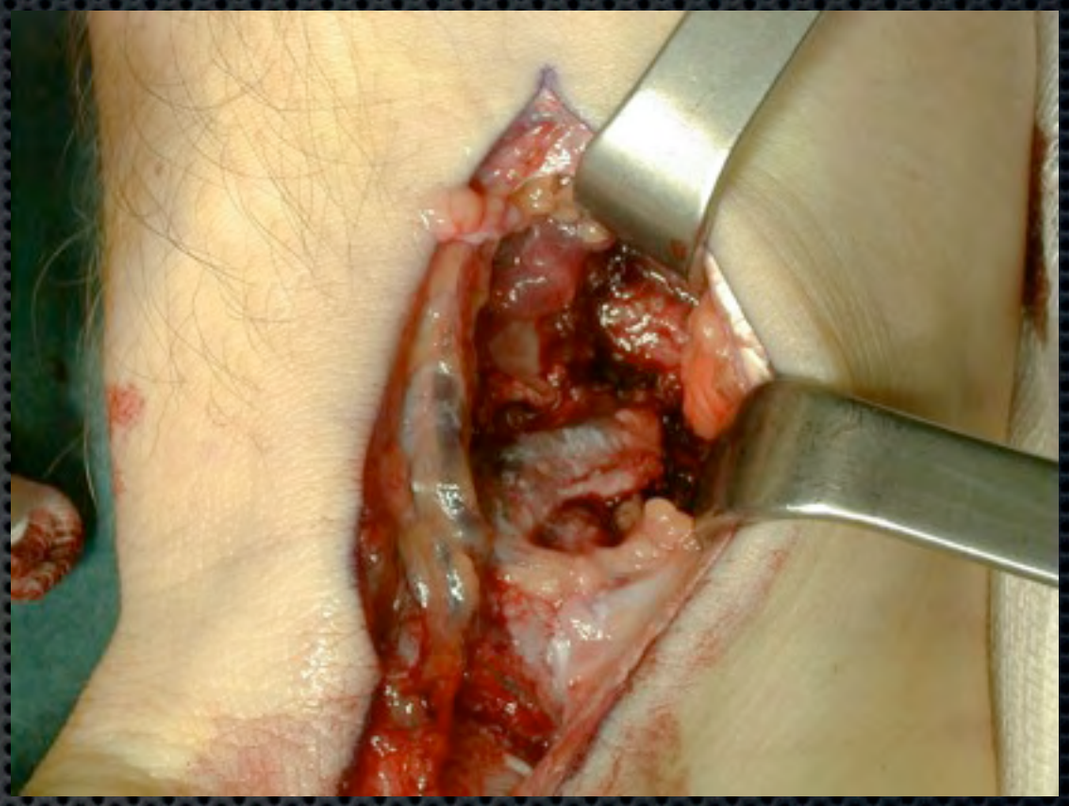
Voie antérieure à travers le canal carpien

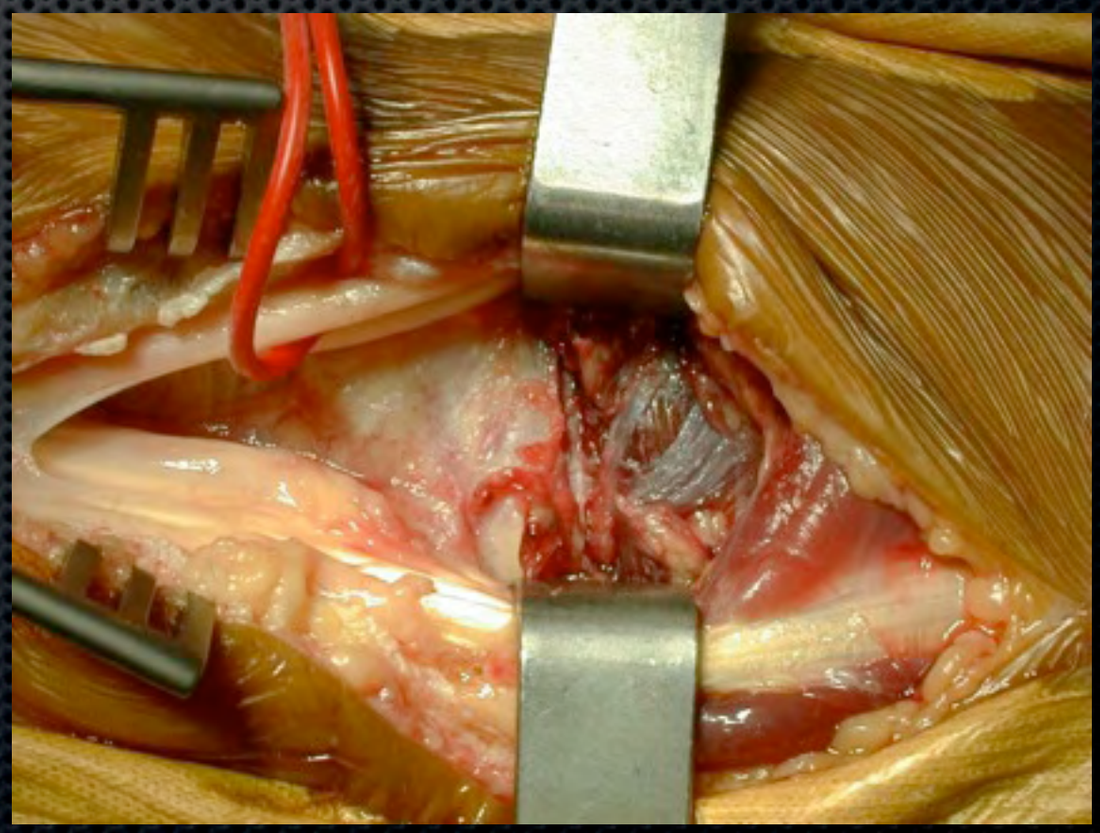




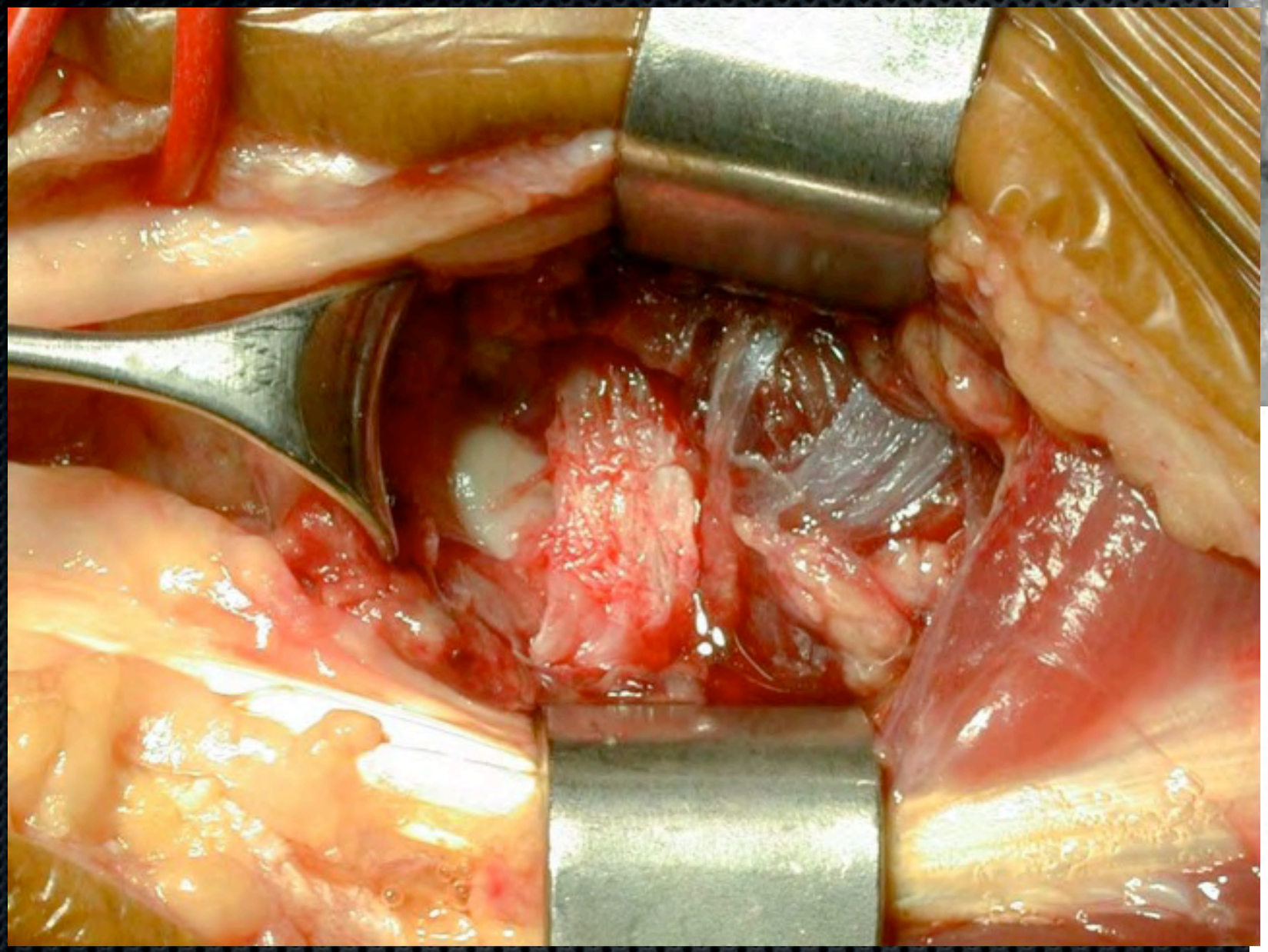
Voie antérieure à travers le canal carpien

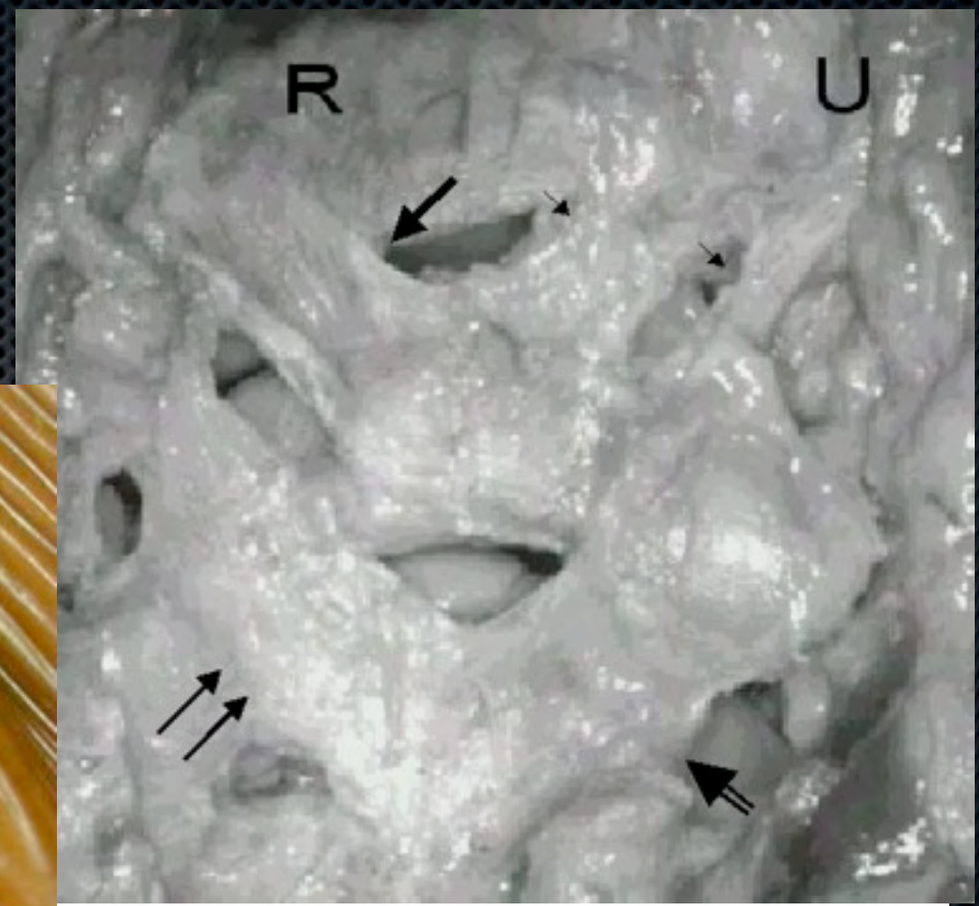


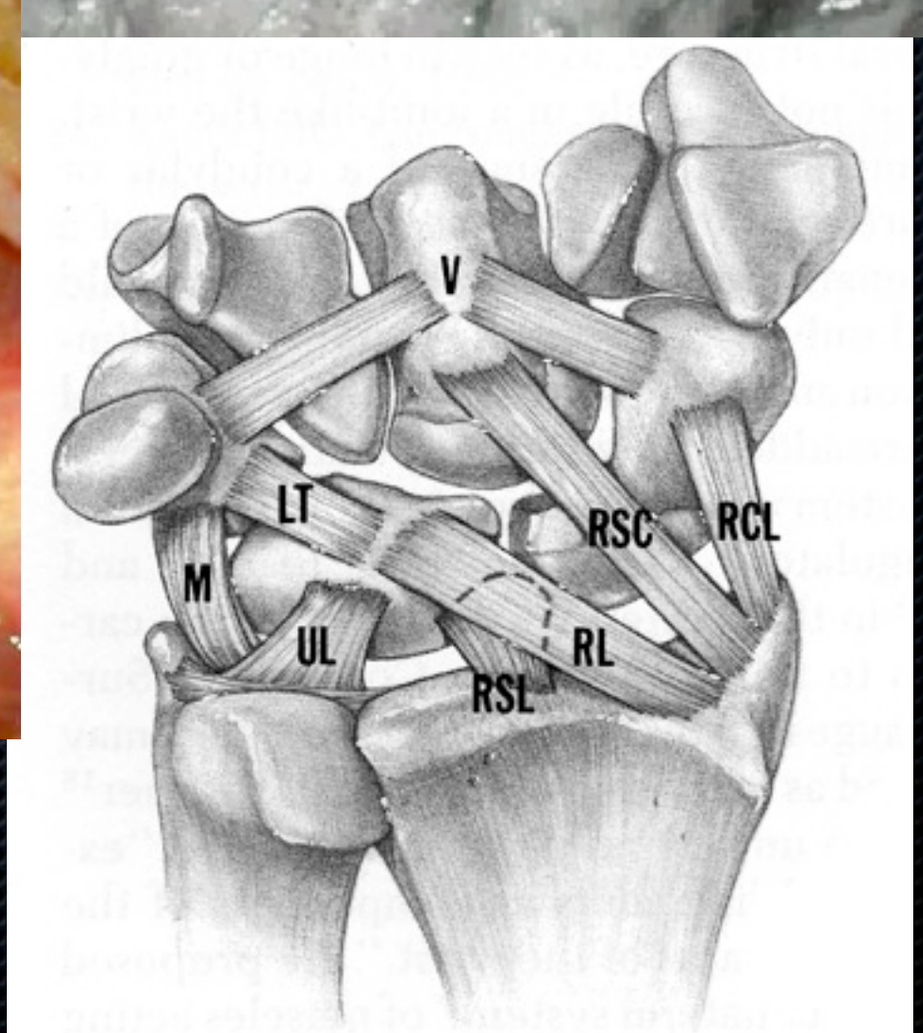




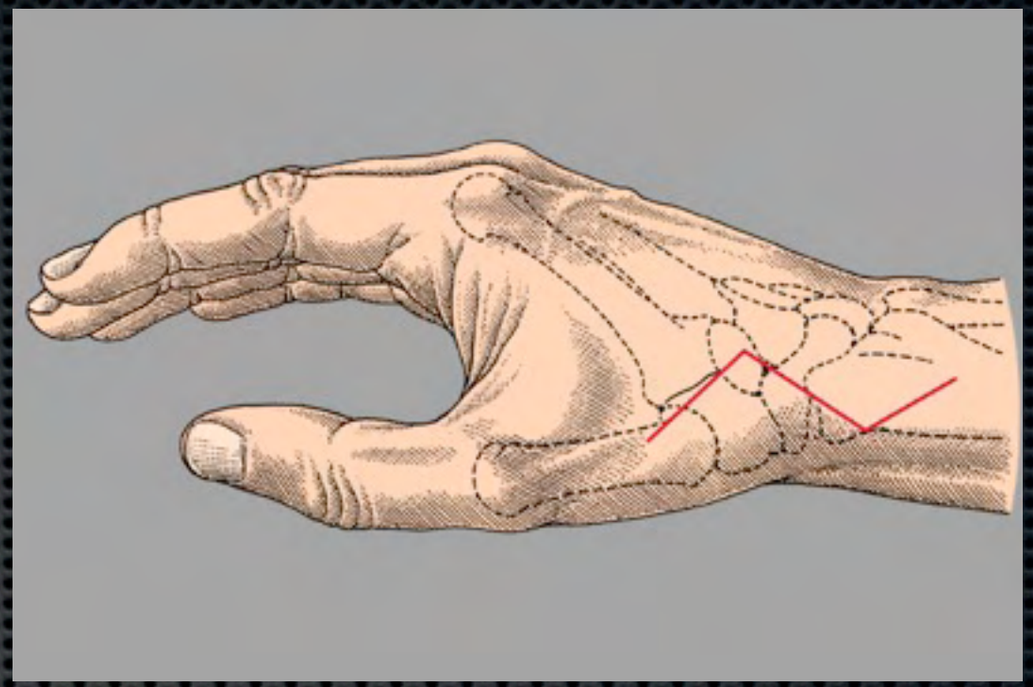
- Les ligaments radio-carpiens sont abordés à la face profonde du canal carpien



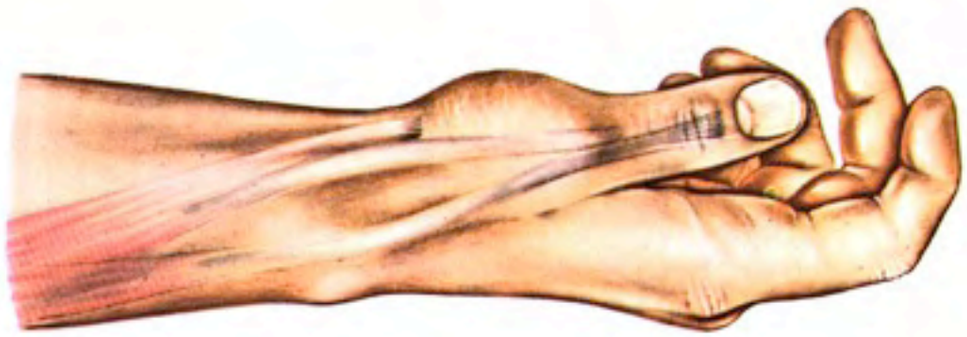

R
U

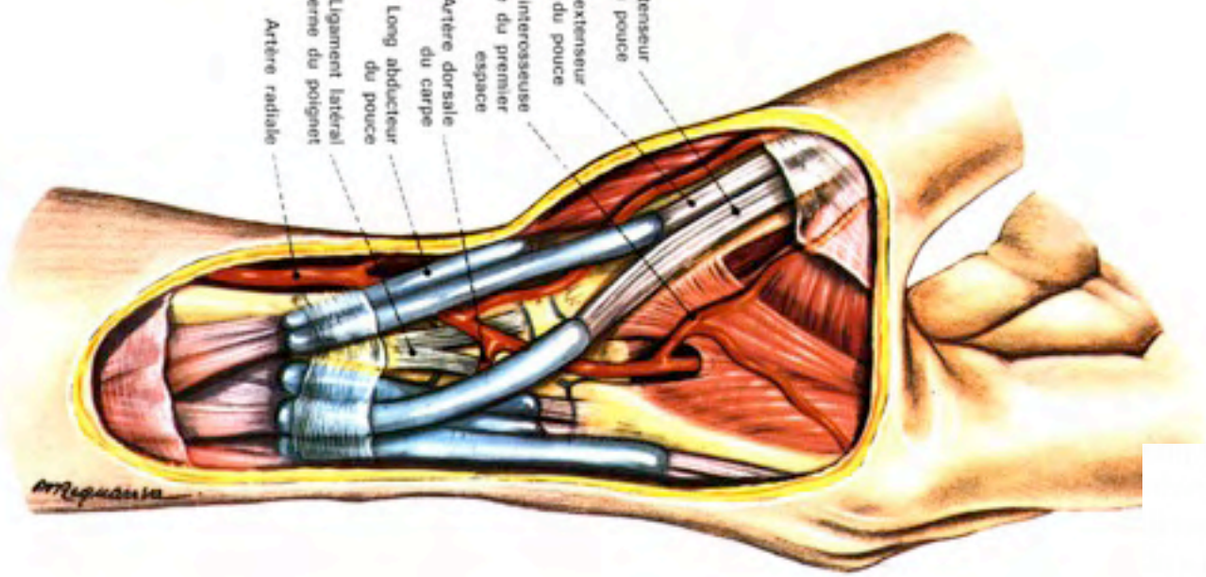

V
LT
RSC
RCL
M
UL
RL
RSL

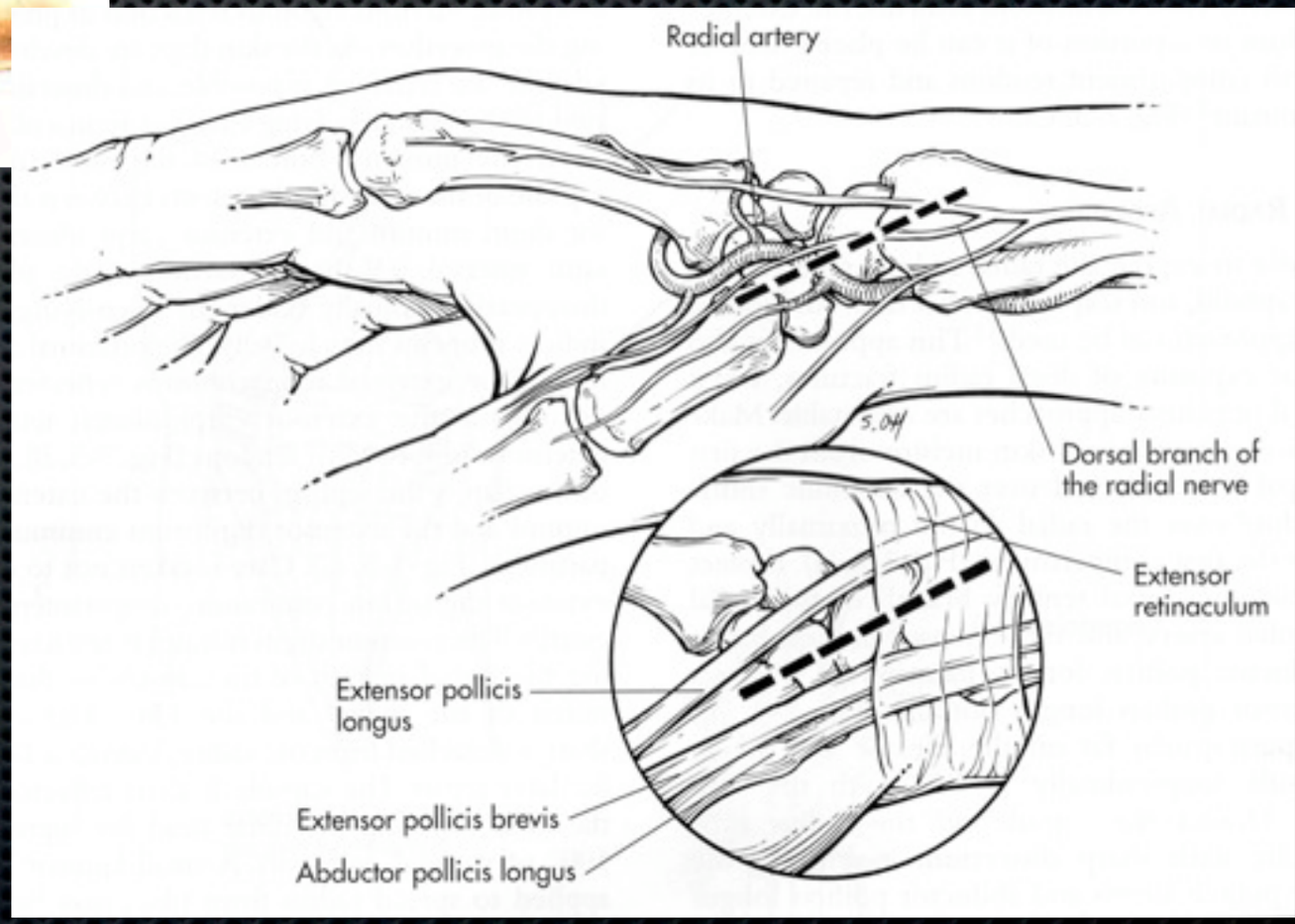
Voie d’abord latérale



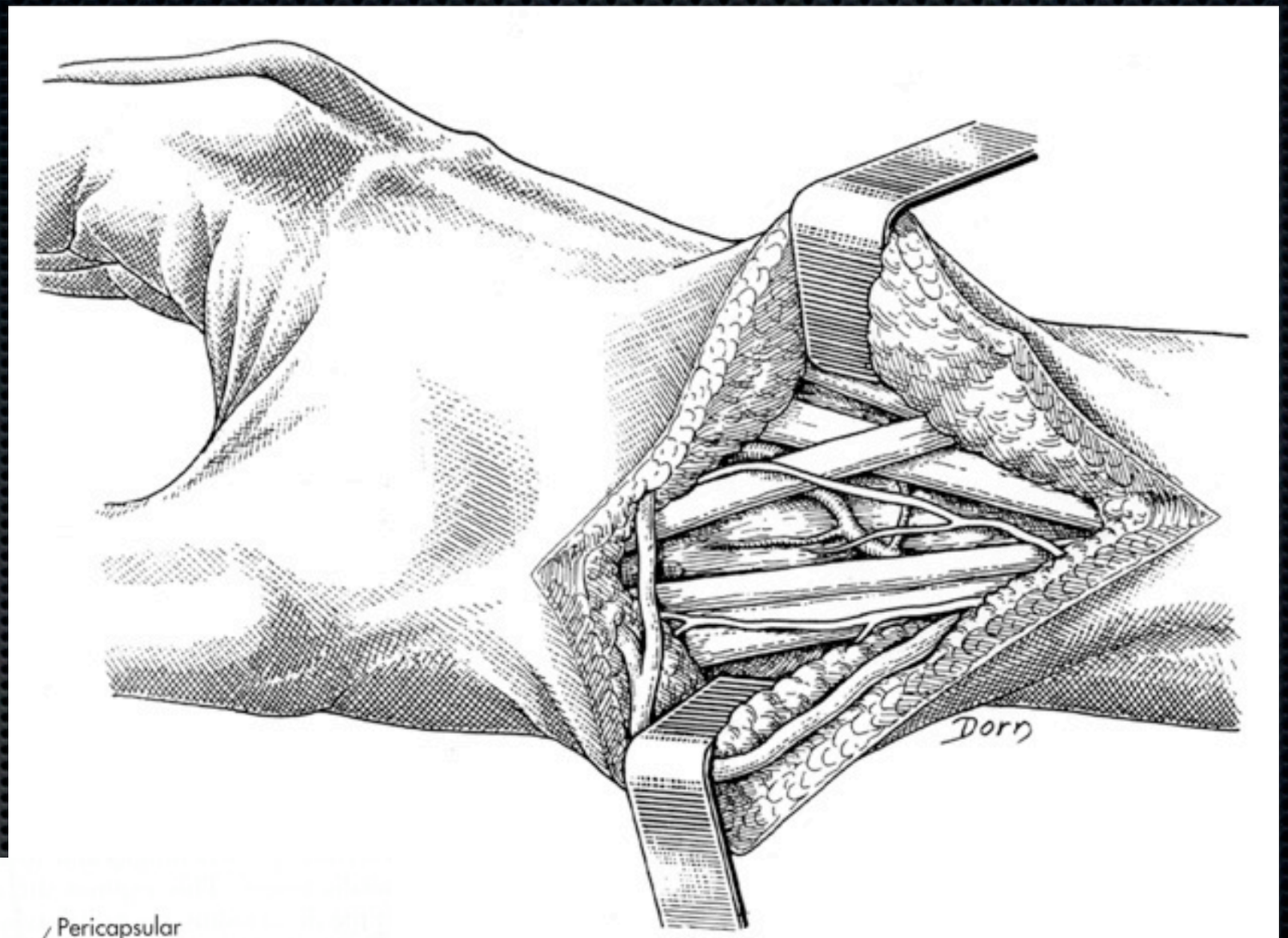
- Abord externe du scaphoïde pour greffes encastrées et surtout pour le greffon vascularisé de Zaidenberg
- Dangers anatomiques nombreux

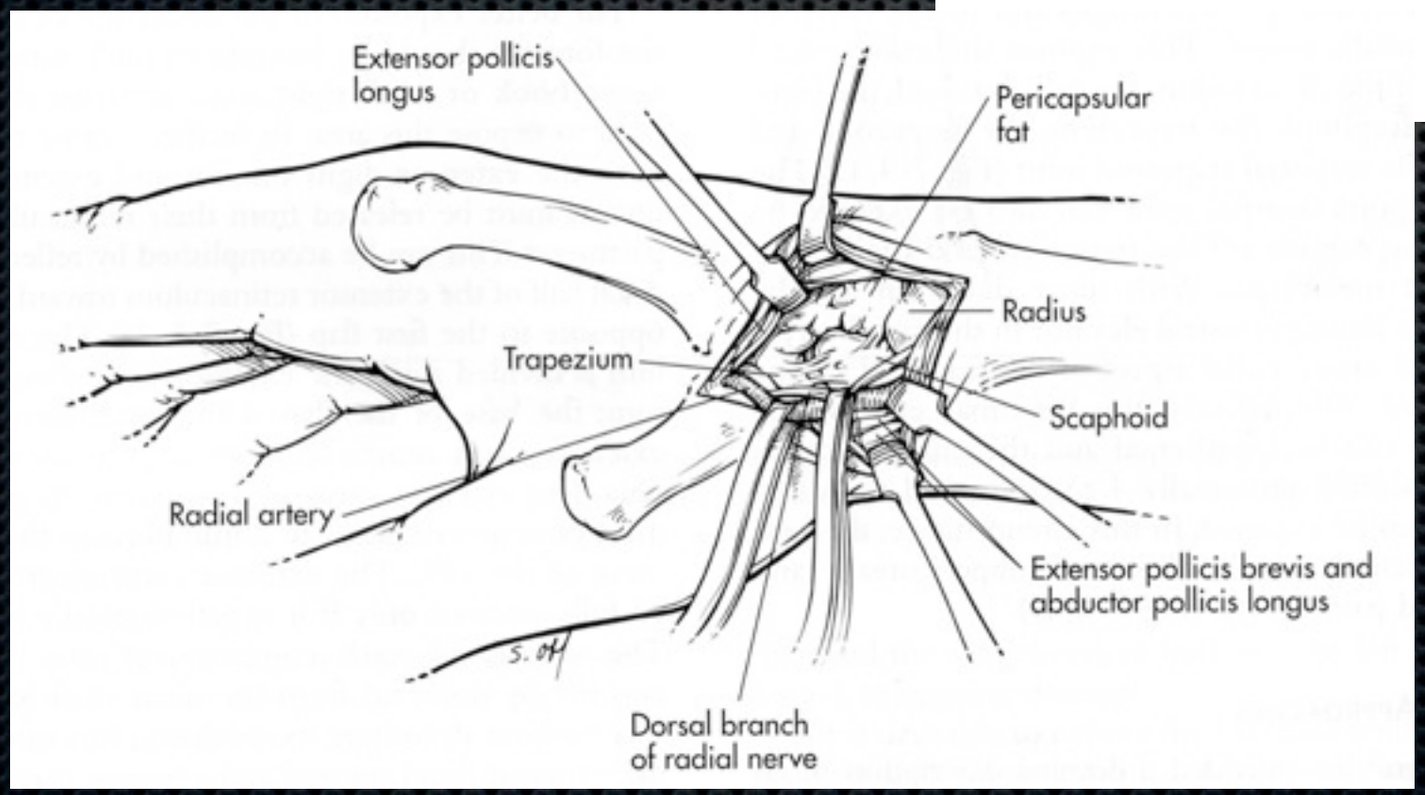



Long extenseur du pouce
Court extenseur du pouce
Artère interosseuse dorsale du premier espace
Artère dorsale du carpe
Long abducteur du pouce
Ligament latéral externe du poignet
Artère radiale


Radial artery
Dorsal branch of the radial nerve
Extensor retinaculum
Extensor pollicis longus
Extensor pollicis brevis
Abductor pollicis longus

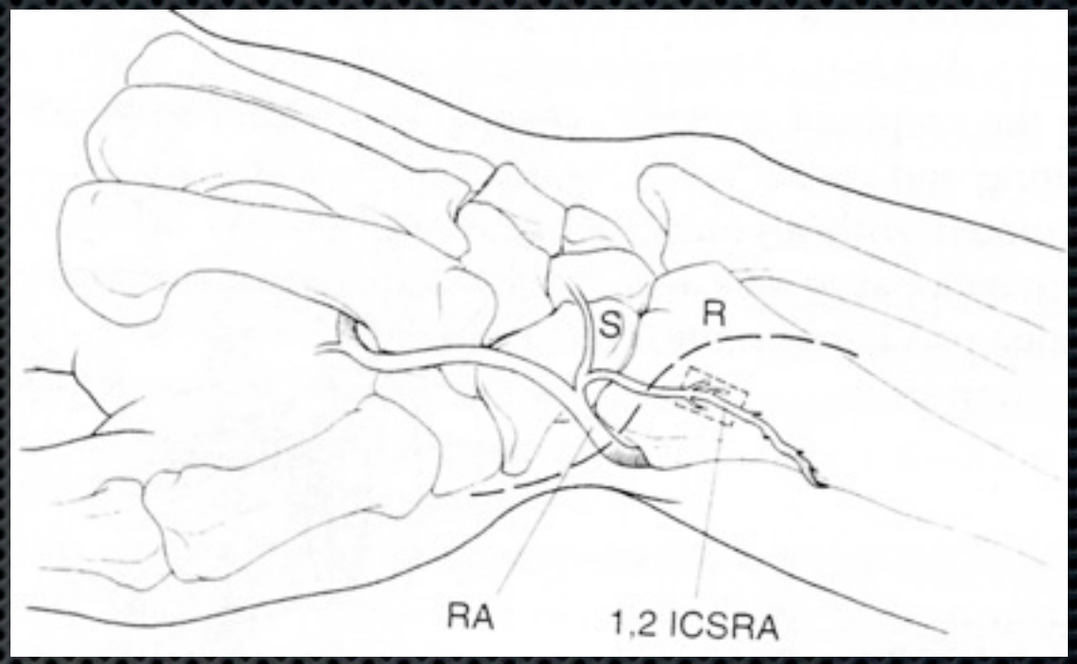
Nerf radial et latéral cutané antébrachial



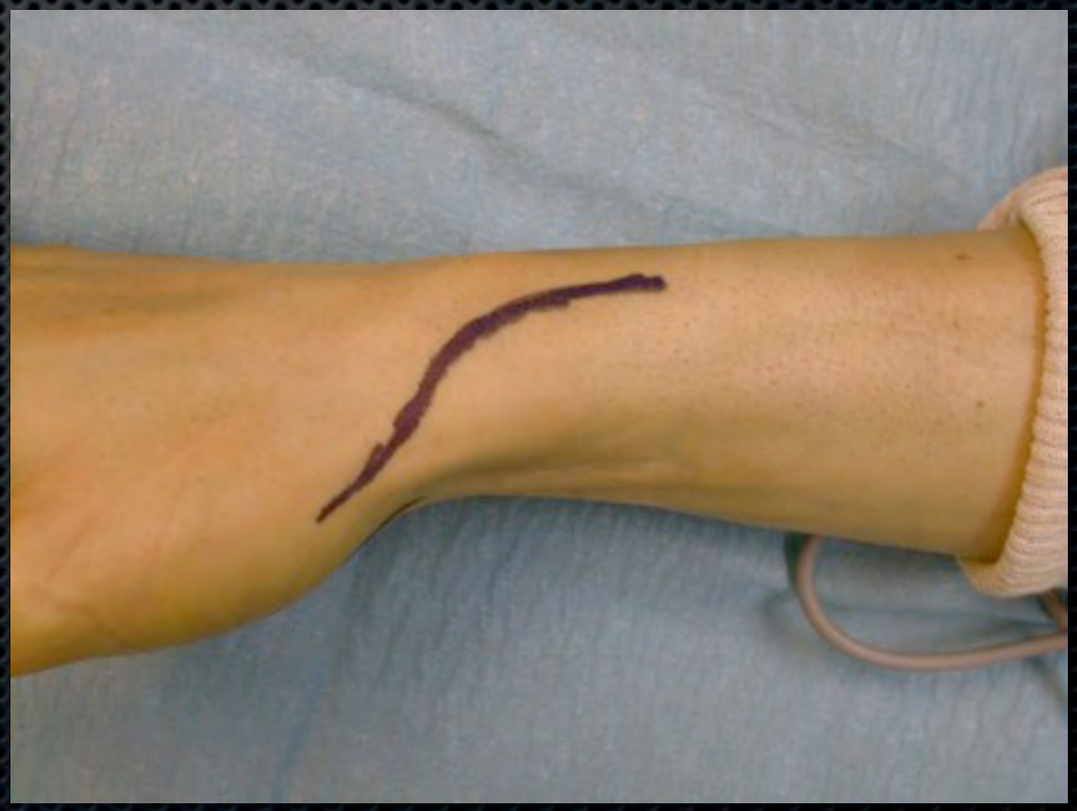


Artère radiale fixée par les branches pour le trapèze

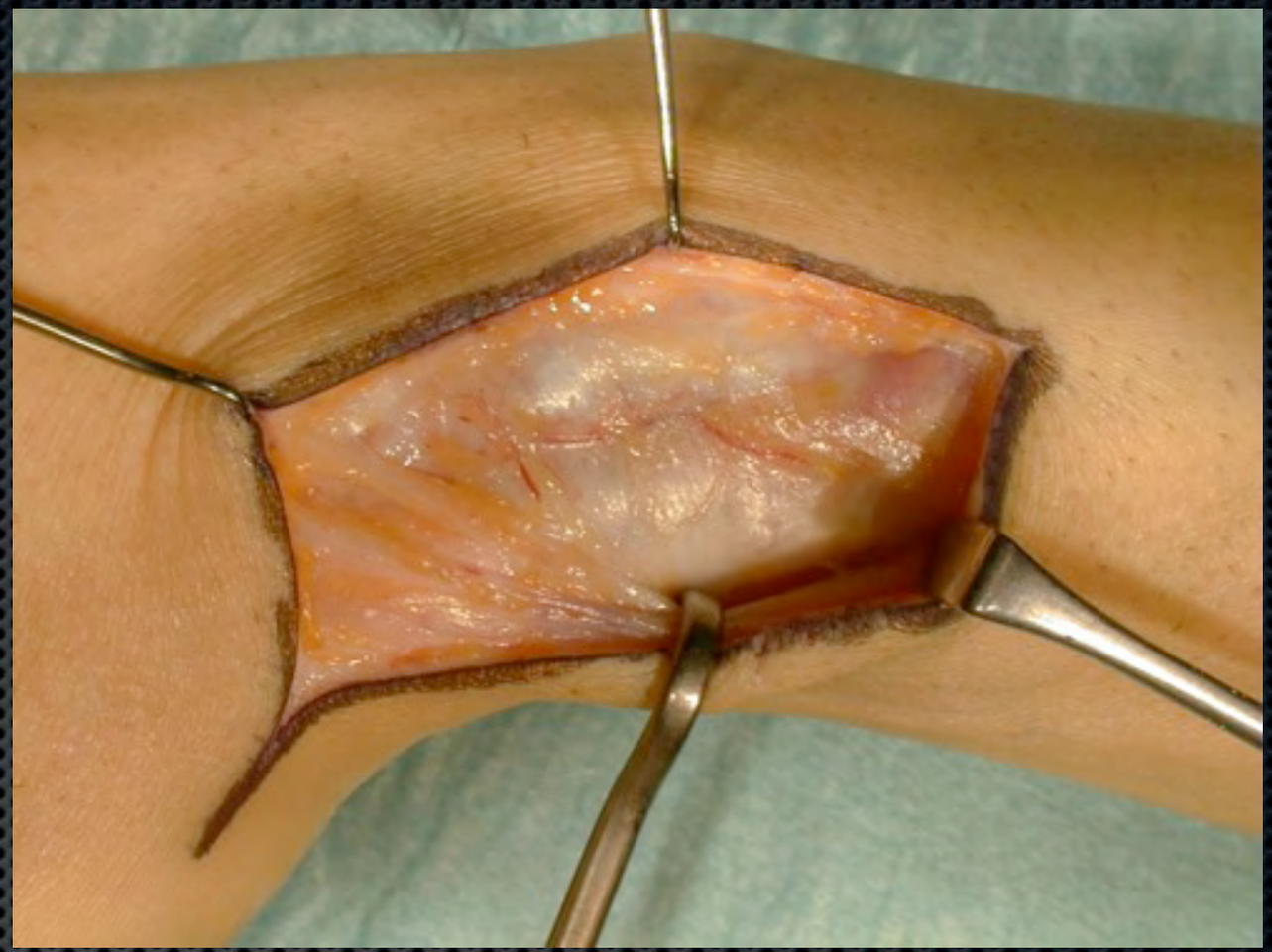
Zaidenberg

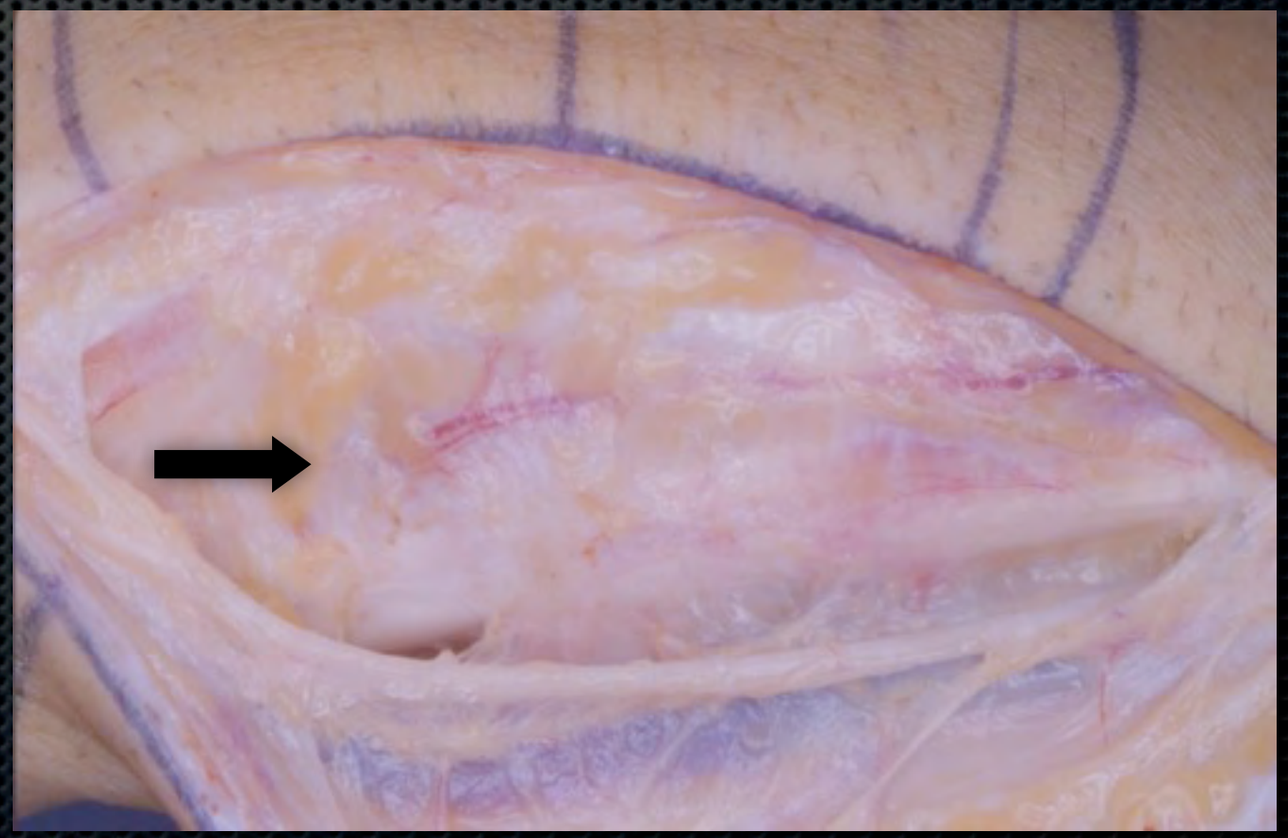


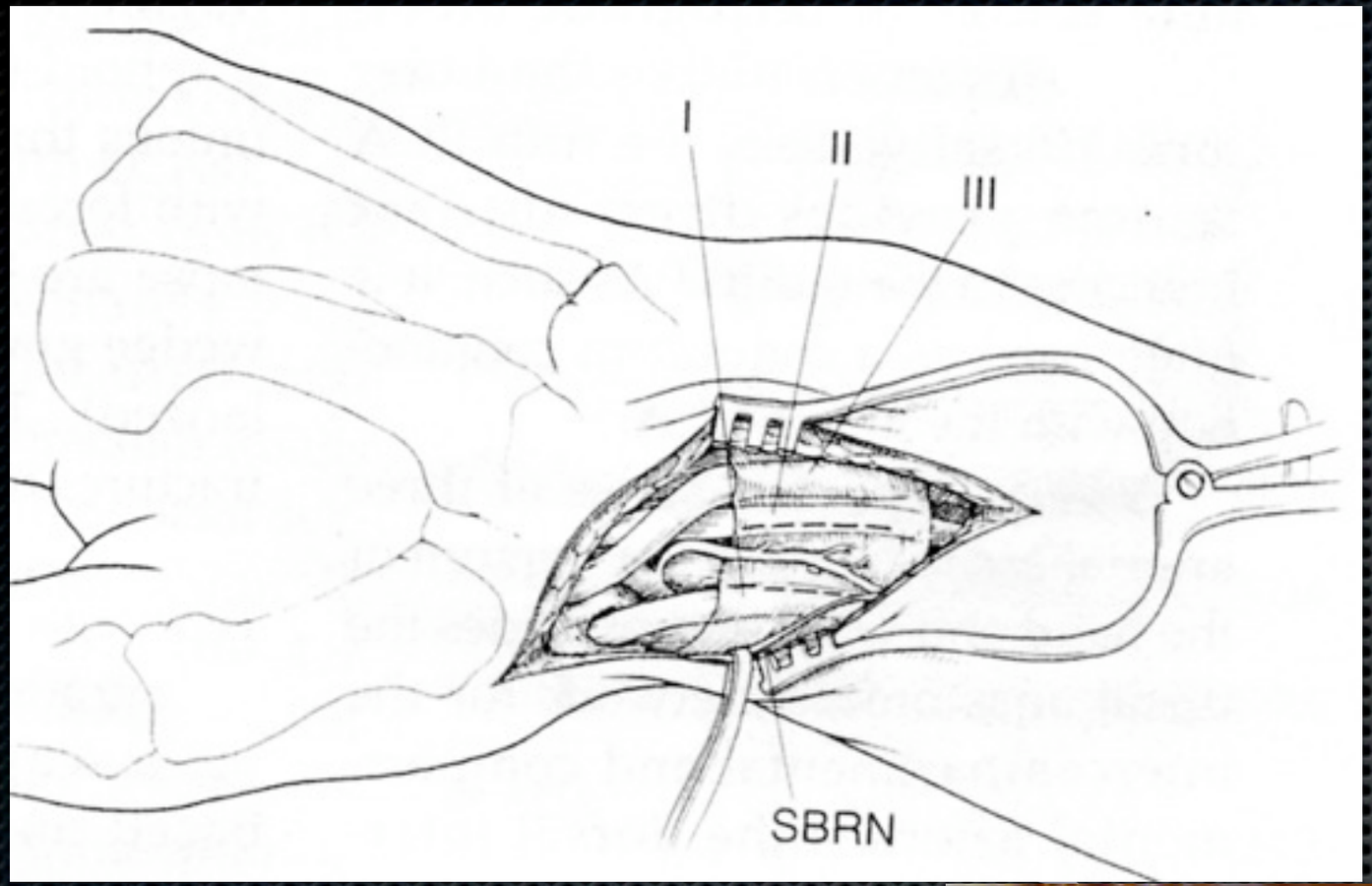
- Incision en S allongé
- Protection du nerf radial



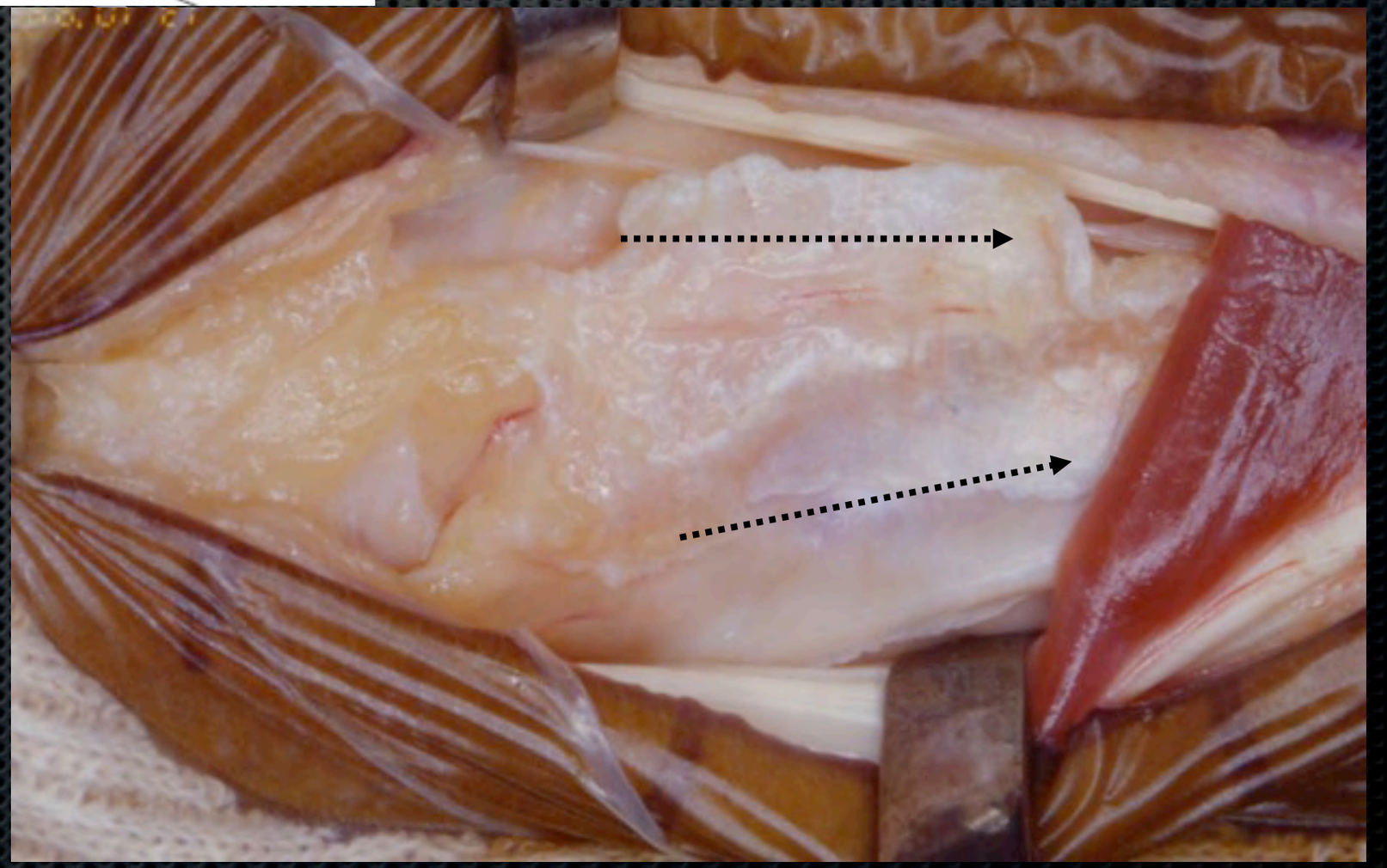
- Visualisation de l’artère 1,2 supra-rétinaculaire



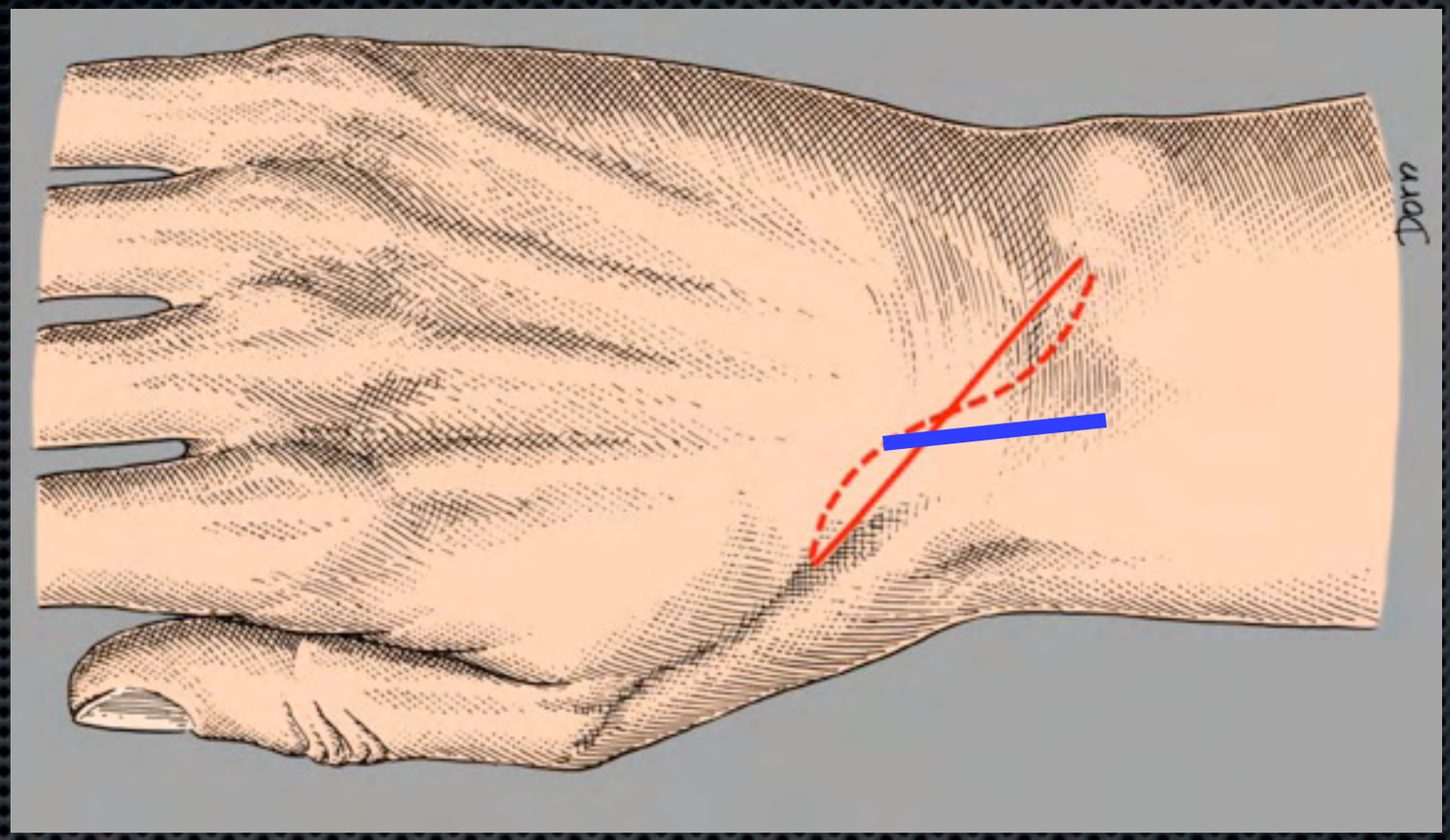




Ouverture des 1er et 2ème compartiments des extenseurs



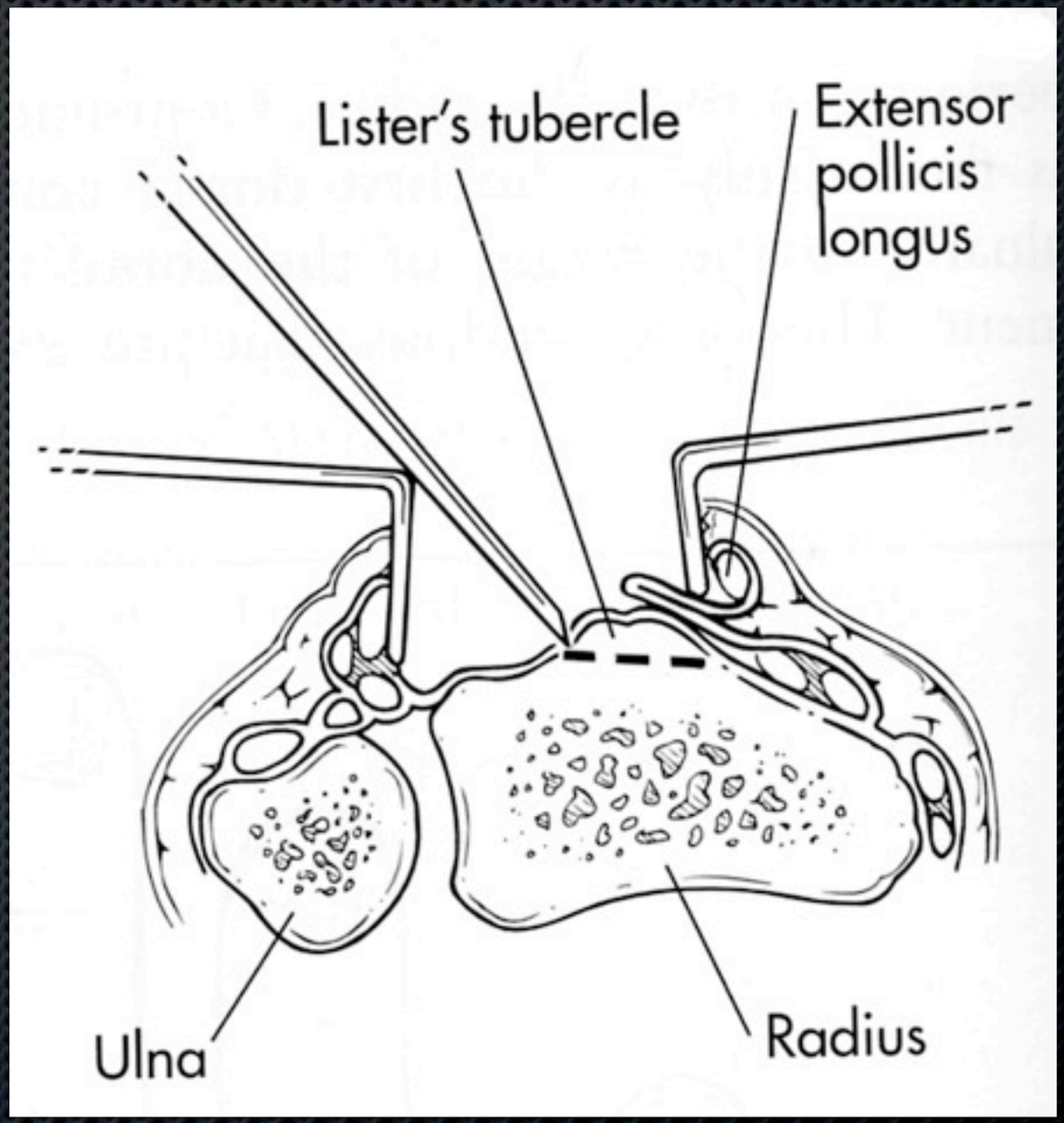
Voie d’abord postérieure du scaphoïde



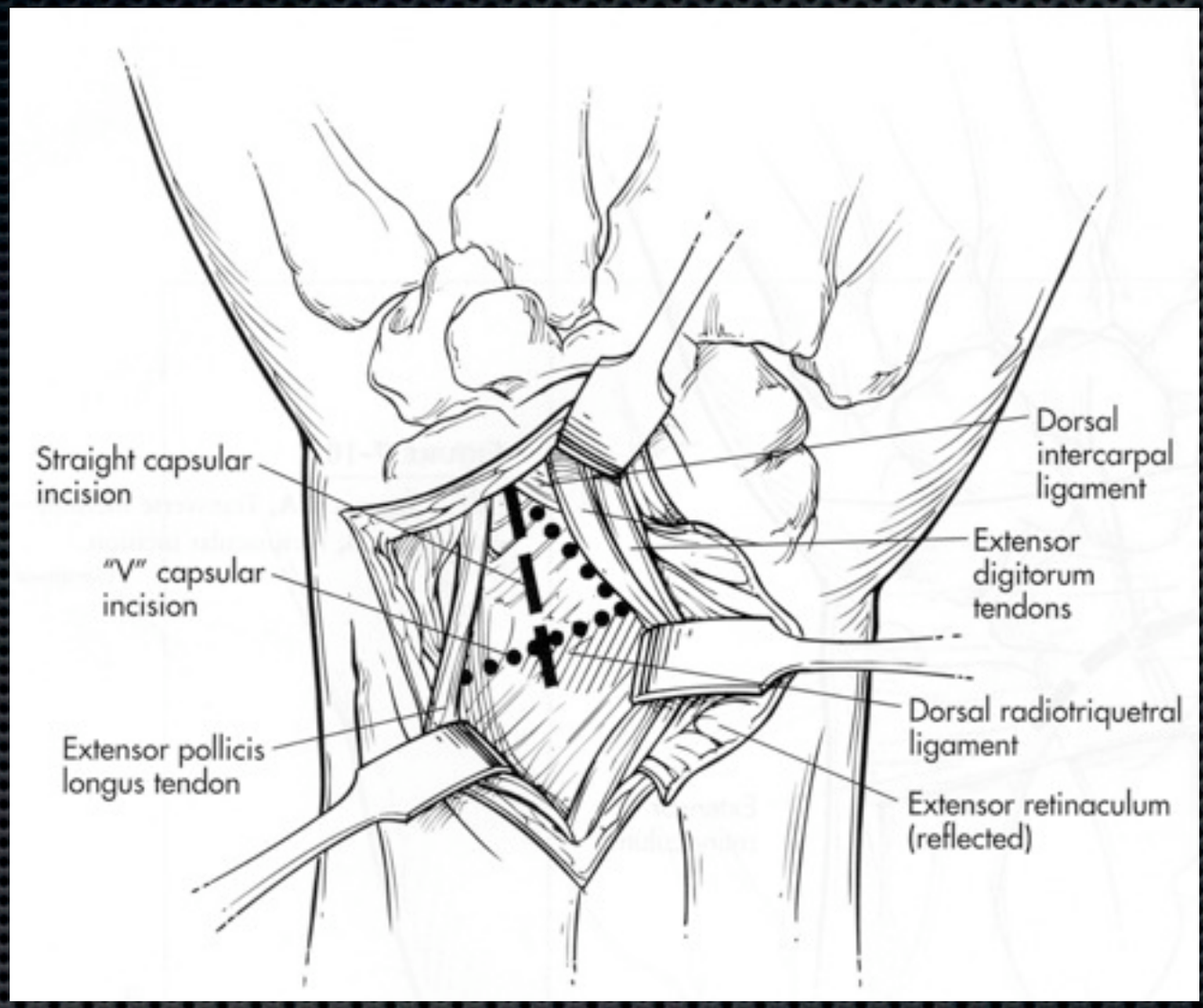
- Incision centrée sur le tubercule de Lister

Voie d’abord postérieure du scaphoïde

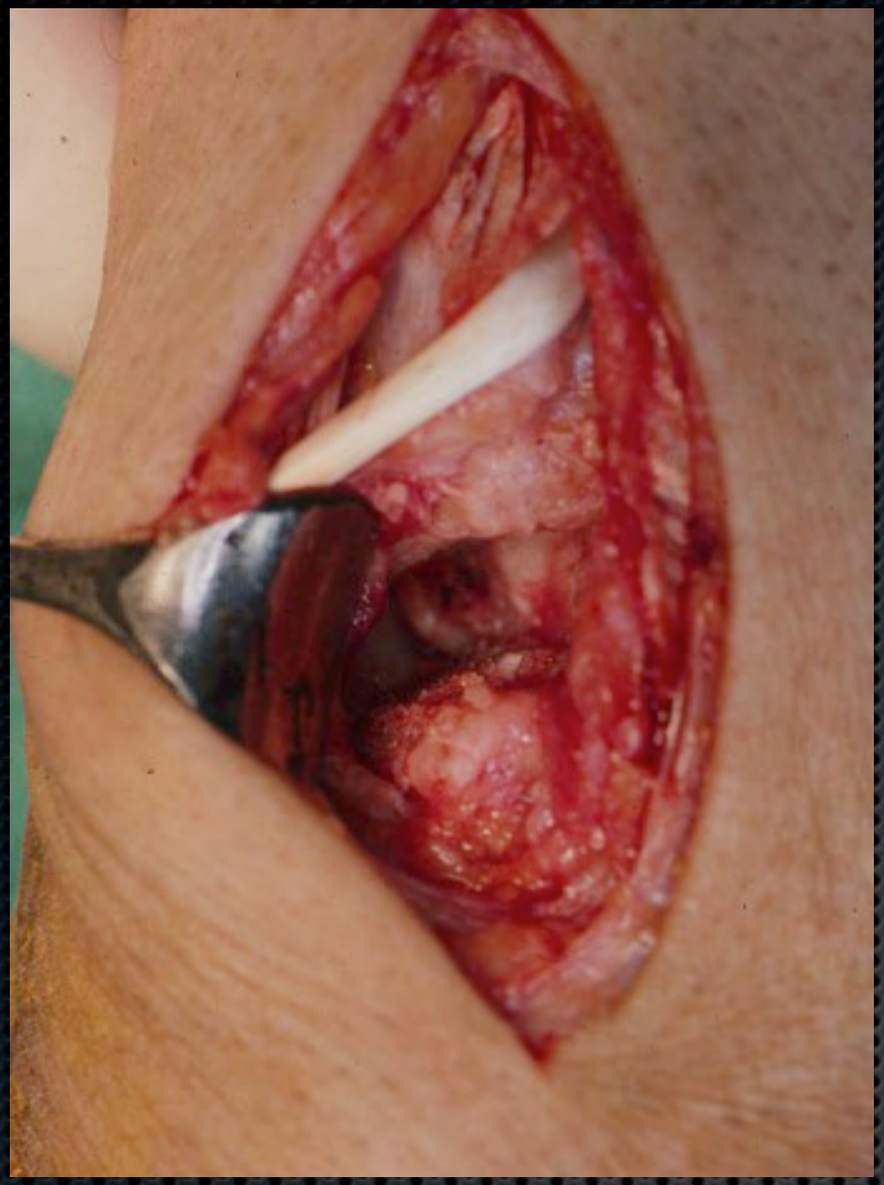
- Ouverture du 3ème compartiment pour repousser en dehors l’EPL

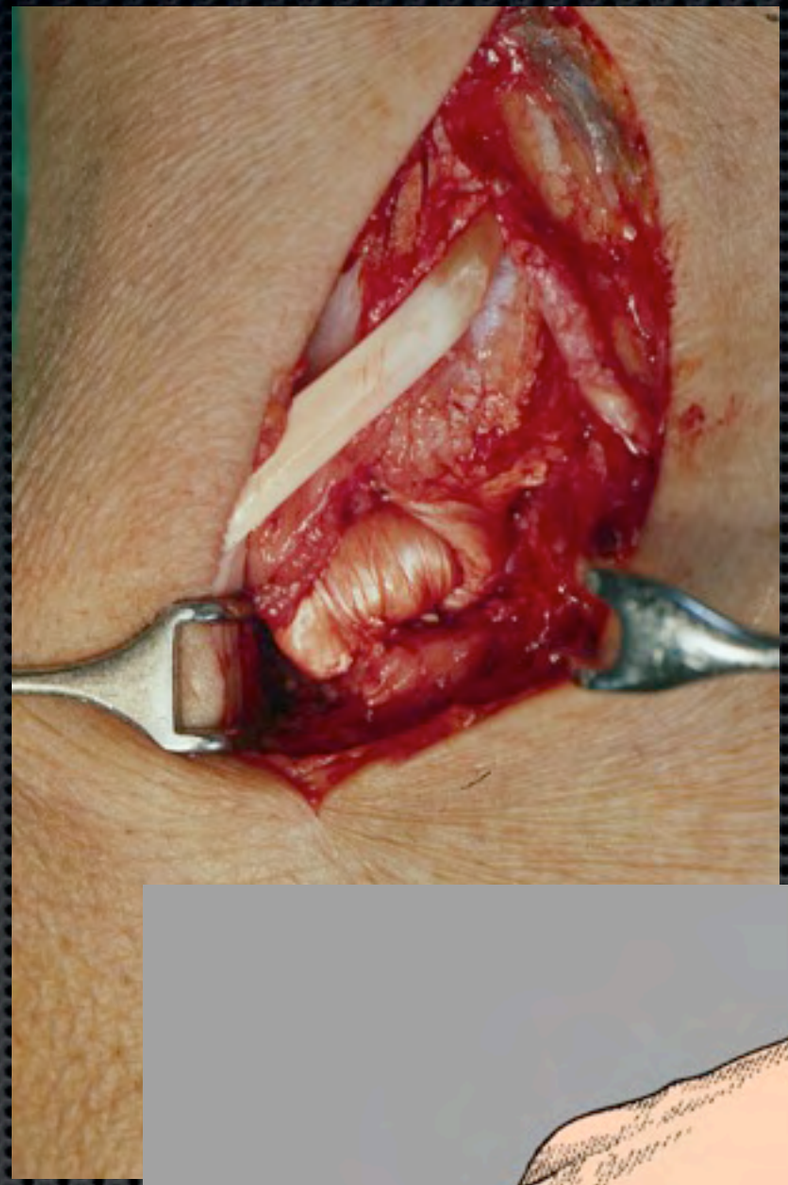


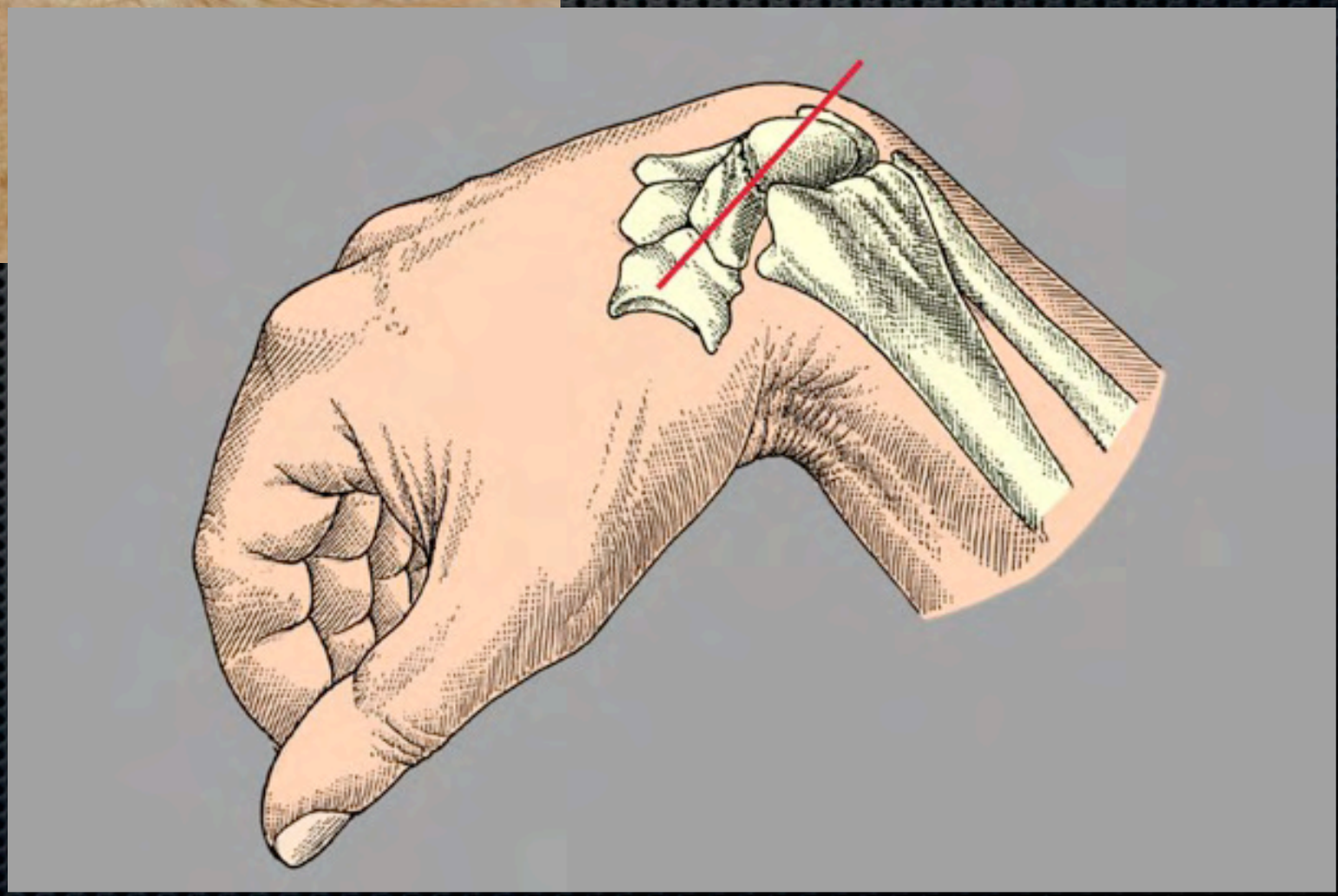
Voie d’abord postérieure du scaphoïde



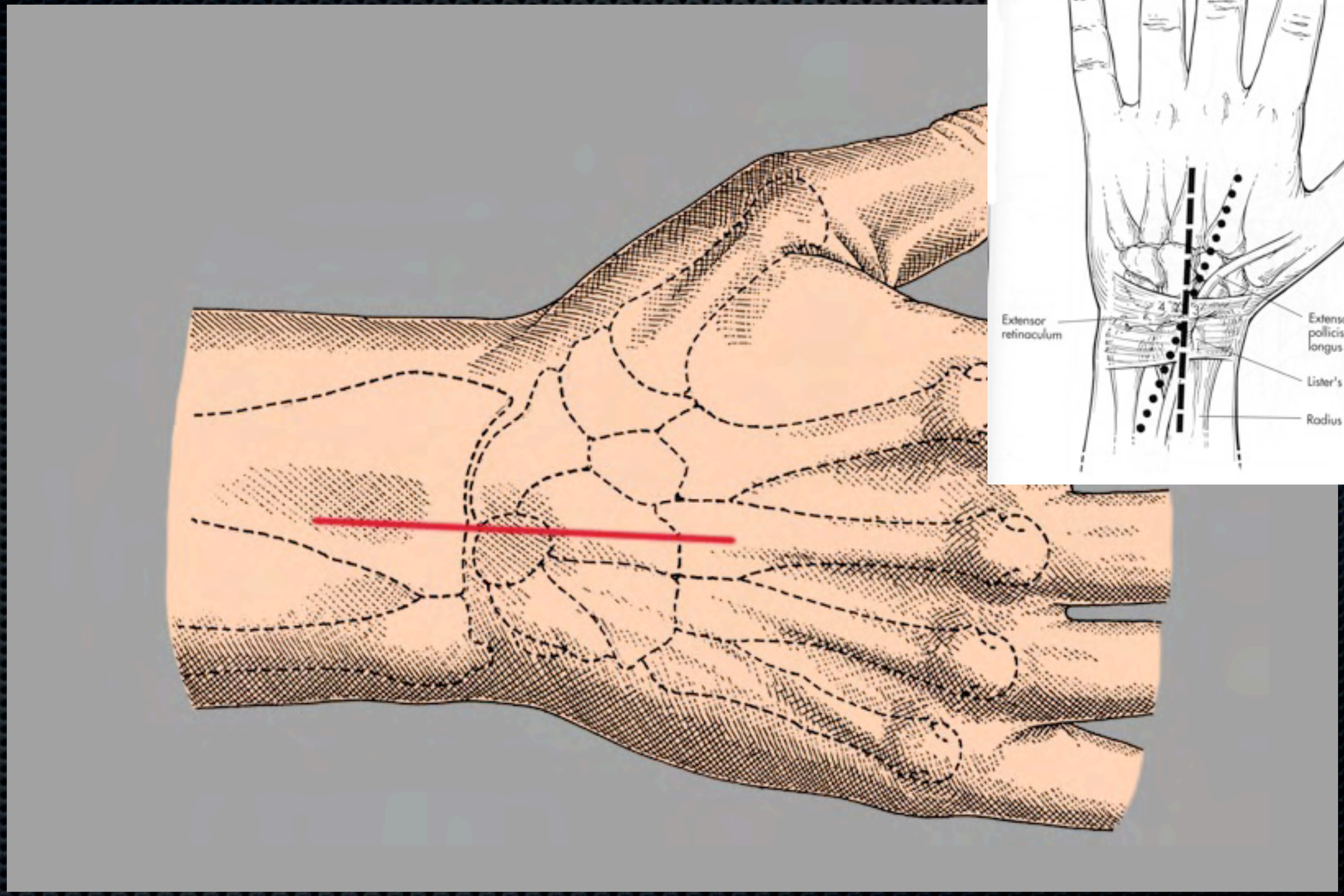
- Ouverture capsulaire longitudinale



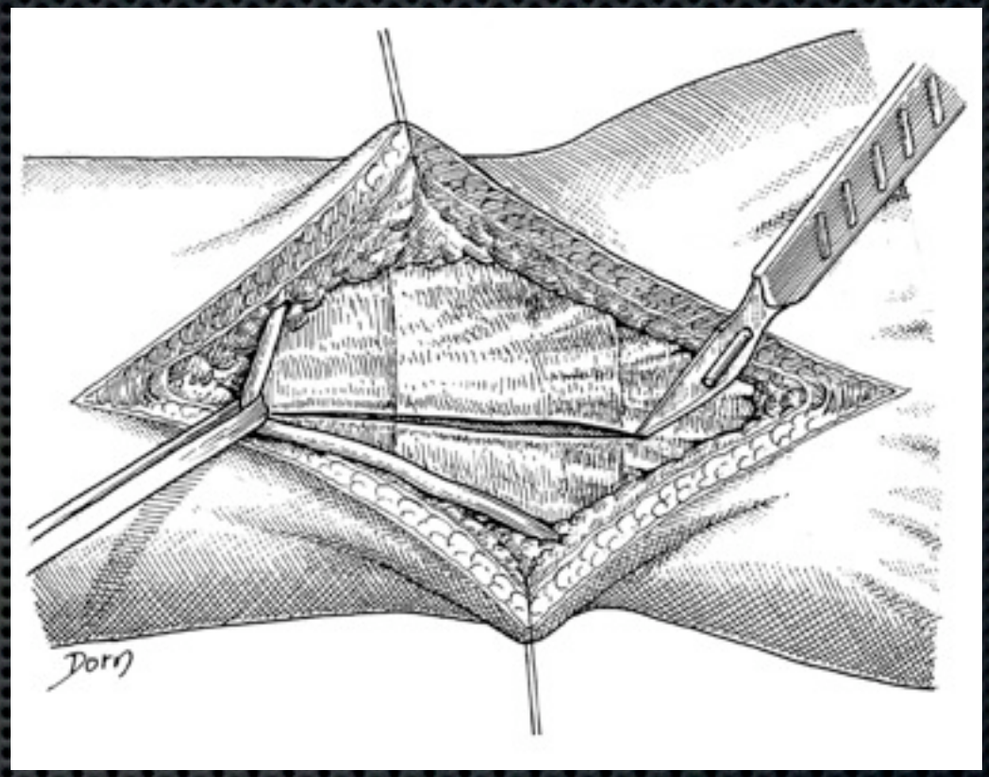




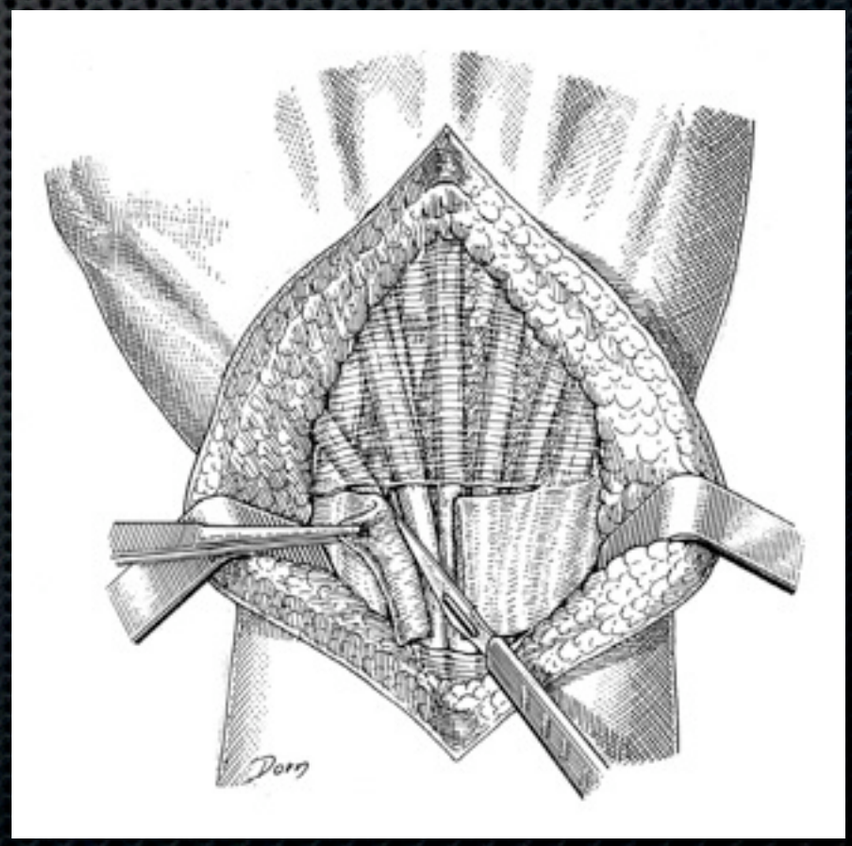
La voie postérieure du carpe

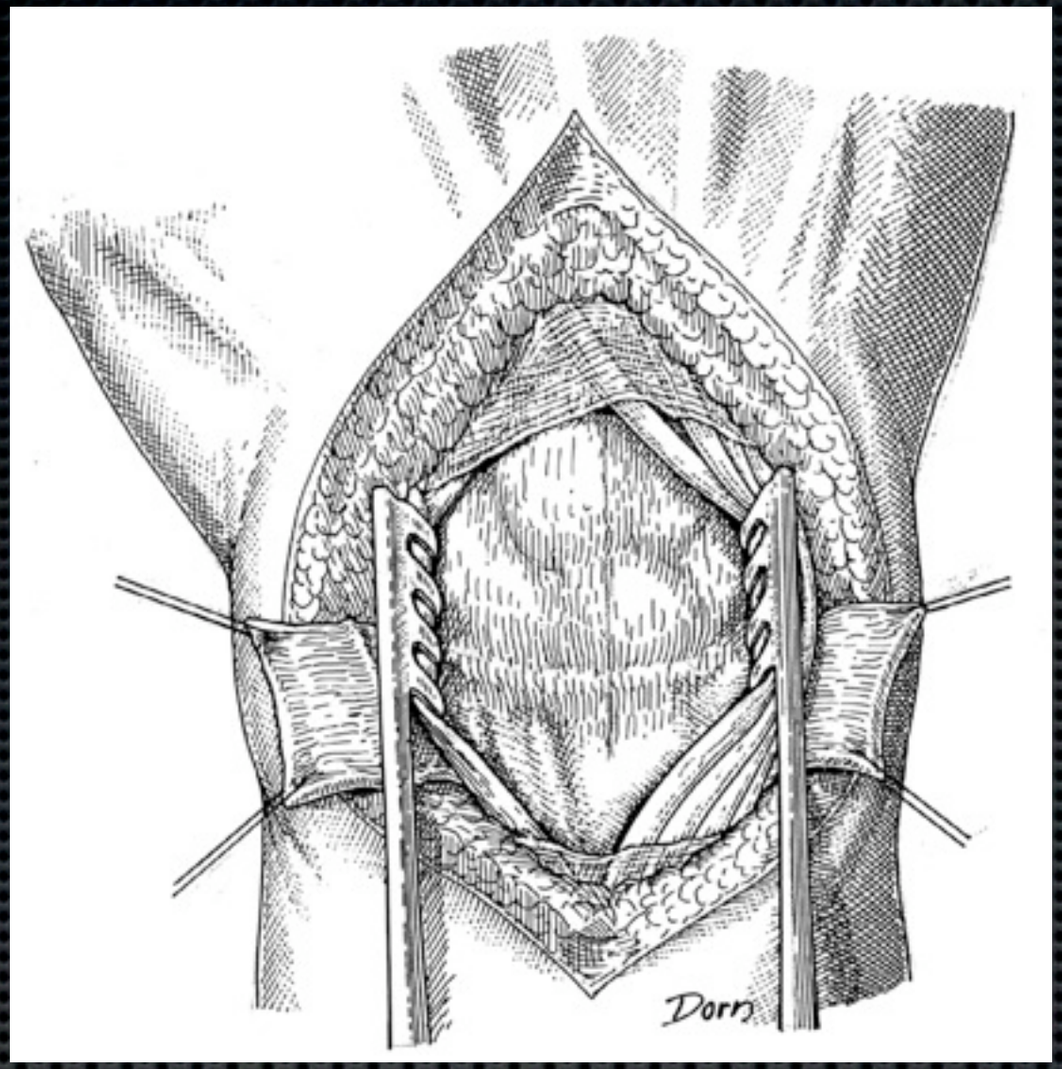


Voie postérieure du carpe



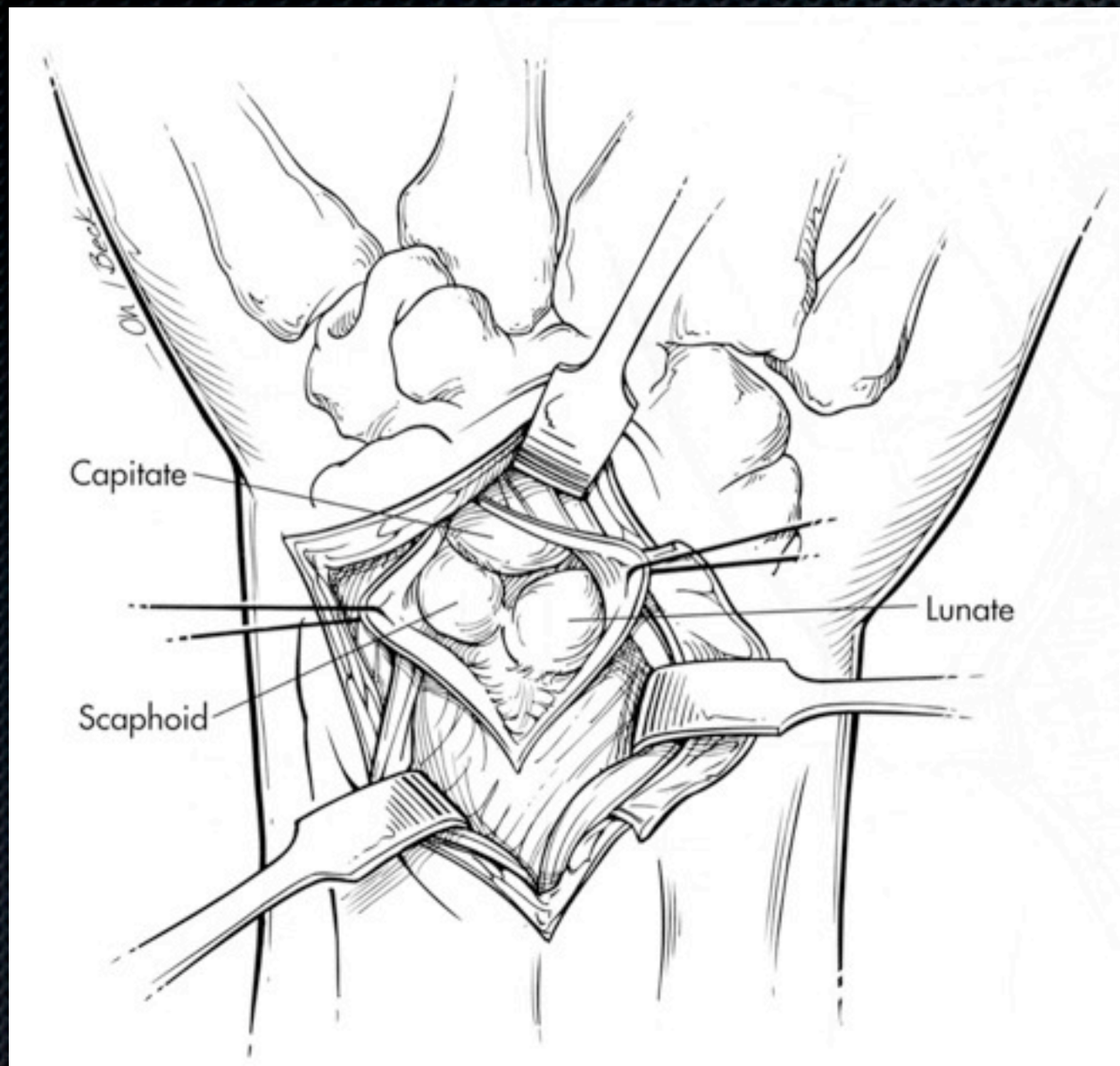
- Incision longitudinale du retinaculum à la jonction 3ème-4ème compartiment

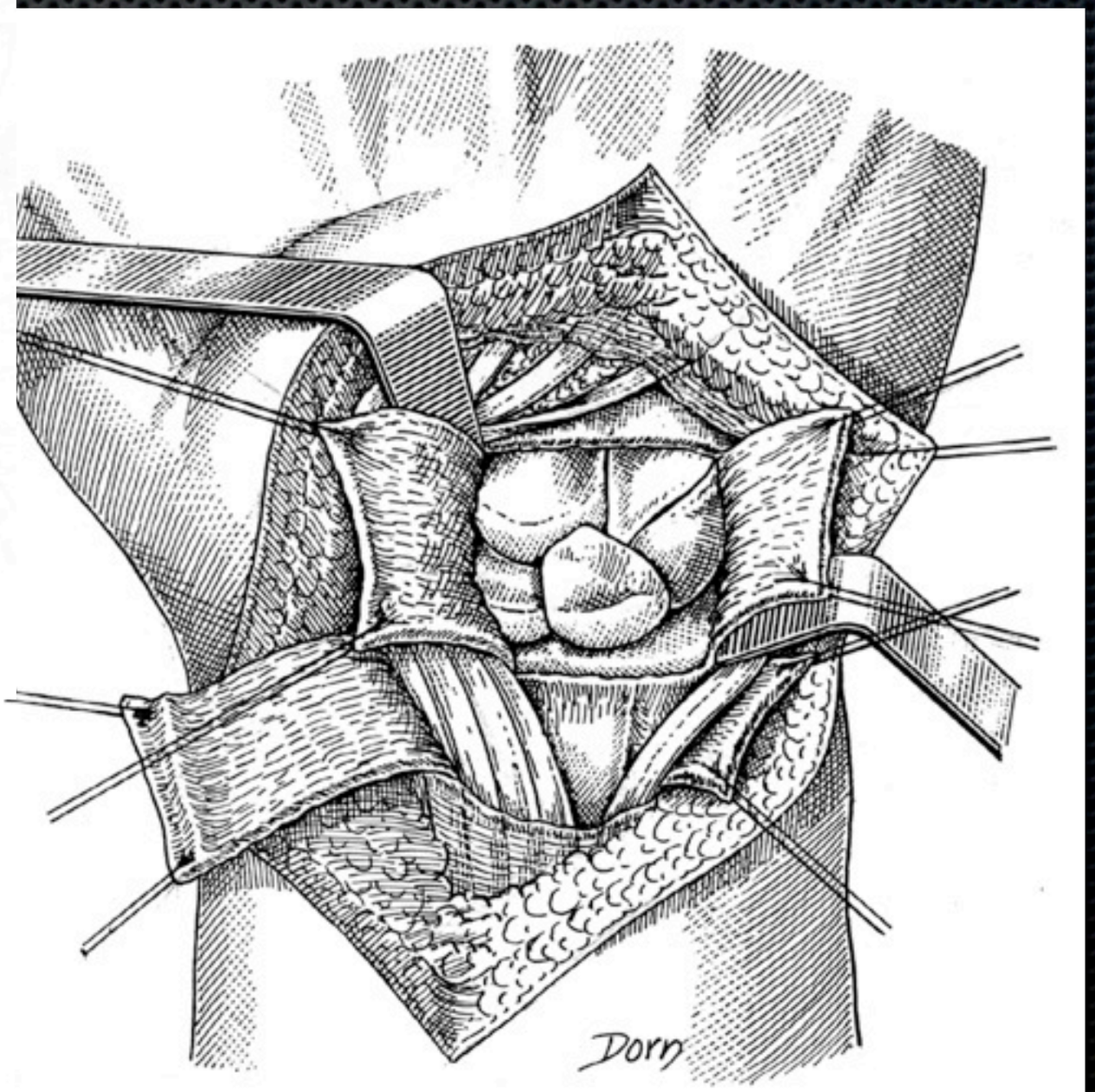




- L’EPL est repoussé en dehors, les extenseurs en dedans pour aborder la capsule
- Le NIOP peut être réséqué

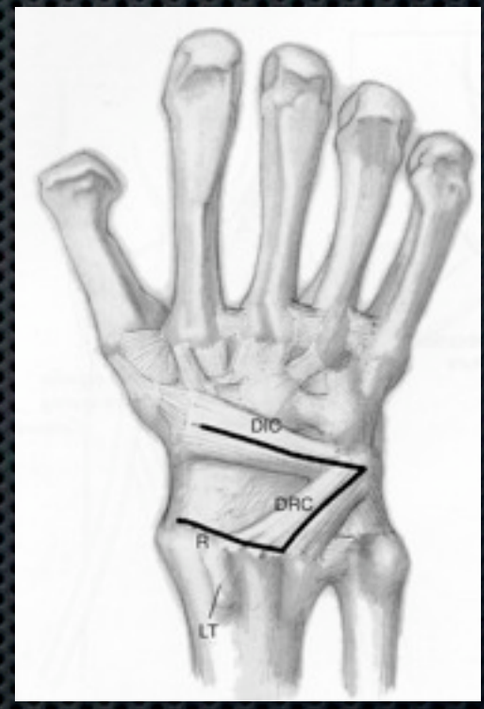
Incision capsulaire en H, en T,...

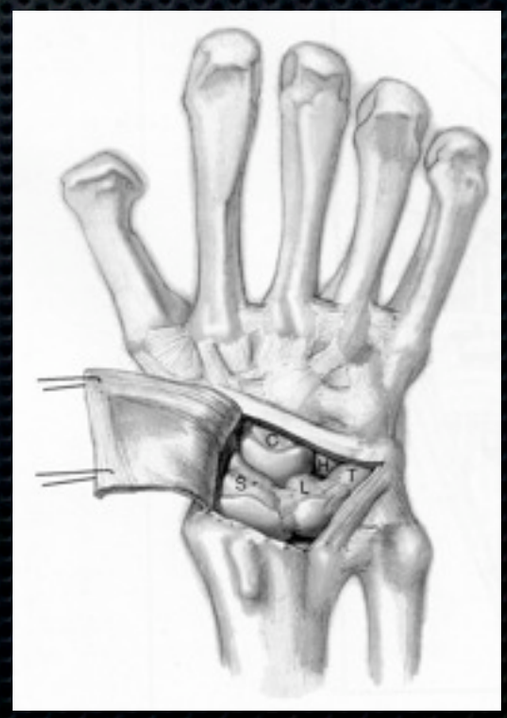


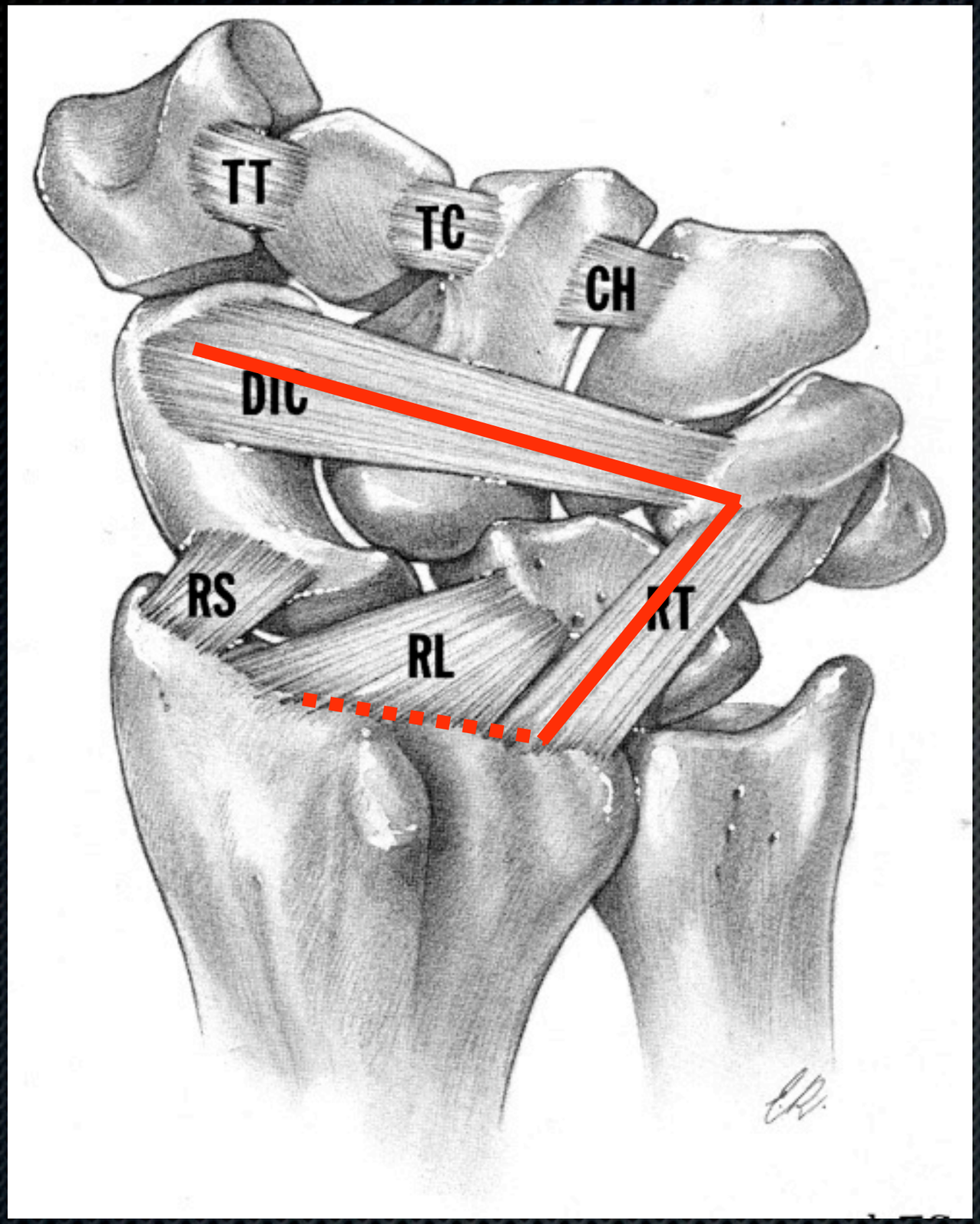


La voie de Berger

- Conseillée pour toute la chirurgie postérieure du carpe sauf luno-triquetrale
- Elle suit les deux ligaments capsulaires dorsaux dont elle respecte une moitié
  - Logique biomécanique
  - Fermeture solide



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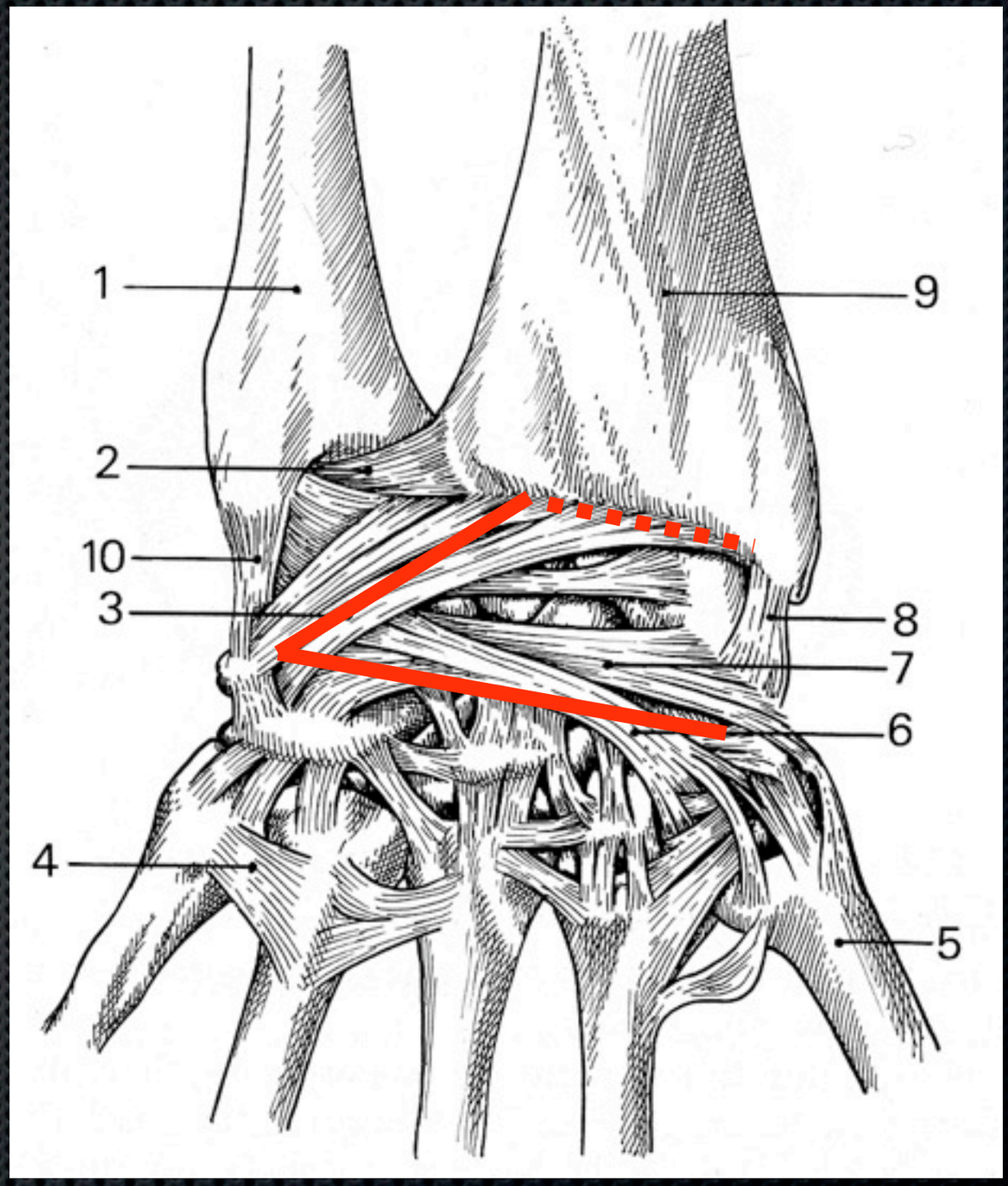
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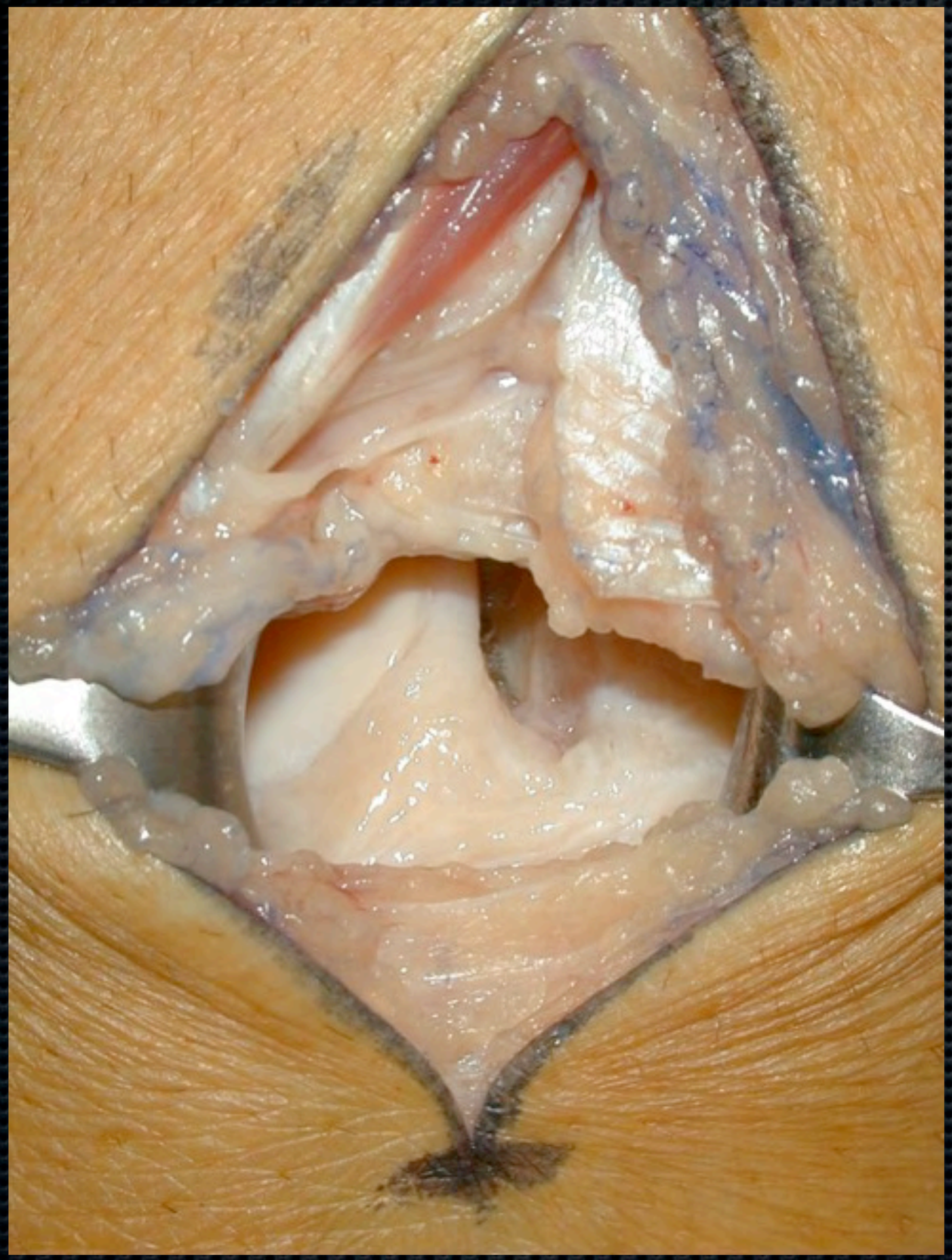
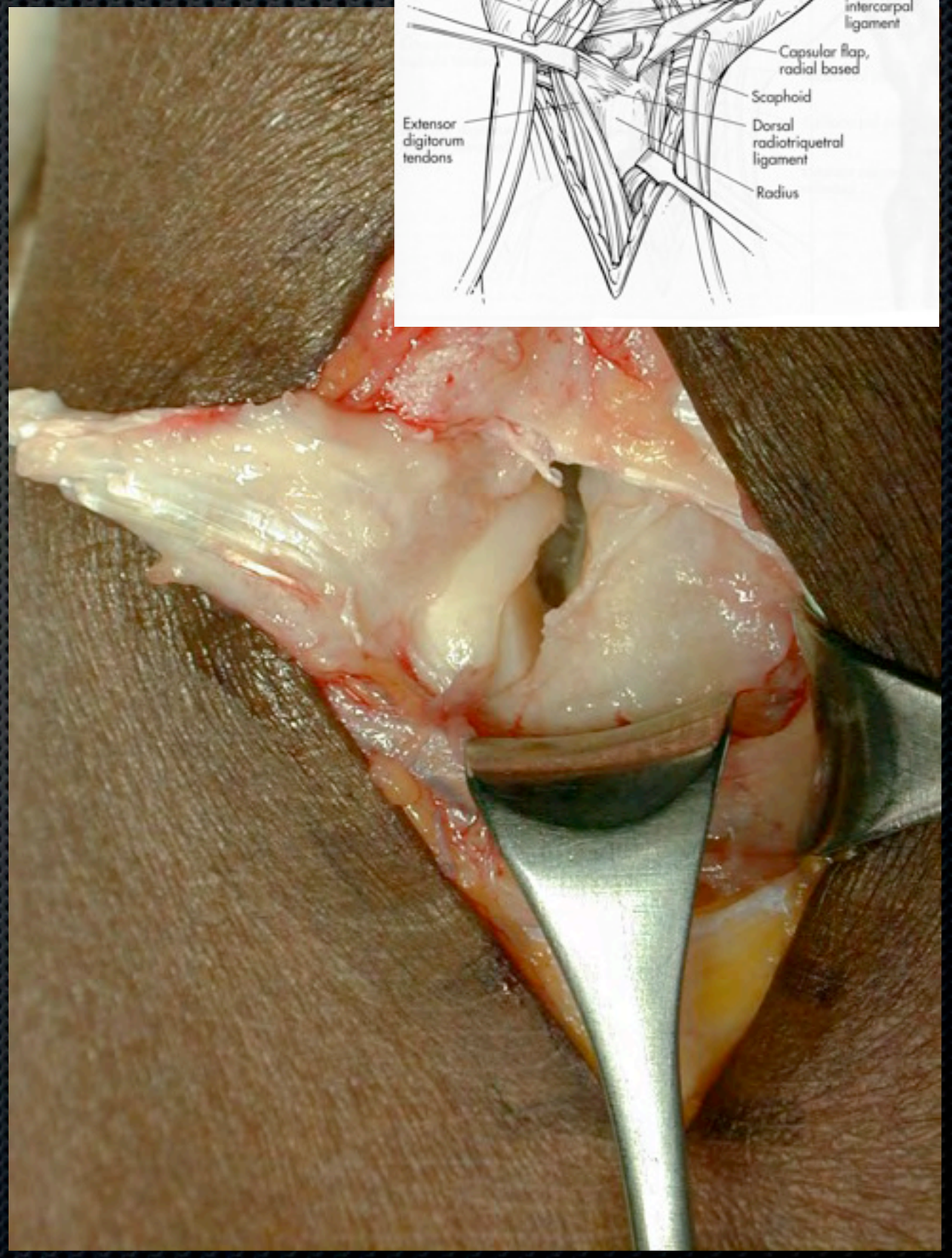
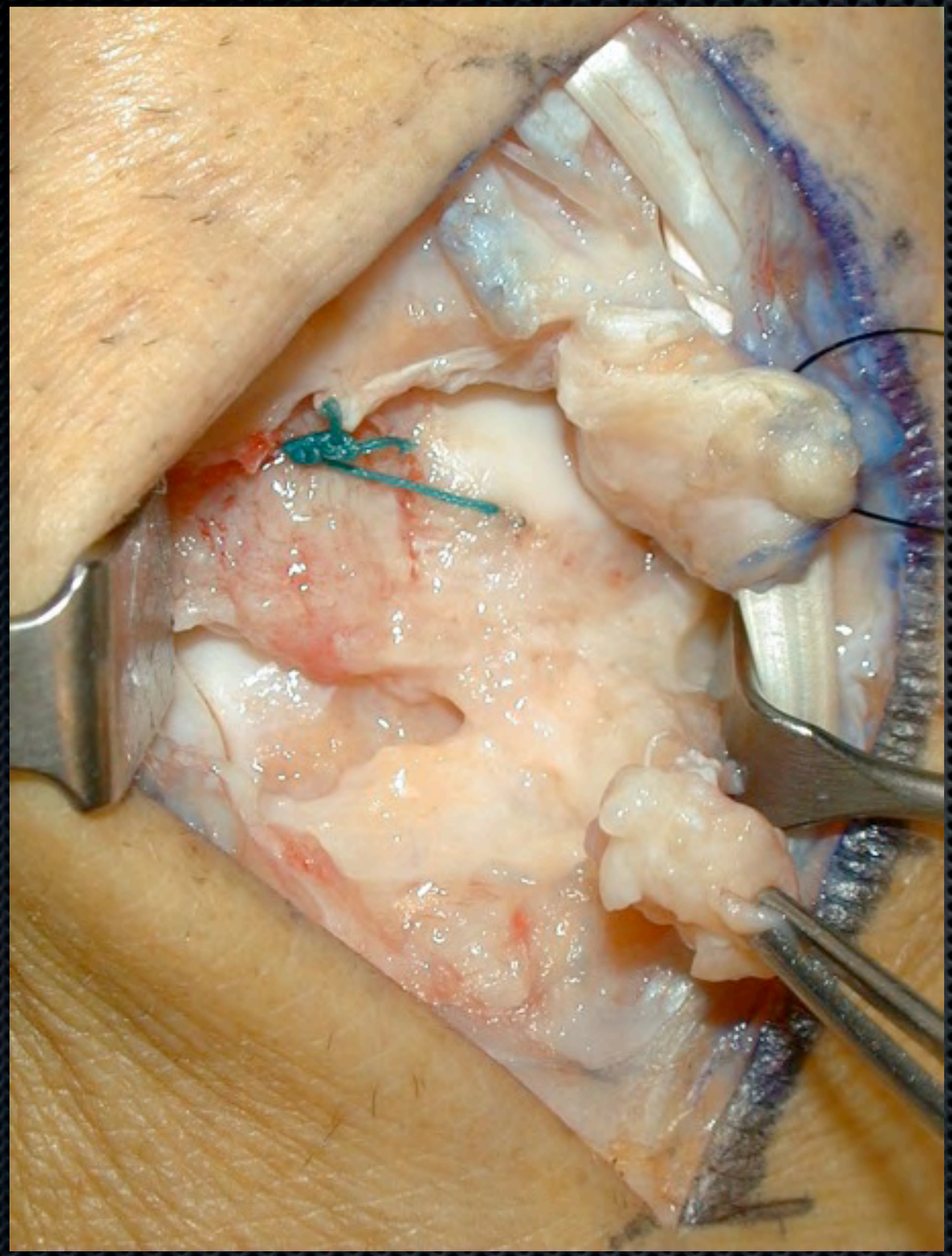
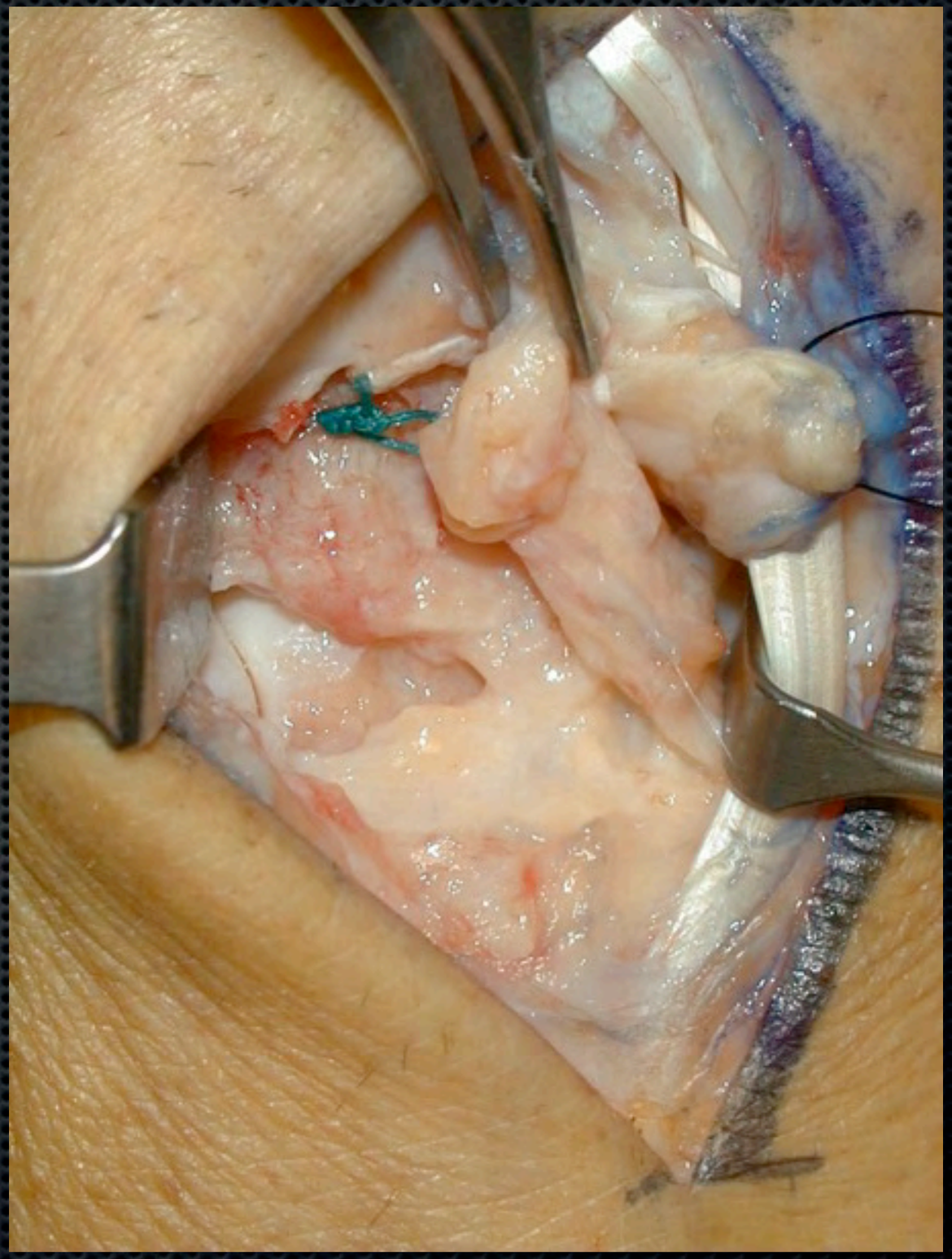
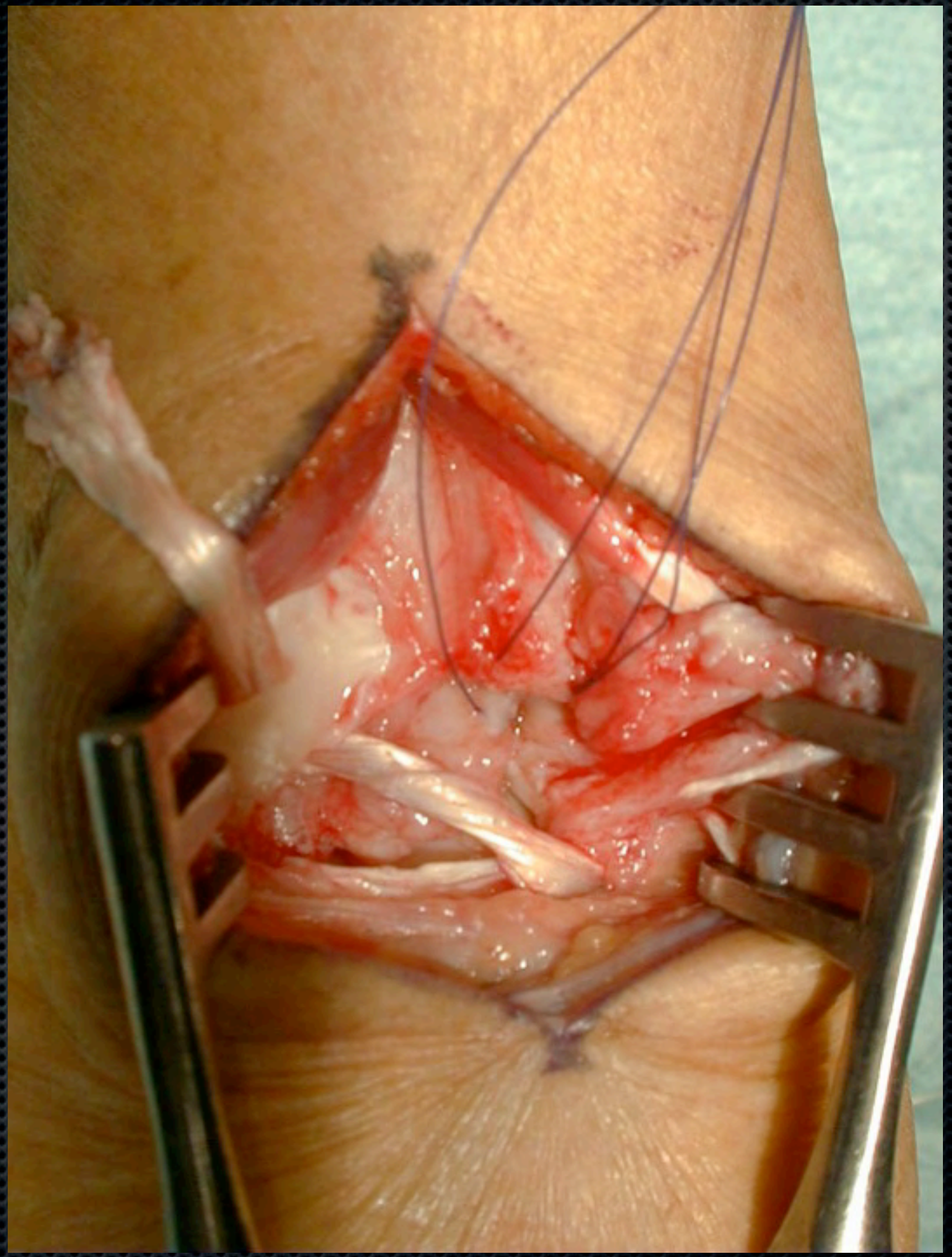




Lunate
Dorsal intercarpal ligament
Capsular flap, radial based
Scaphoid
Extensor digitorum tendons
Dorsal radiotriquetral ligament
Radius

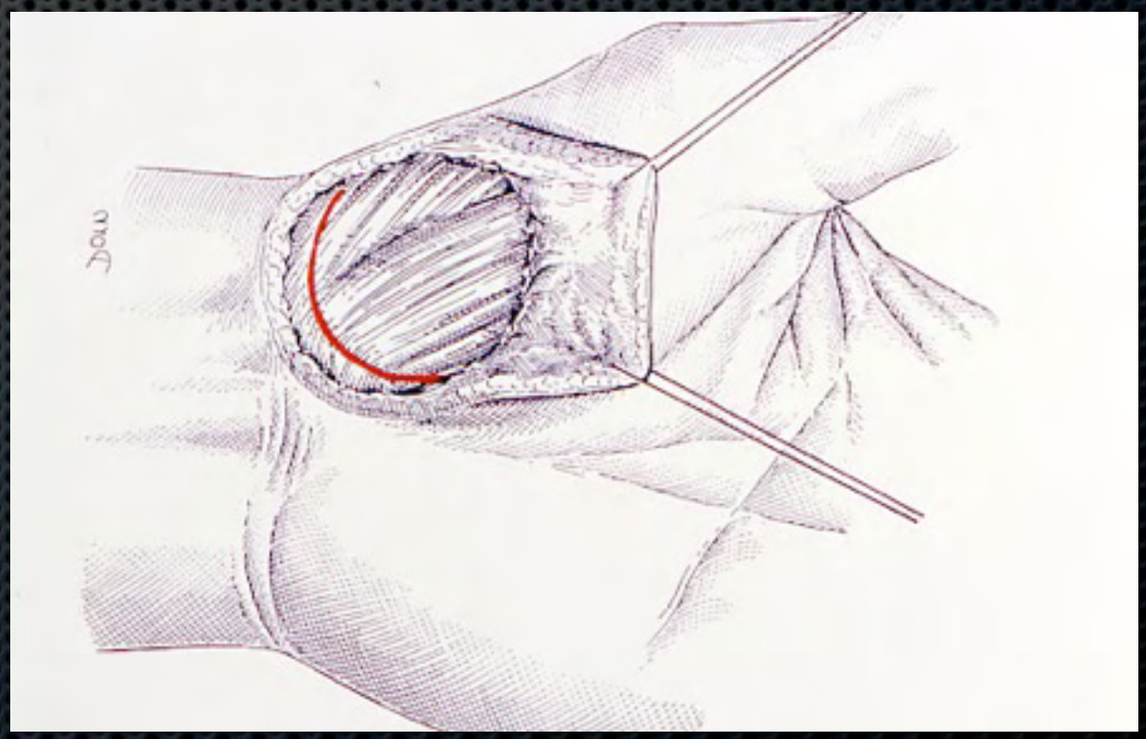




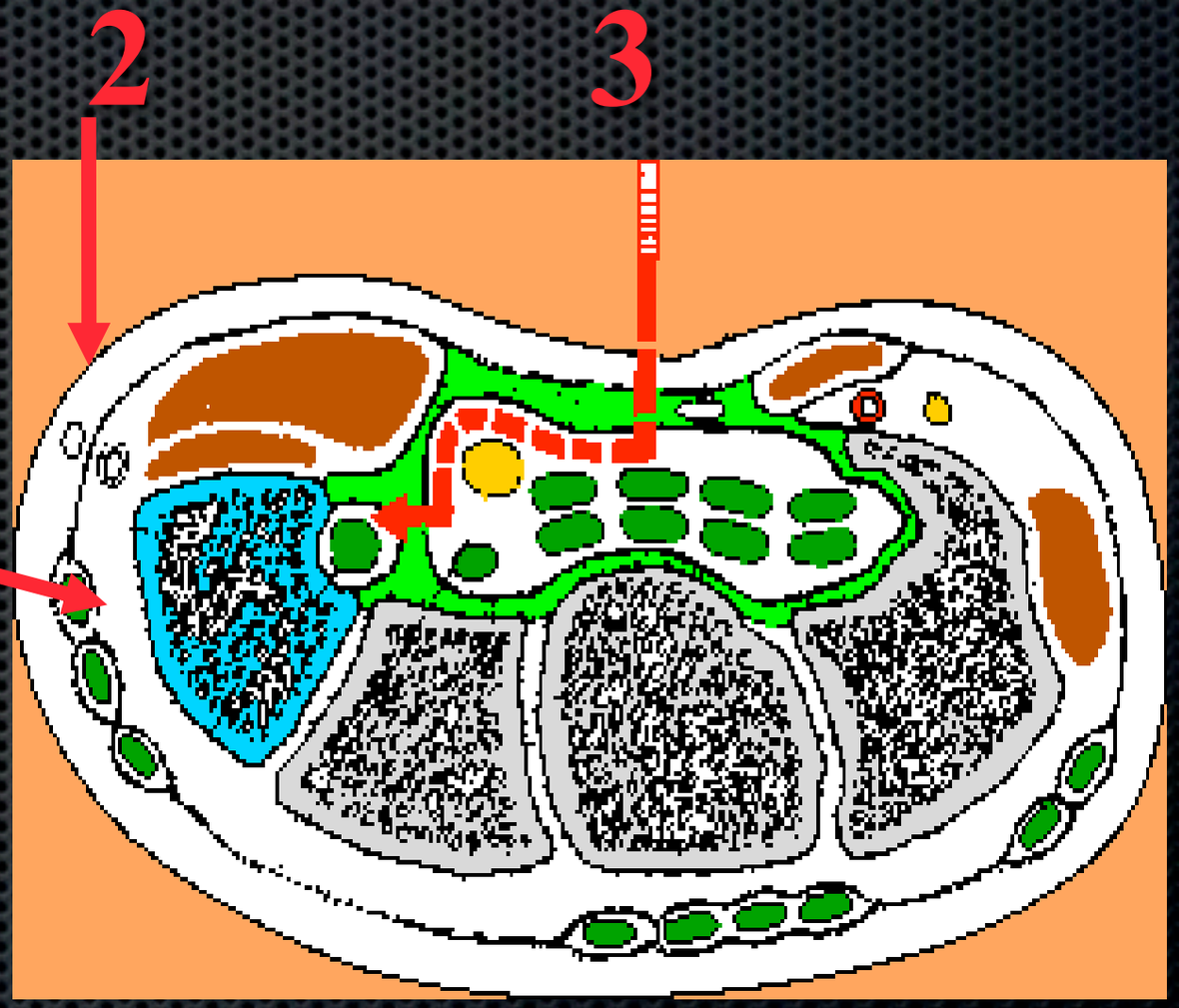


Abord palmaire latéral

- Voie abord trapézo-métacarpienne de Gedda-Möberg



Rhizarthrose: voies d ’abords

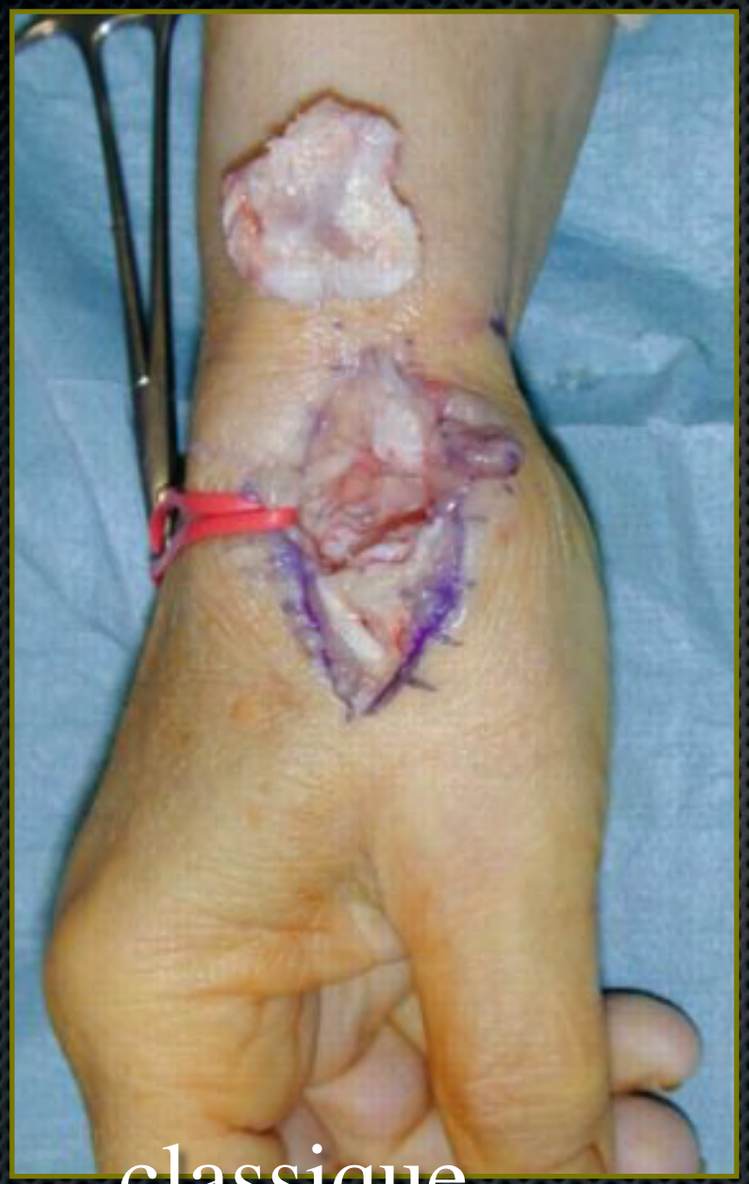


1-voie d'abord postéro externe

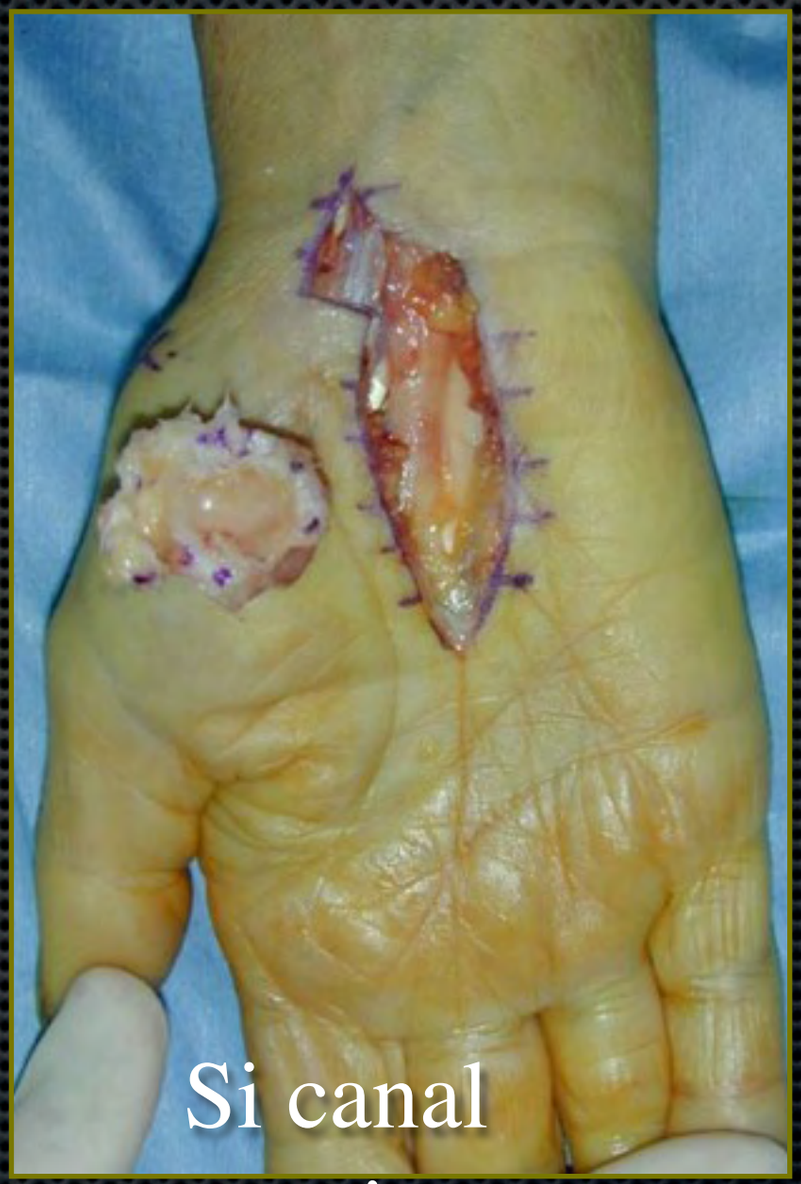
2- voie d'abord antéro-externe (Gedda Moberg)

3- voie d'abord antérieure

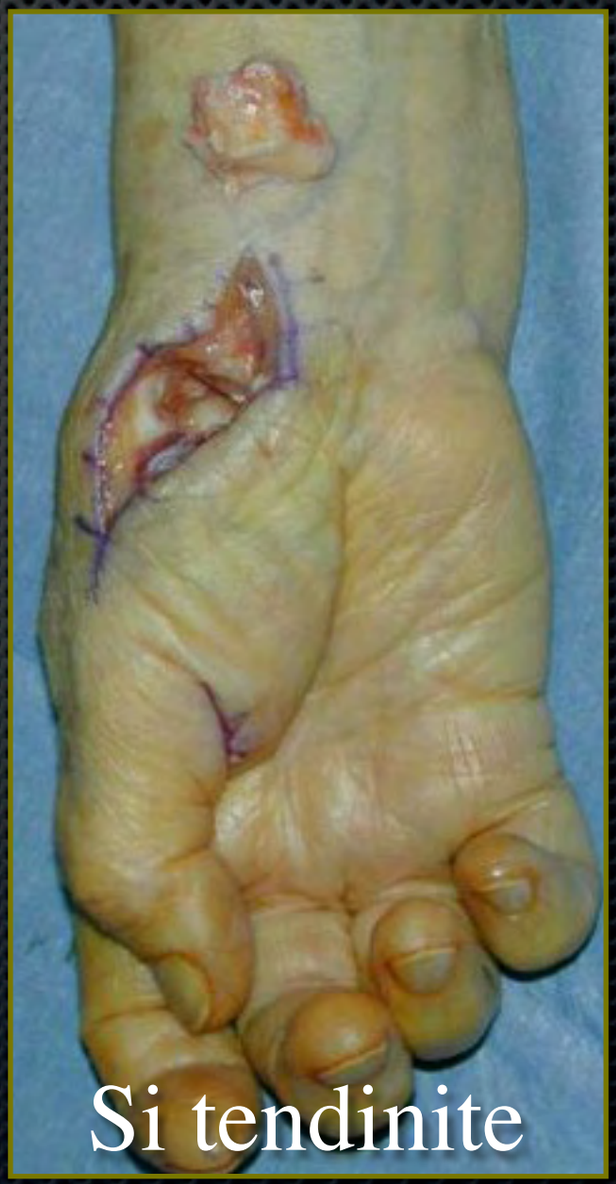
Rhizarthrose: 3 voies d ’abords



classique



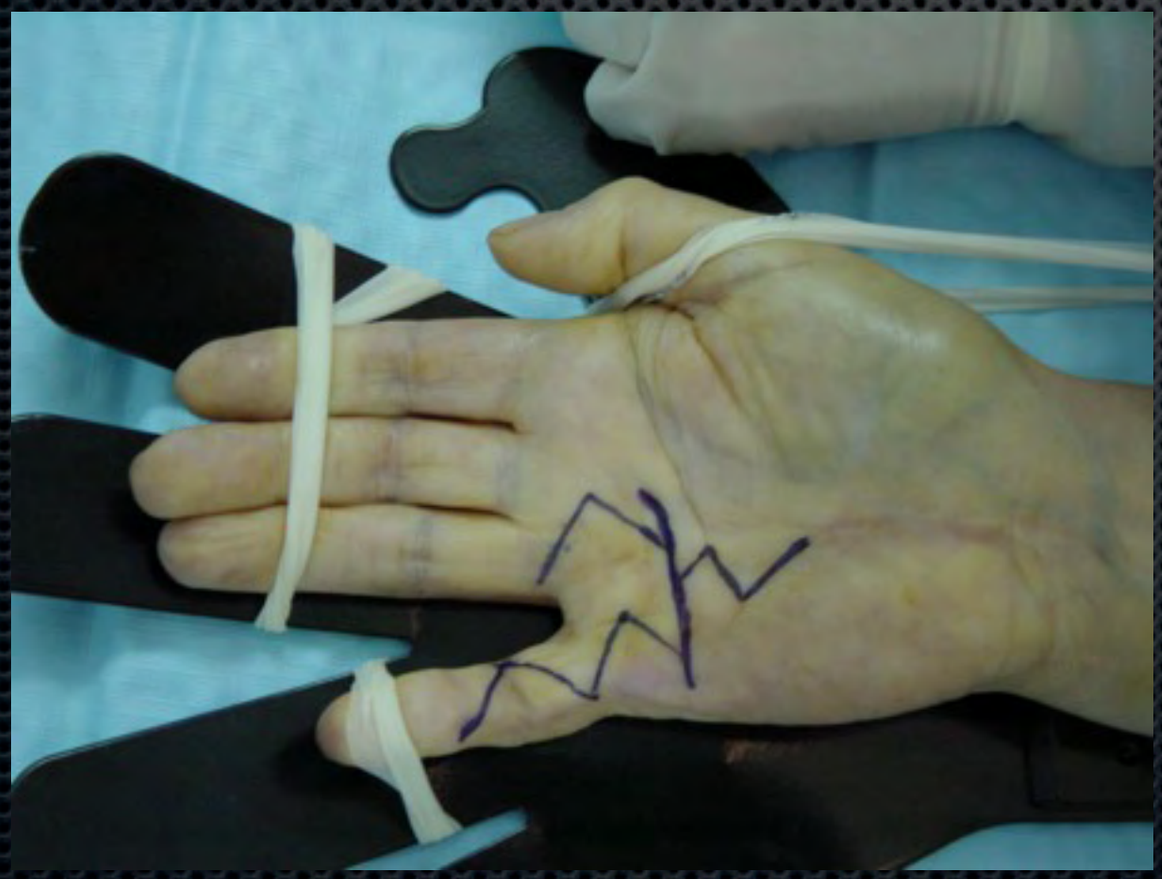
Si canal carpien

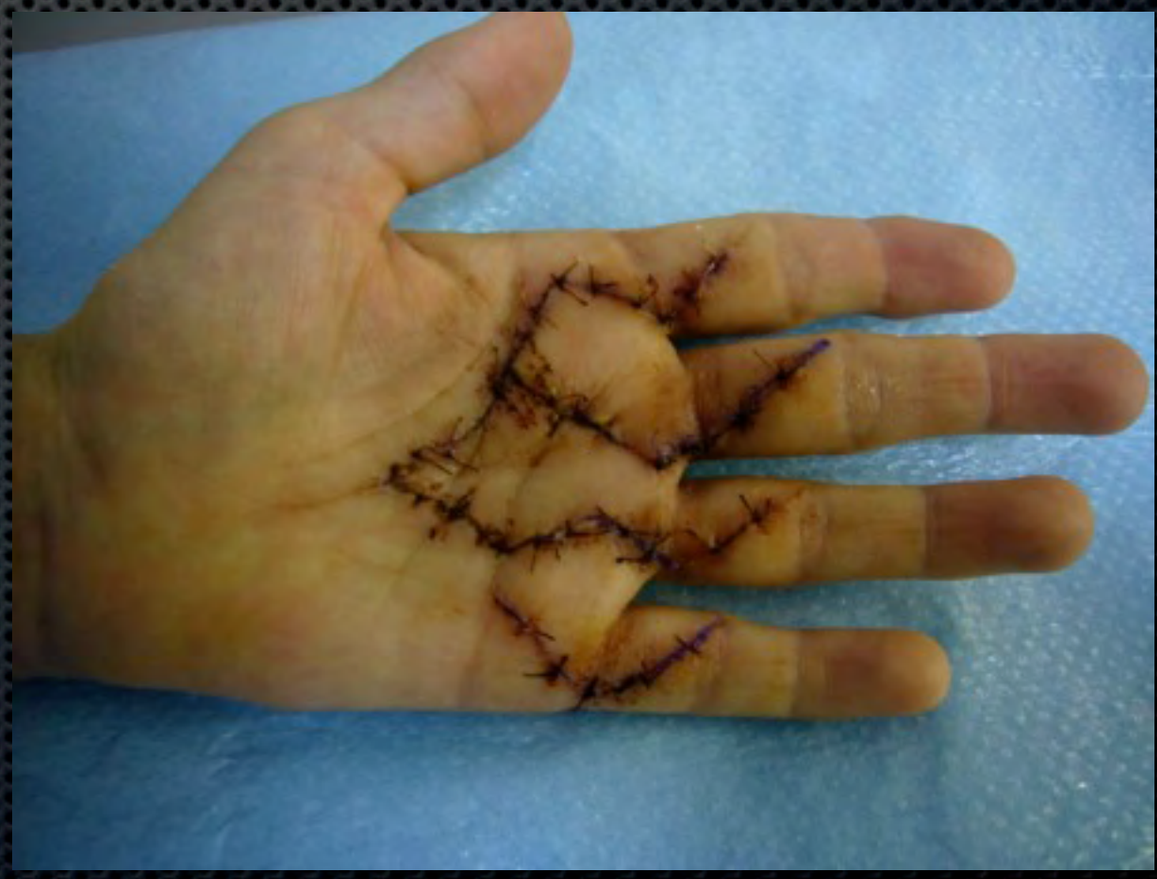


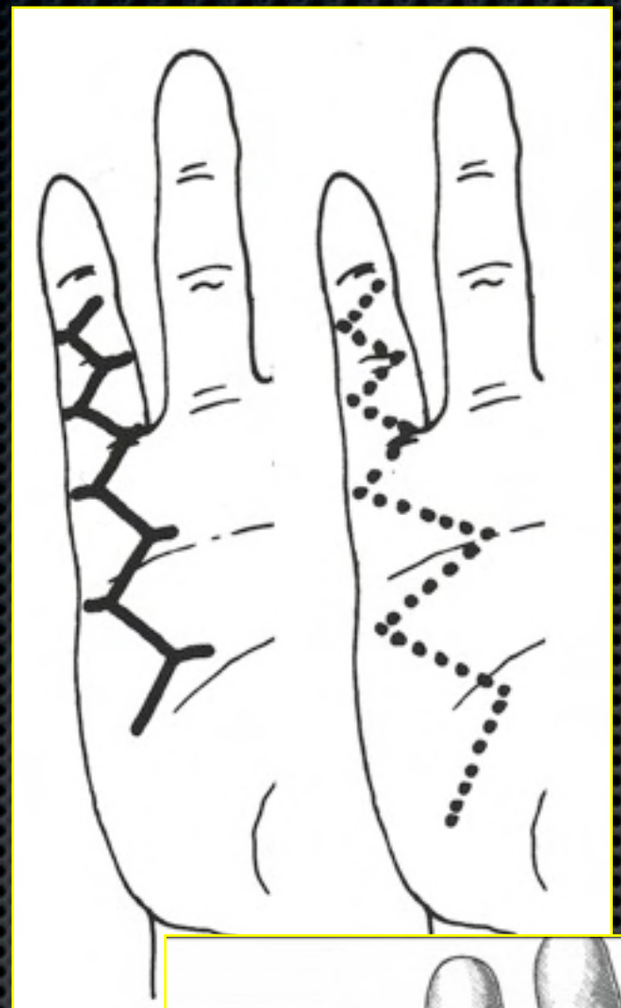
Si tendinite GP

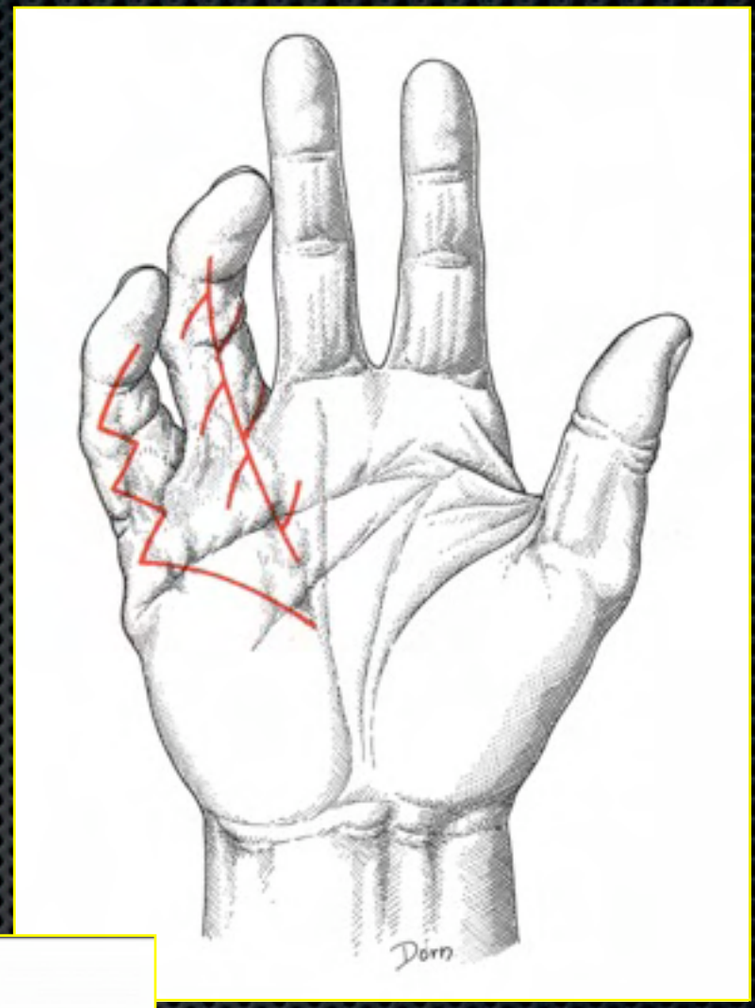
Abord palmaire distal

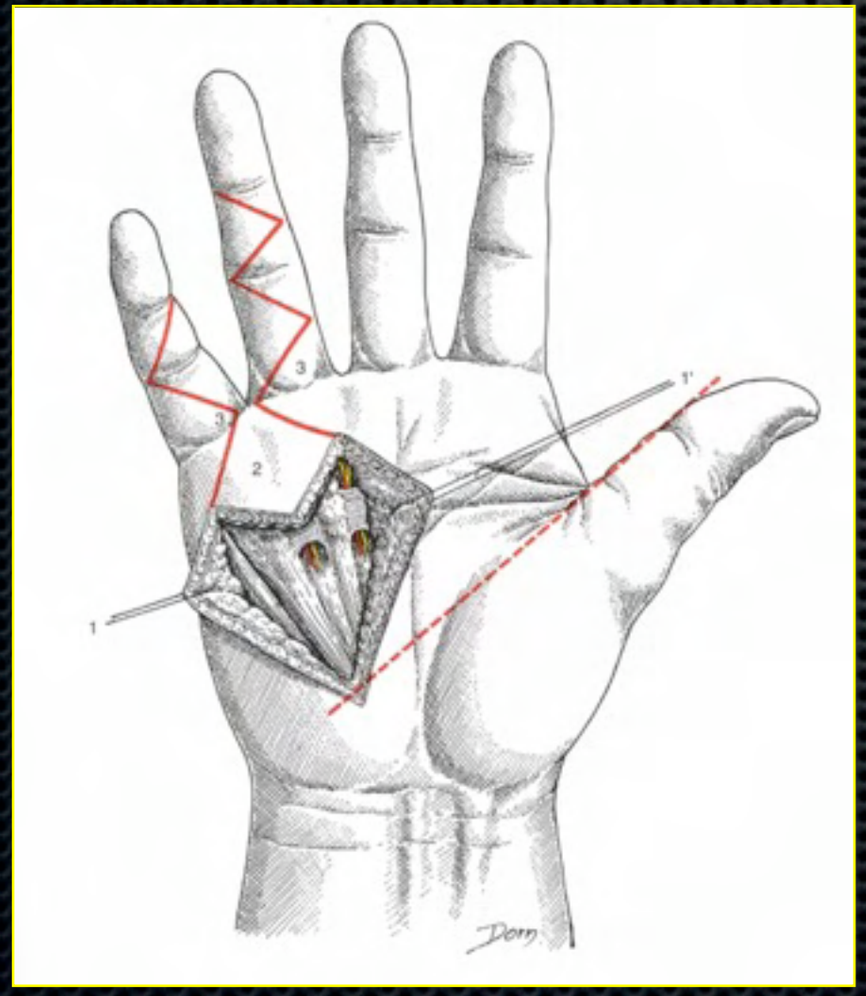
- Pli palmaire distal
- Voies de Brunner non convergentes

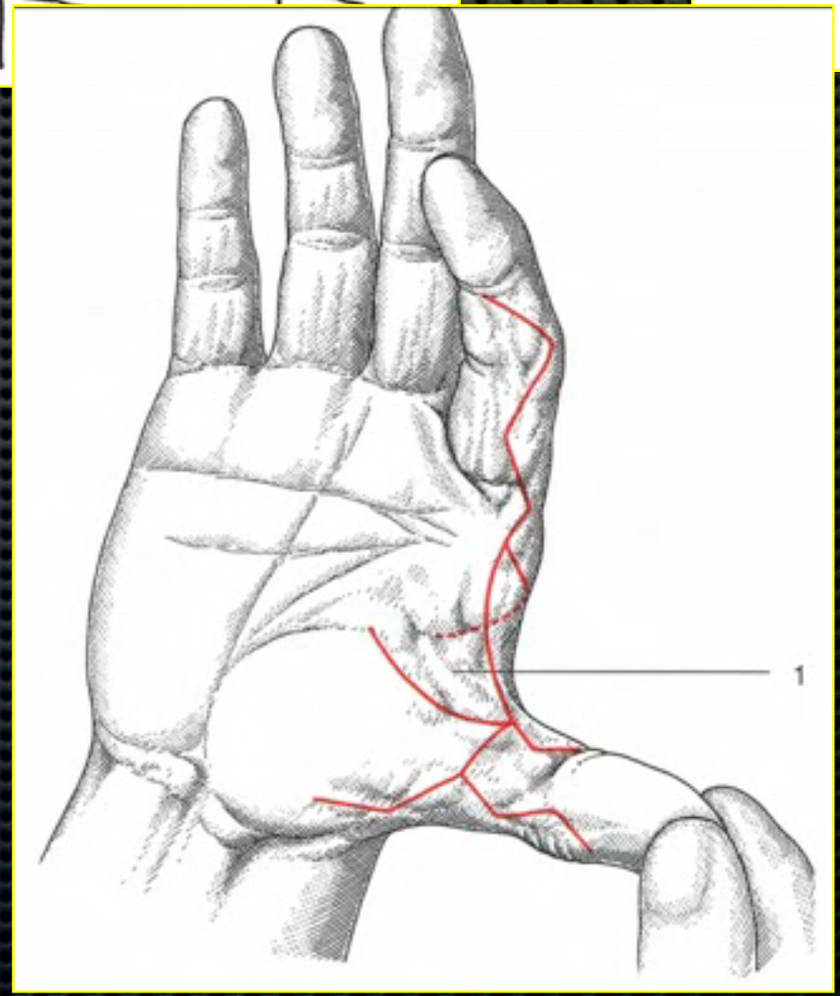




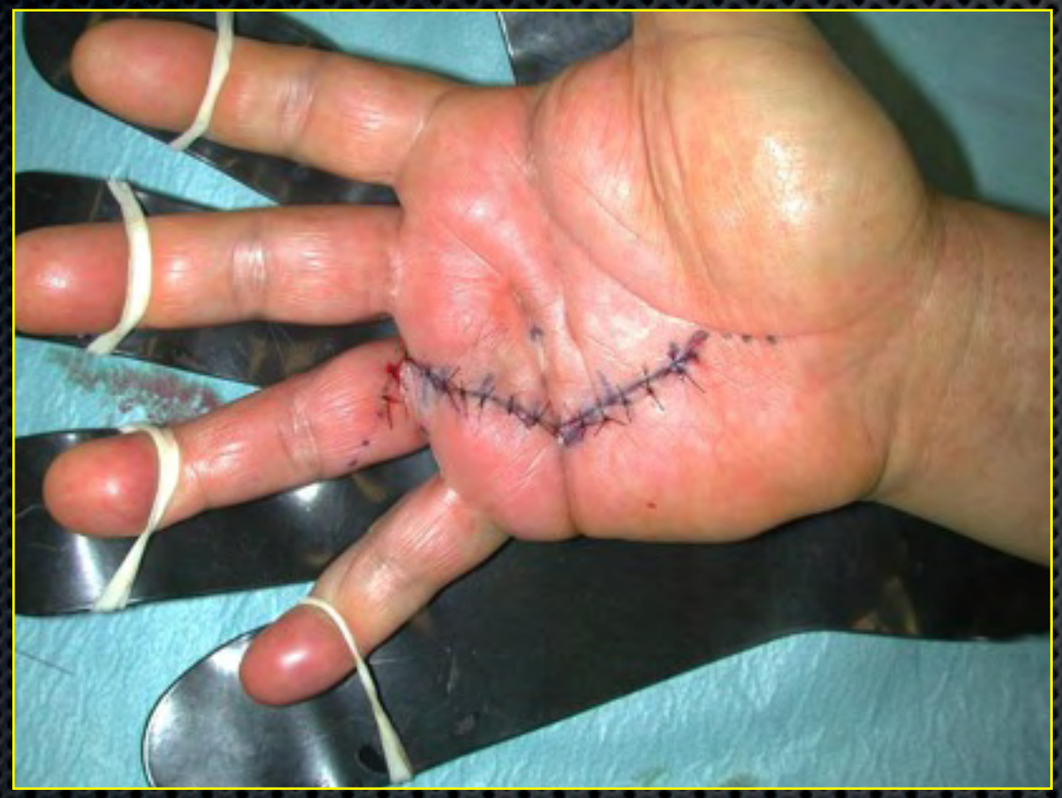


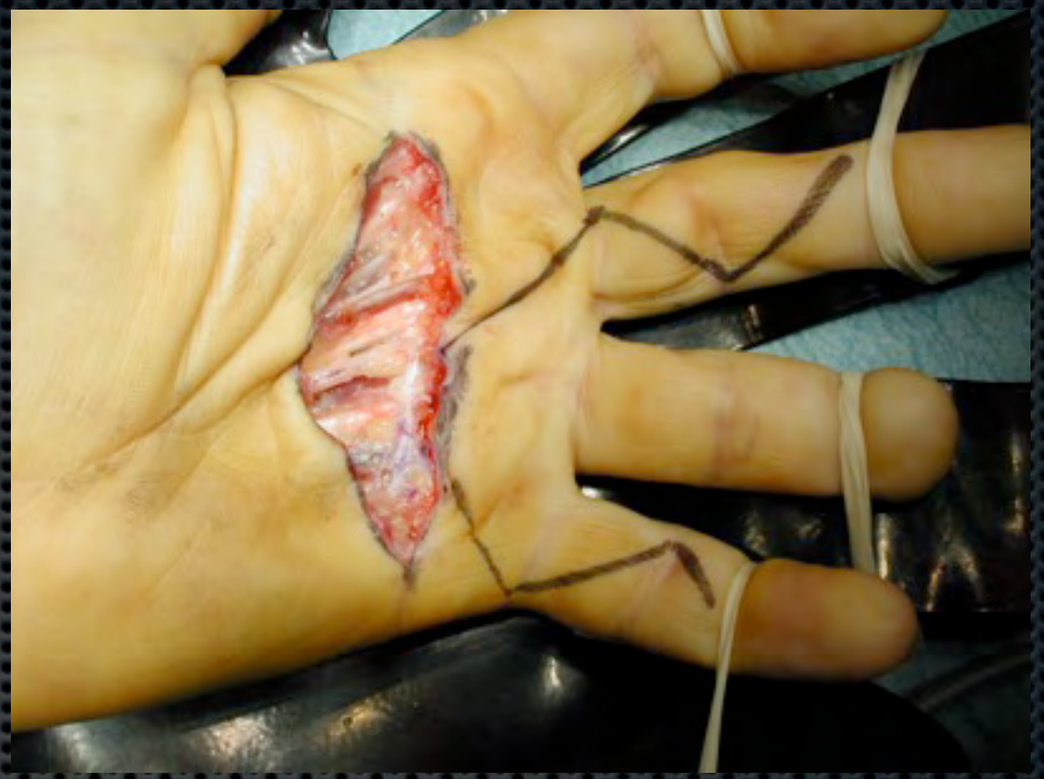


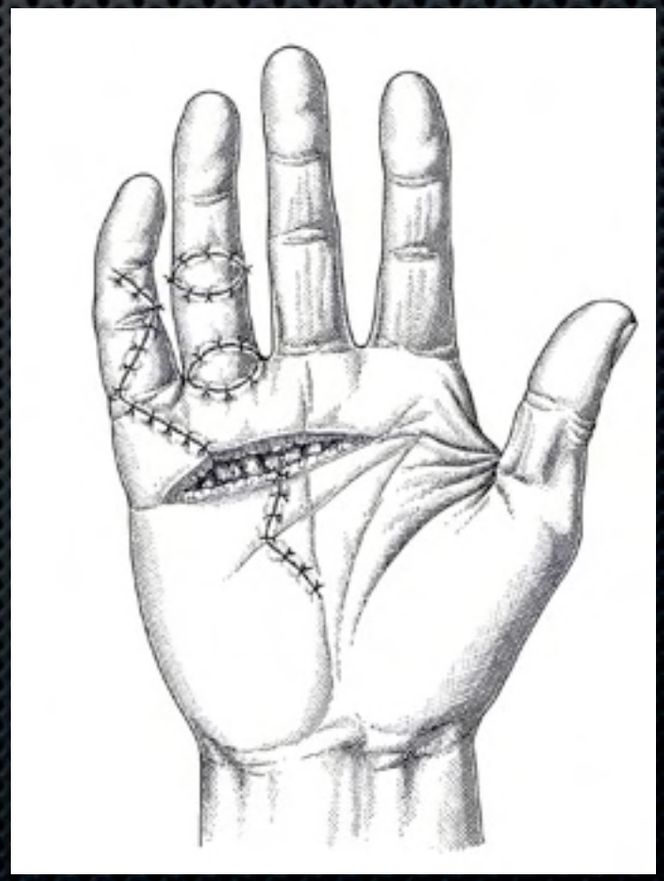




Institut de la Main







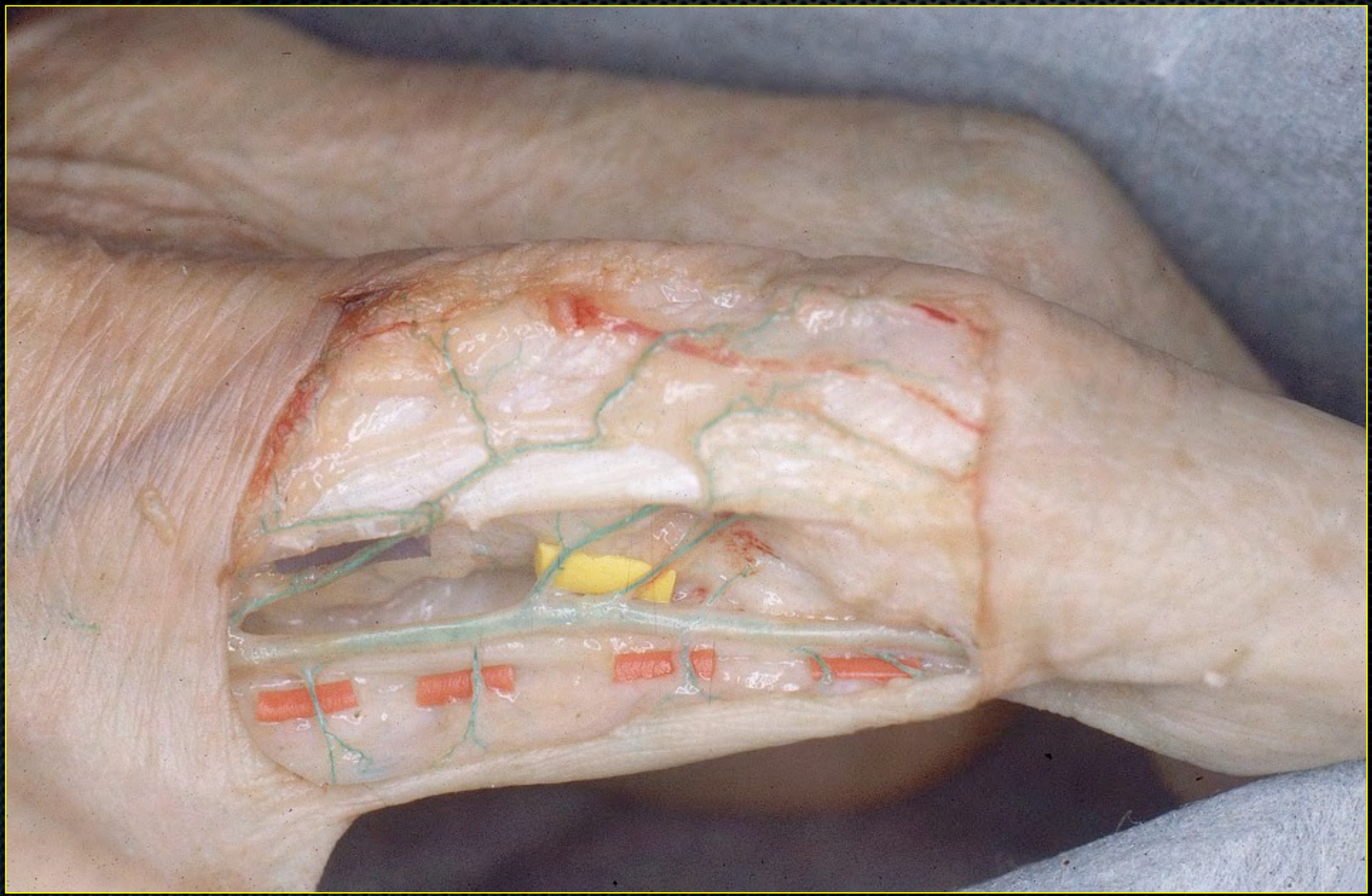
Institut de la Main

Les voies d'abord des doigts

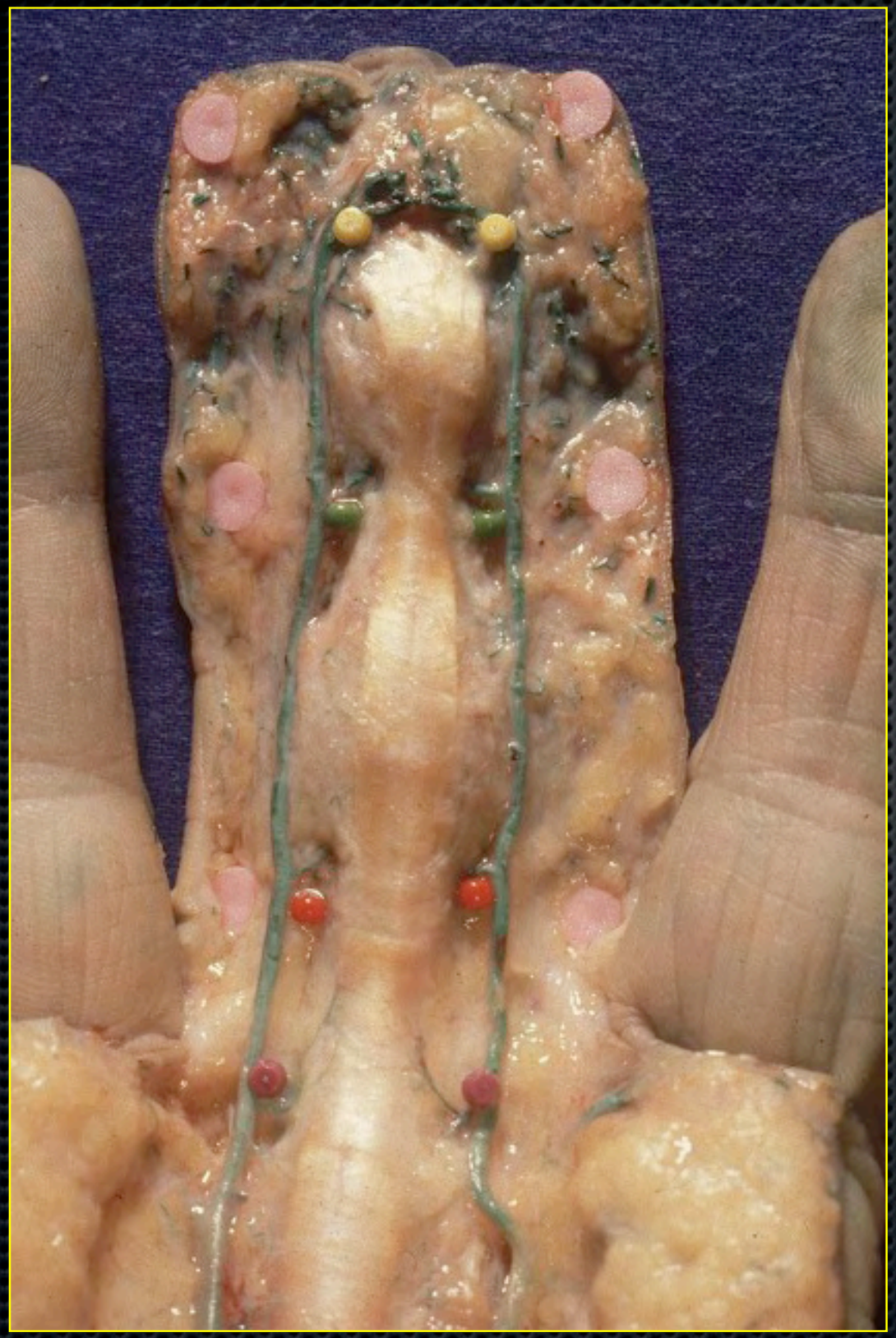
- Problème de l'abord du doigt
  - Postérieure (le tendon extenseur ?)
  - Latérale (pédicule, lgt collatéral)
  - Antérieure (les fléchisseurs, plaque palmaire)

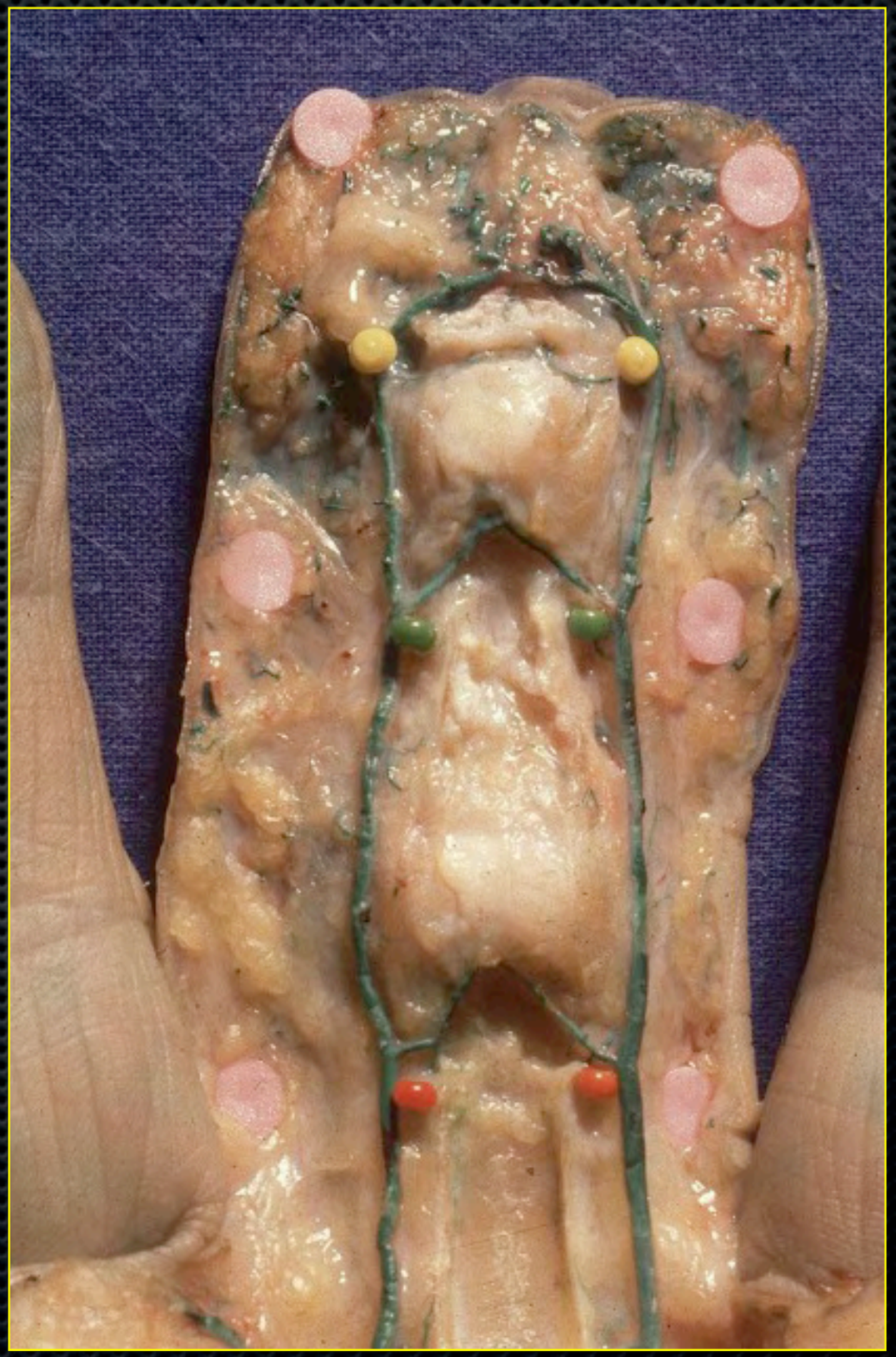
Le Pédicule artério-nerveux

vascularisation palmaire et dorsale

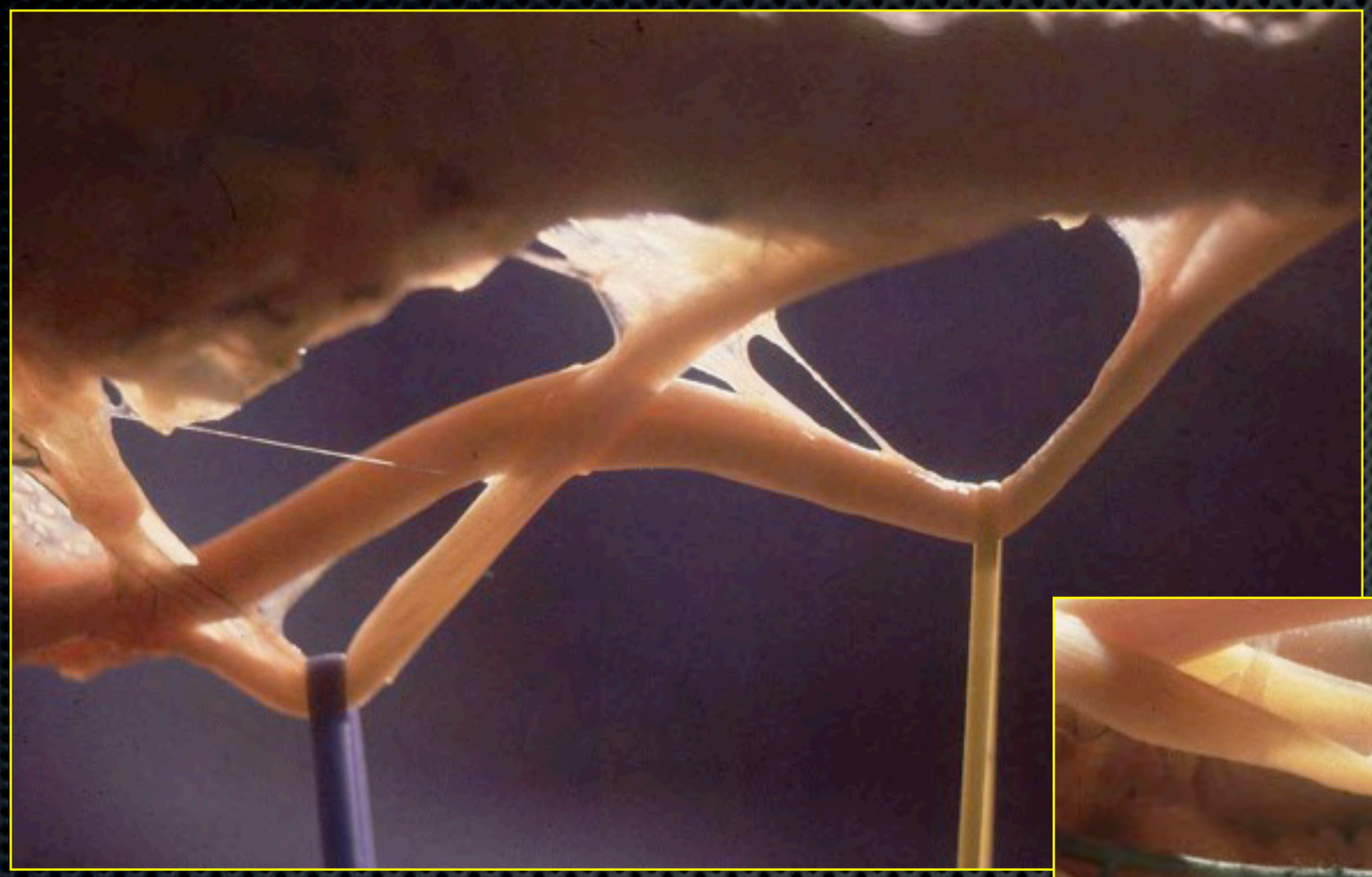


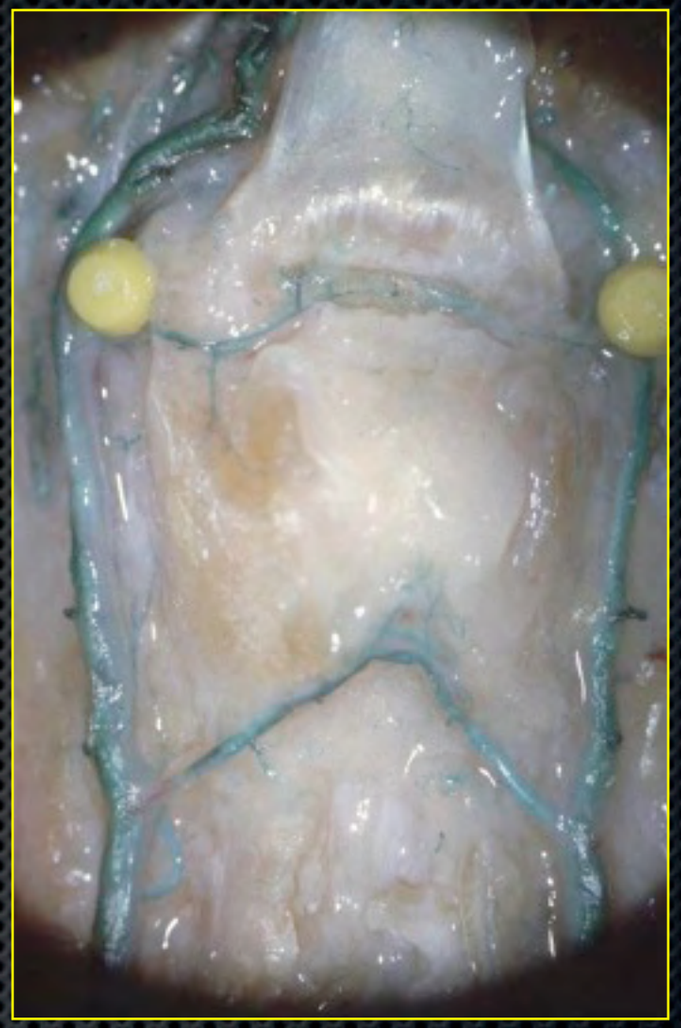
Arcades artérielles communicantes





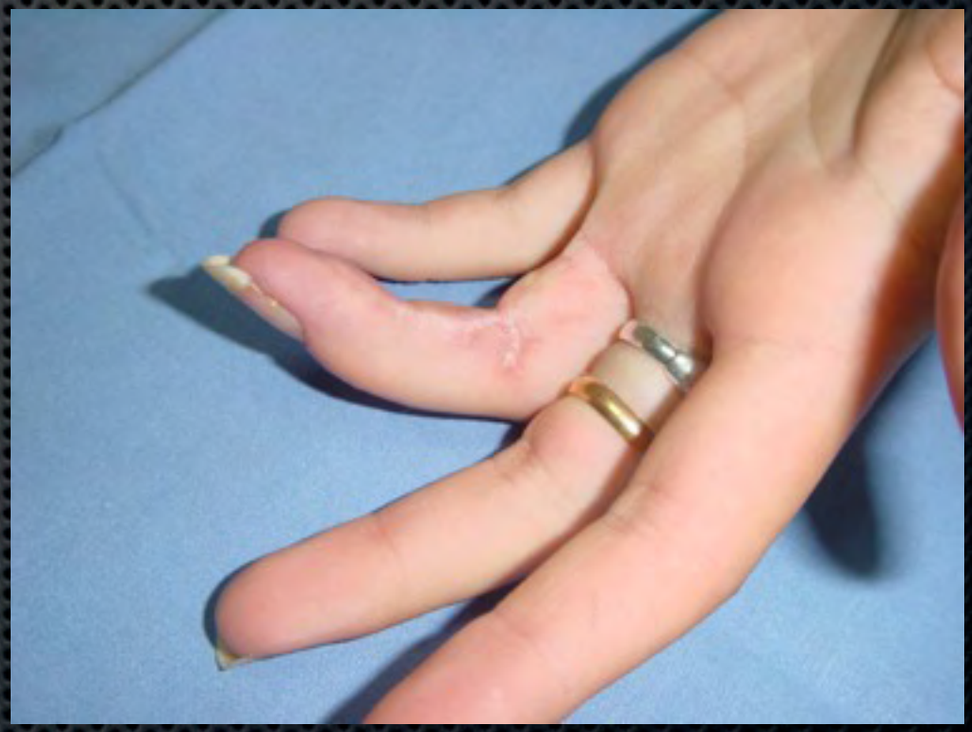
Nutrition des vinculae





Abord palmaire digital

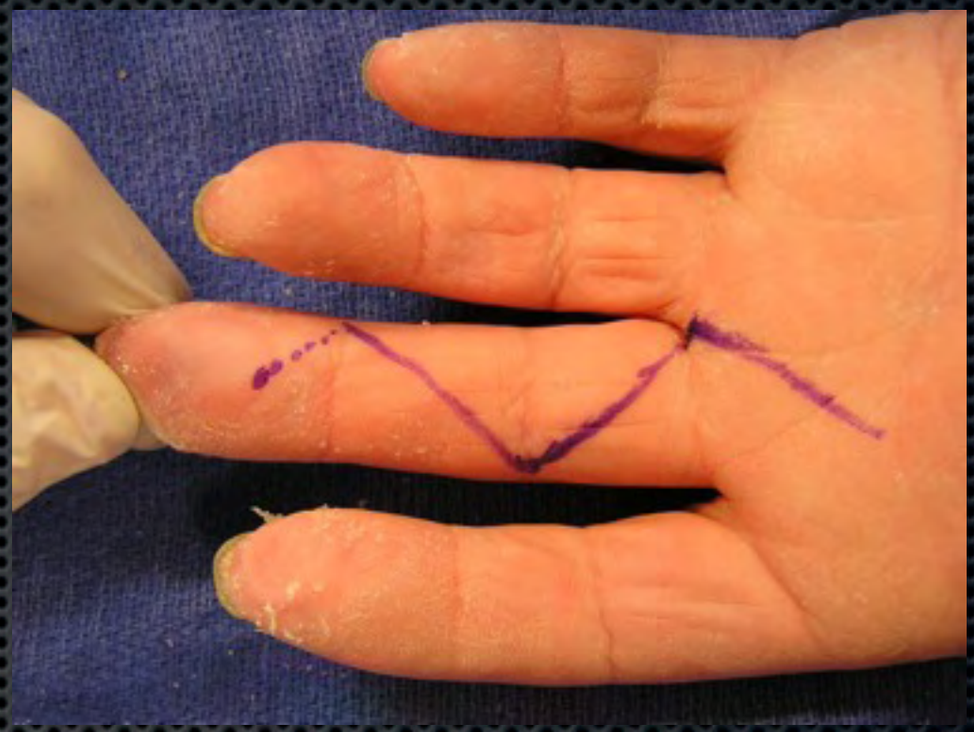
- Eviter les brides
- Jamais d’incision perpendiculaire aux plis



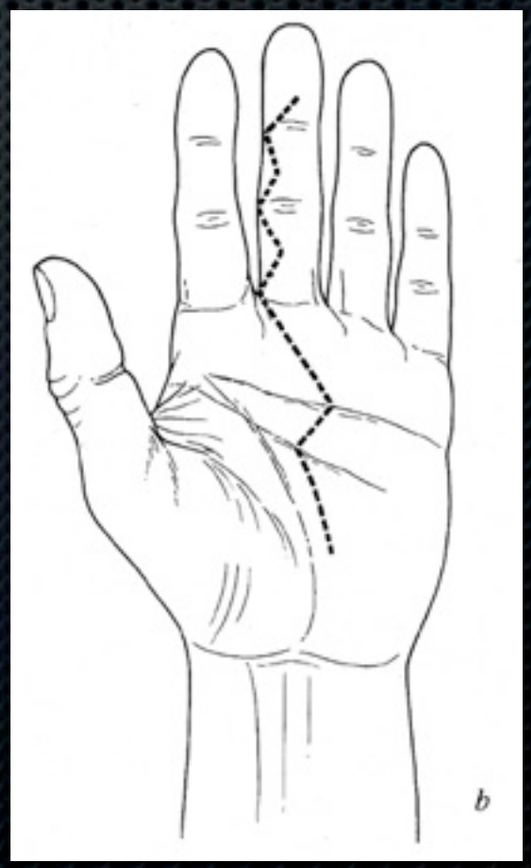
Abord palmaire digital

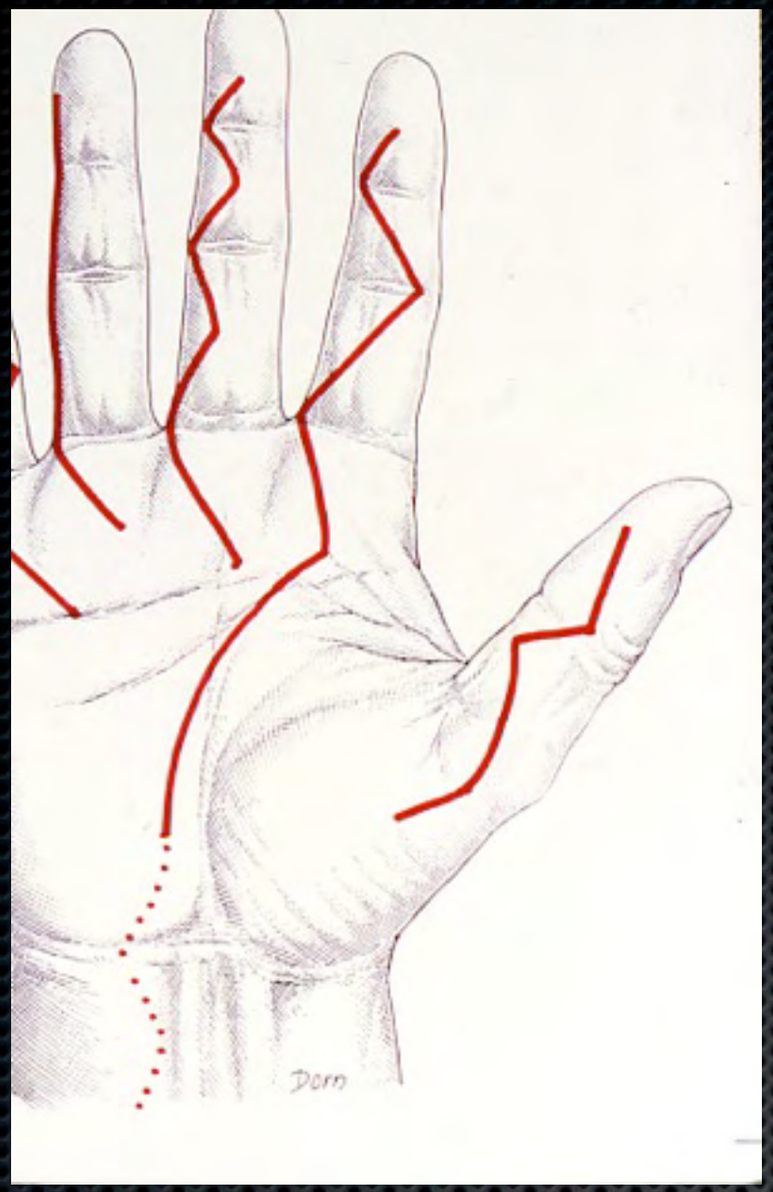
- Incisions dans les zones peu mobiles
  - Critères de Littler
  - Plis de flexion
  - Jonction palmaire/dorsale

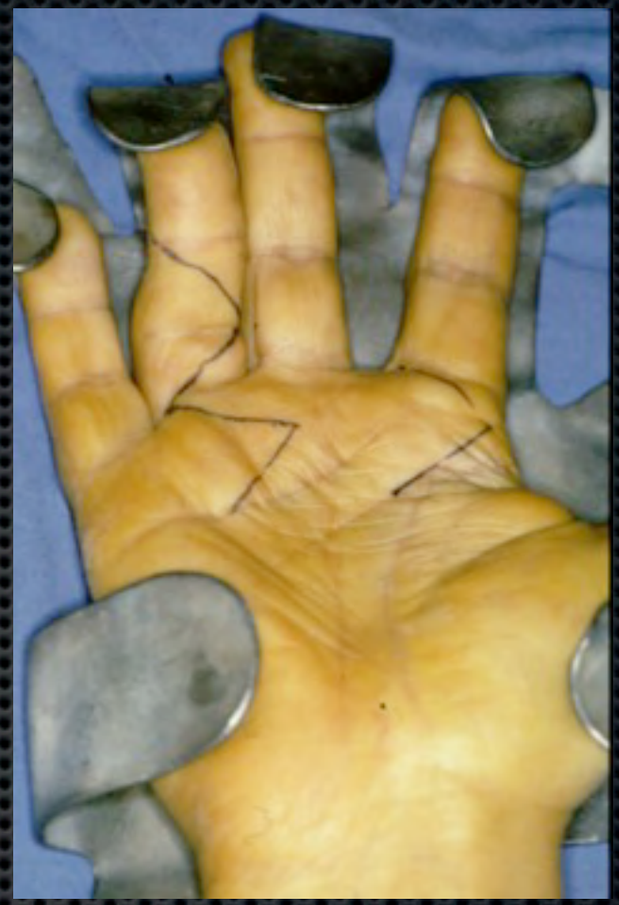
Les voies d'abord palmaires digitales

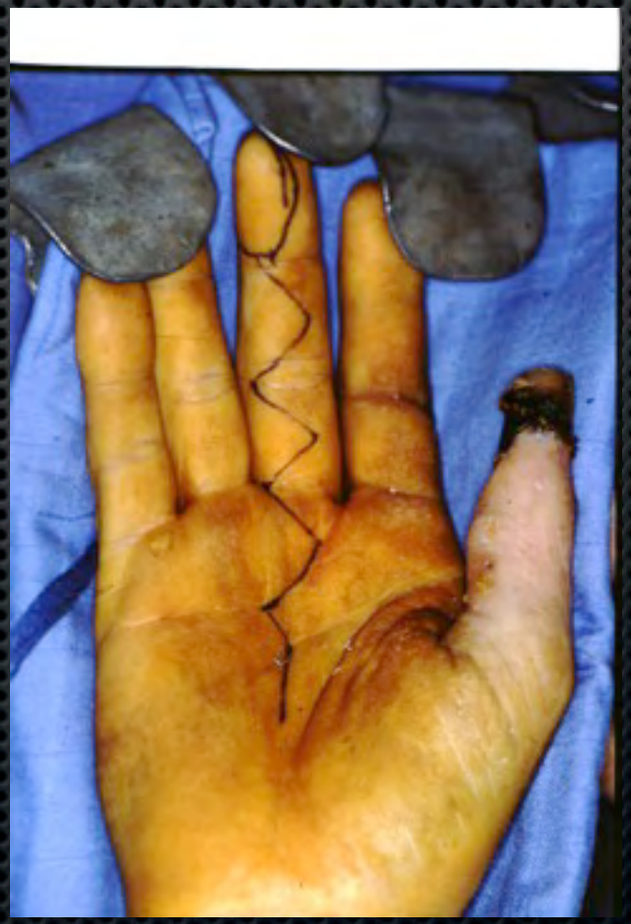


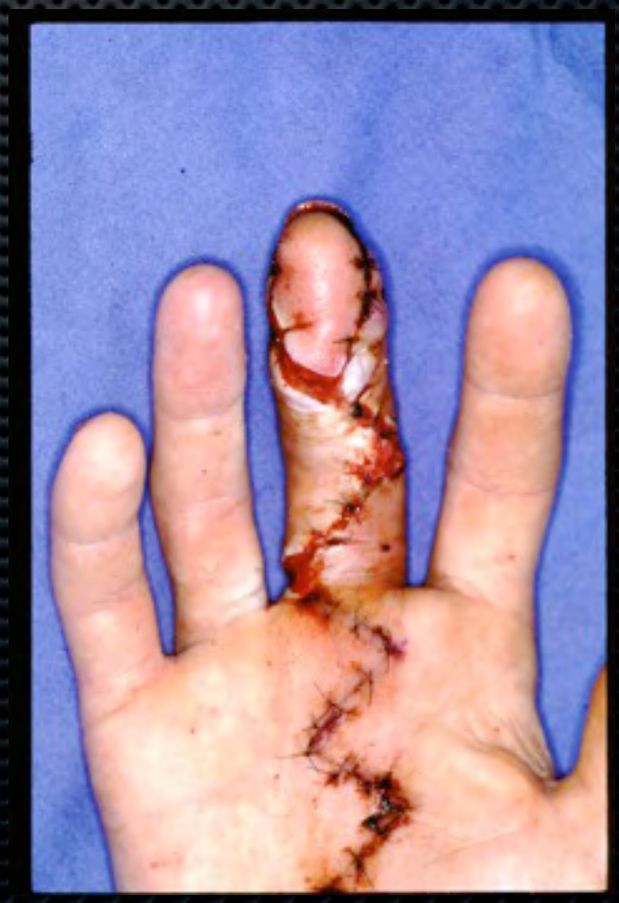
- Brünner
- Hémi Brünner (W de Littler)
- VY
- Longitudinales avec plastie en Z
- Lambeau de translation



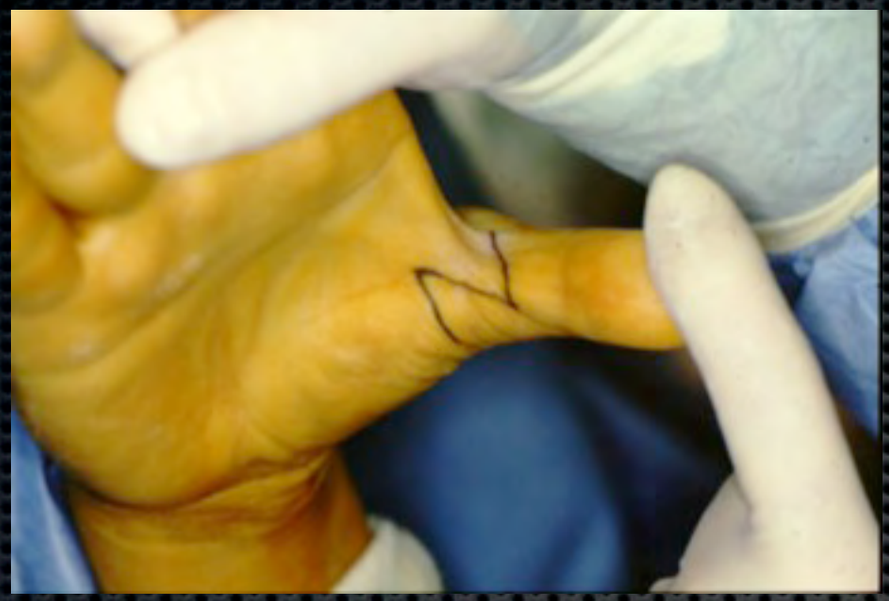


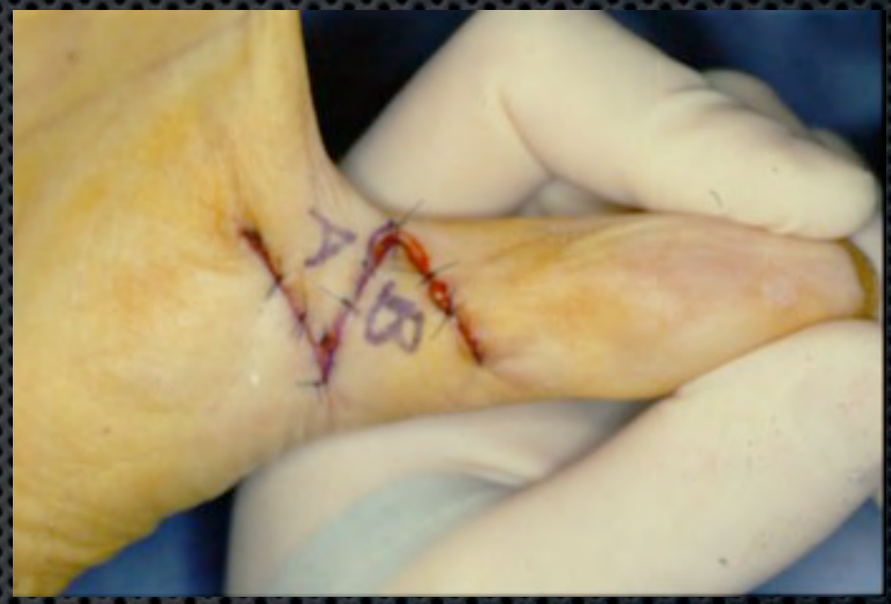


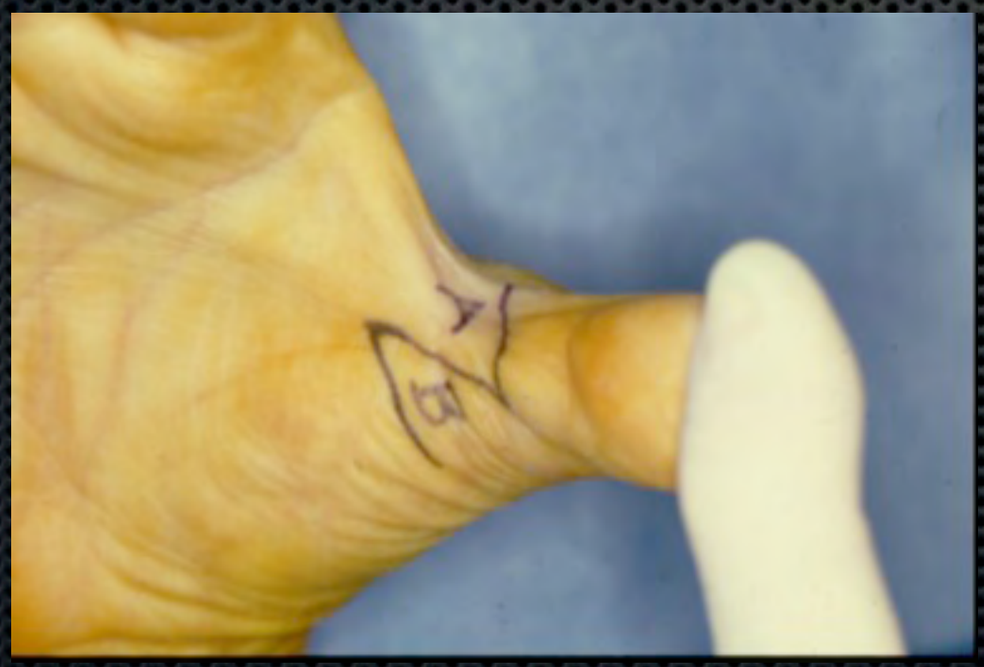


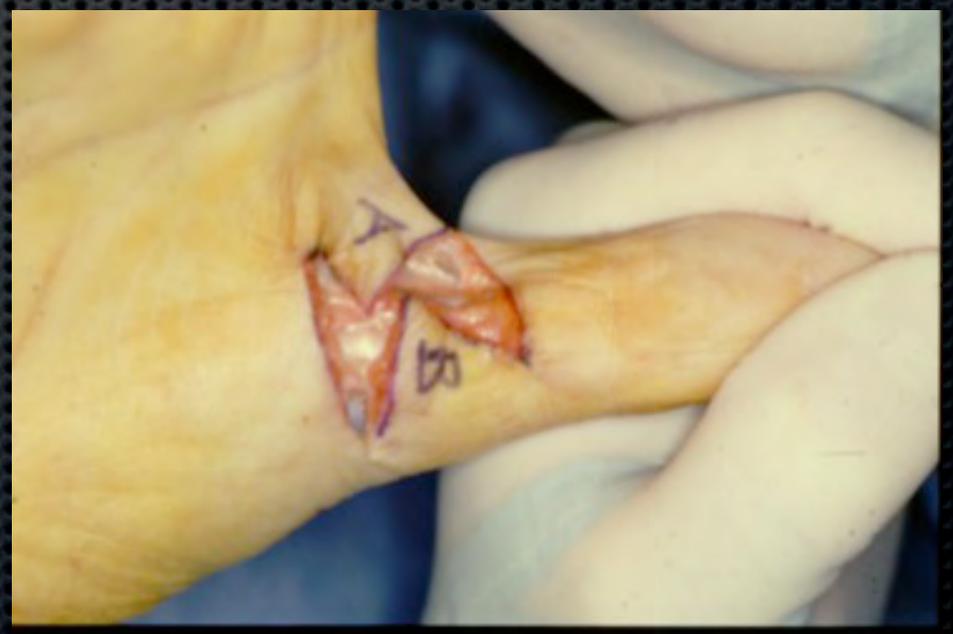


Abord palmaire digital : Plasties en Z

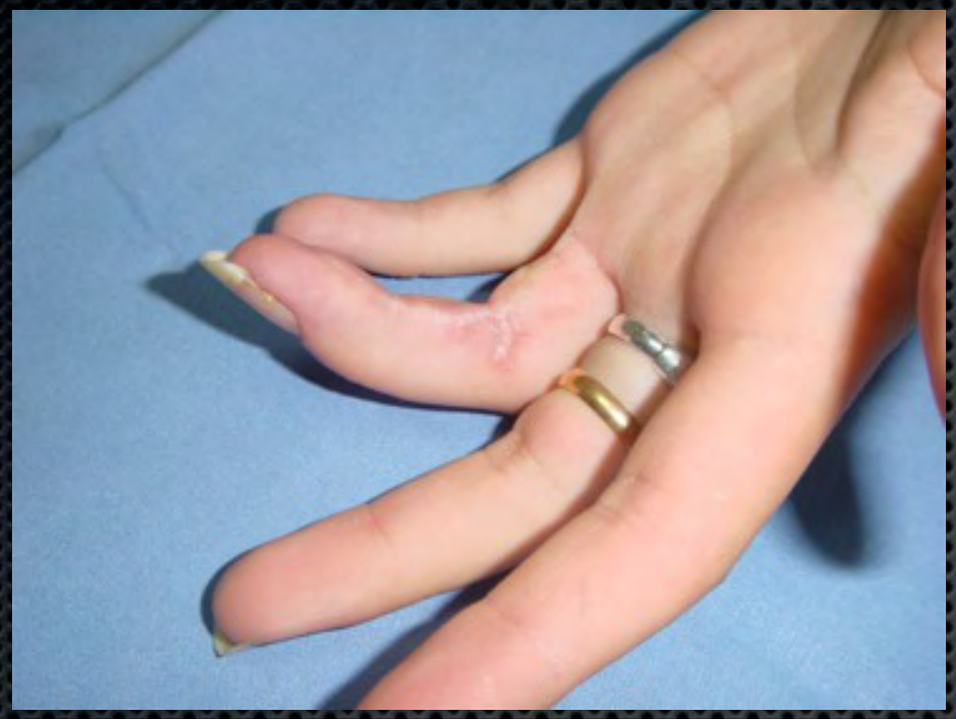


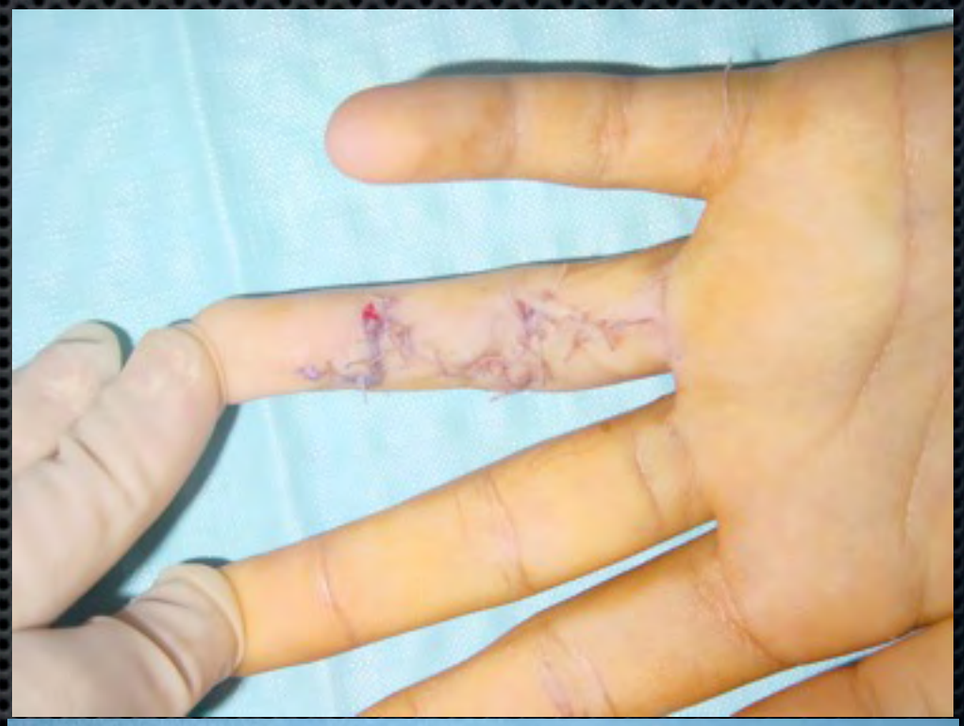


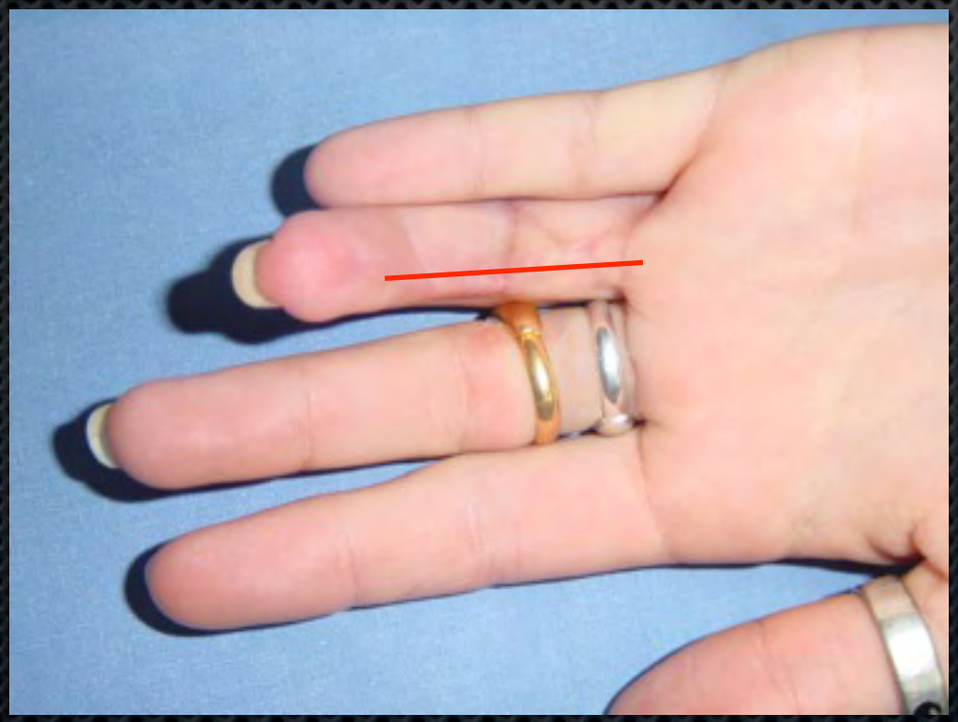


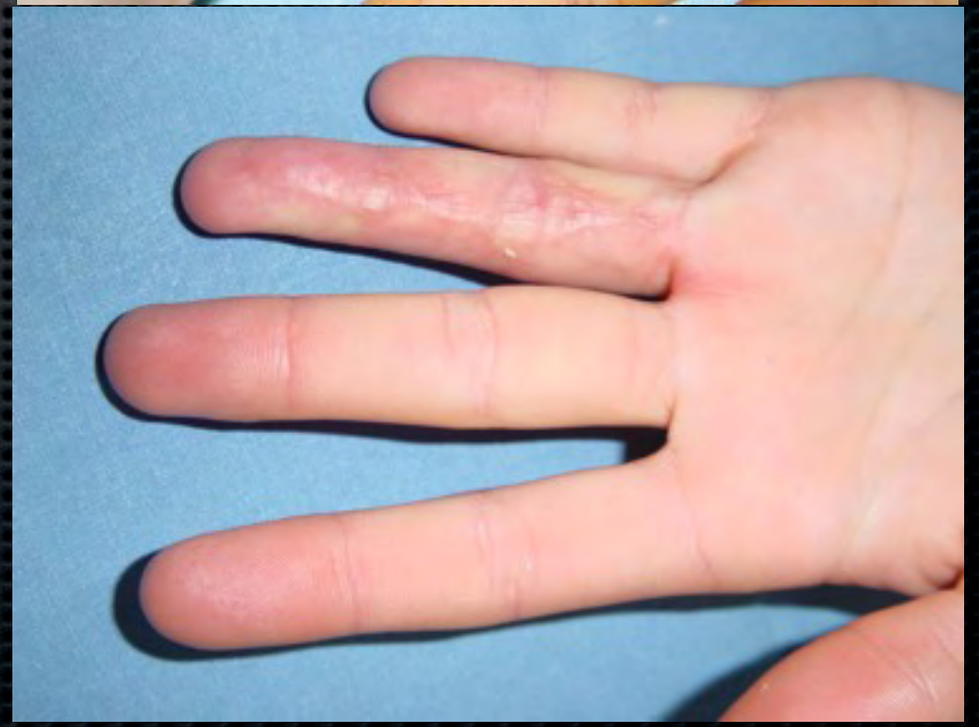


Abord palmaire digital : Plasties en Z

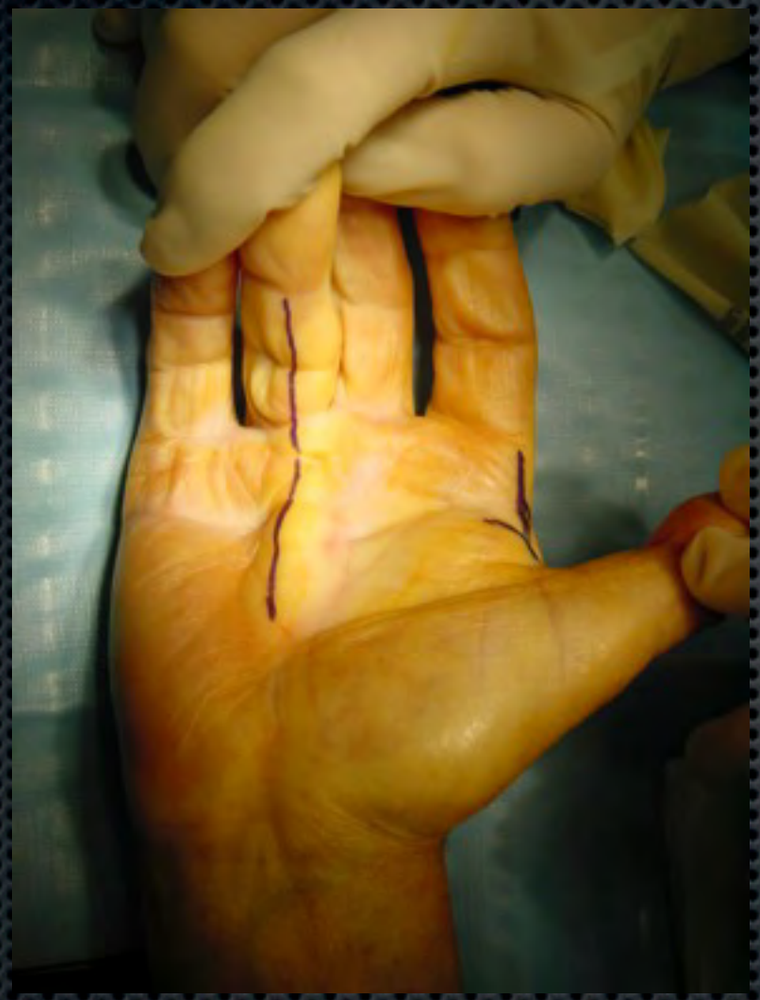


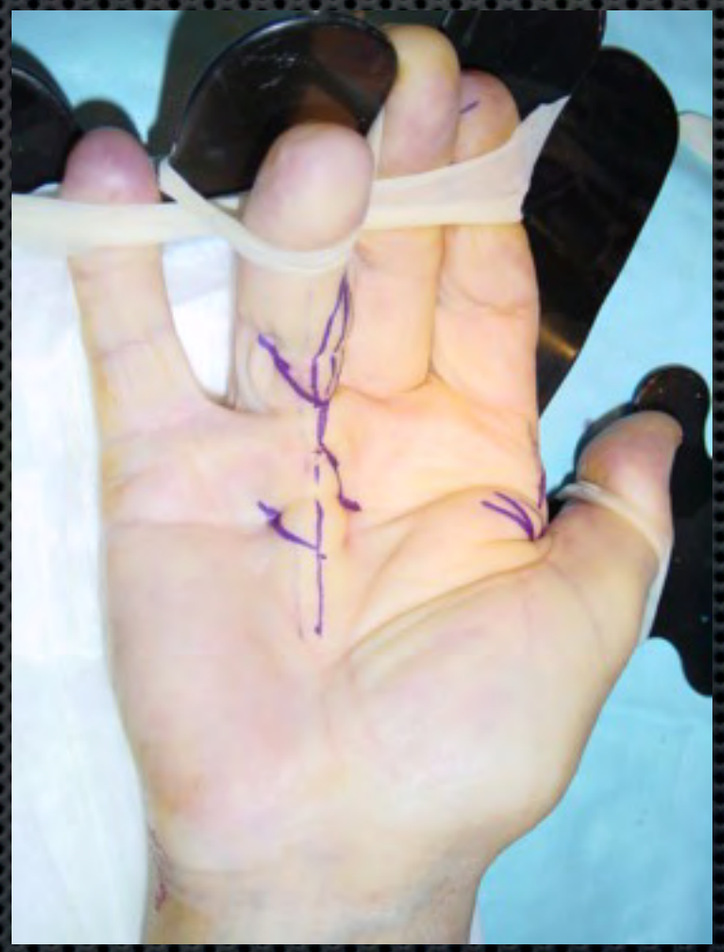


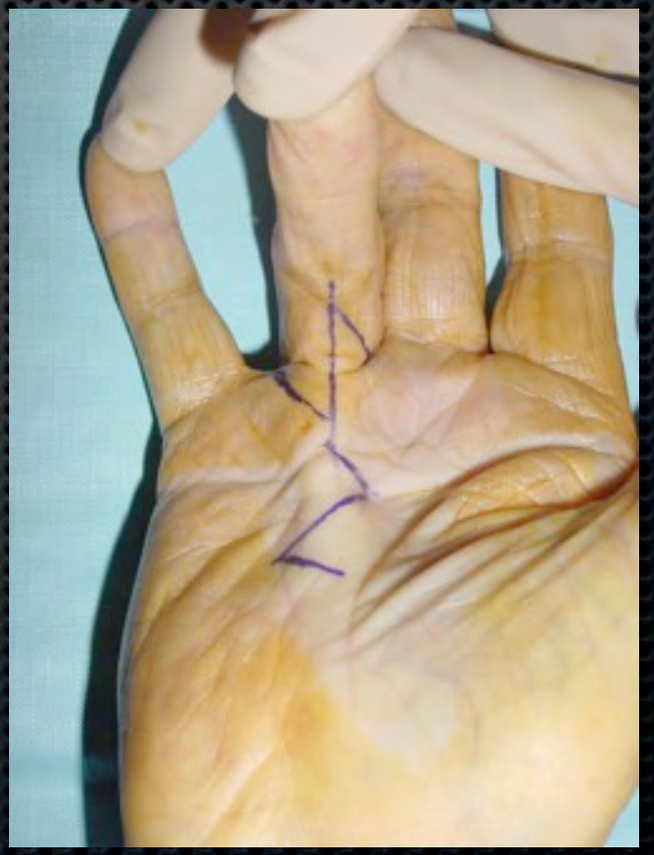




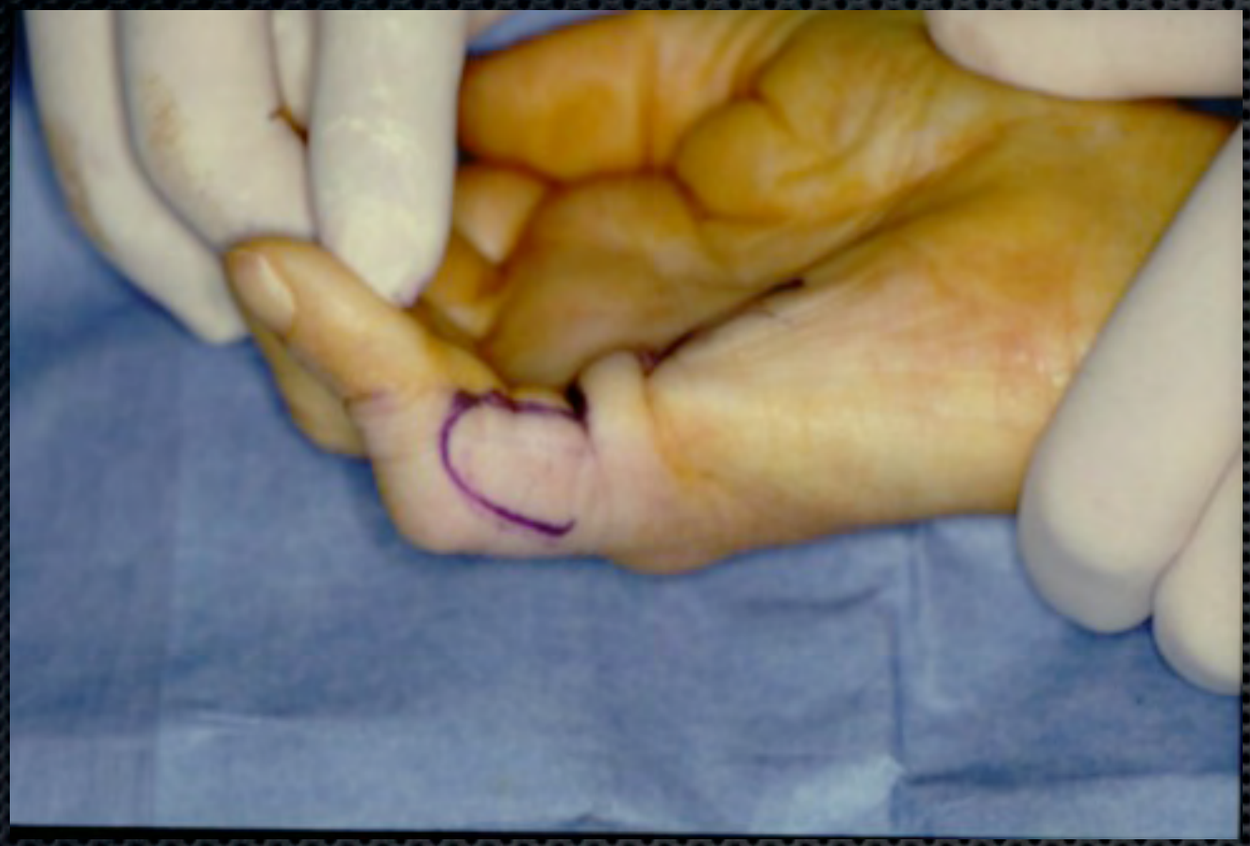
Abord palmaire digital : Plasties en Z

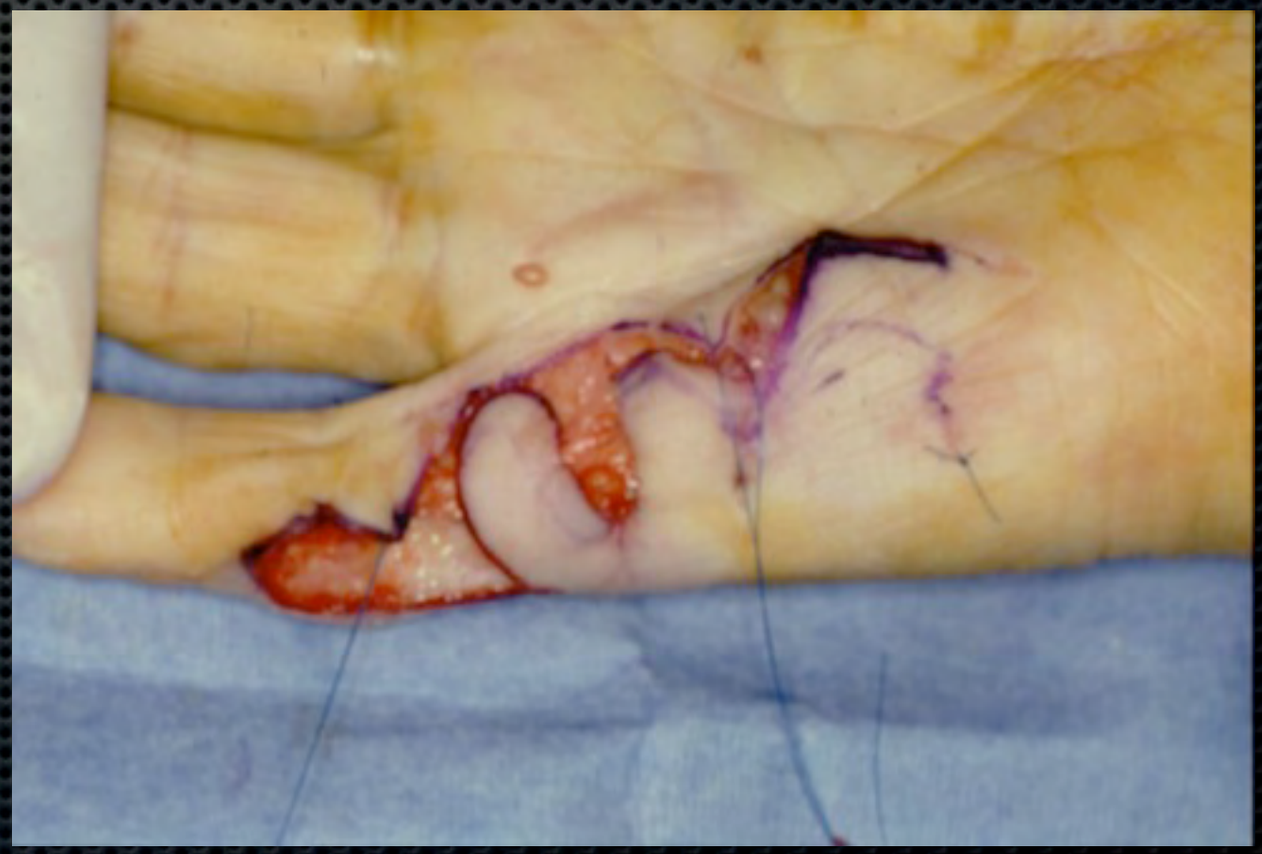




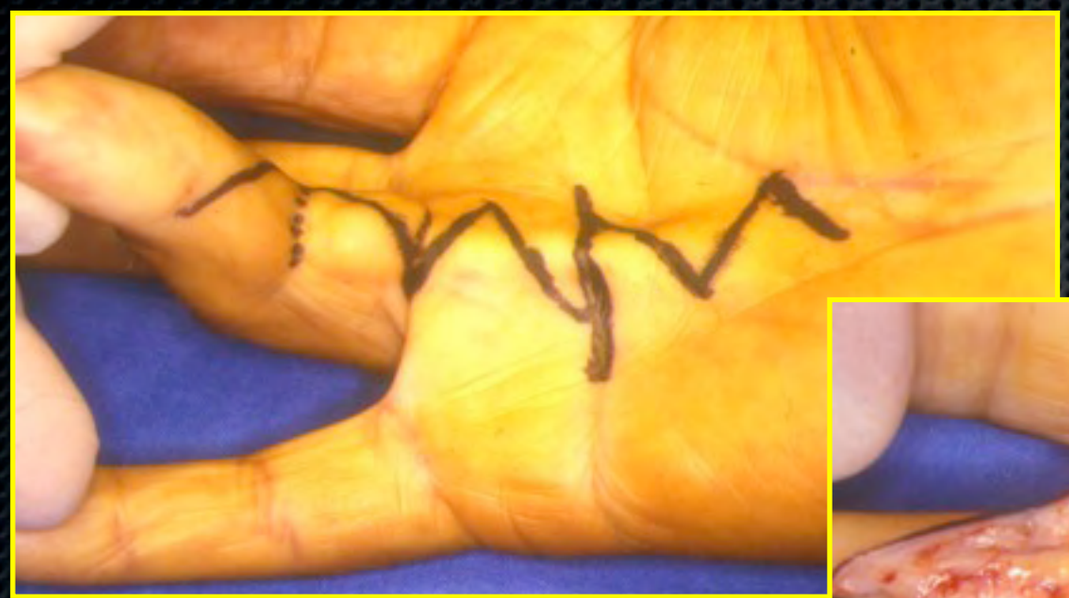


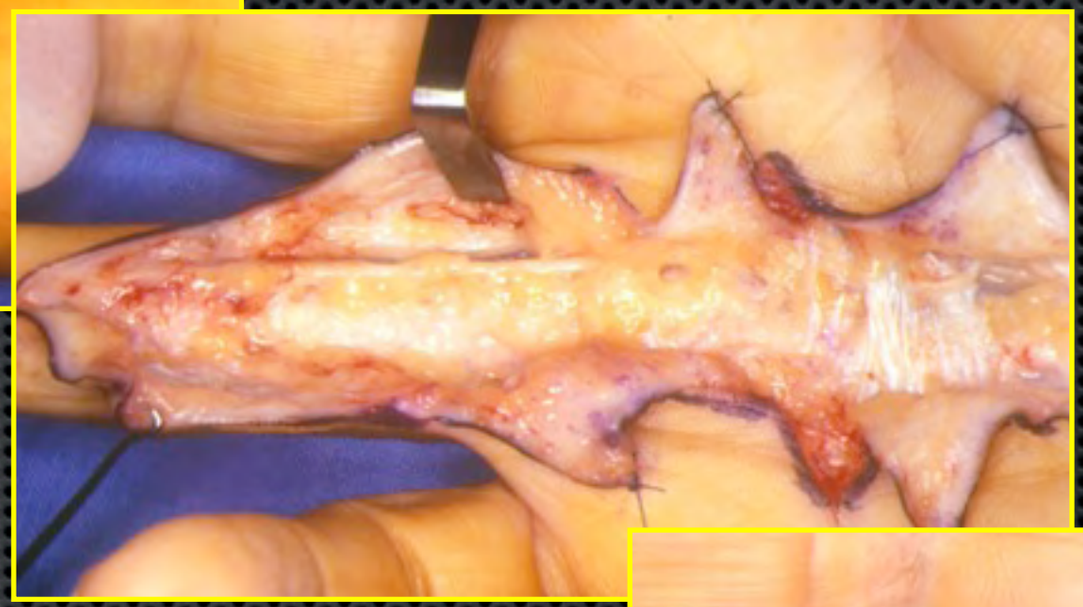
Abord palmaire et lambeau digital

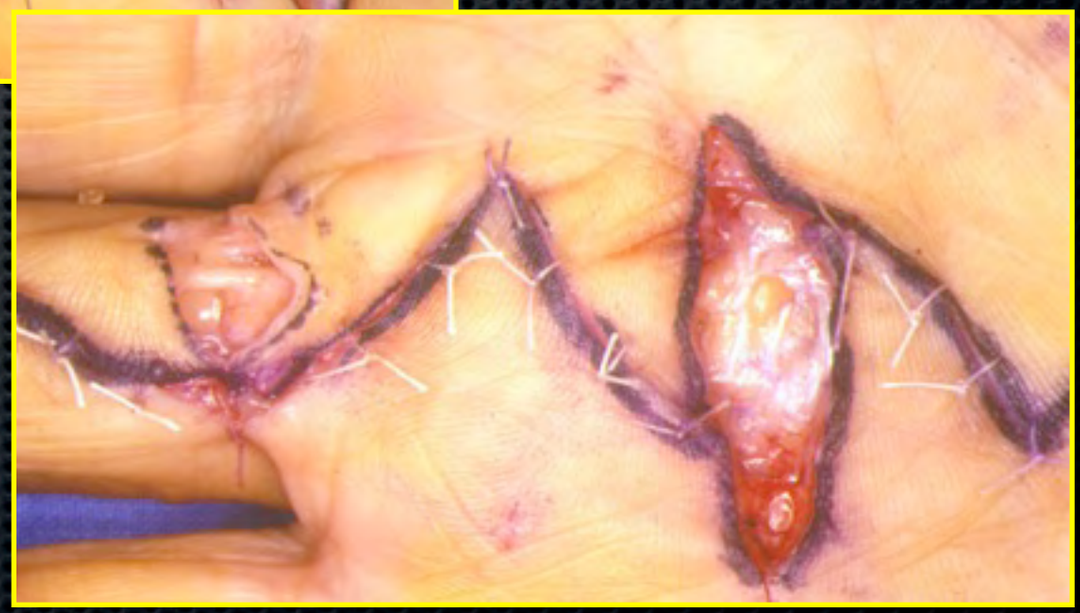




Méthode semi-ouverte

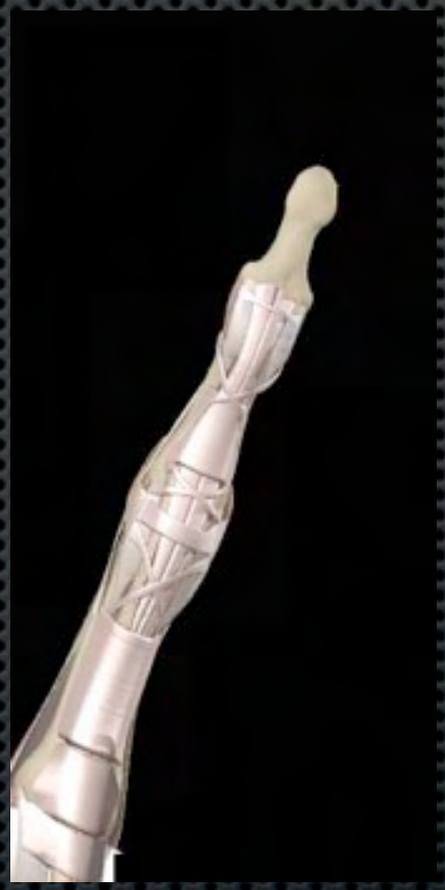






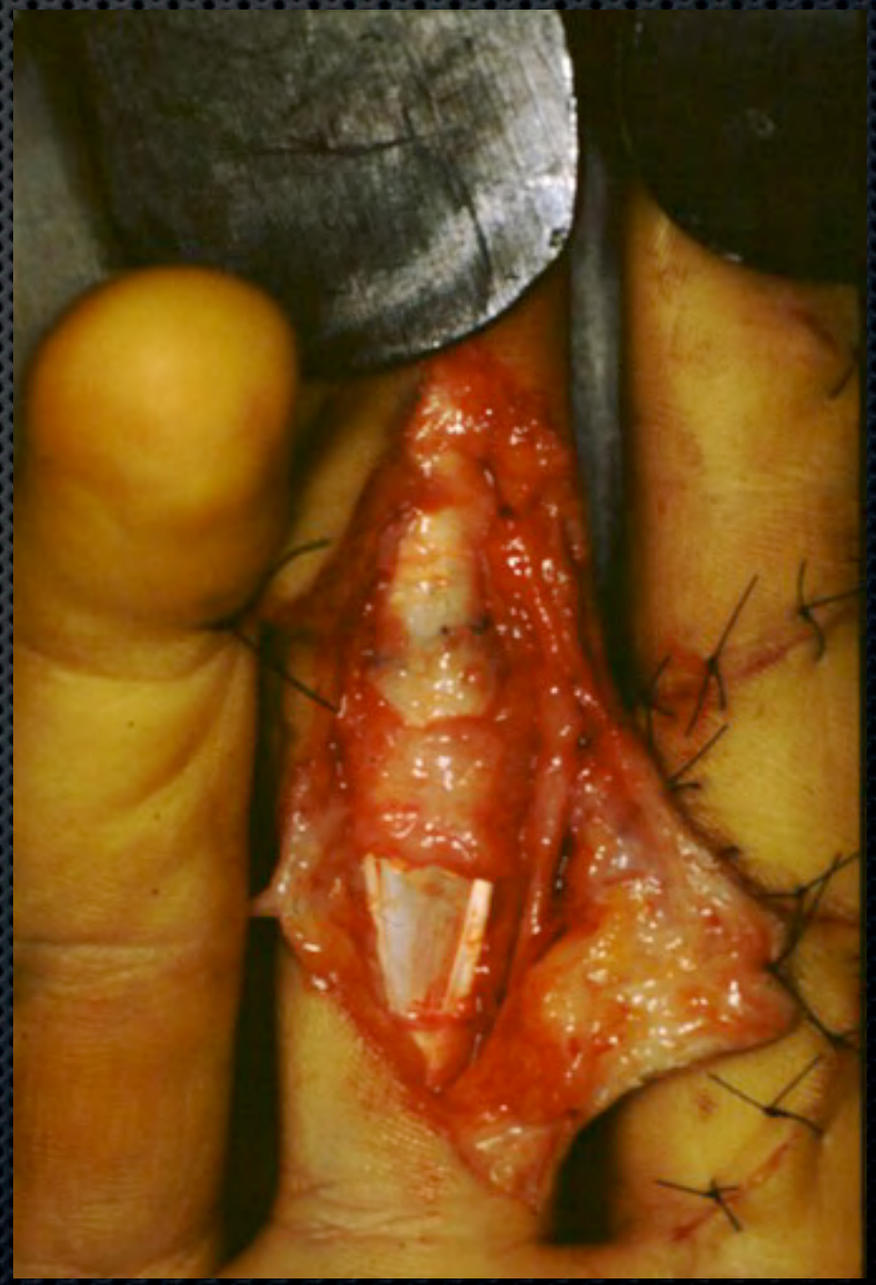
Abord palmaire digital

Respecter les espaces de glissement

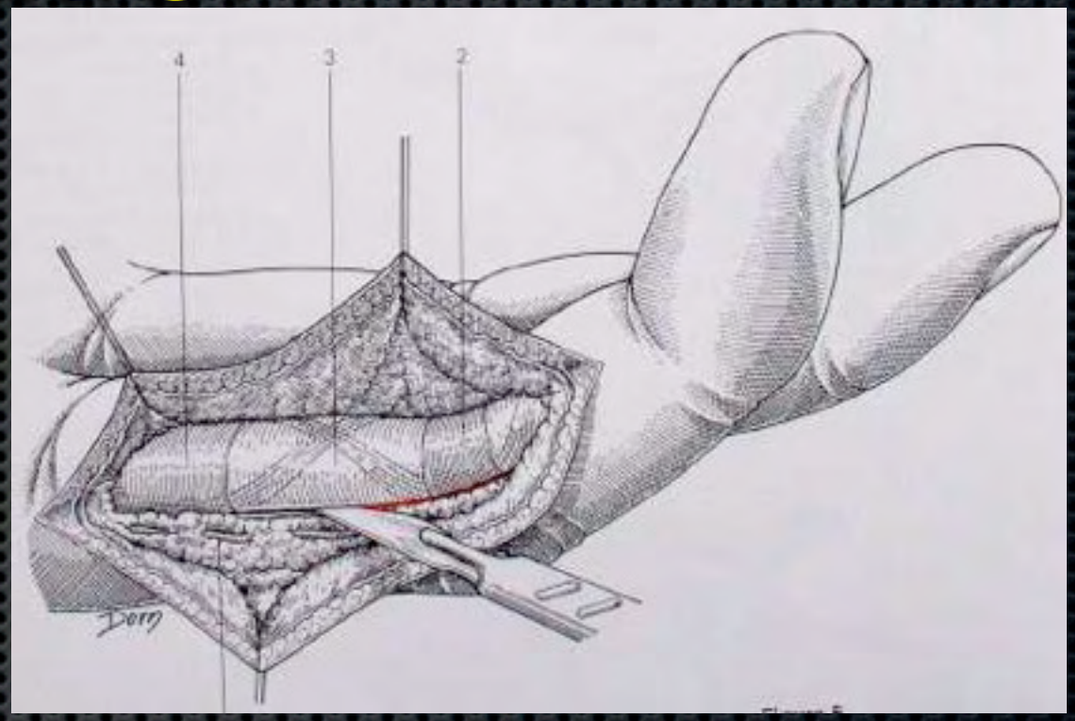


Ouverture partielle des poulies (64%)

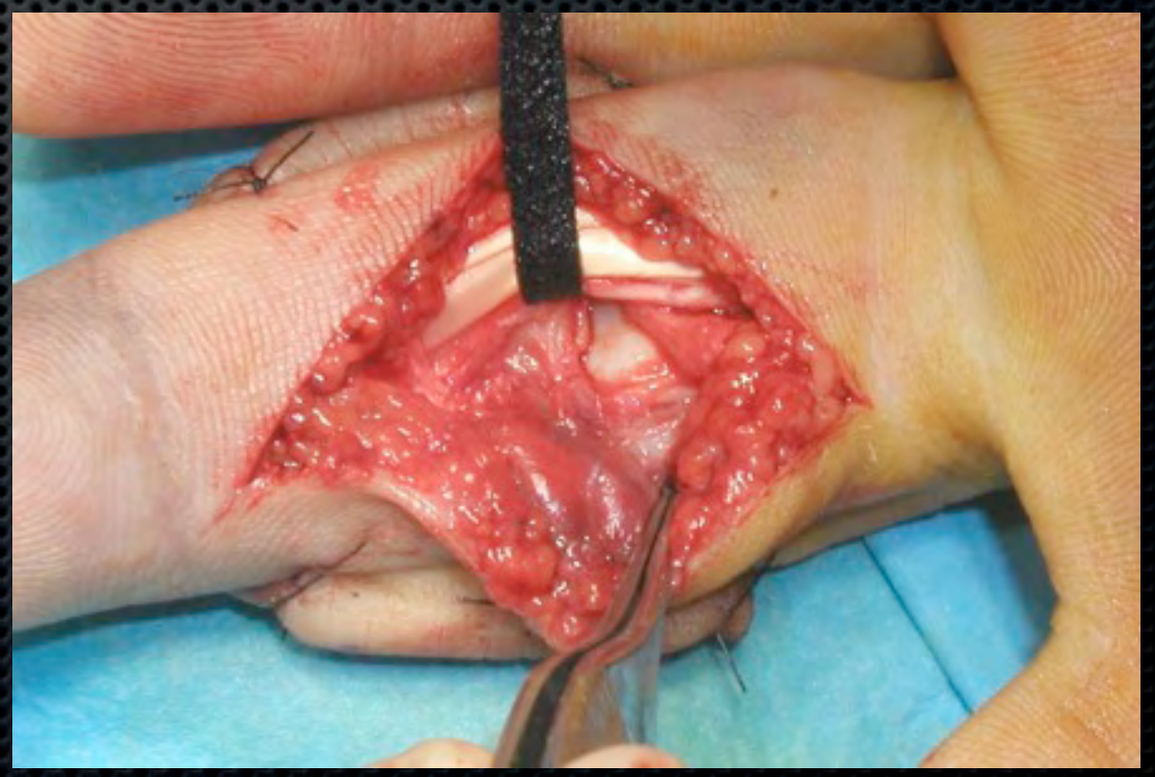
Kwai Ben & Elliot 1998



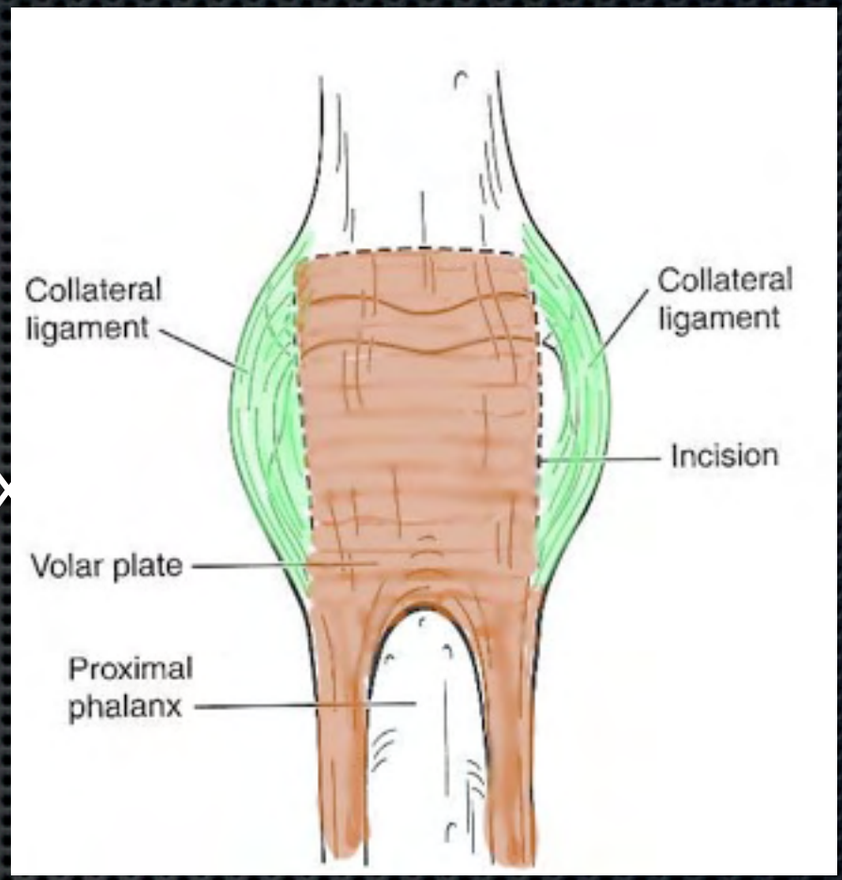
Accès à l'articulation

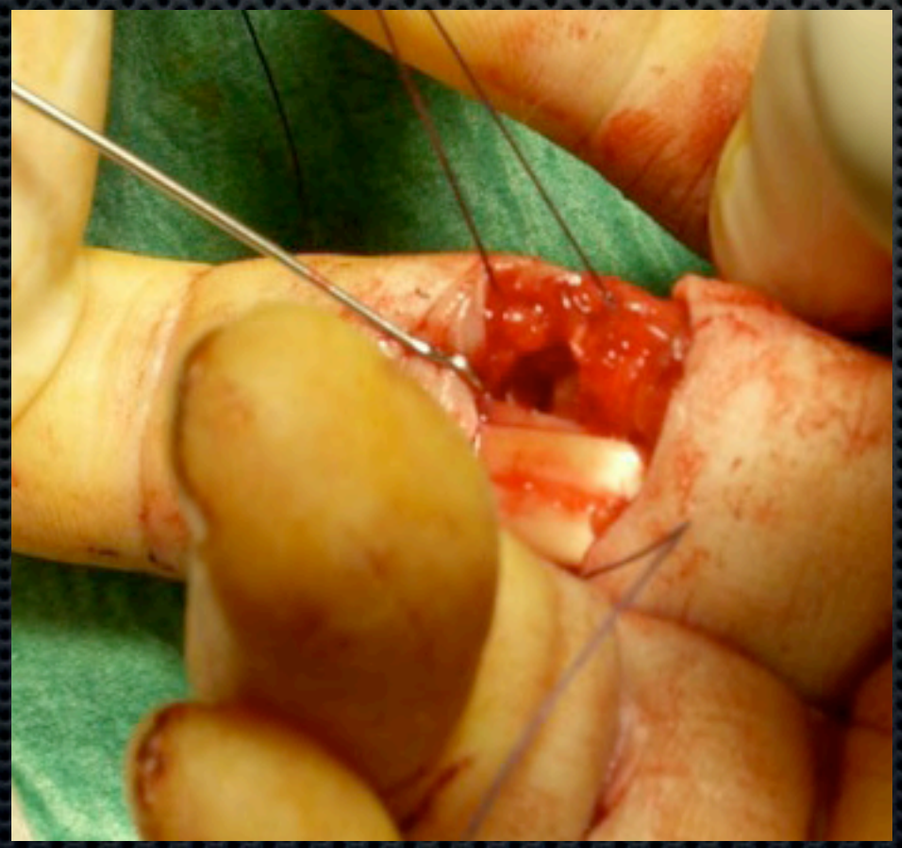


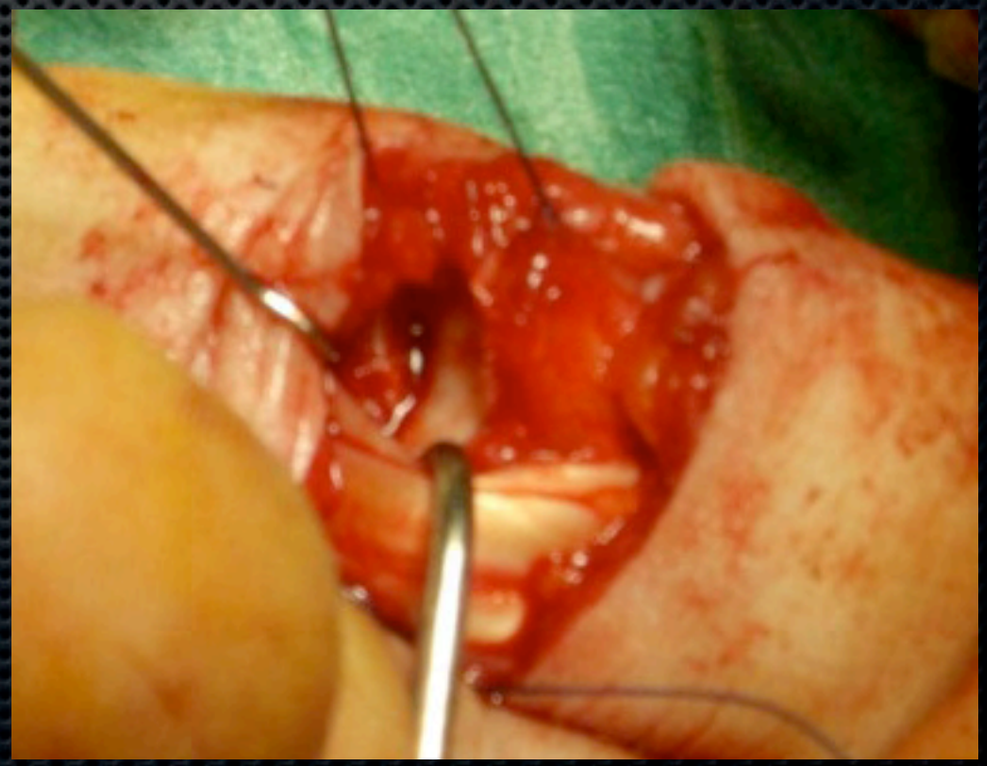
- Ouvrir la gaine entre A2 et A4
- Ecarter les fléchisseurs



- Désinsertion de la plaque palmaire
- Libération des ligaments collatéraux

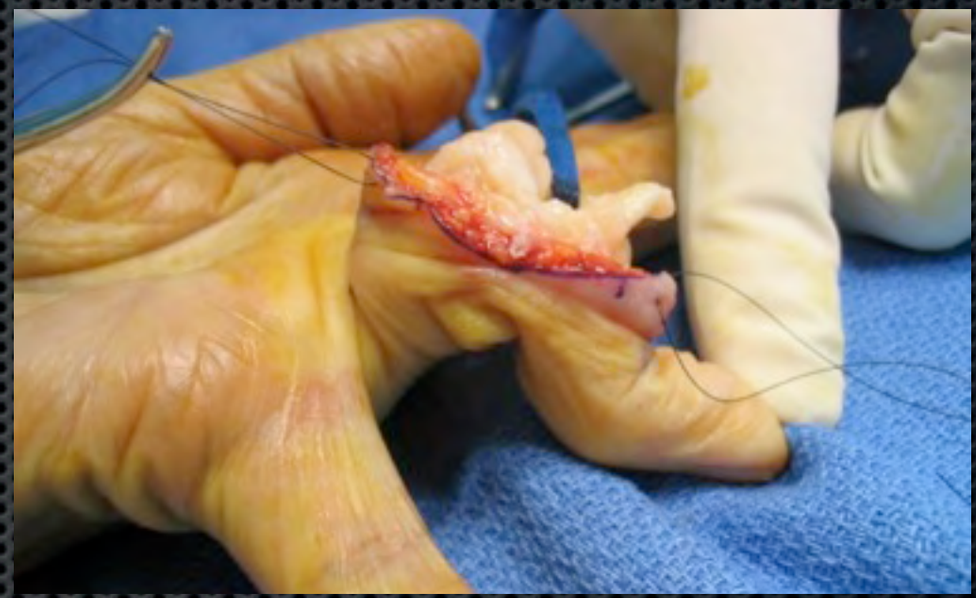


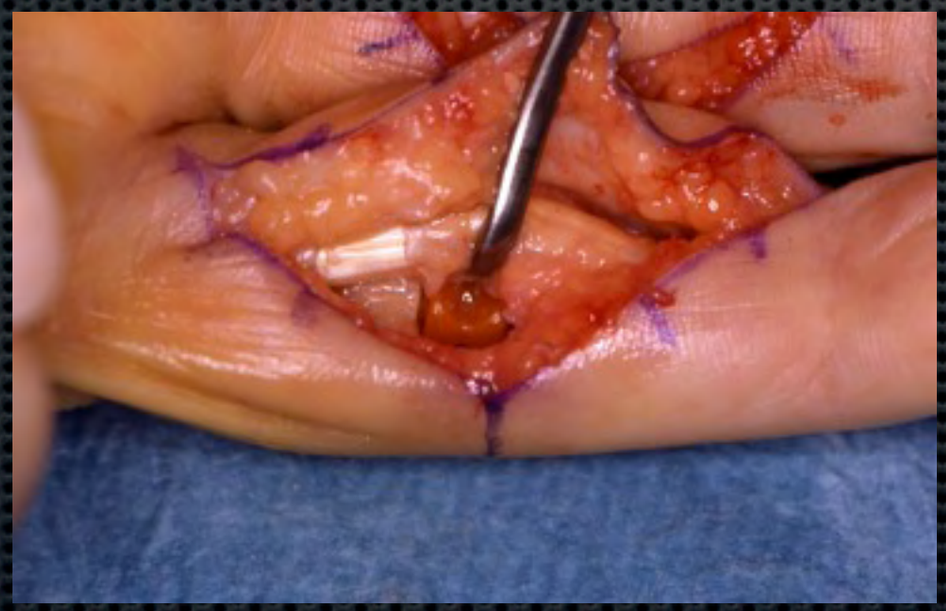


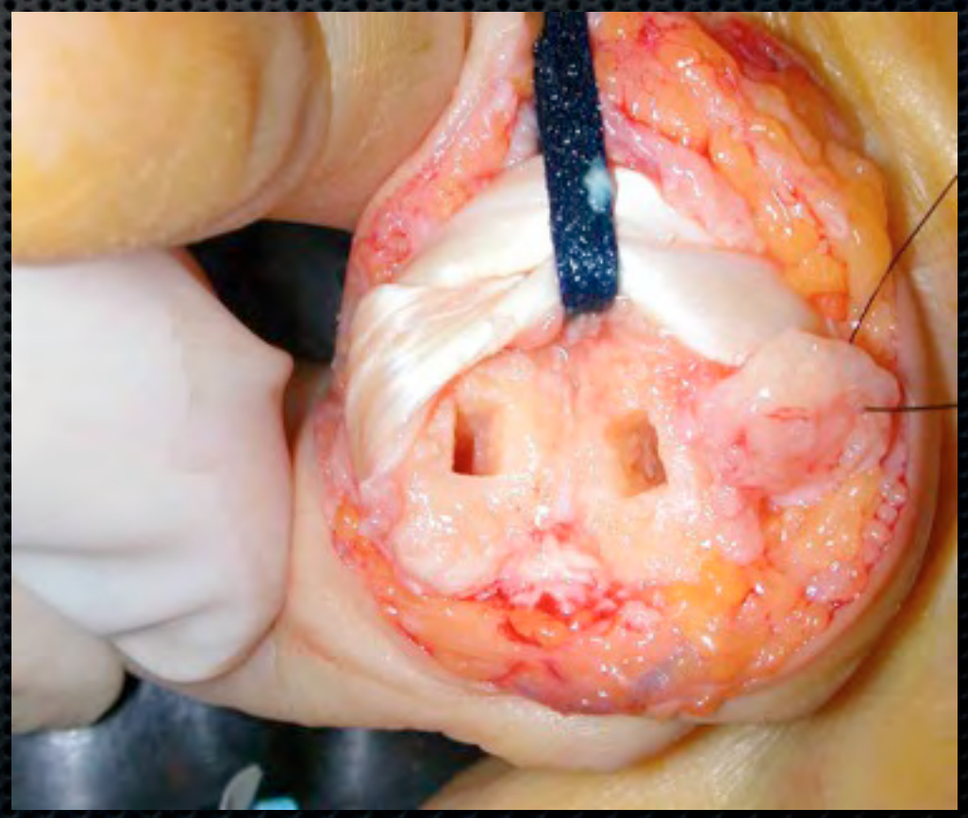


“Shot-gun incision”

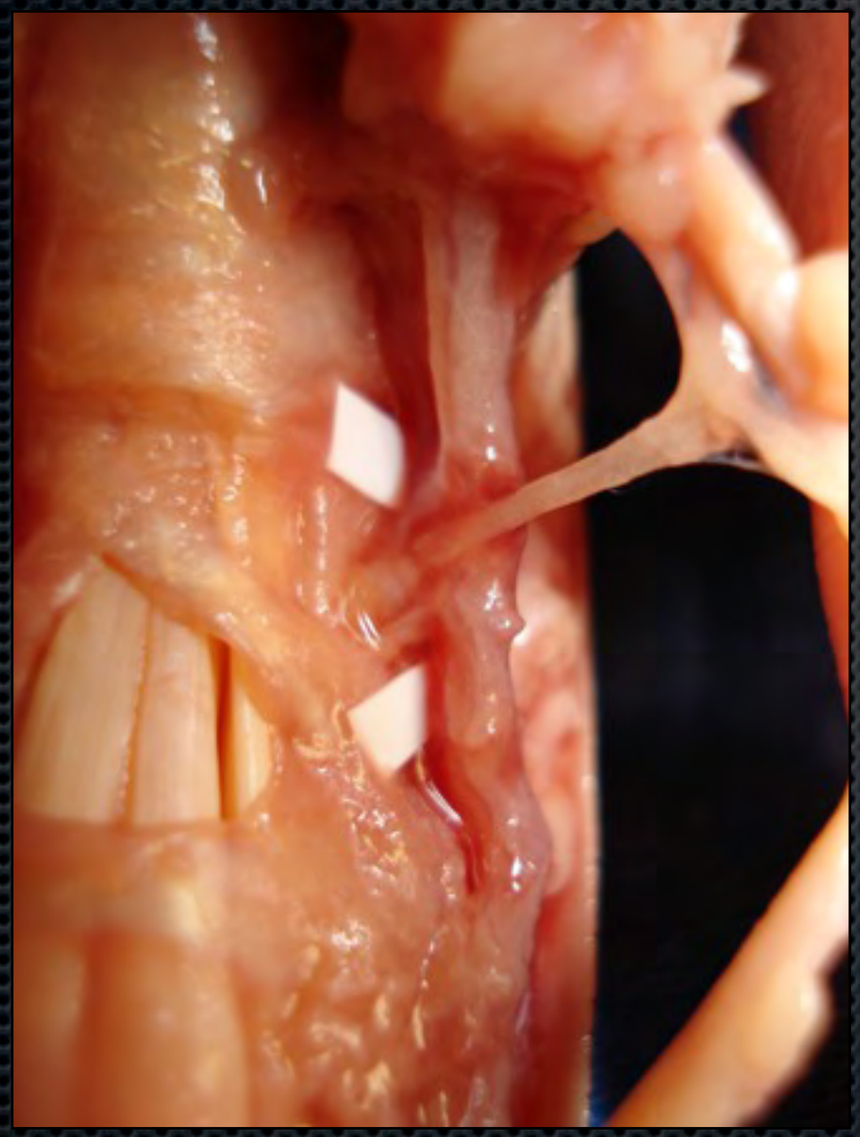
- Luxer le doigt (libérer les pédicules avant !)

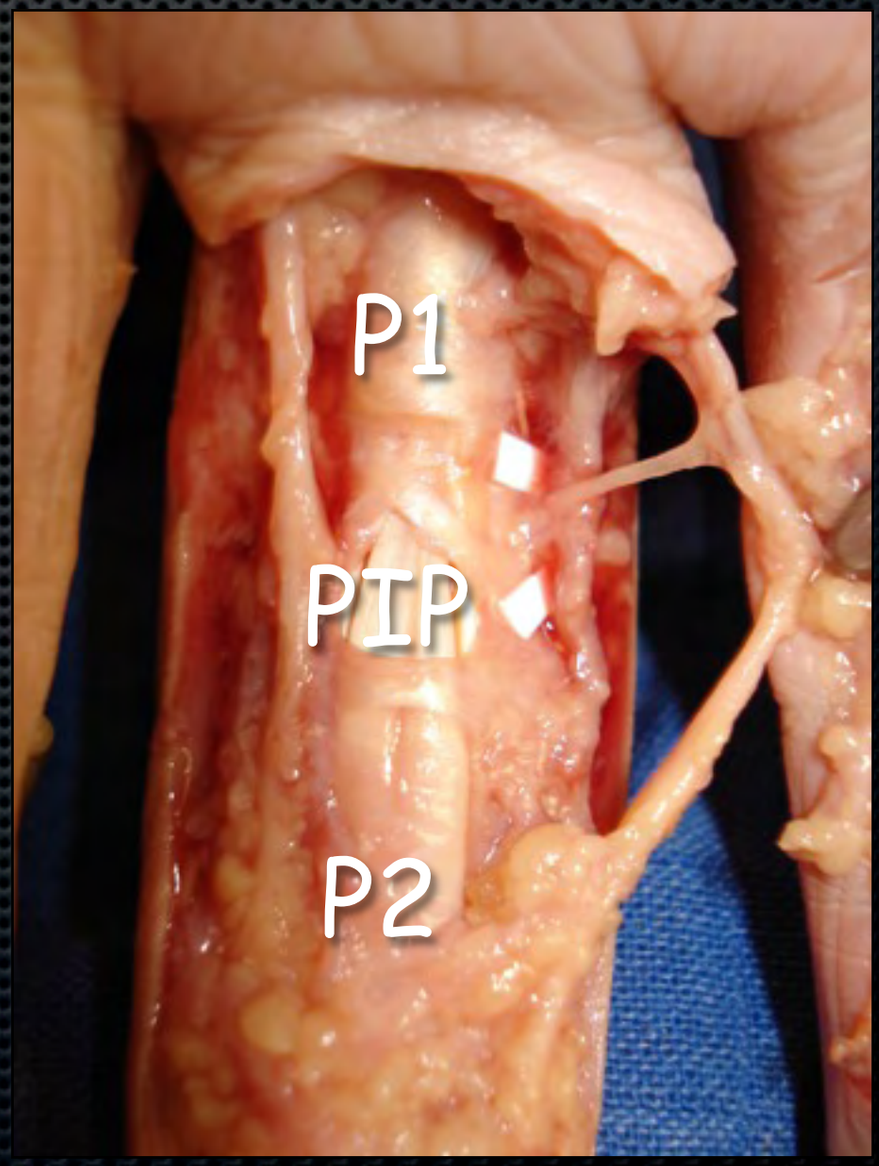






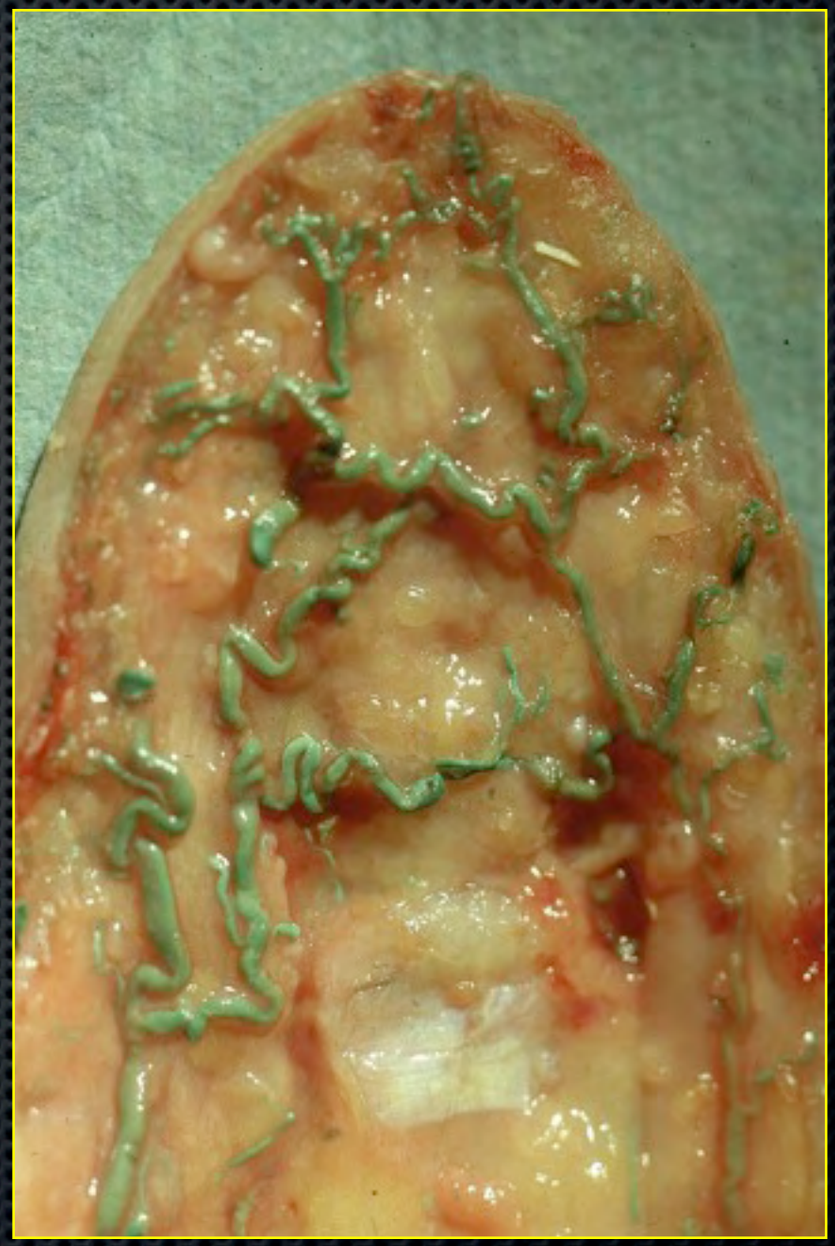
Rappel anatomique

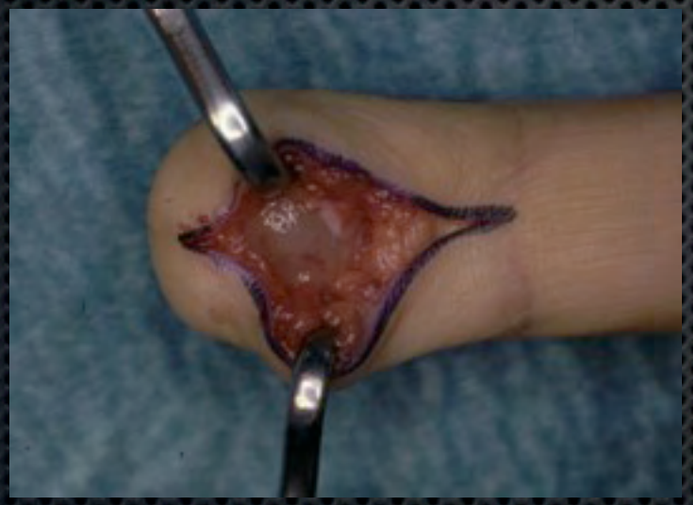


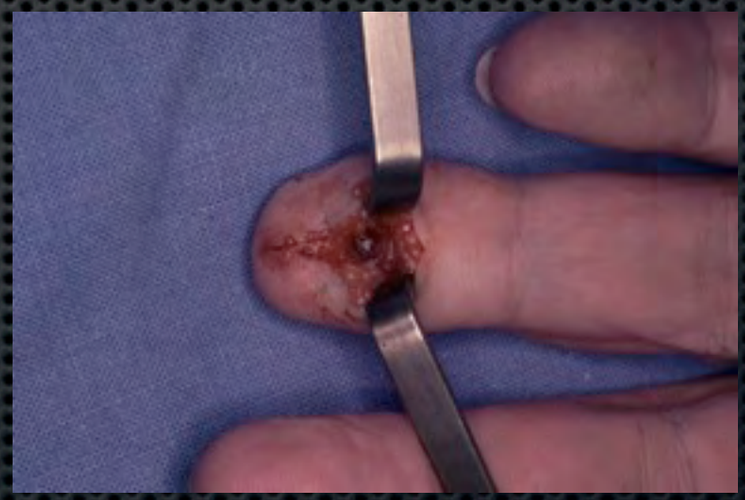


La pulpe

- Pas d'incision idéale
- Le chemin le plus direct est le meilleur

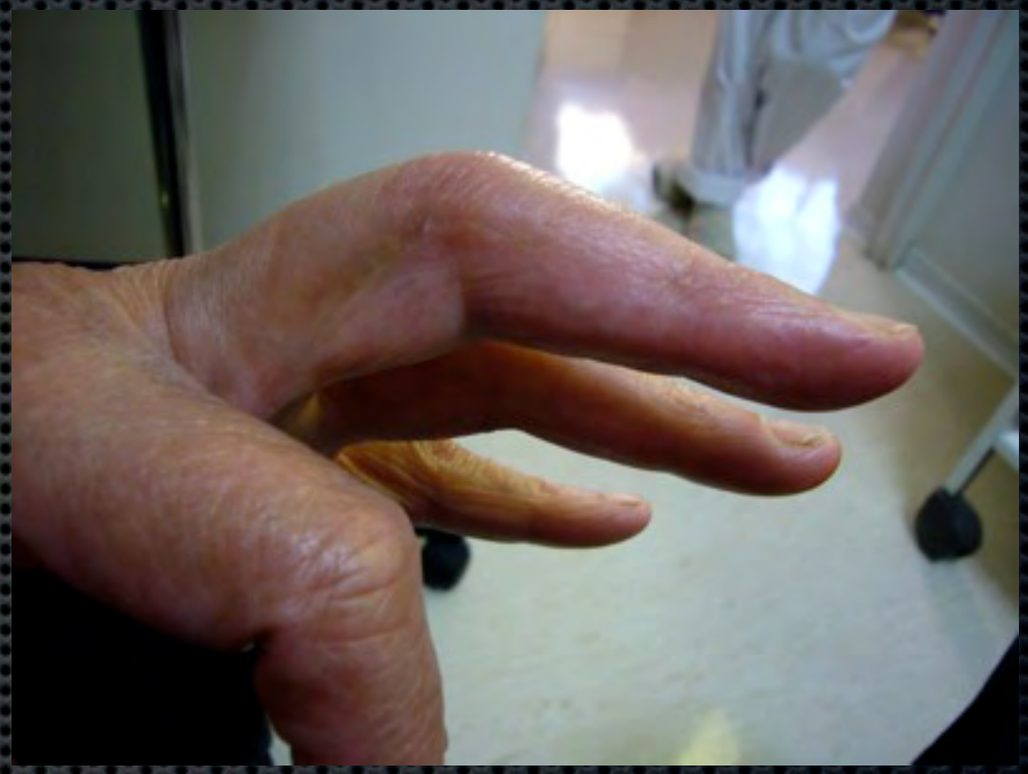


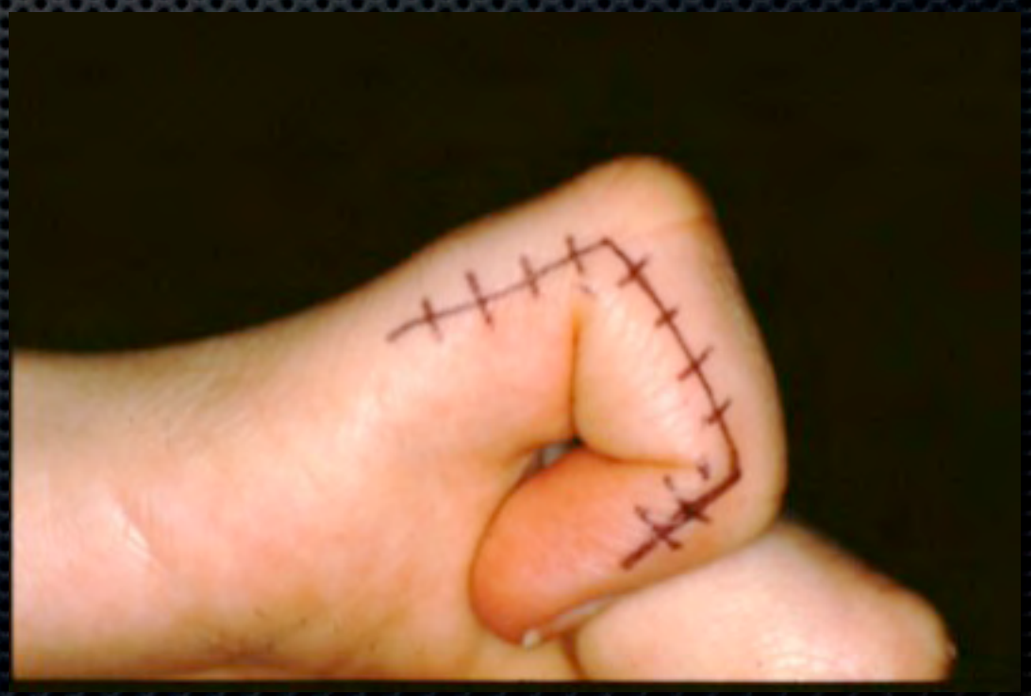




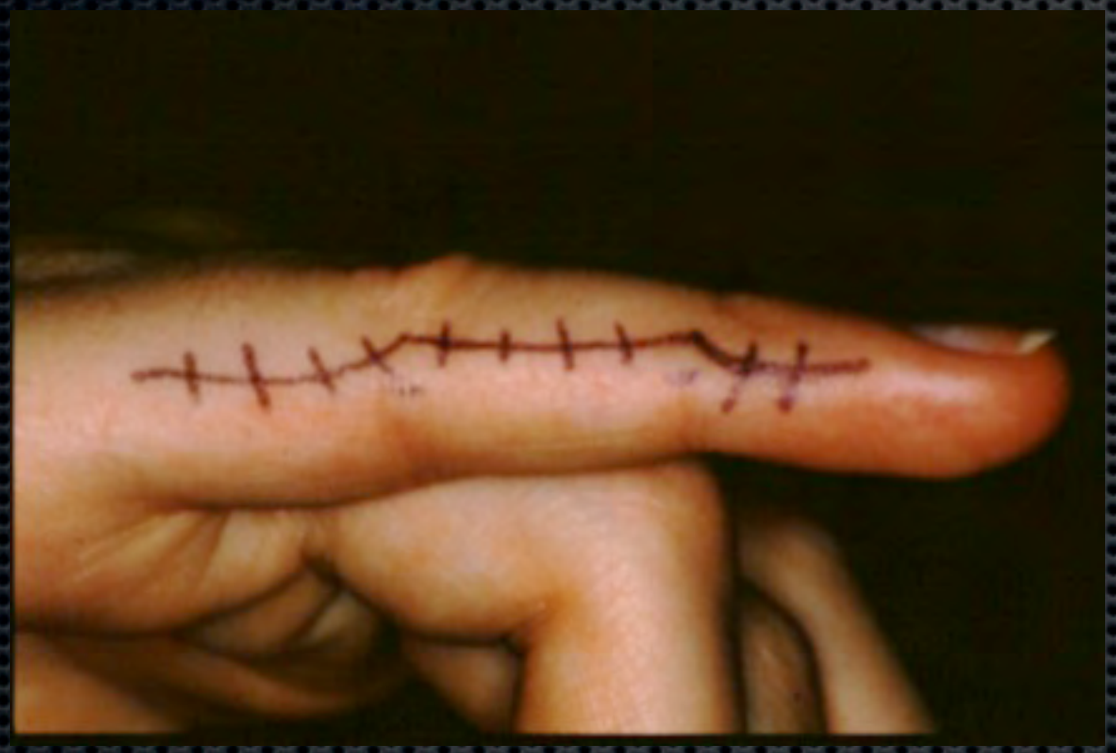
VOIES LATERALES

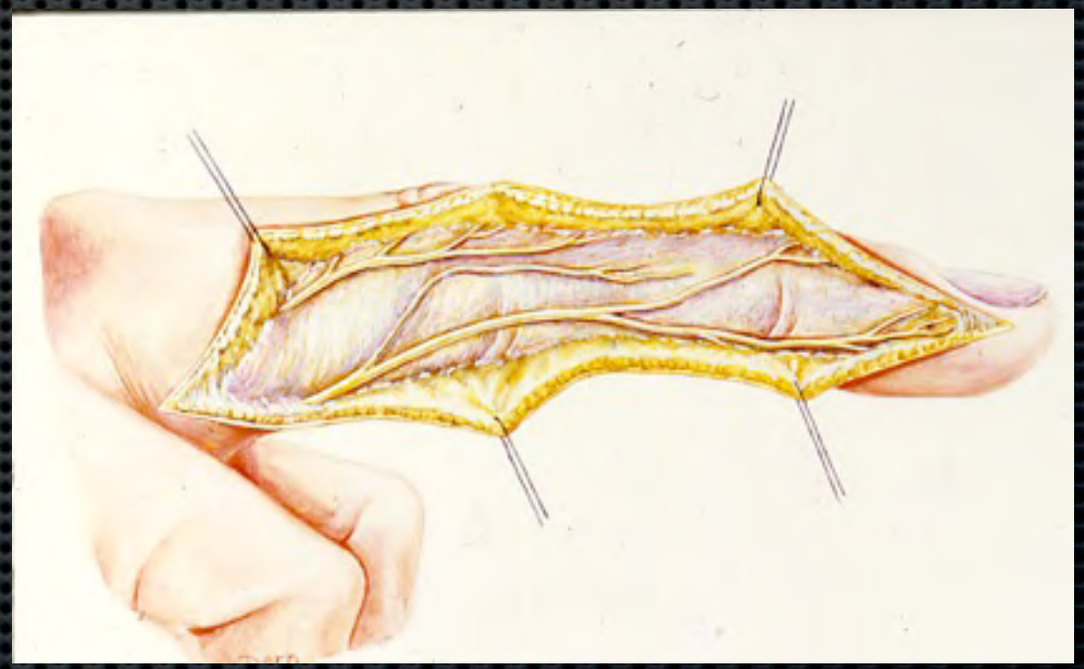
2 Possibilités d’abord, en arrière du pédicule ou en avant de lui



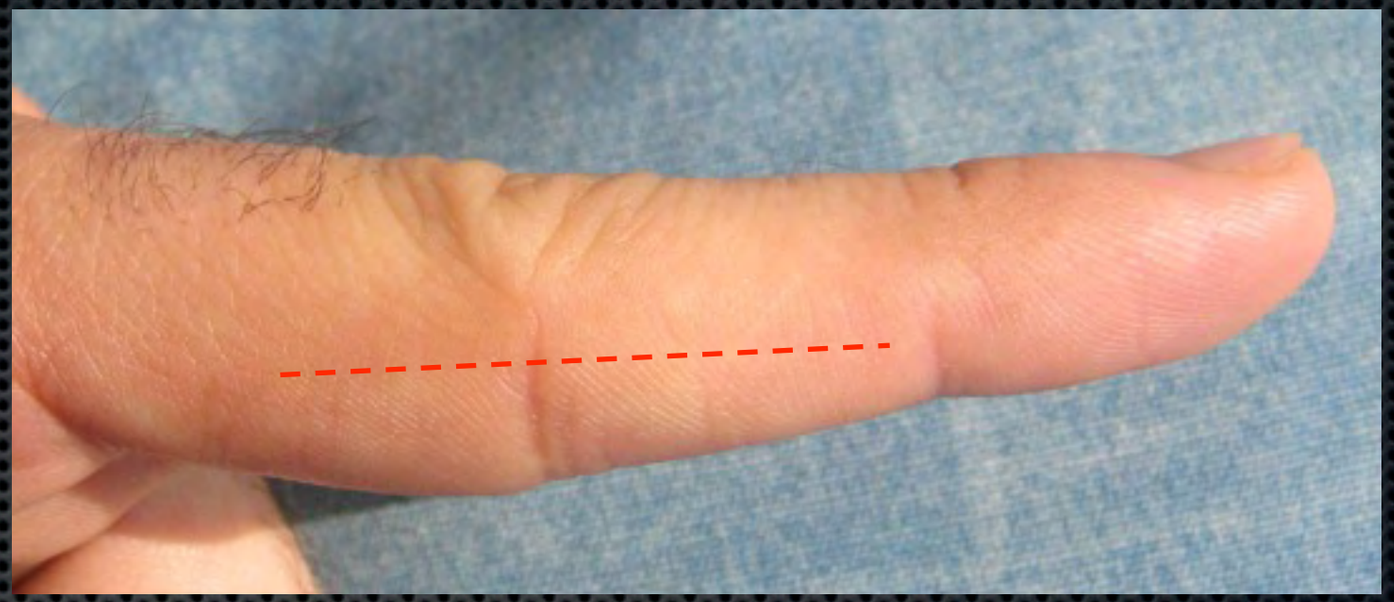


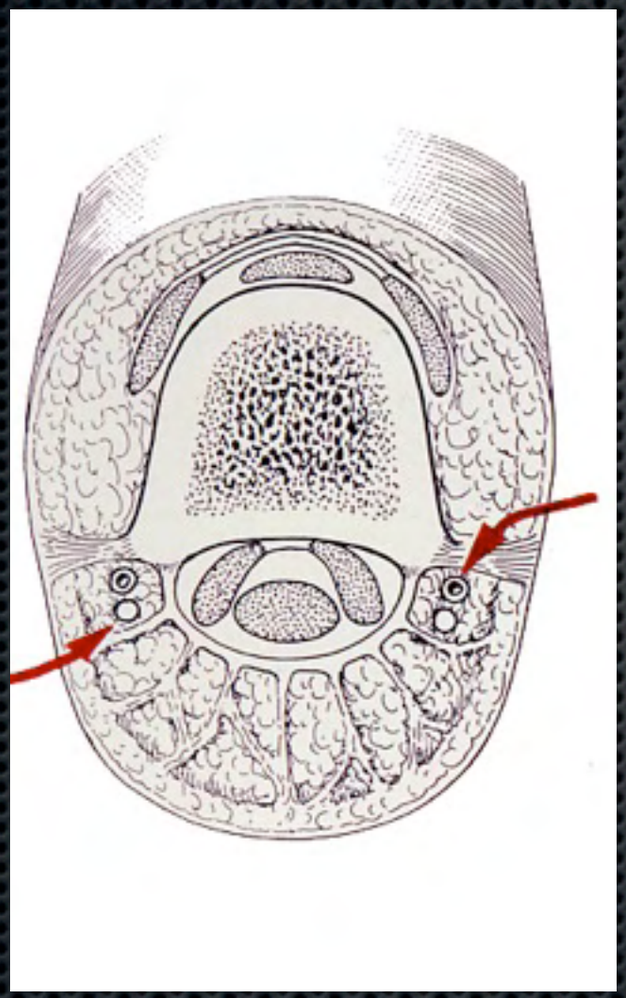
VOIES LATERALES

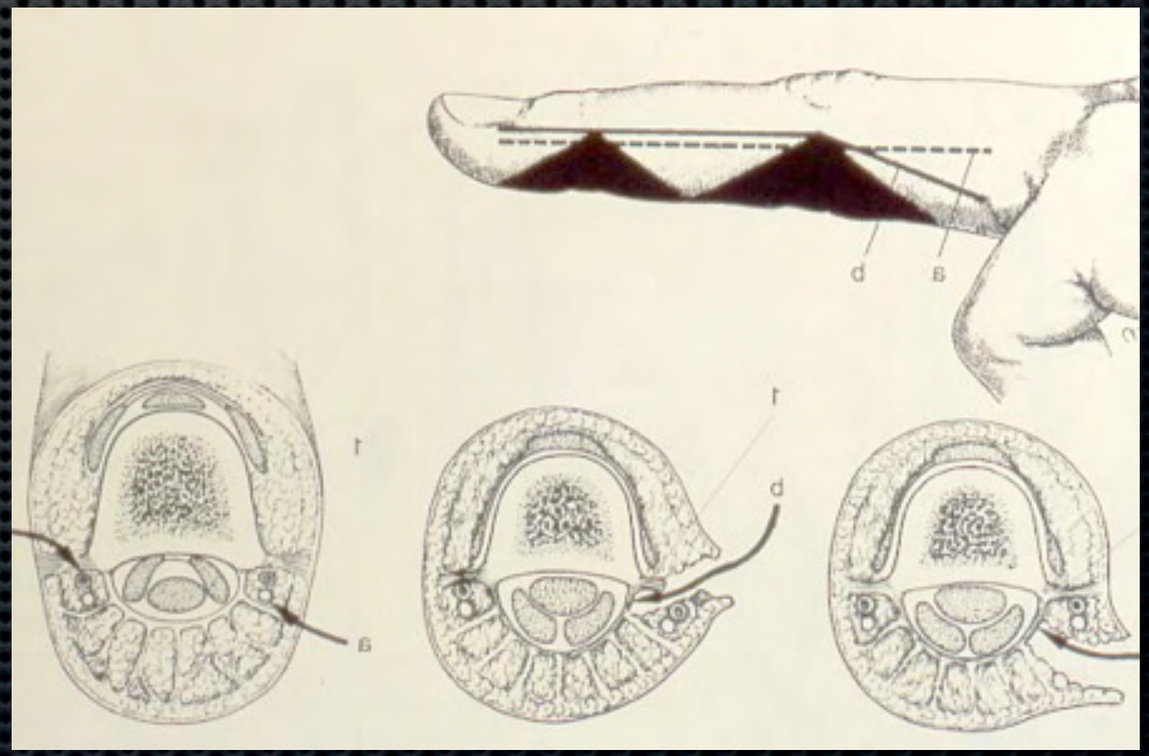




VOIES LATERALES

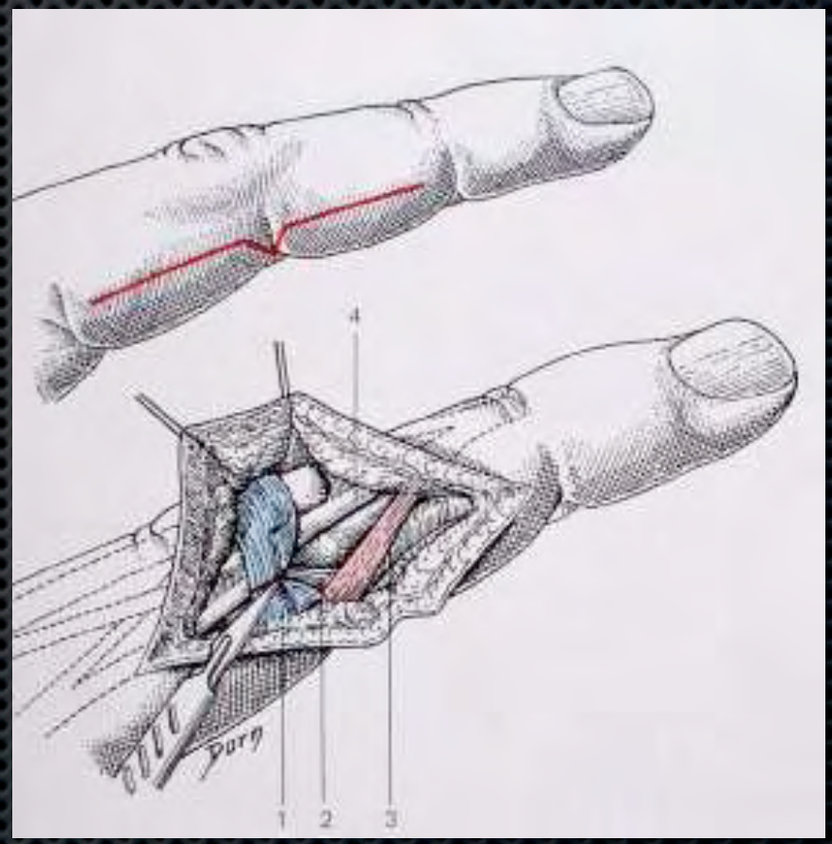




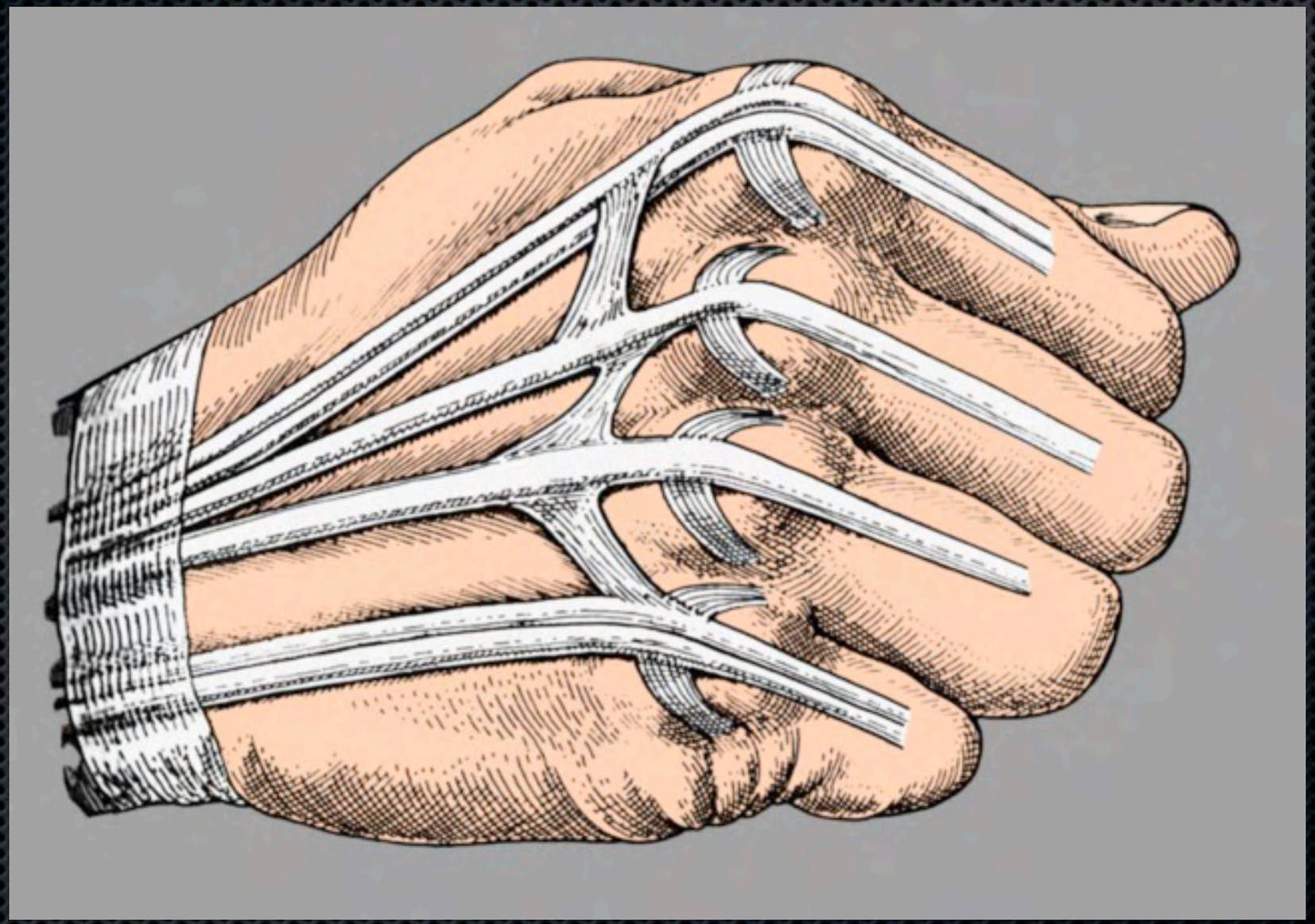


Abord latéral de l'articulation

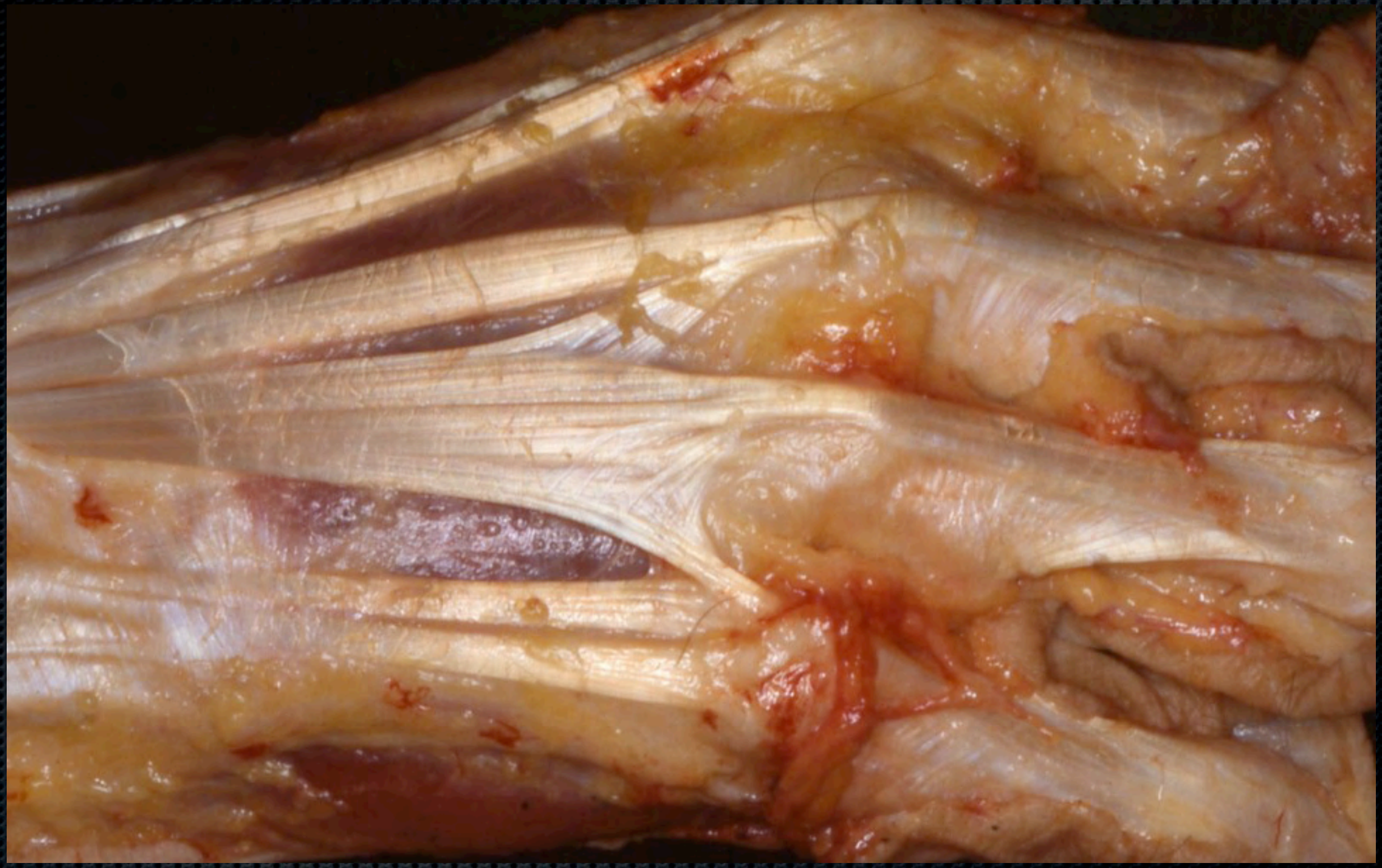
- Désinsérer le lgt rétinaculaire transverse
- Libérer l'extenseur
- Désinsérer le collatéral



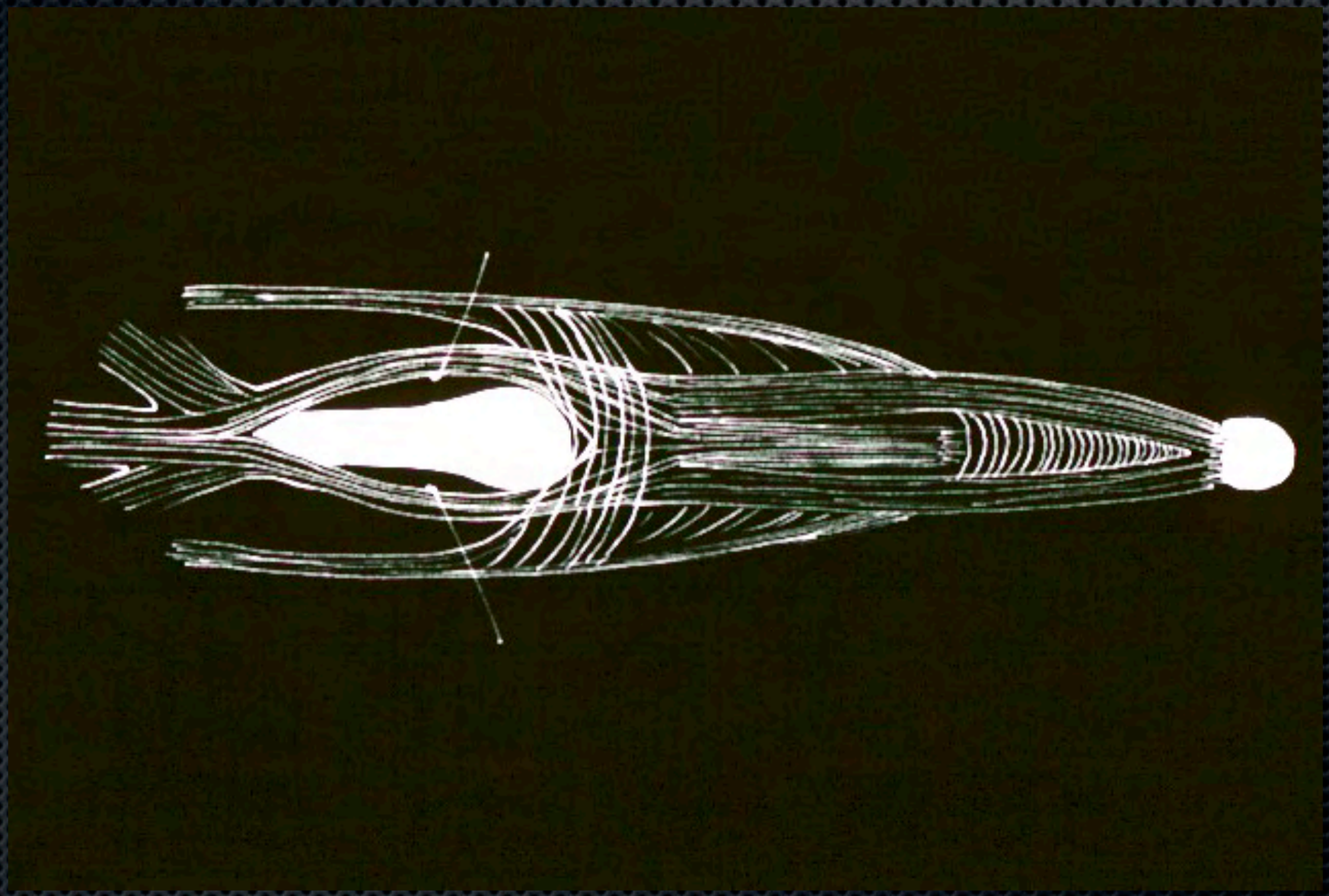
Abord dorsal de la main et des doigts



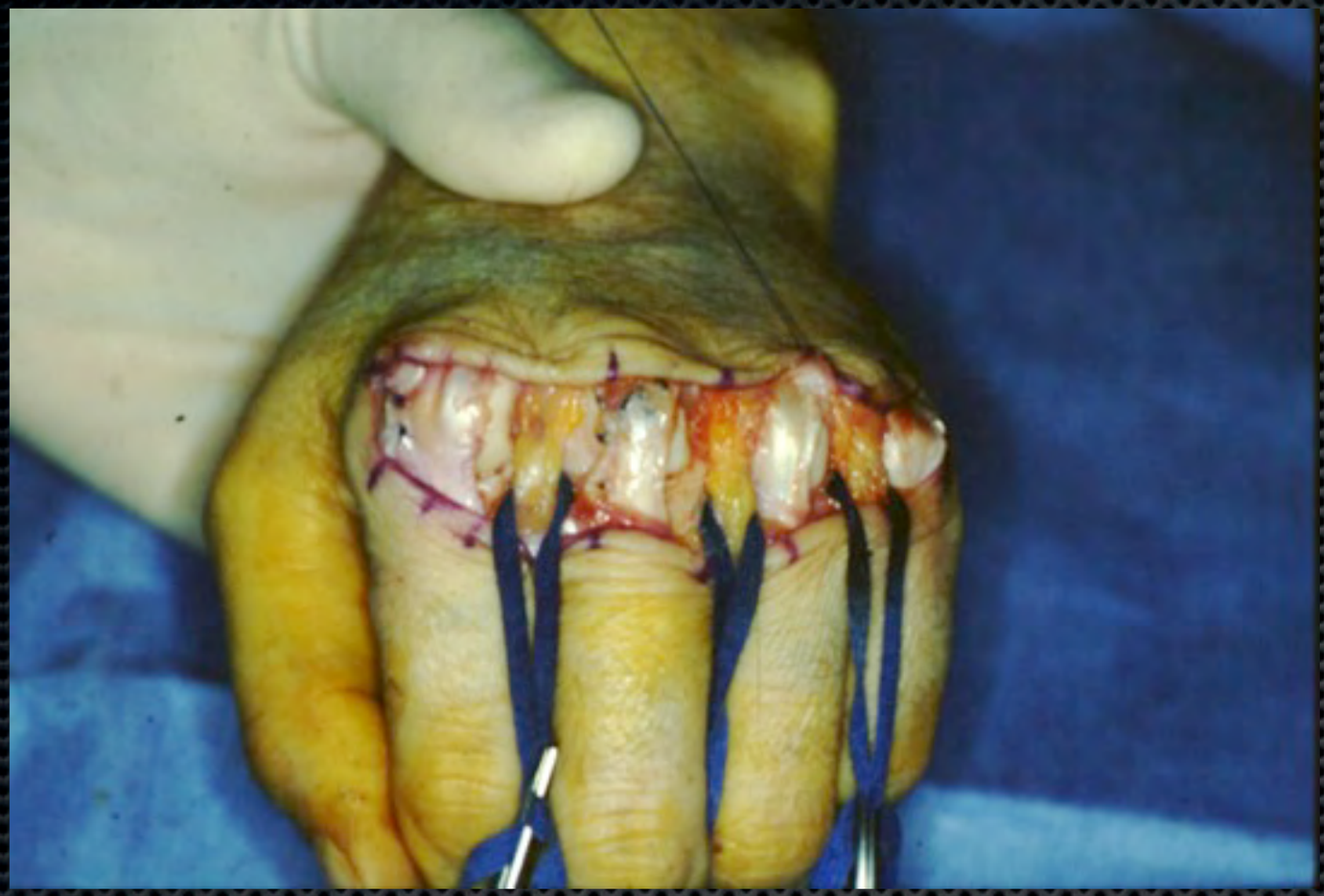
- Traverser l’appareil extenseur

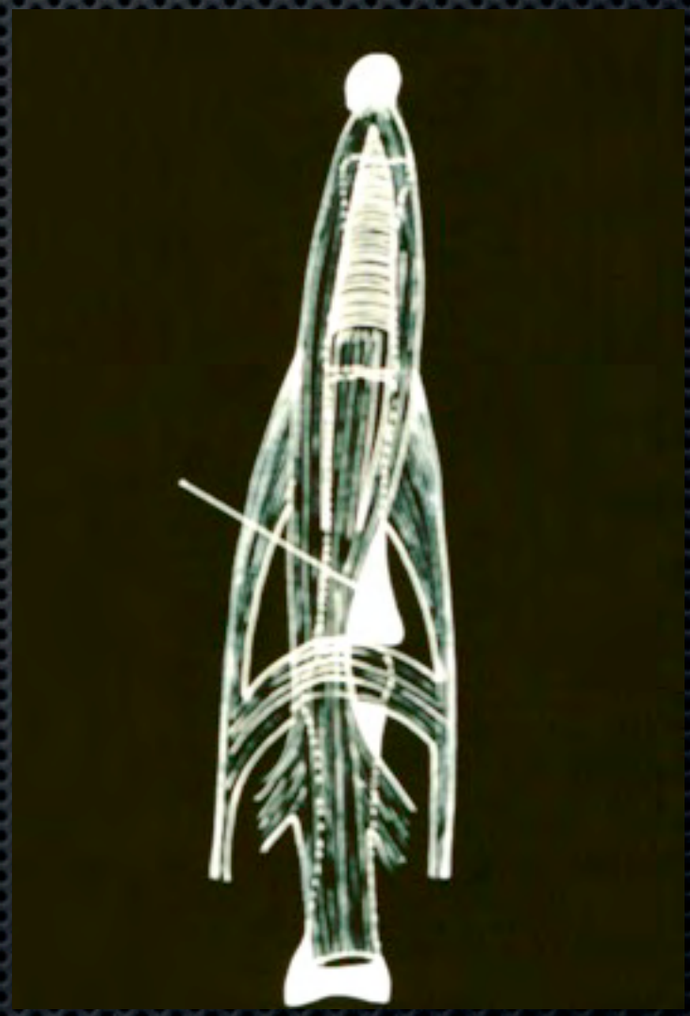


Abord dorsal des métacarpiens



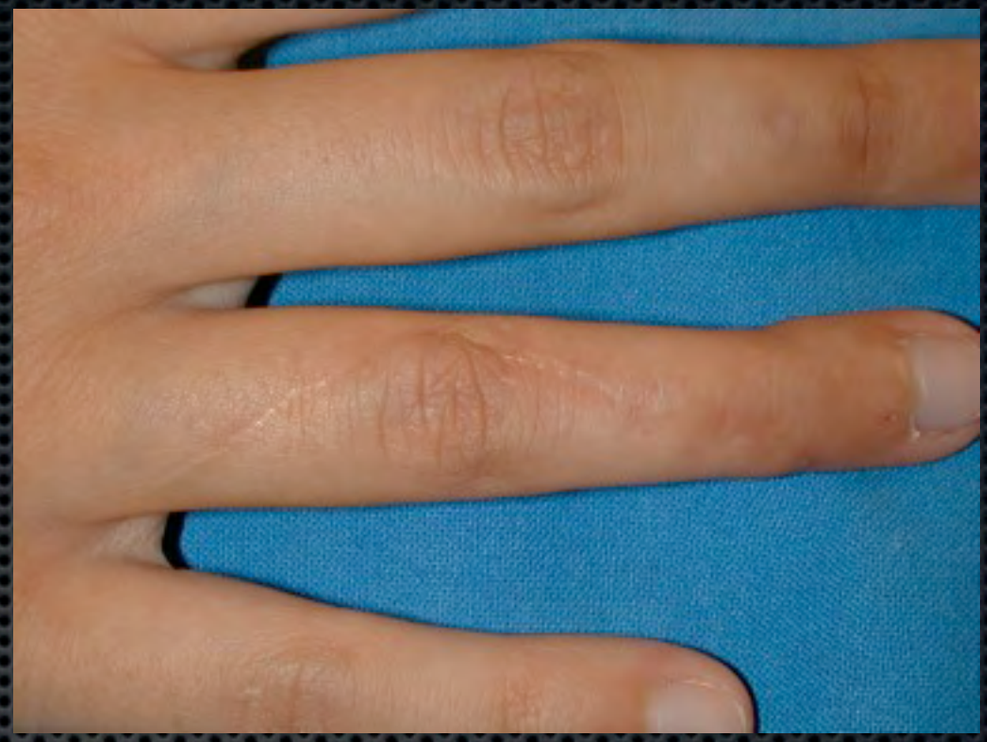
Abord dorsal MP



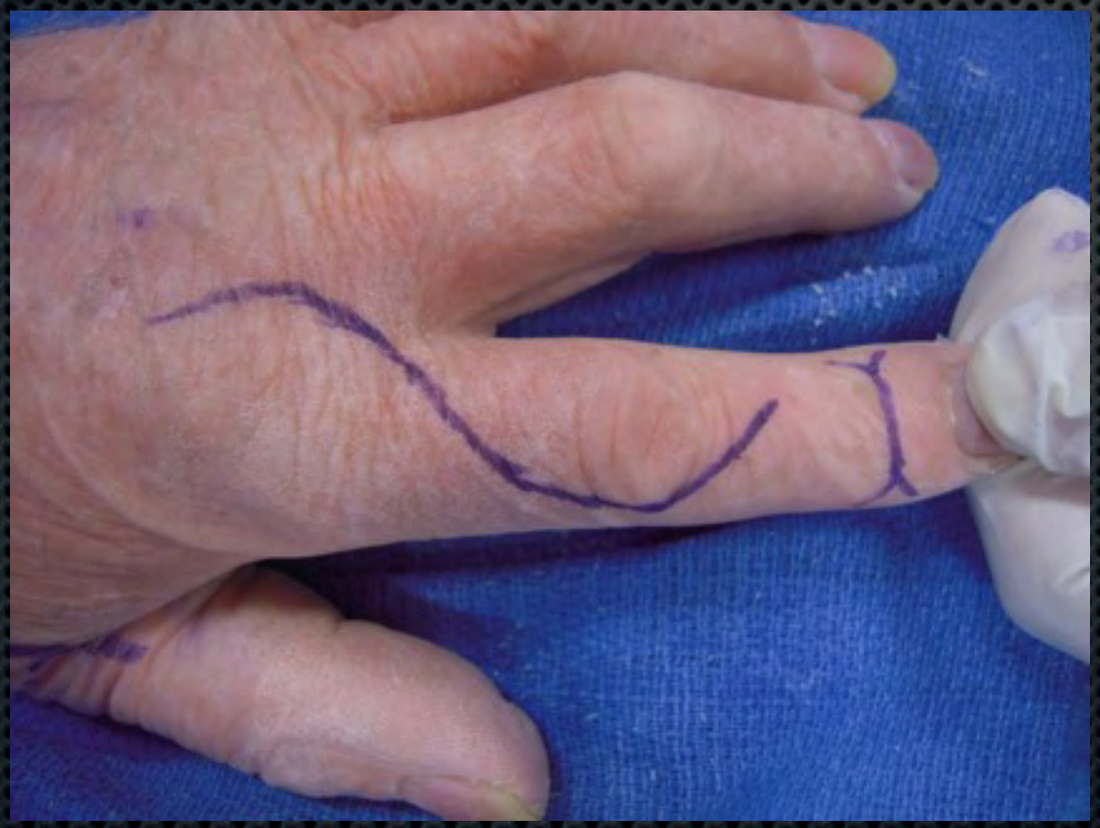


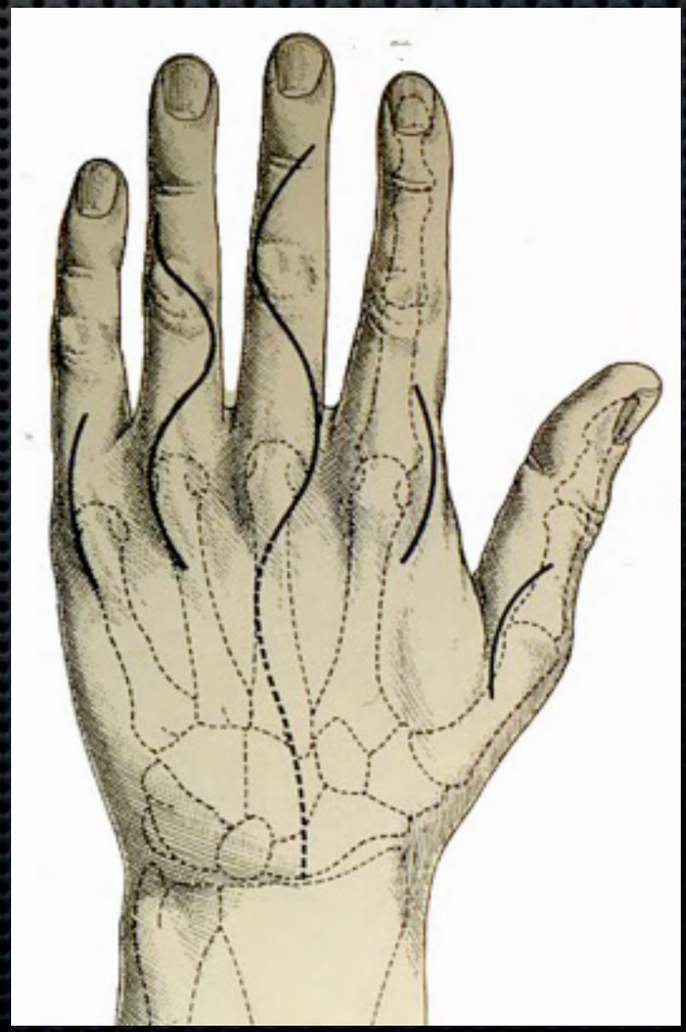
- Un seul doigt : voie longitudinale
- 4 doigts : voie transversale

Abord dorsal des doigts

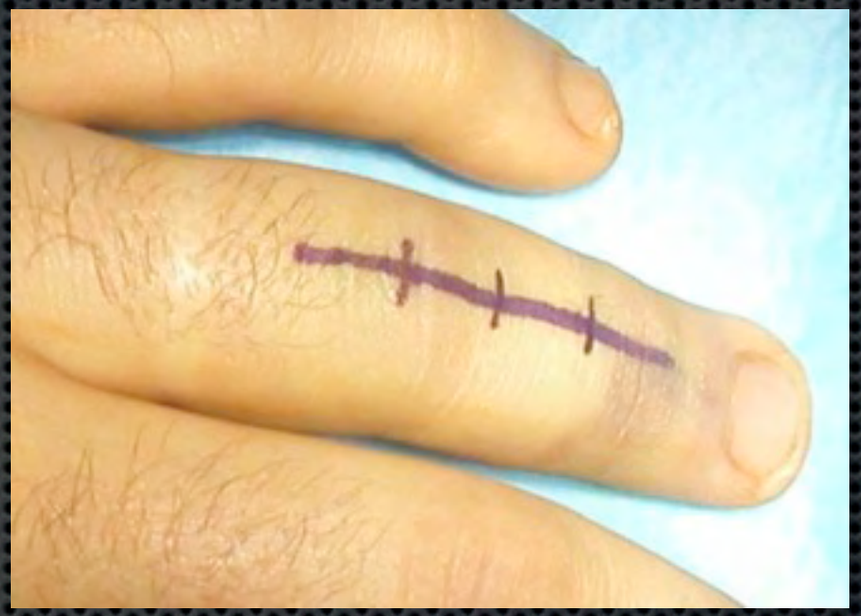


- Incisions sinueuses
- Jamais perpendiculaires aux plis ?

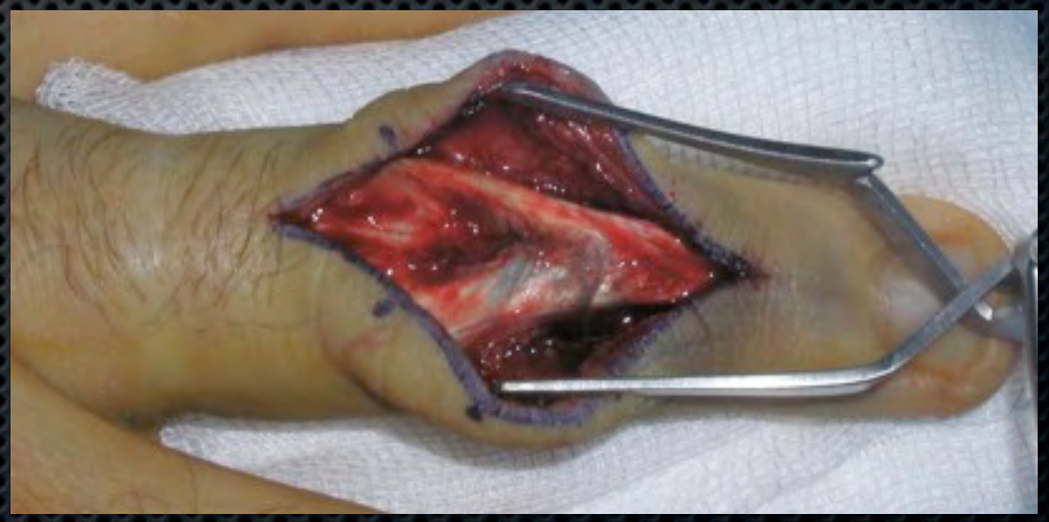




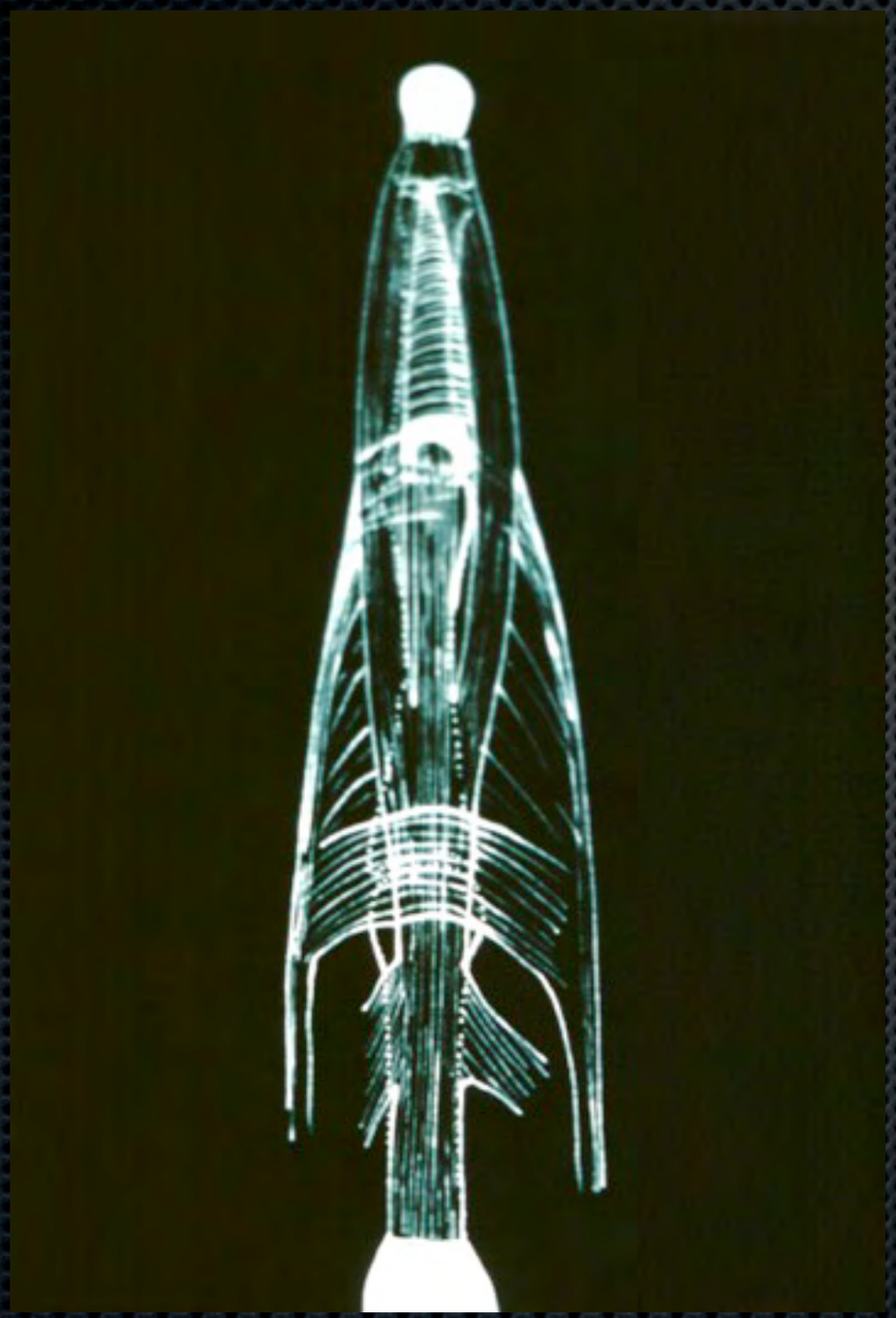
Voie d’abord dorsale

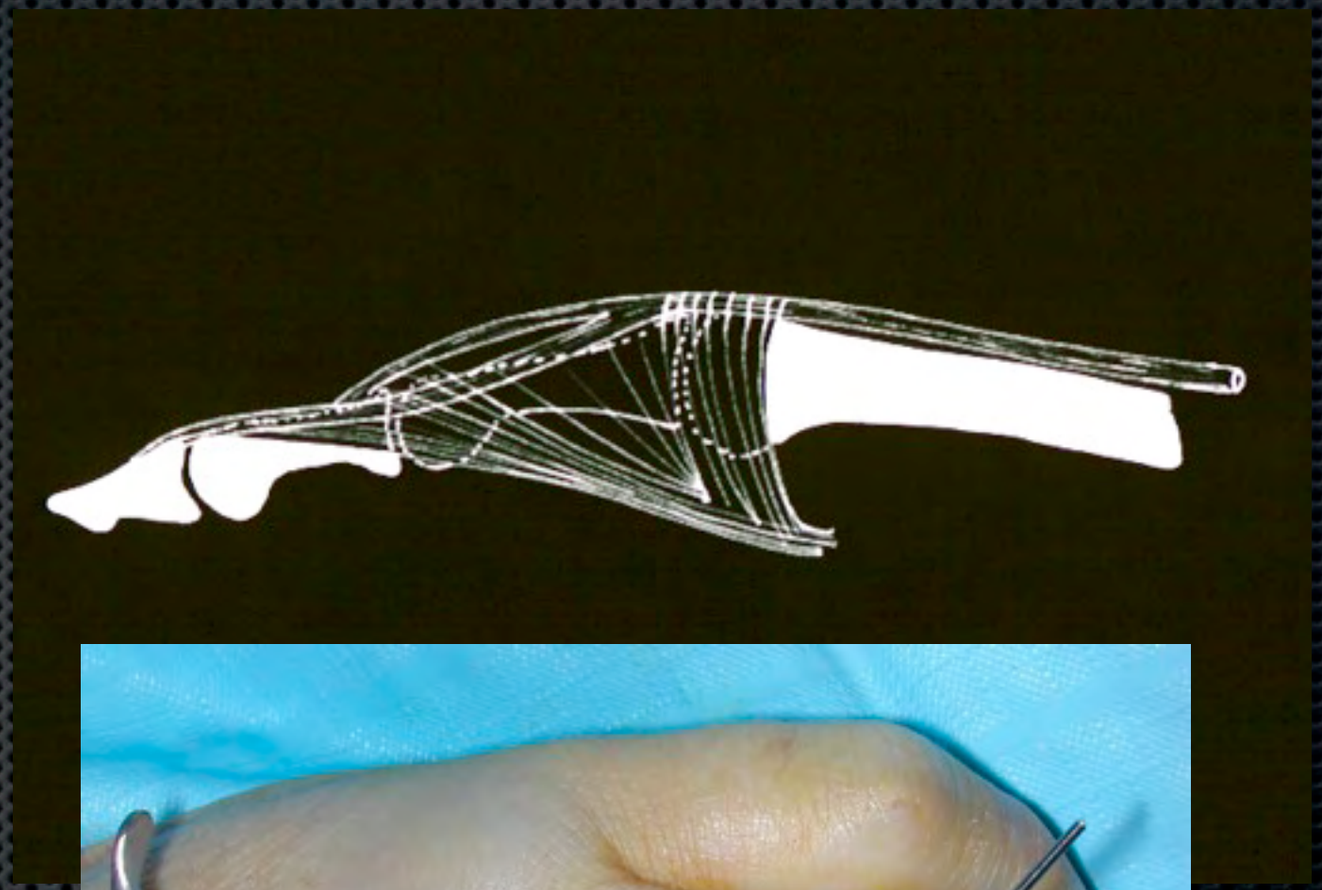


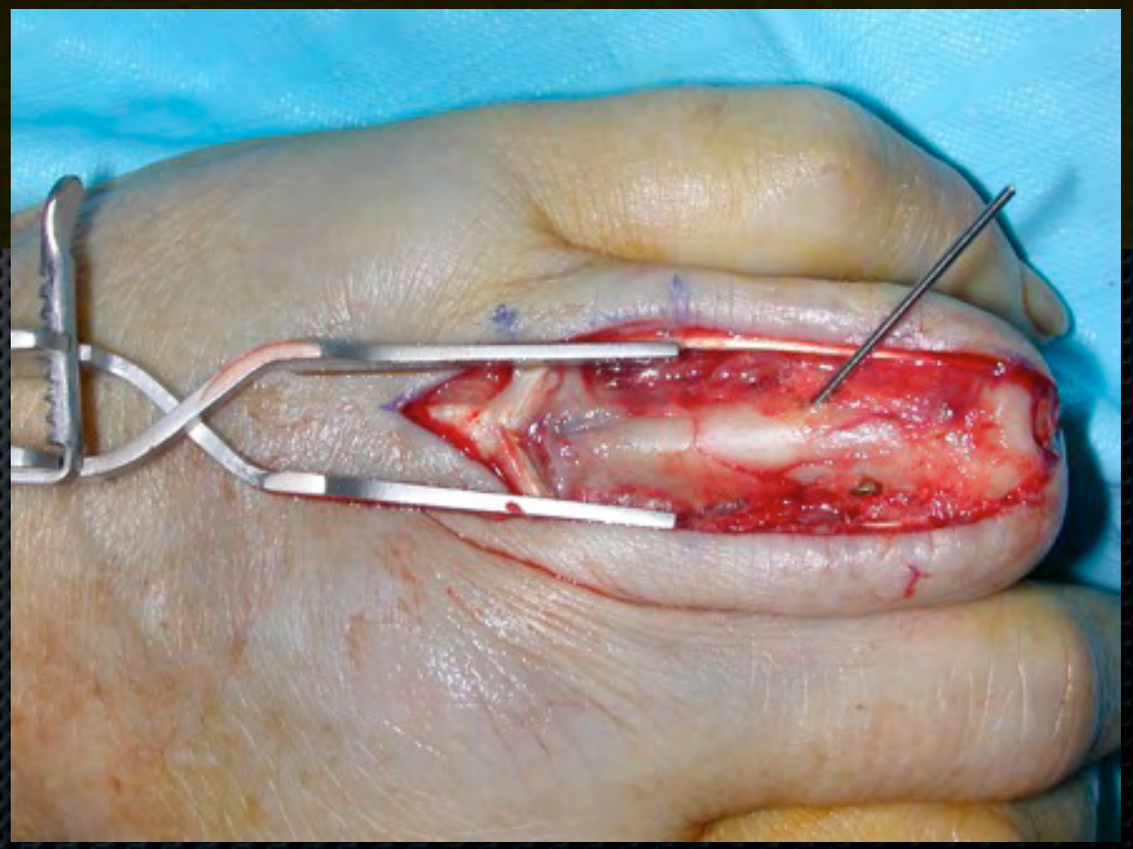
- Longitudinale



Abord dorsal de P1

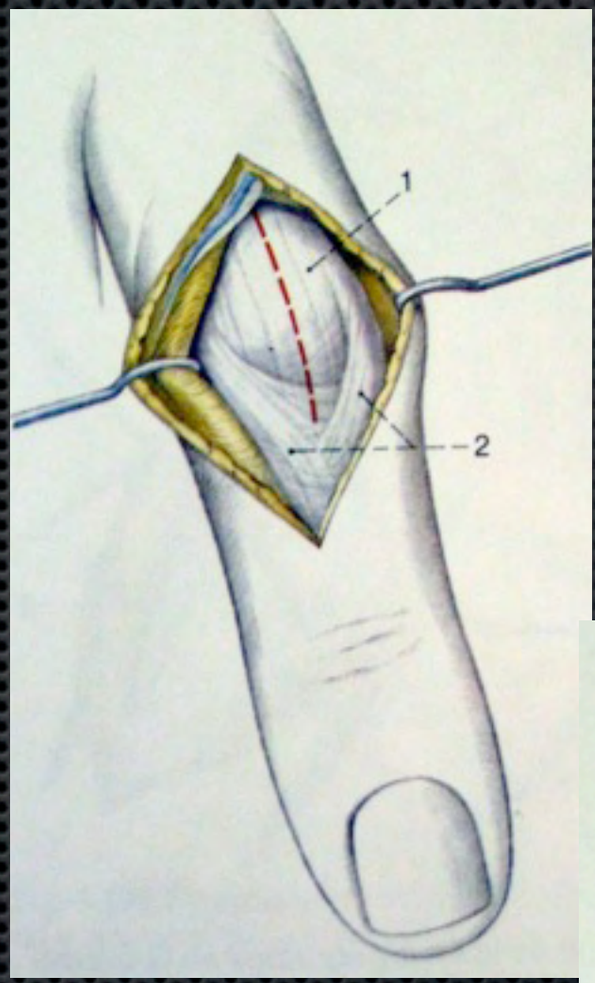


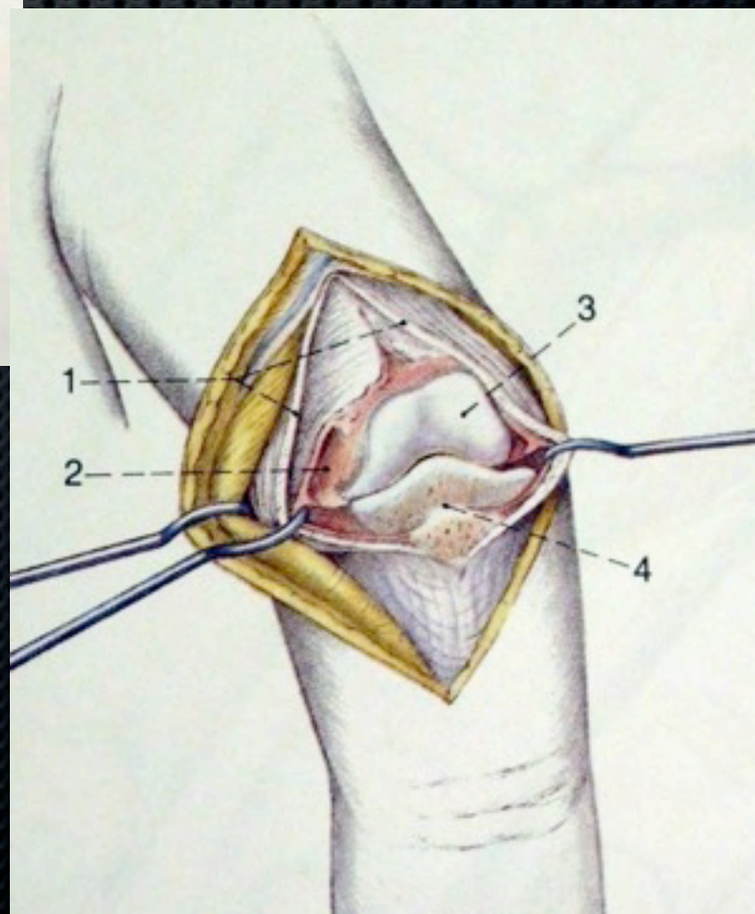


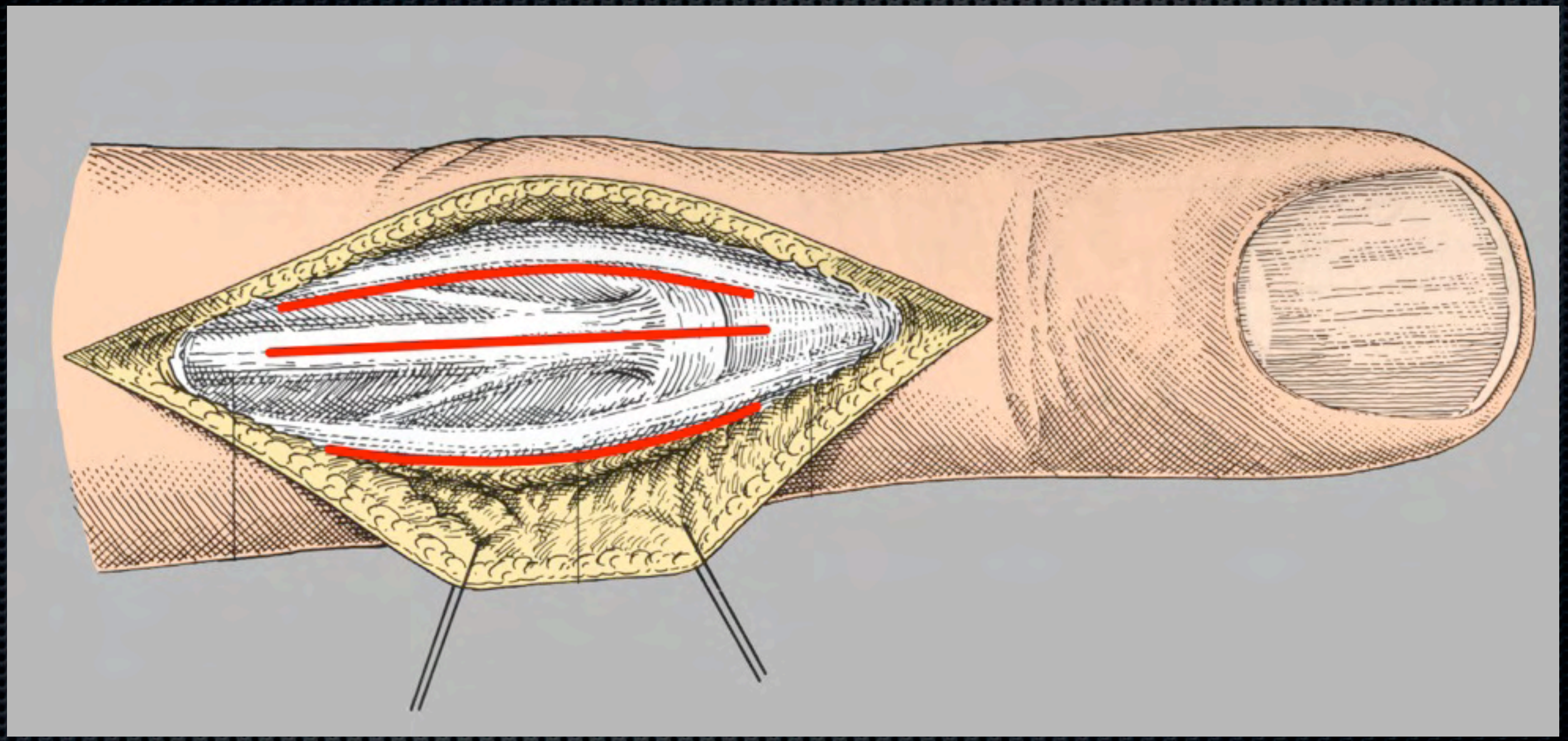


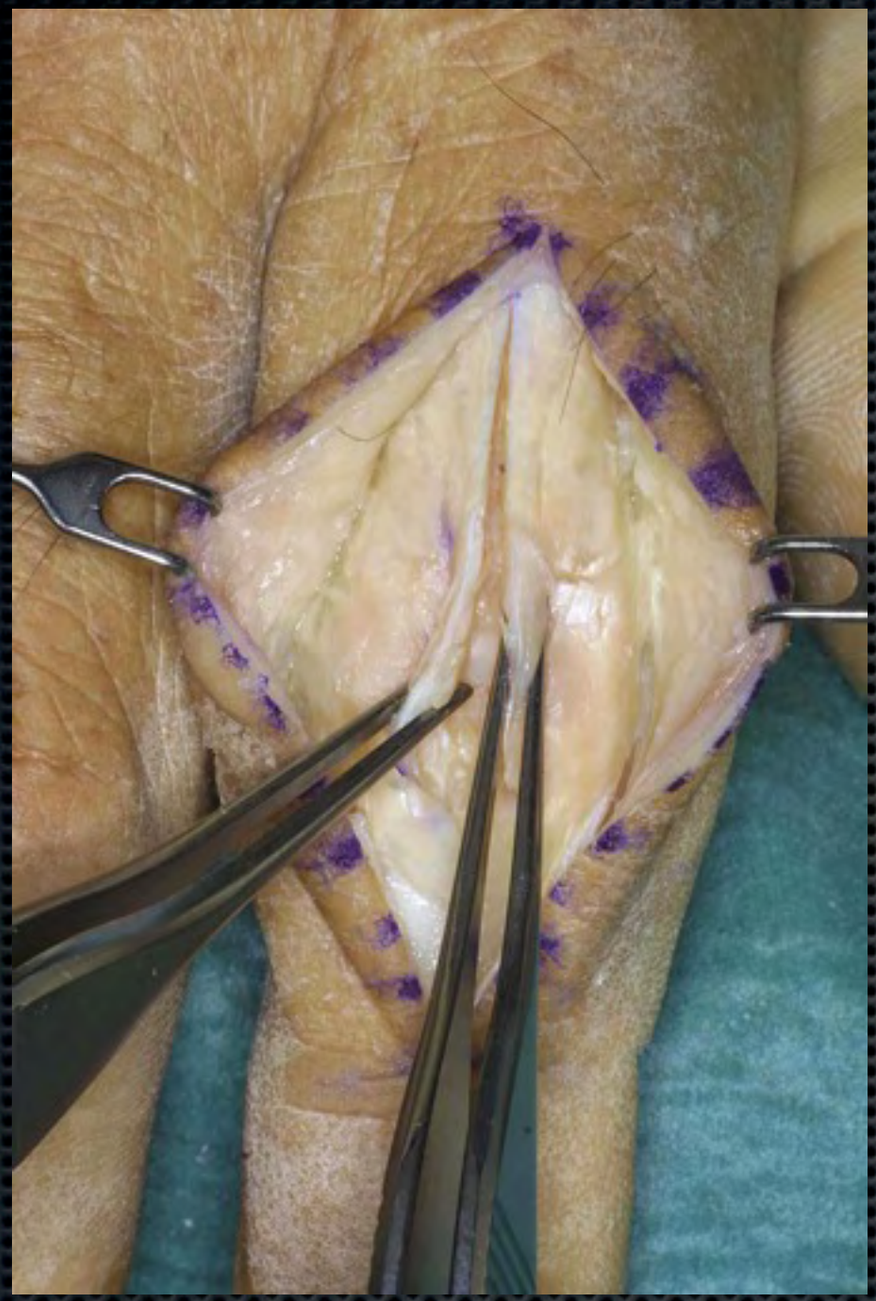
L’accès à l’articulation ?

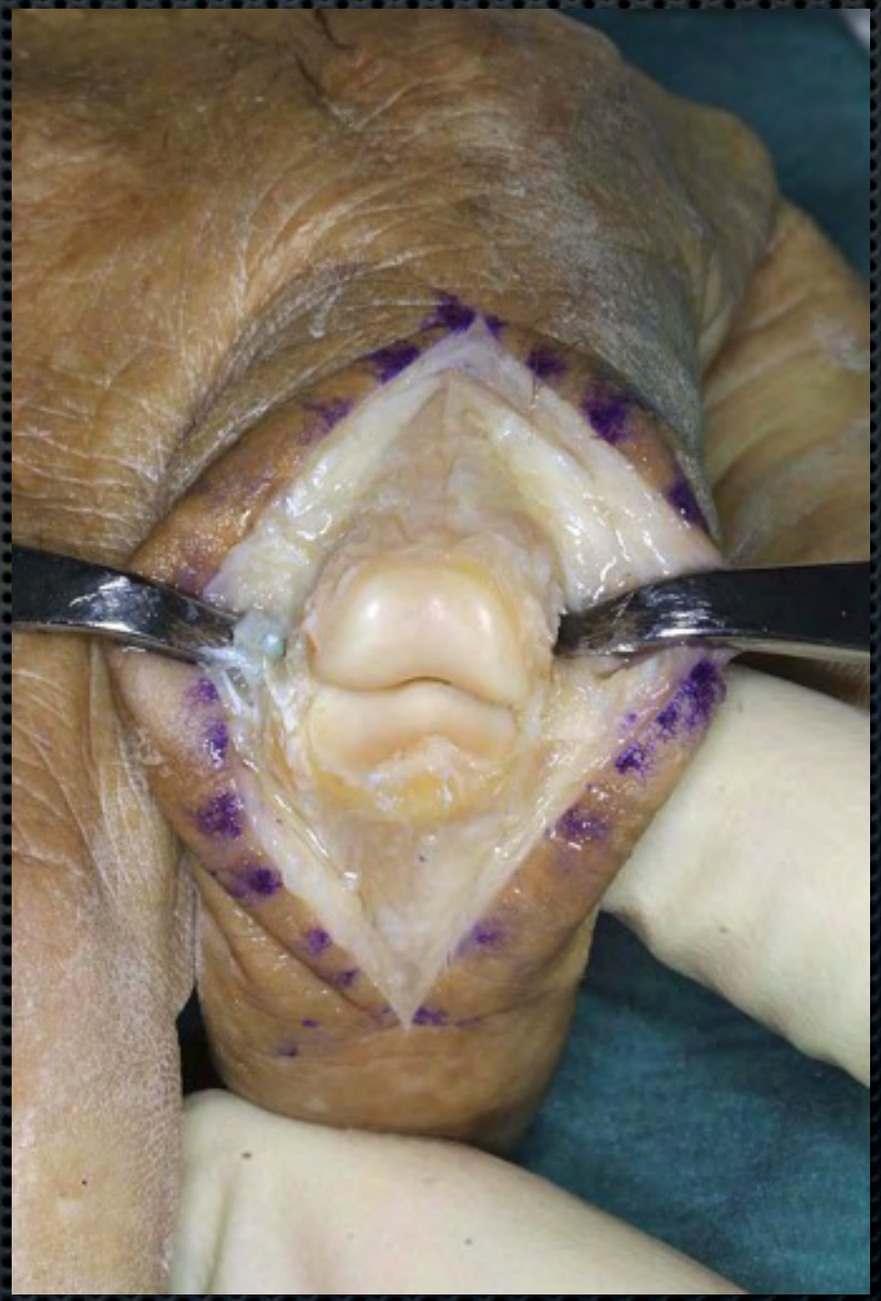
- Incision longitudinale médiane
- Double incision
- Voie de Chamay



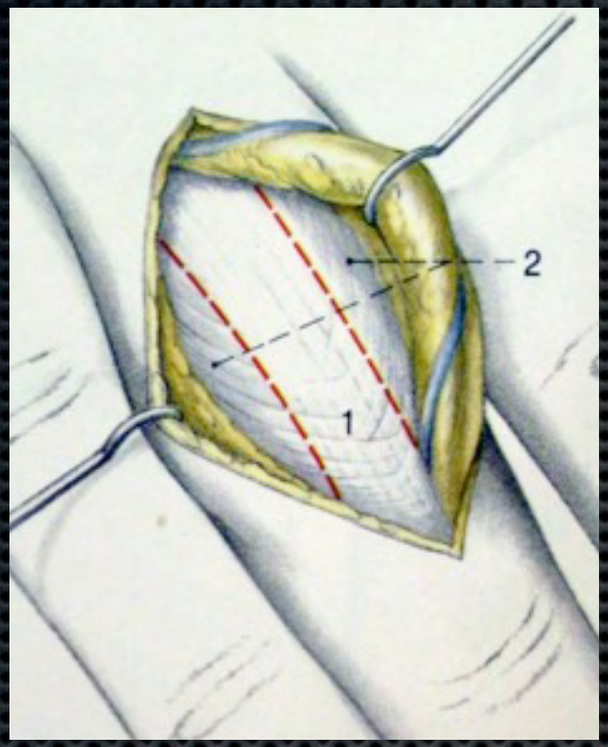


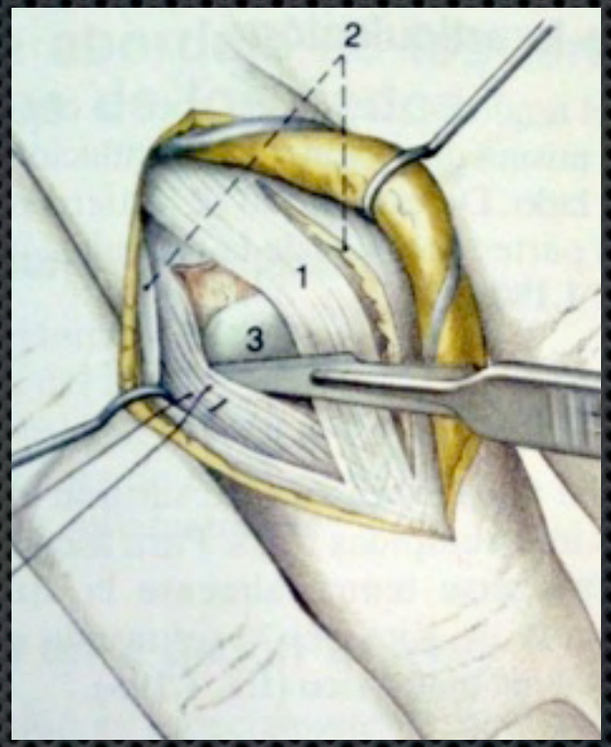


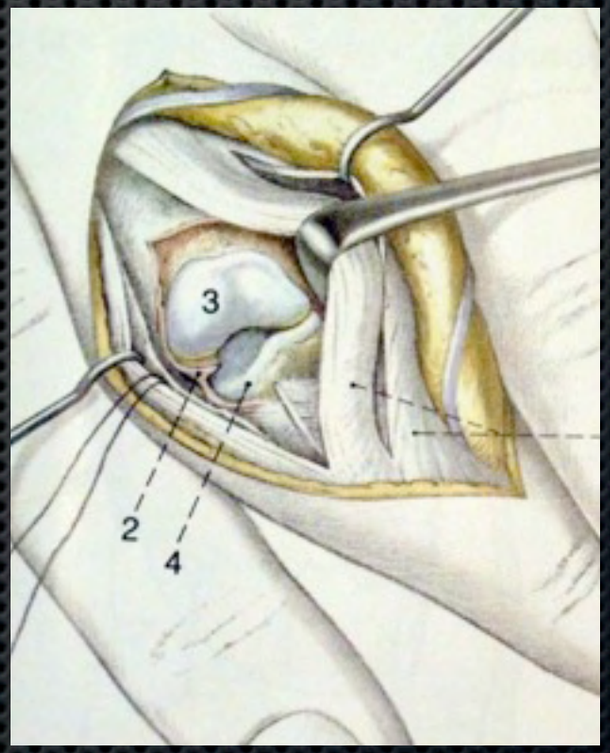




Voie dorsale – Ap. extenseur



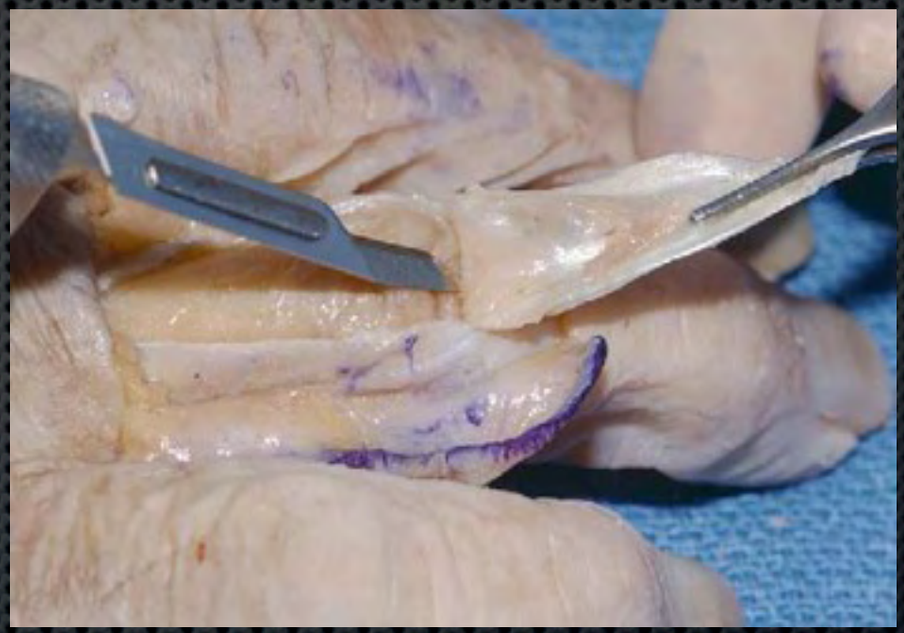




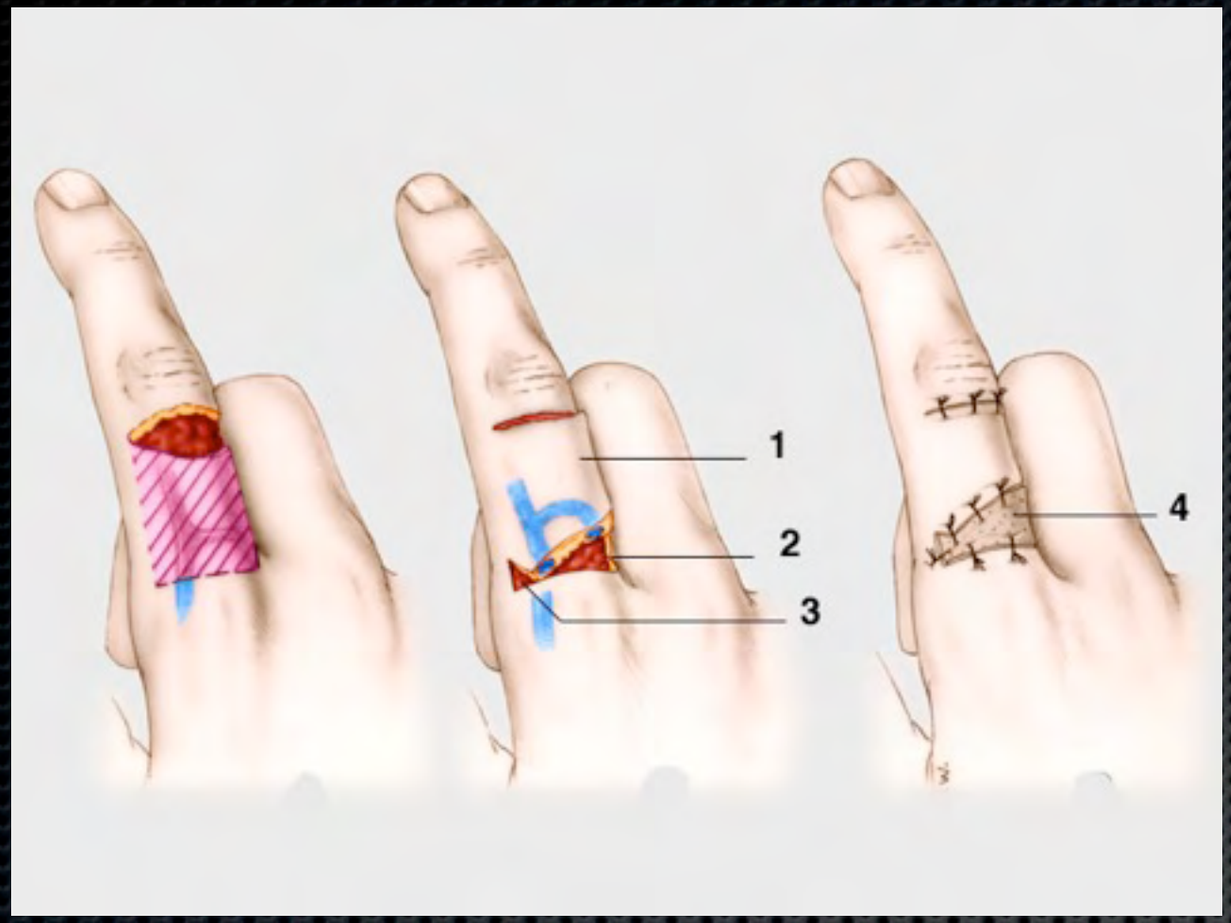
- Double incision parallèle

Voie dorsale – Ap. extenseur

- Variation de prélèvement de l'appareil extenseur
- Lambeau triangulaire à base distale



*Chamay A. A distally based dorsal and triangular tendinoous flap for direct access to the proximal interphalangeal joint. Ann Chir Main 1988;179–83.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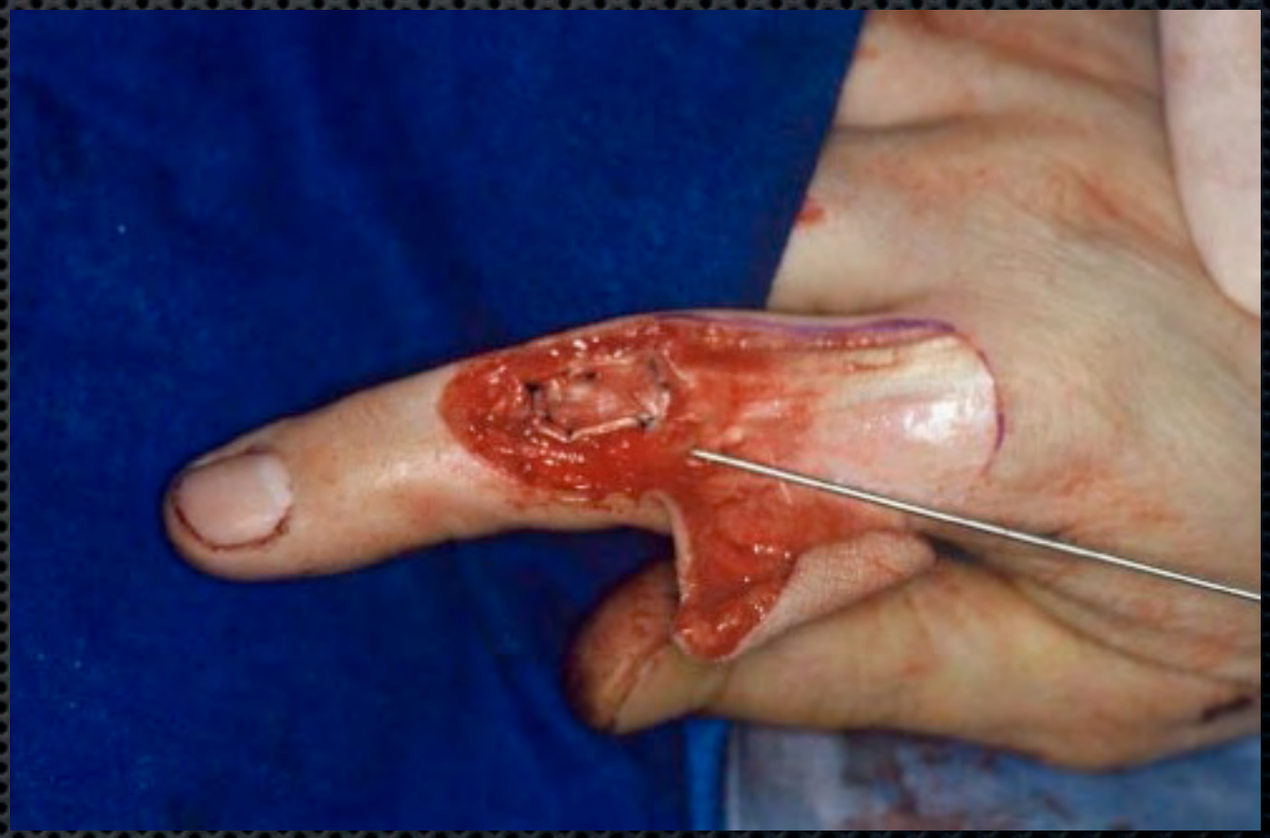
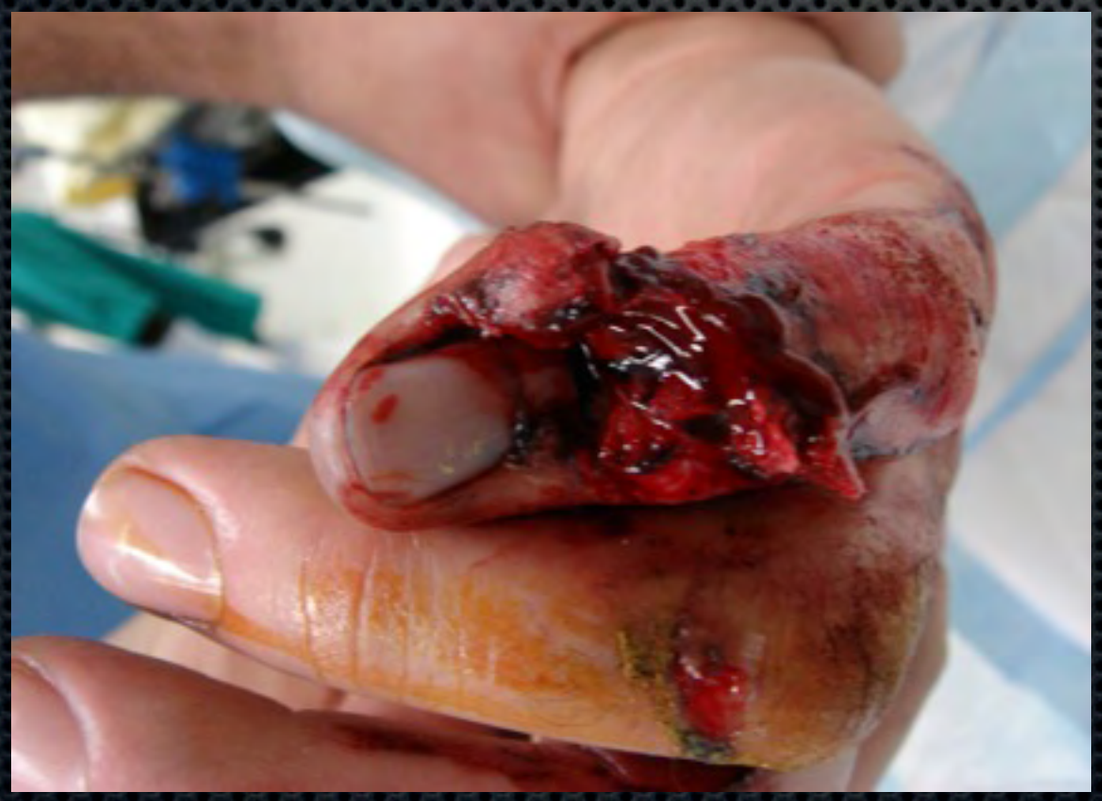
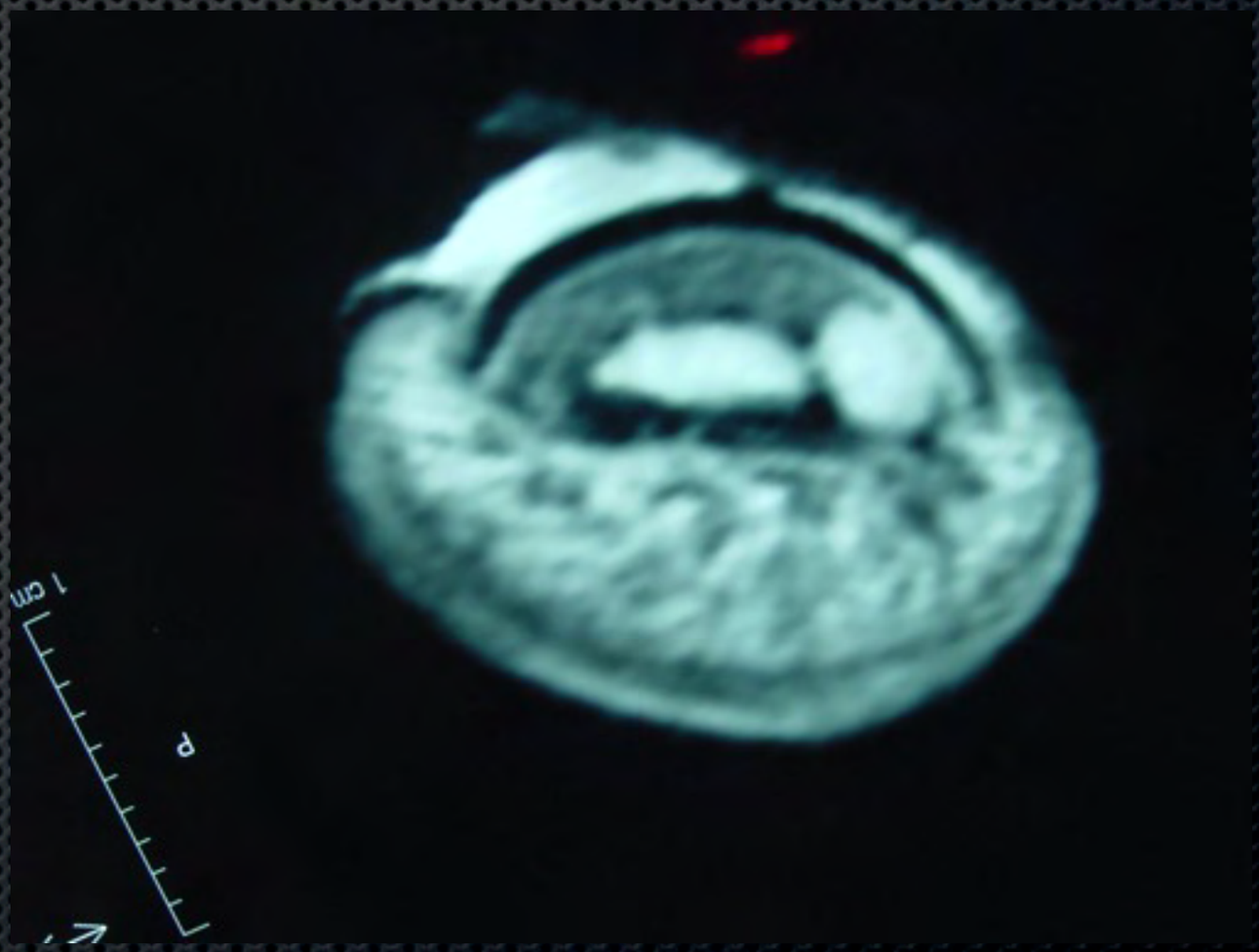




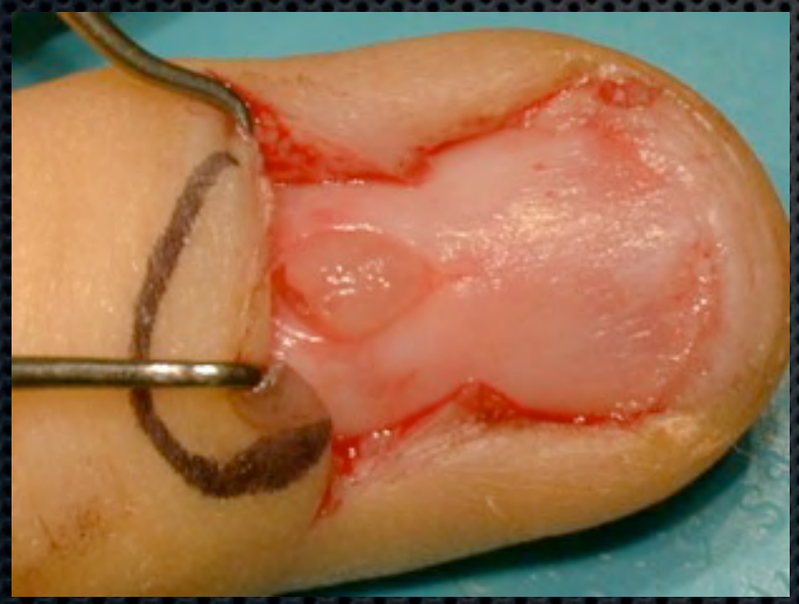
Les voies d’abord de l’ongle

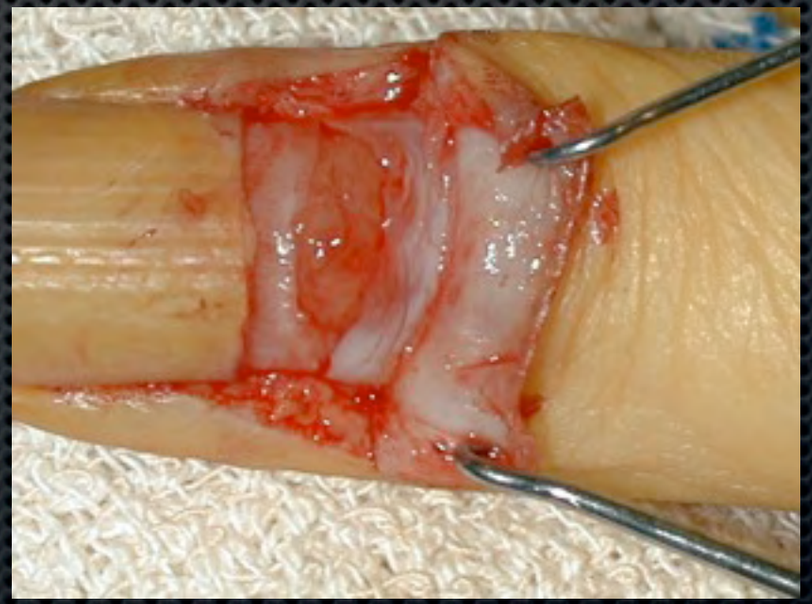
- Soit à travers la tablette
- Soit latéralement

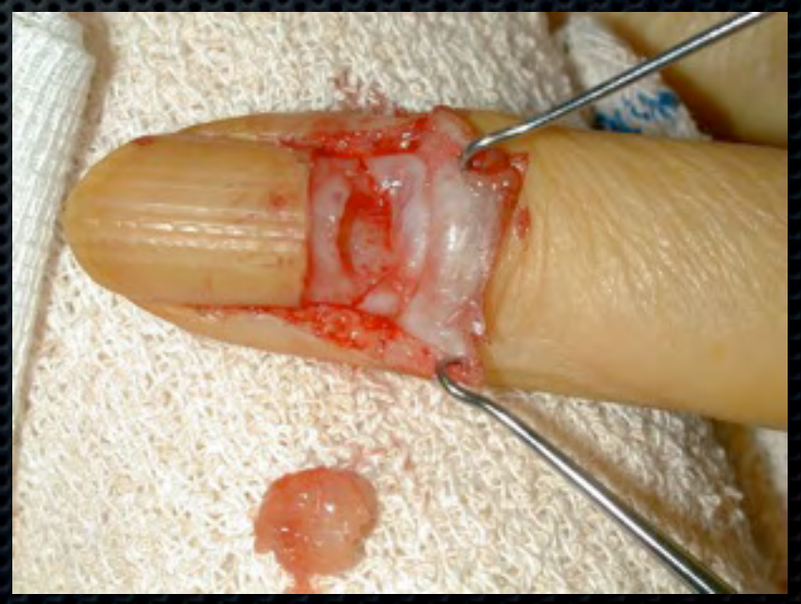


Voie trans-tablette

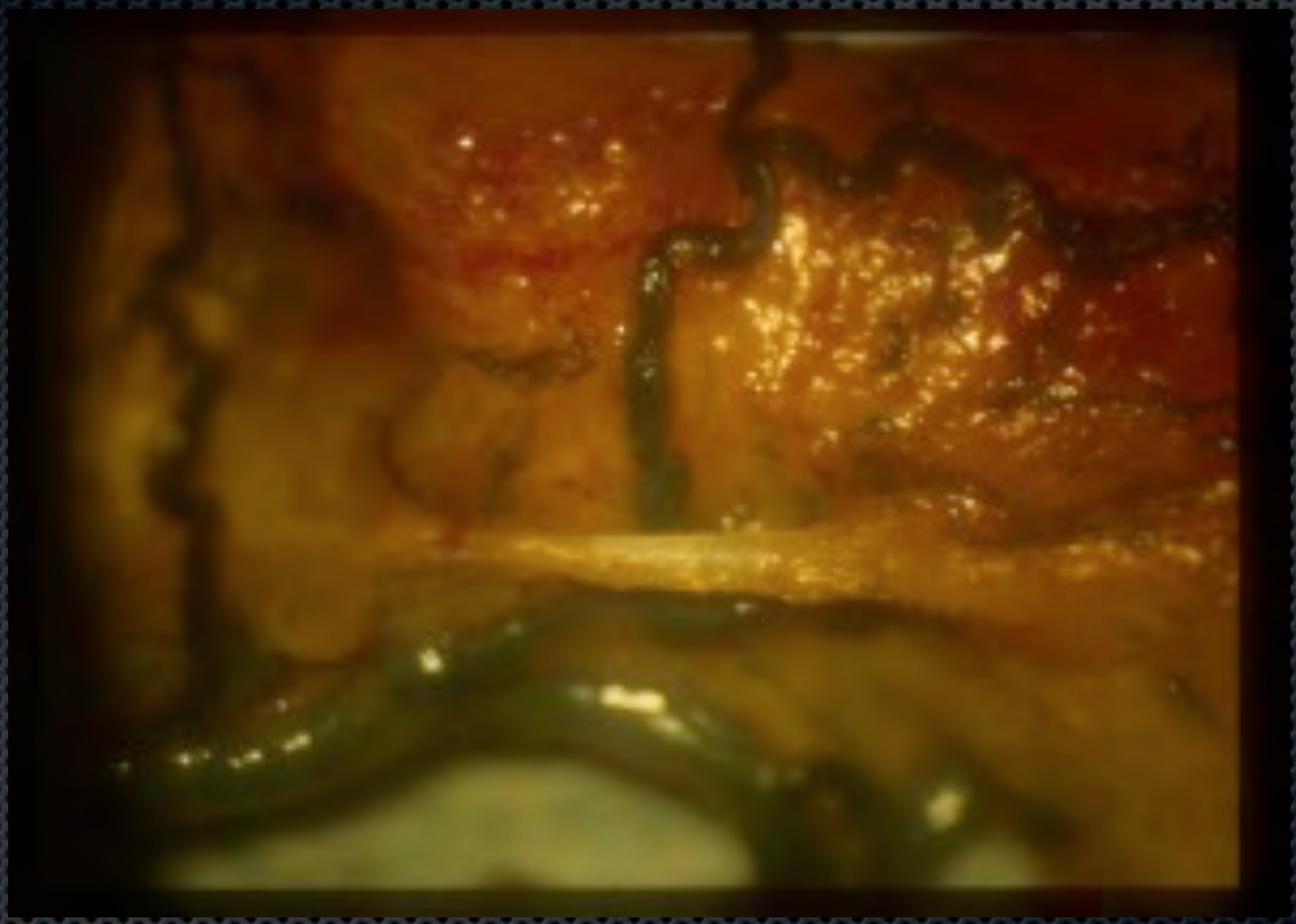
- Retirer la tablette
- Incision dans le lit/matrice





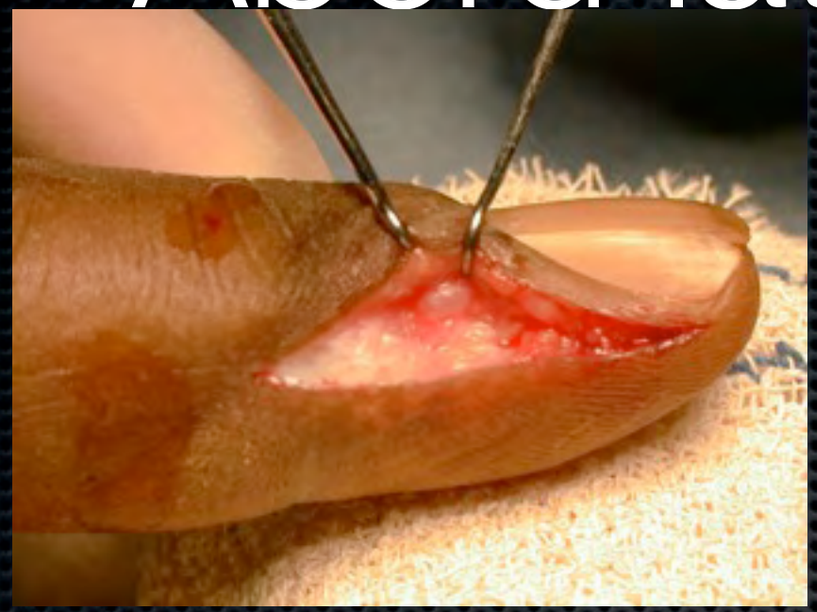


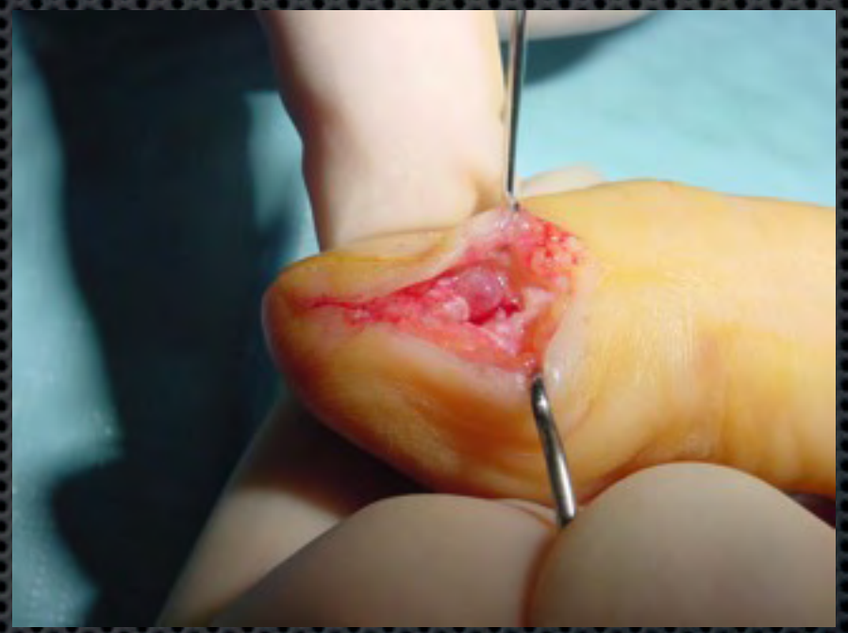
Abord latéral

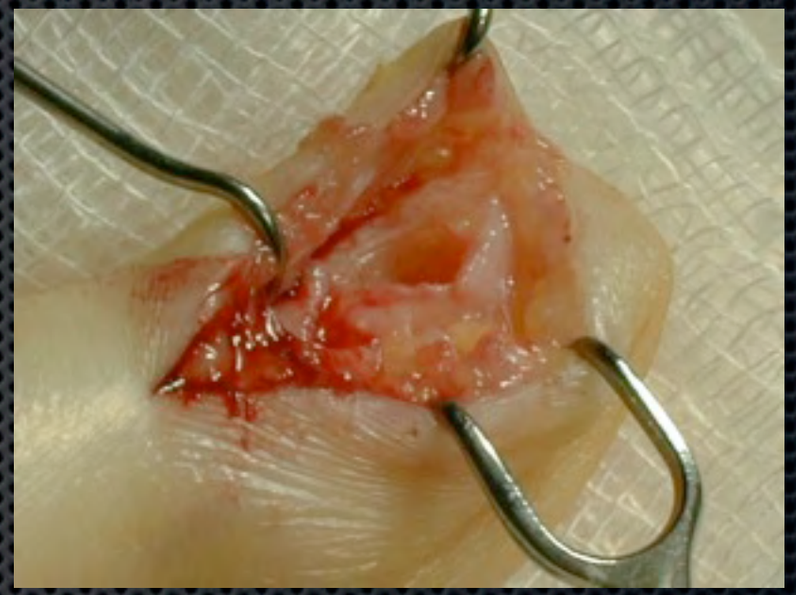


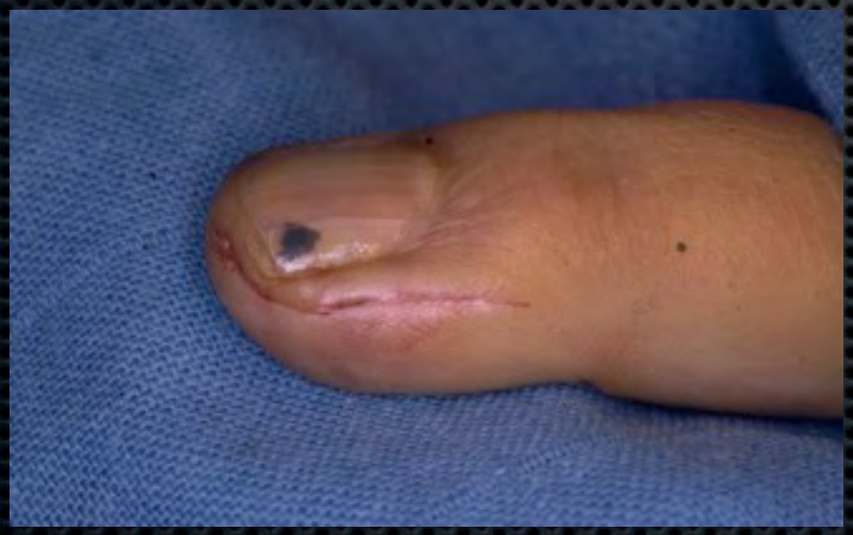
- Section du lgt de Flint +++ pour aborder l’appareil unguéal

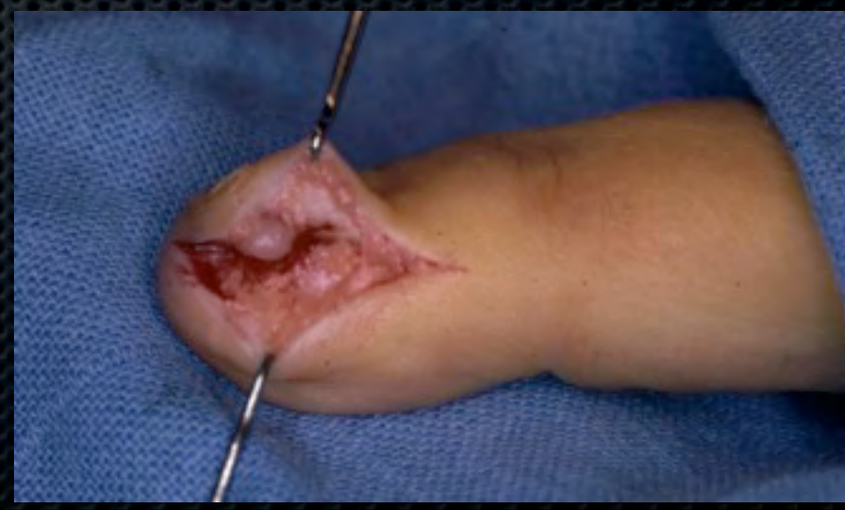
Abord latéral





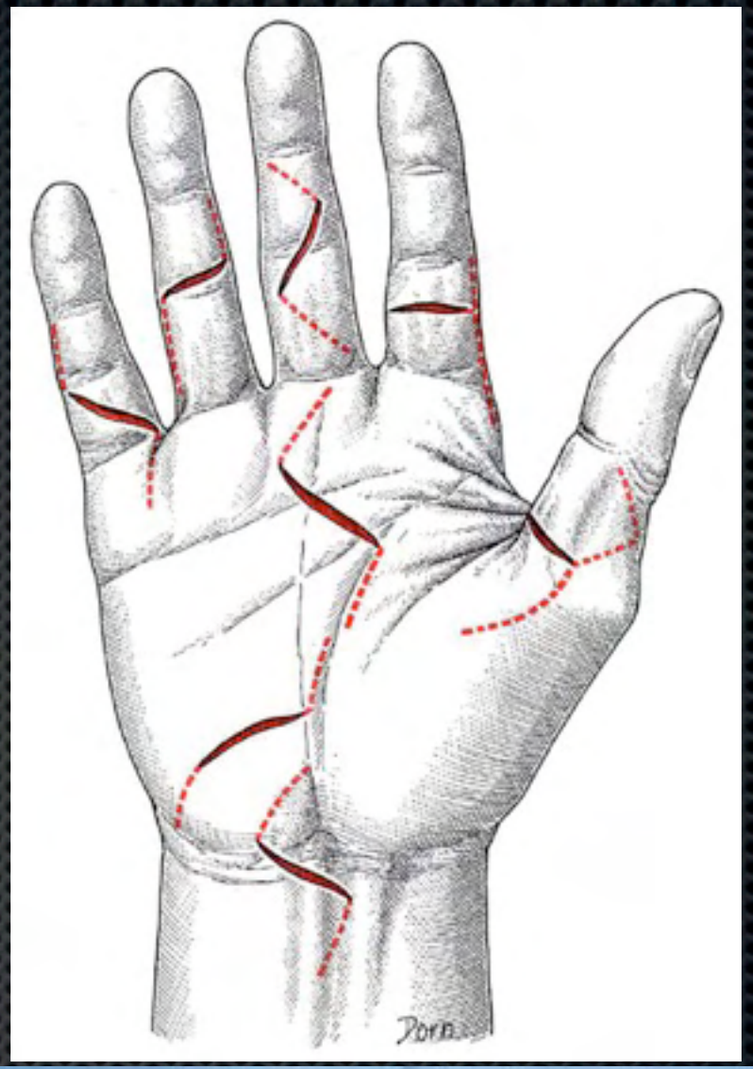


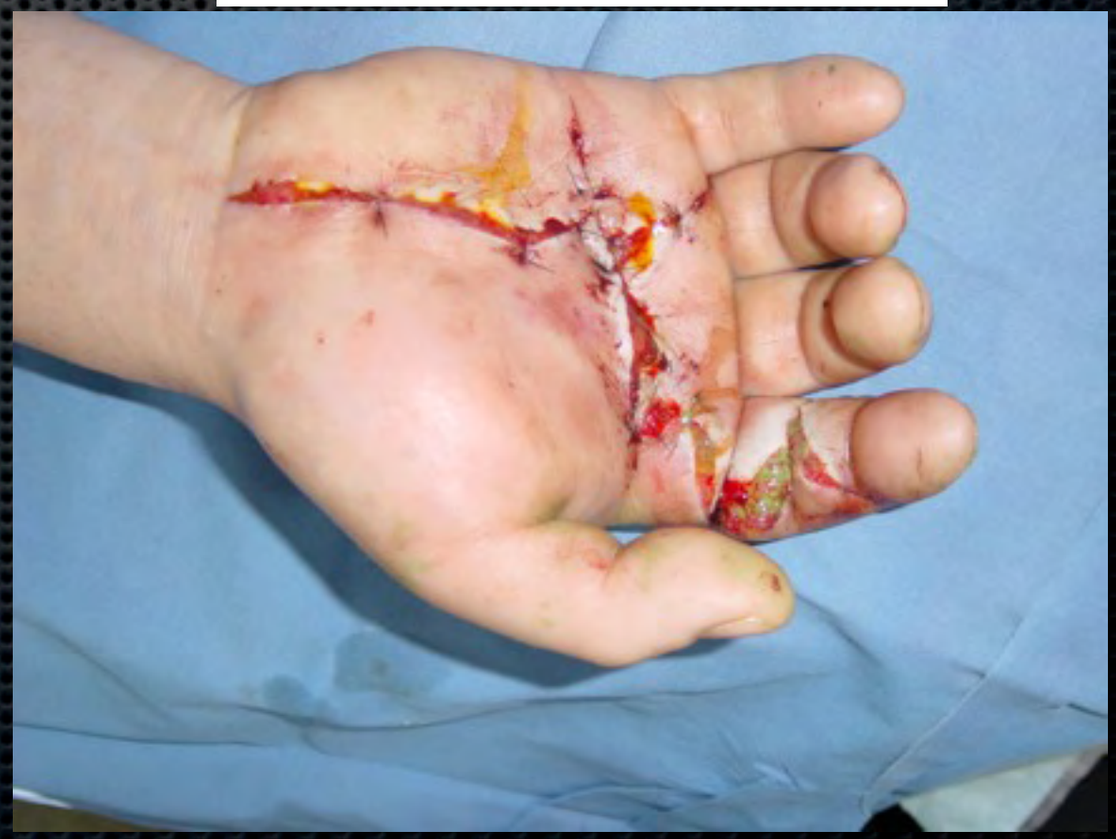




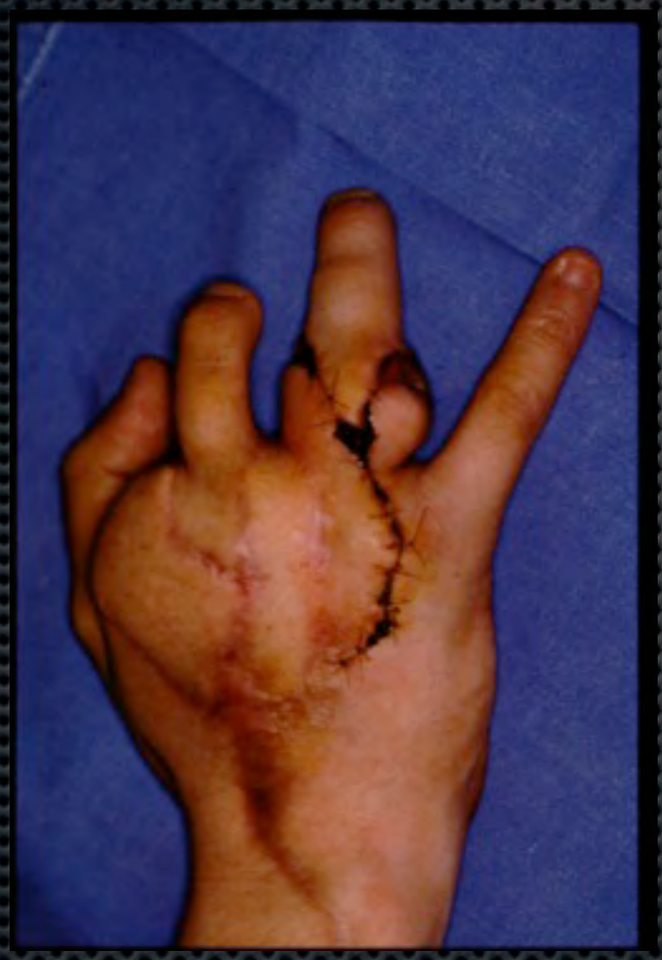
En Urgences

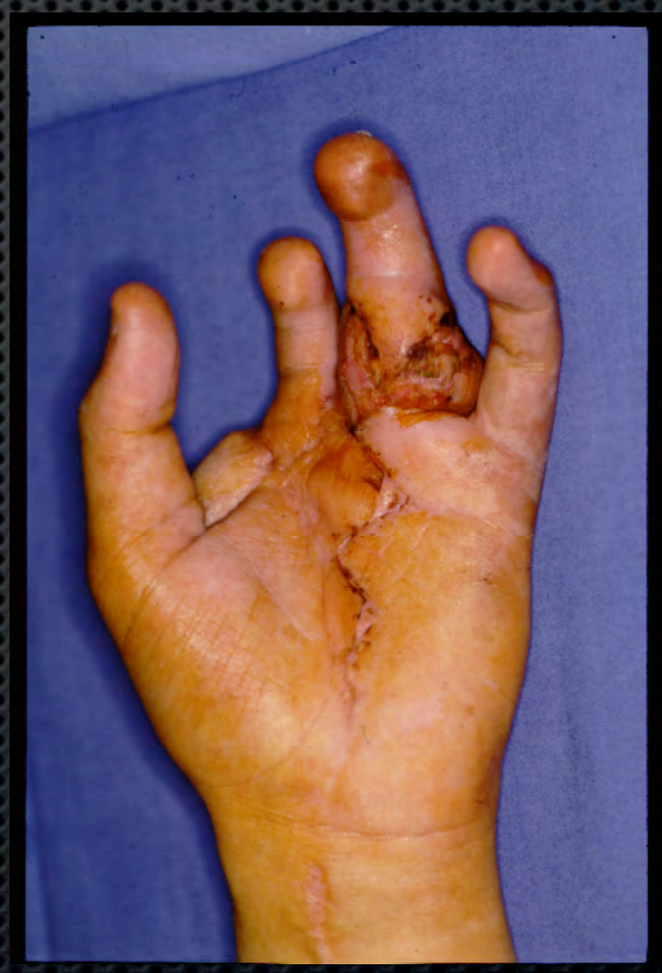
- Tenter de revenir à des voies chirurgicales



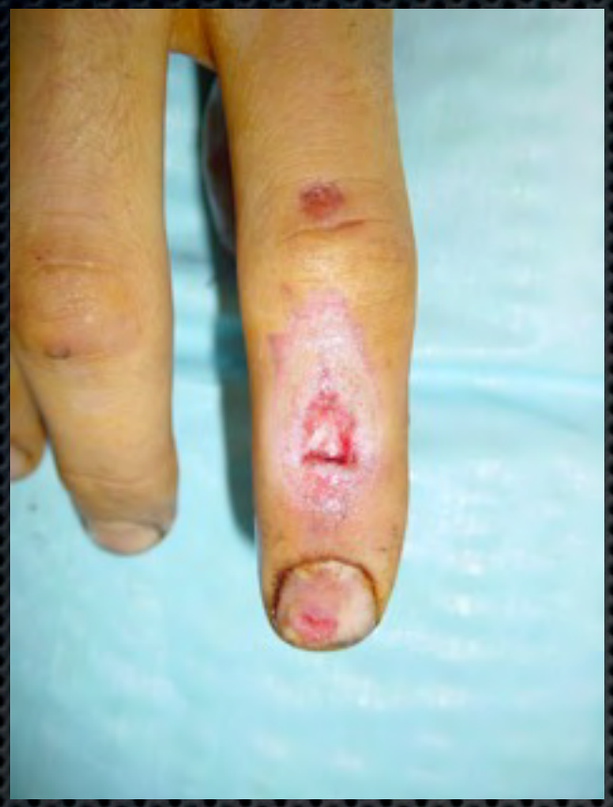


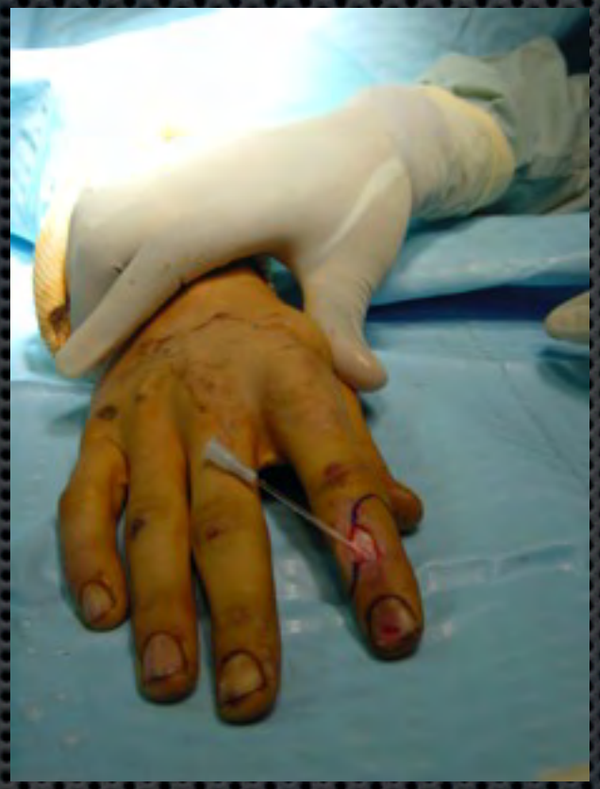
Tenir compte des cicatrices précédentes

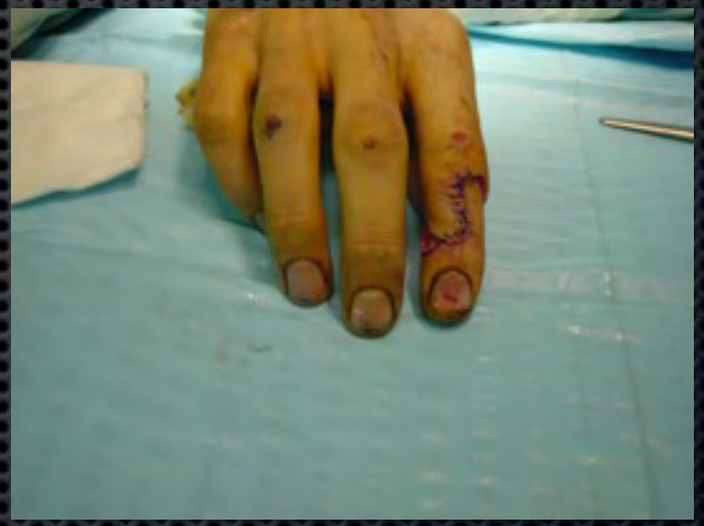




En cas de perte de substance







- Prolongements en Lambeaux de voisinage

Voies commissurales

- Jamais parallèles au bord libre
- Plastie en Z le plus souvent

Spécificité chez les musiciens

- <u>Eviter les zones d ’appui</u>
  - Cordes : extrémités des pulpes gauches
  - Clavier : pulpes
  - Clarinette : Bord interne du pouce
  - Percussions : Bords latéraux des II et IV
- Ne pas croiser les plis de flexion
- Petites ouvertures