

# Endoscopic Carpal Tunnel Release

## Dr Stuart Myers

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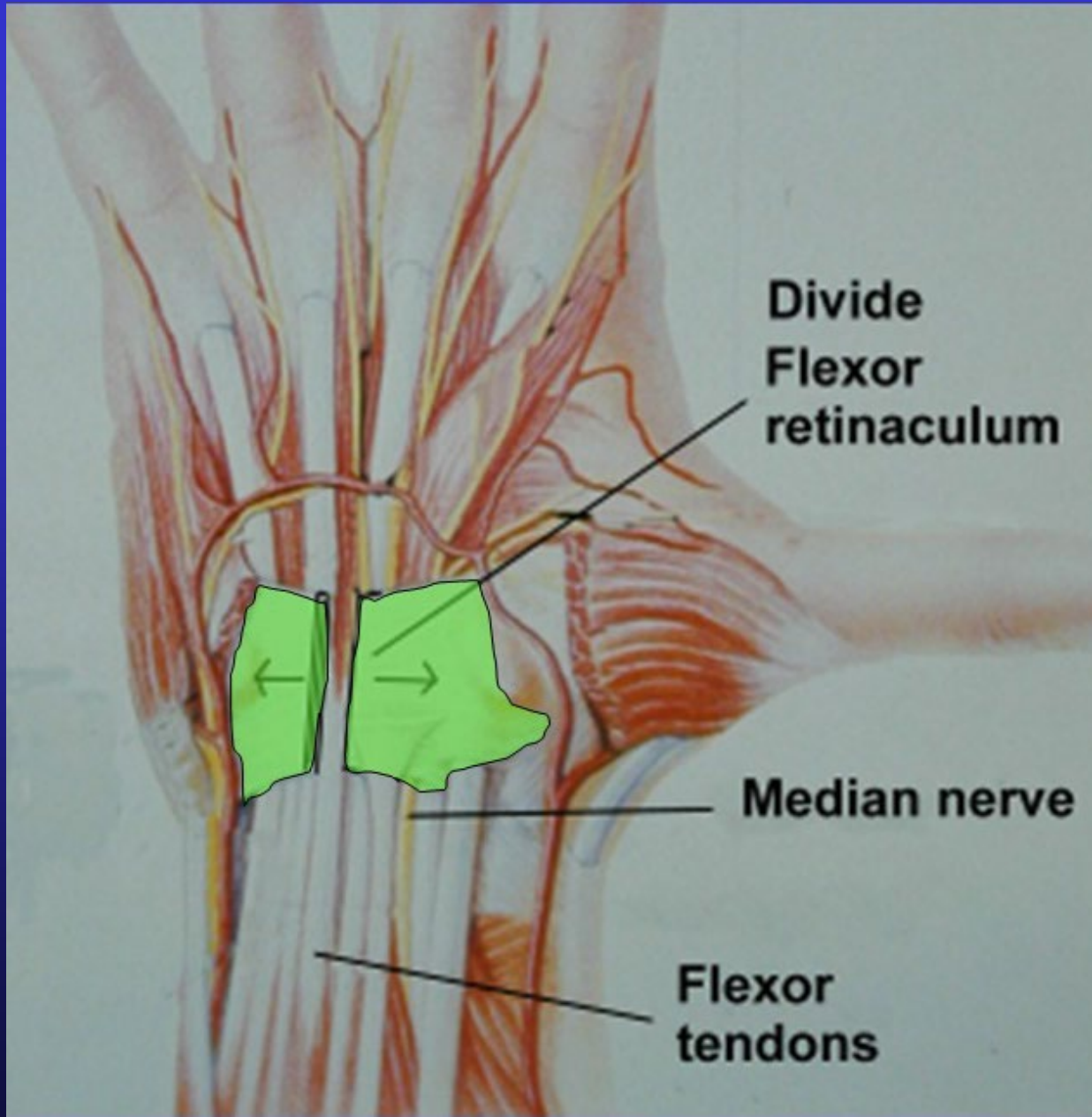
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KAREENA  
PRIVATE HOSPITAL



SOS  
SYDNEY  
ORTHOPAEDIC  
SPECIALISTS

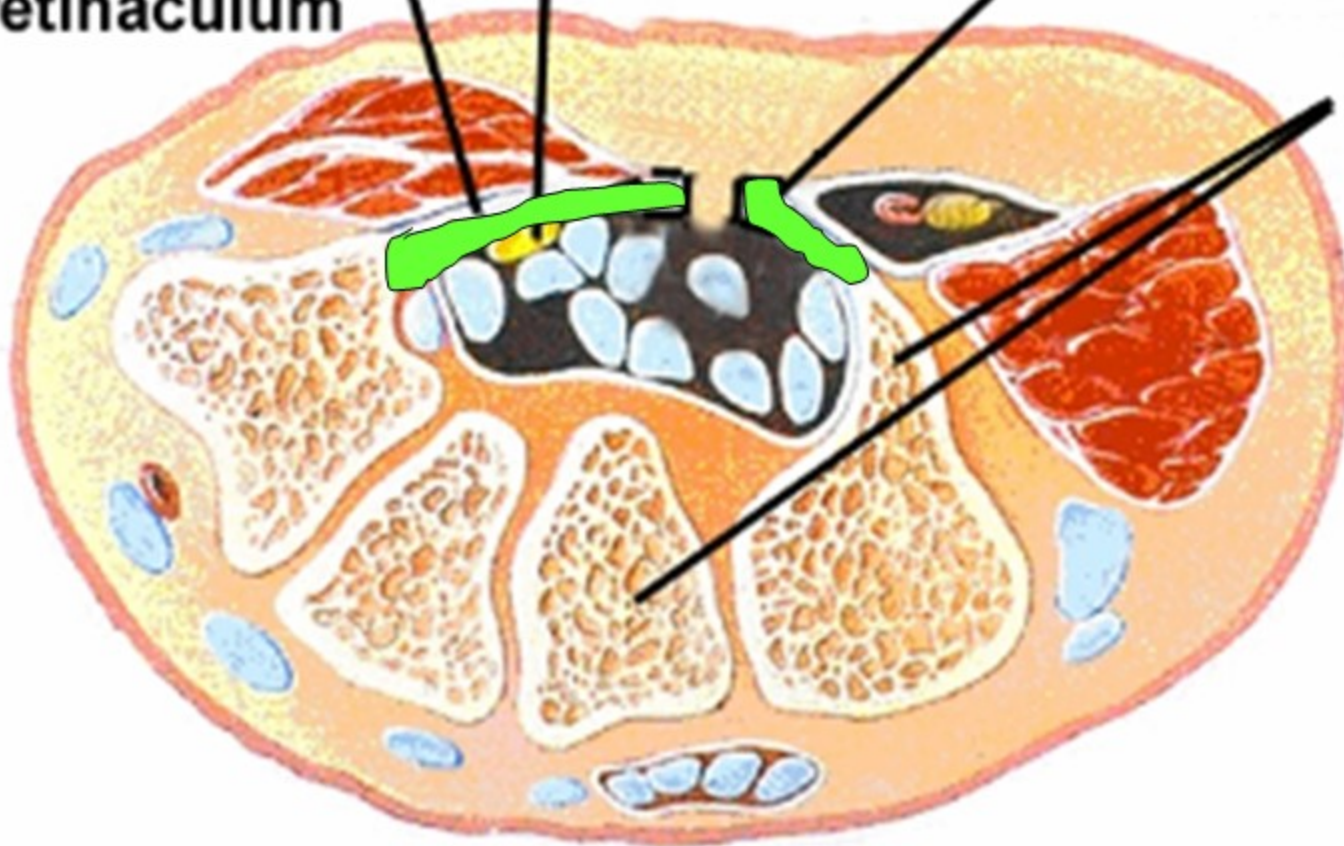


Median  
nerve

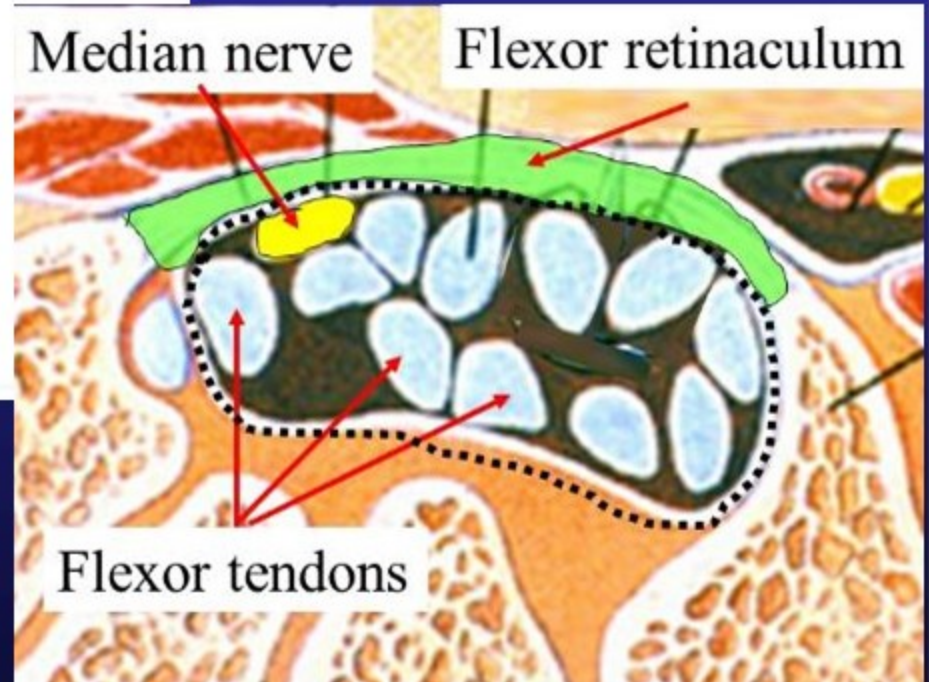
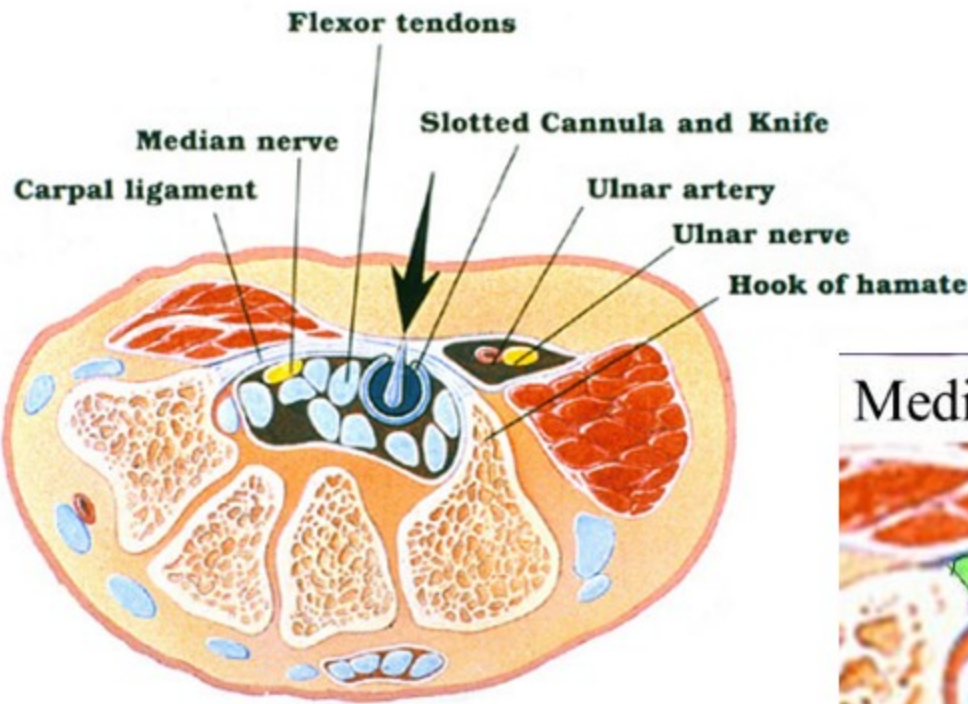
**Surgery**

Flexor  
retinaculum

Carpal  
bones

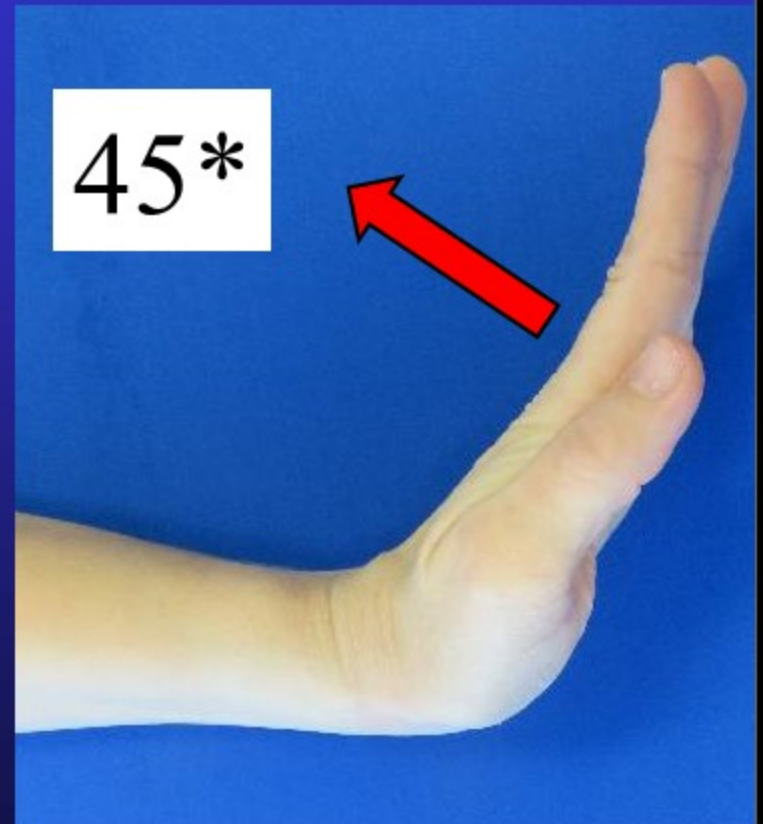


# Carpal Tunnel



# Pre-requisites for ECTR

- Severe Carpal Tunnel symptoms failing other treatments
- $> 45^*$  Wrist Dorsiflexion
- No need for synovial biopsy or exploration of carpal floor



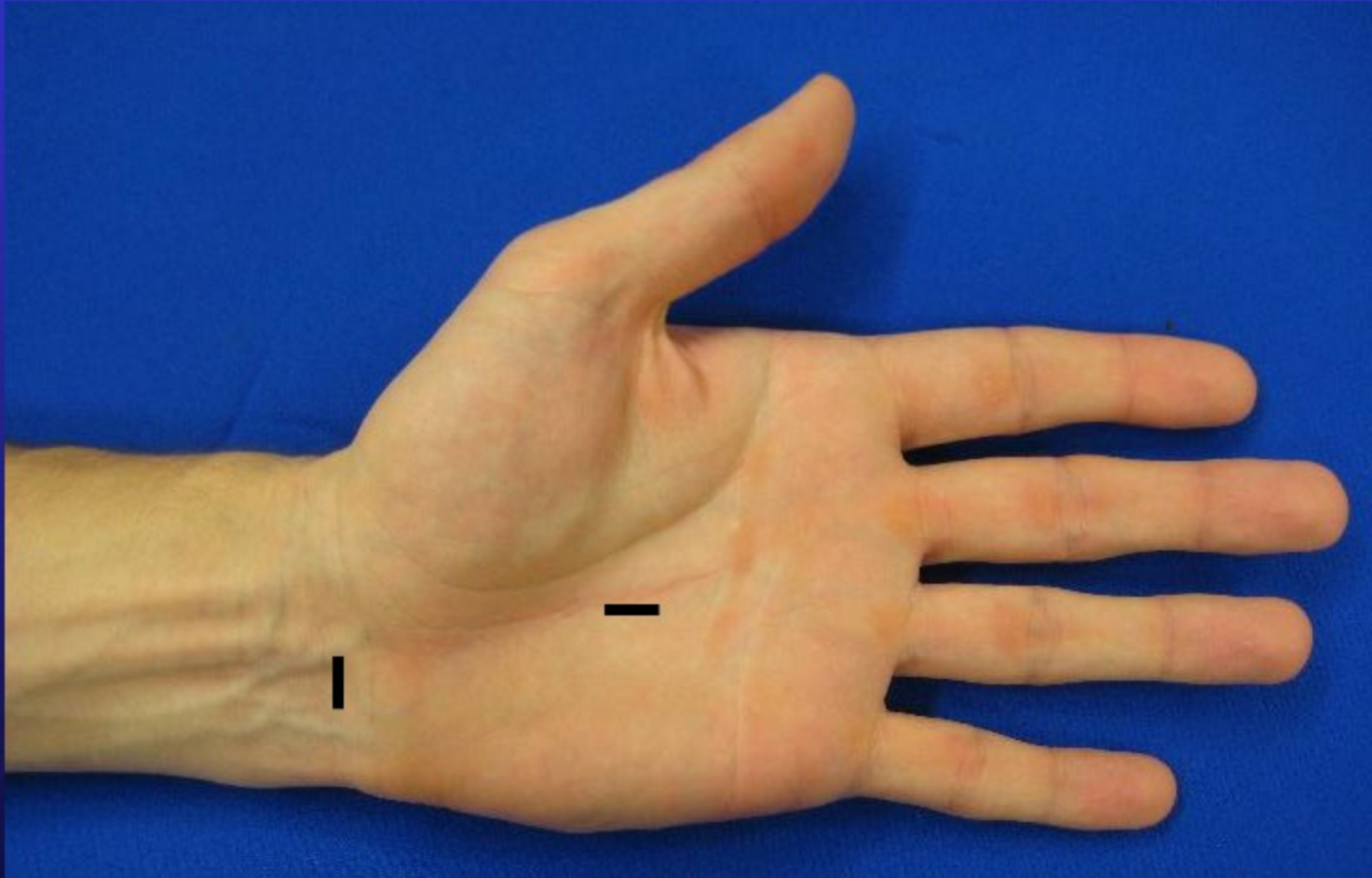
“Dorsiflexion”

# Skin Preparation

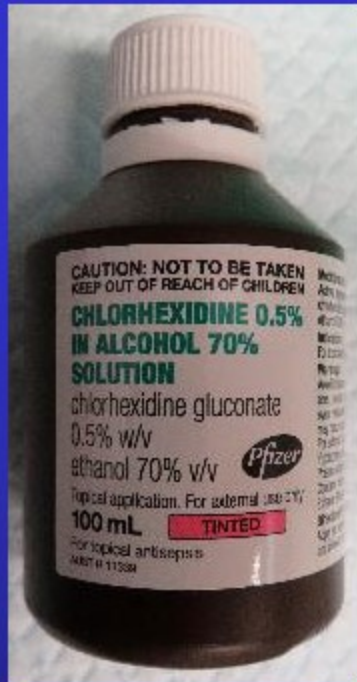


- Wash hands and clean under nails before coming to hospital
- Skin is cleaned on admission to hospital & wrapped in clean cloth

# Skin marked



# Skin Preparation



- Hand is marked
- Consent is checked
- Hand is placed in Alcohol based skin prep
- This is drying to the skin





# Sedation

- A small IV Canula is inserted by the Anaesthetist to administer the Sedation
- Most patients do not remember the procedure at all



# Sedation



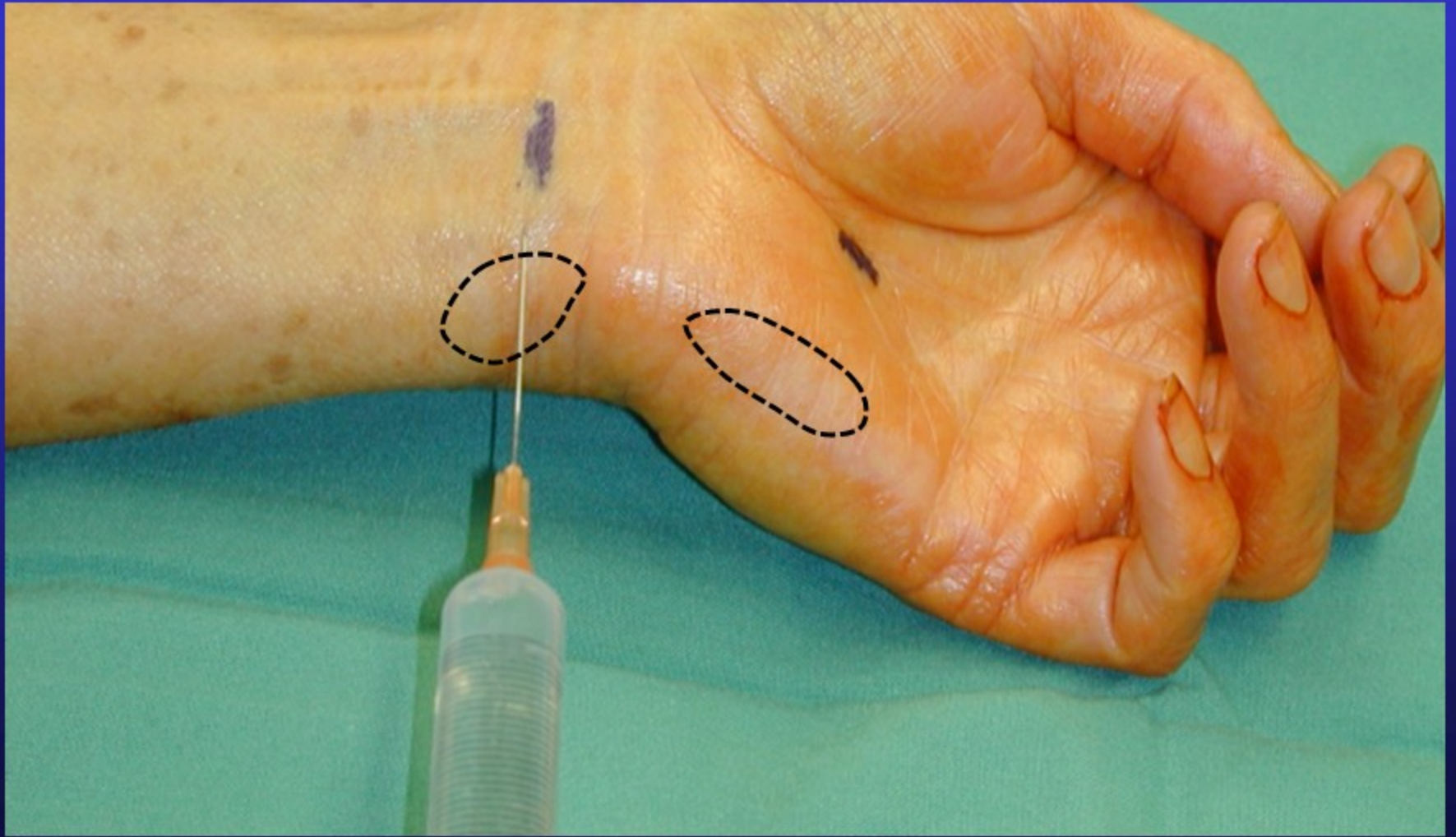
- You will be very drowsy so that the Local anesthetic injections are painfree
- You will be waking by the end of the procedure

# Local anaesthetic



- 5 mls Lignocaine 2% with Adrenalin proximally superficial to deep fascia
- 2<sup>nd</sup> injection in palm well proximal to portal

# Local anaesthetic

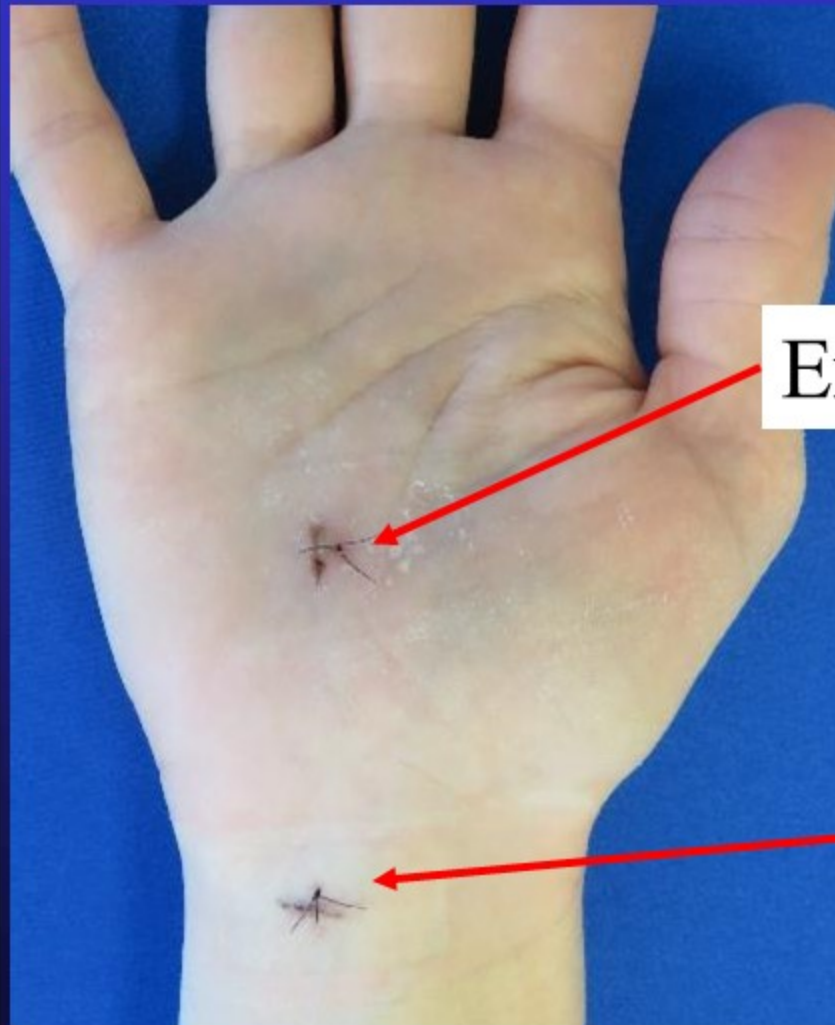


# Tourniquet

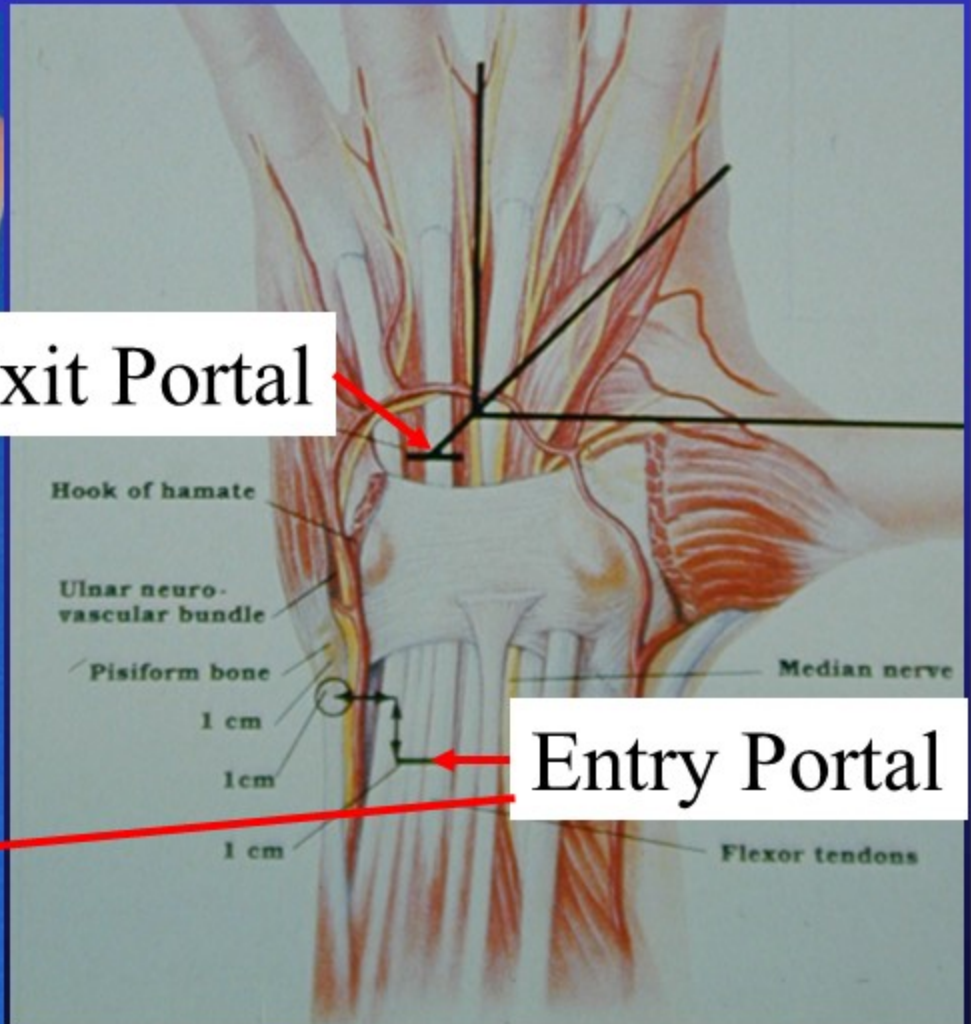


- No bleeding during procedure

# Portals

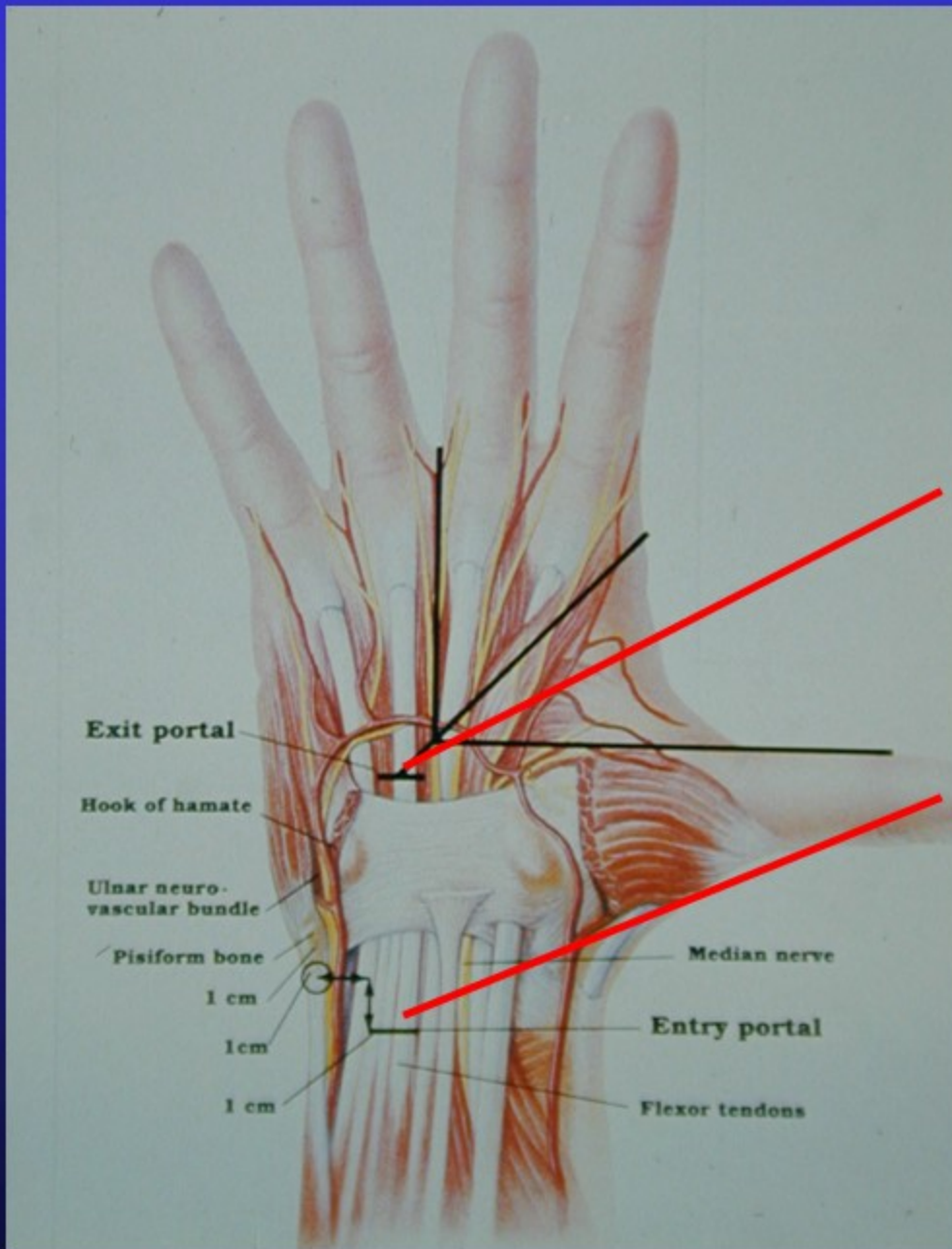


Exit Portal



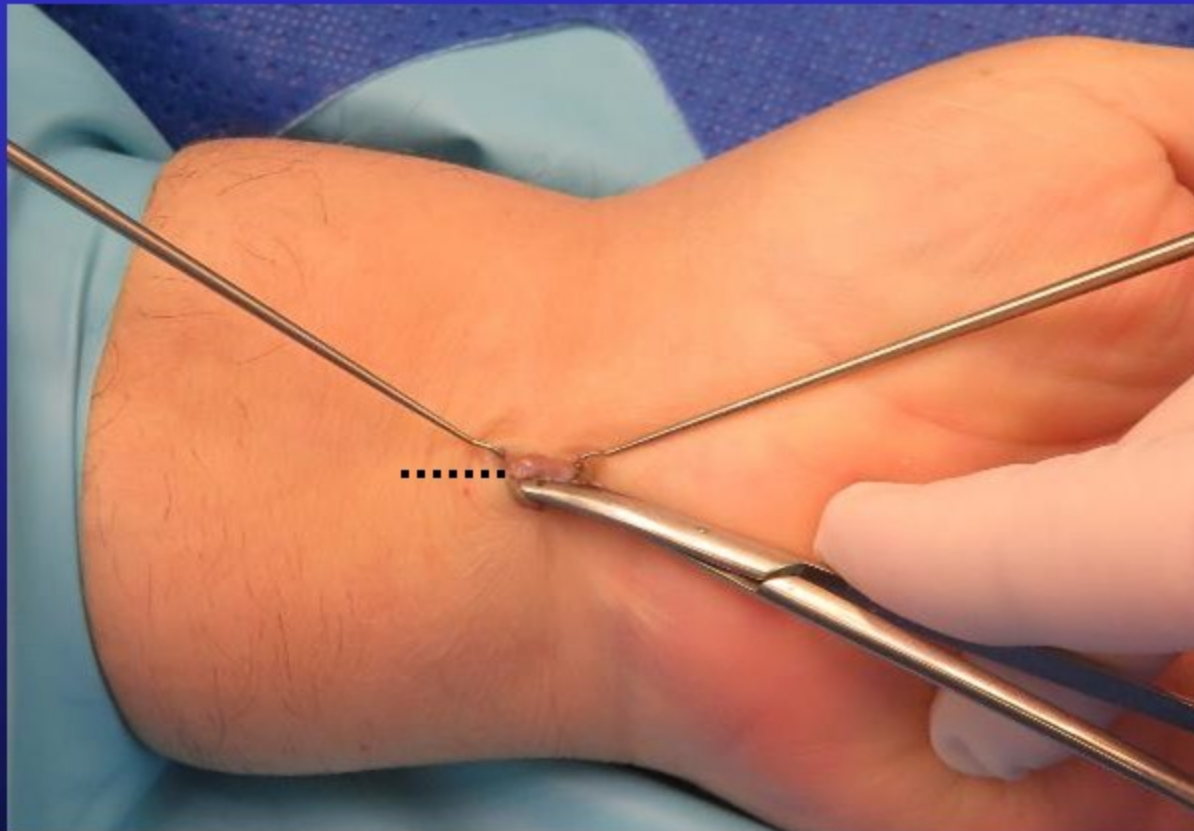
Entry Portal

# ECTR portals



- In line with radial border ring finger
- Ulnar to Palmaris just proximal to proximal wrist crease

# Proximal portal dissection

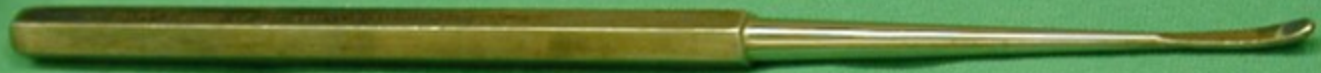


Deep fascia divided for 1 cm up forearm



# Instruments

Dissector



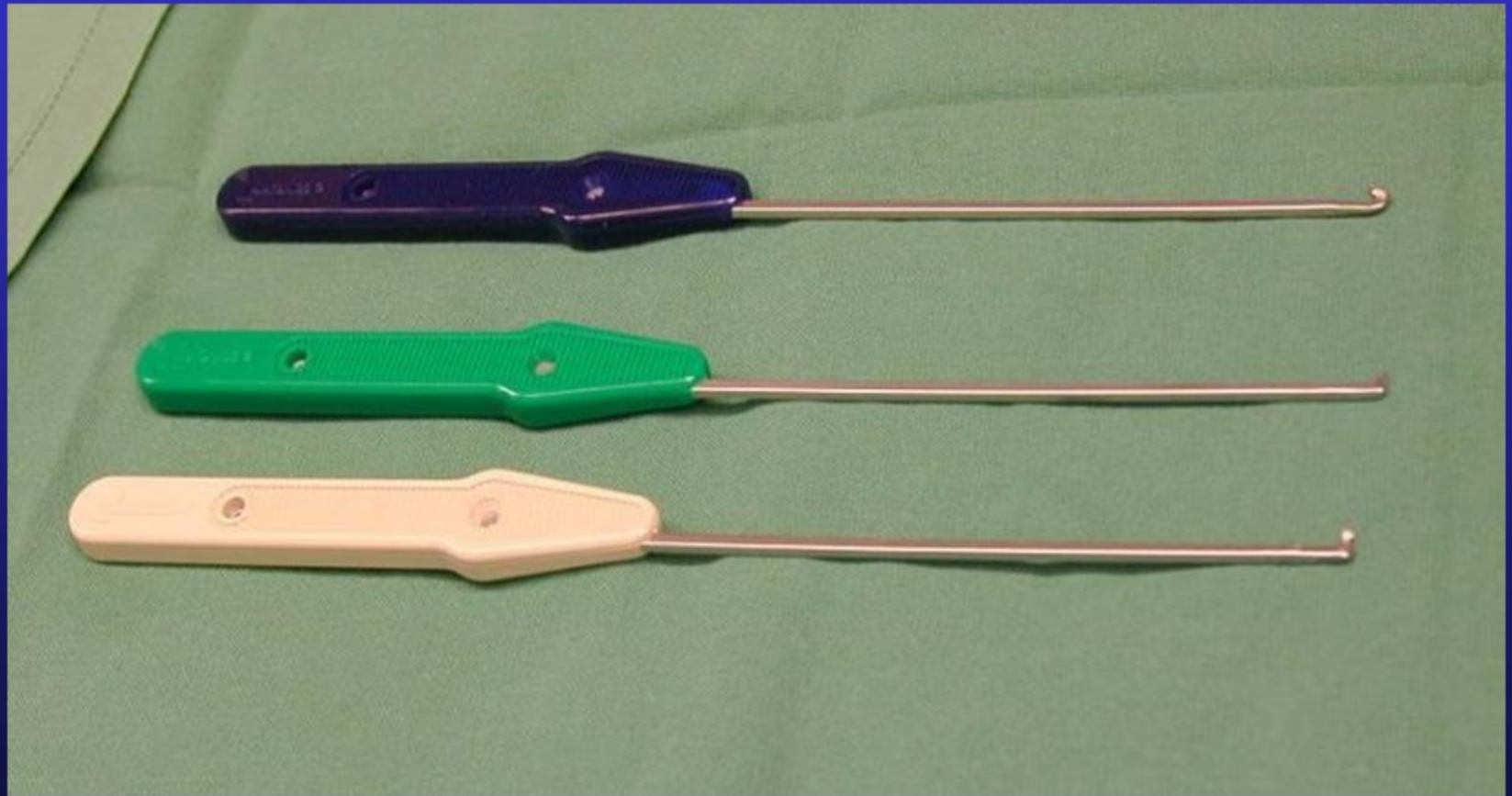
Introducer



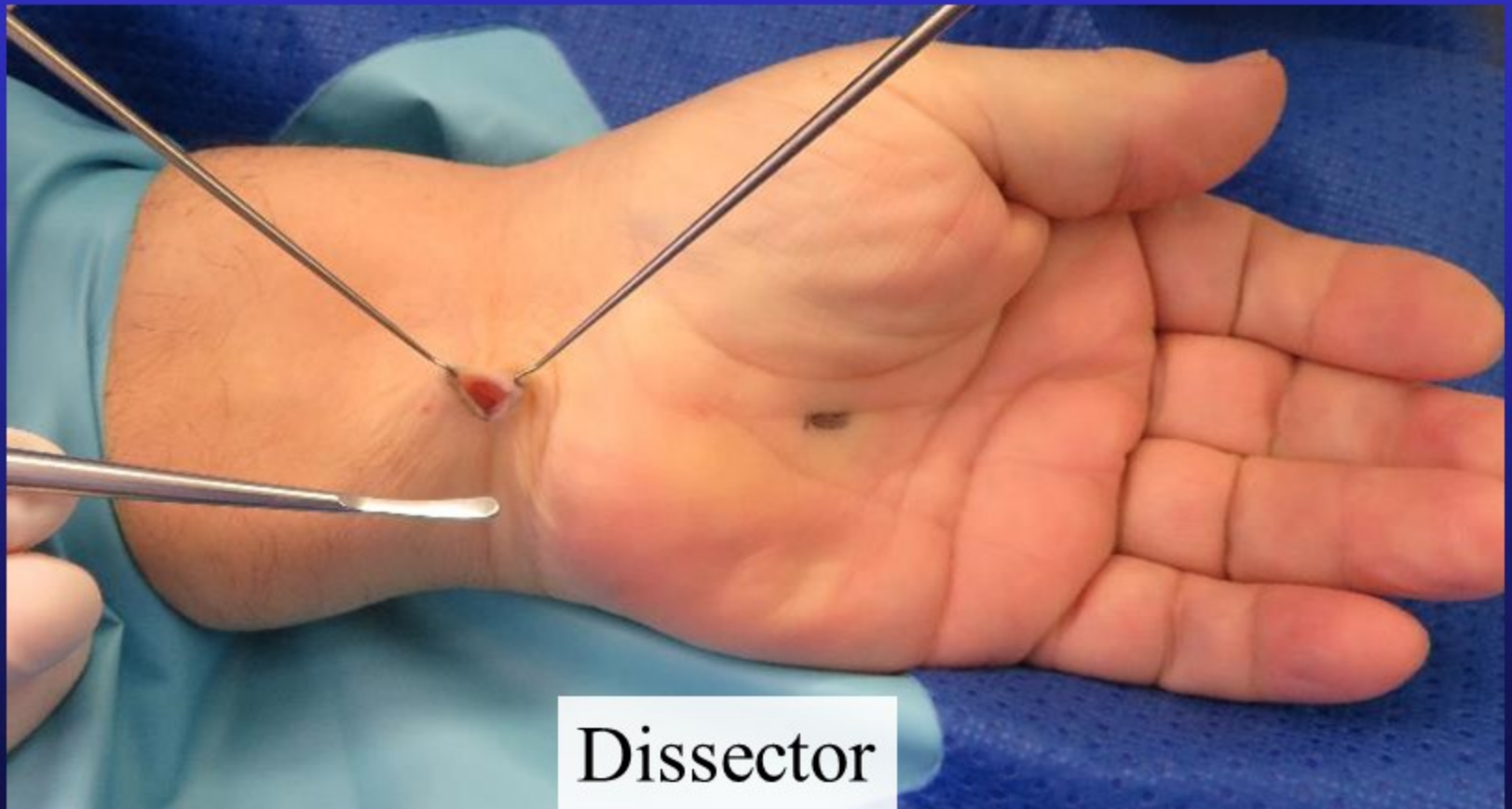
Slotted canula



# Endoscopic Knives

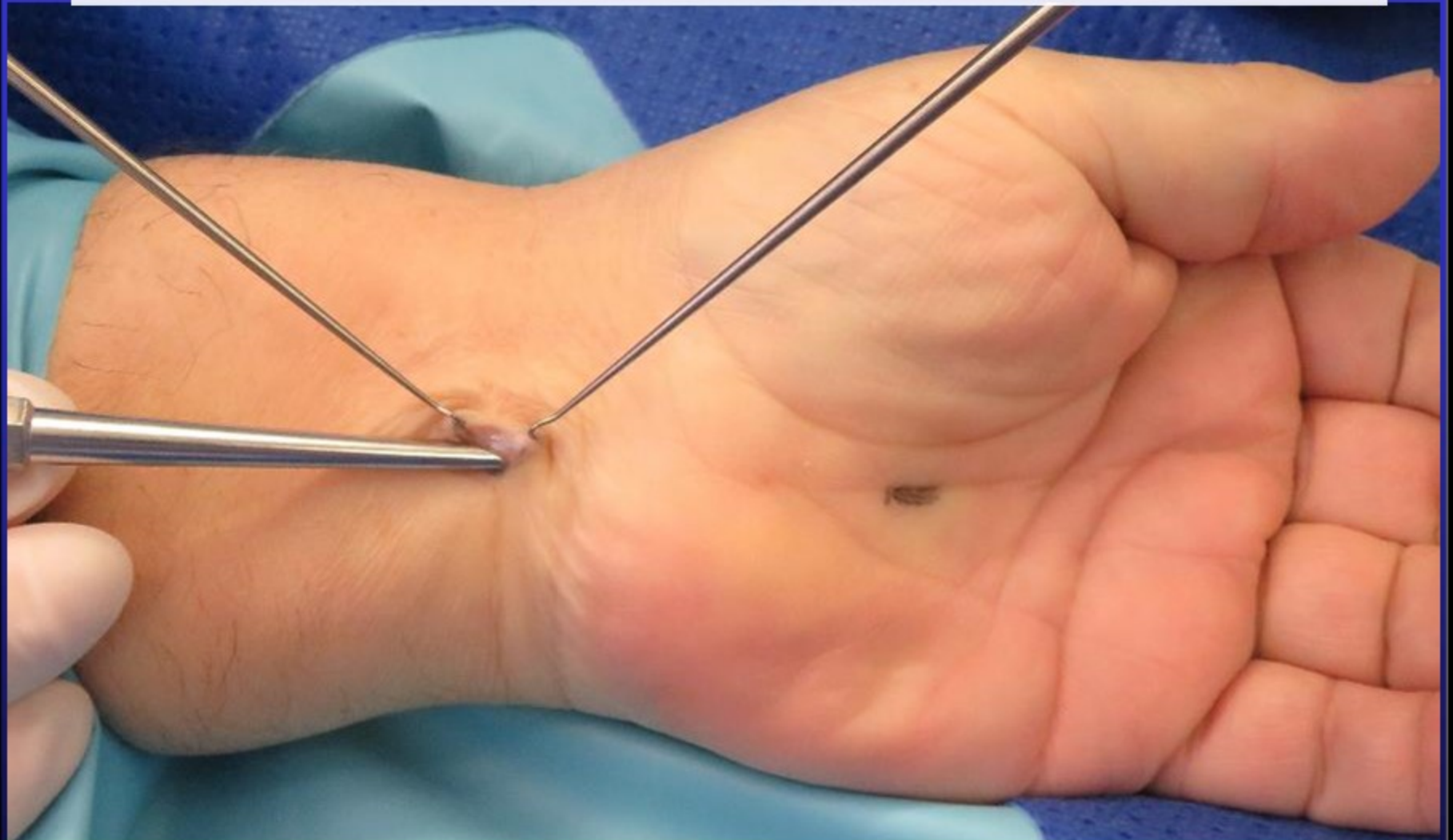


# Dissector

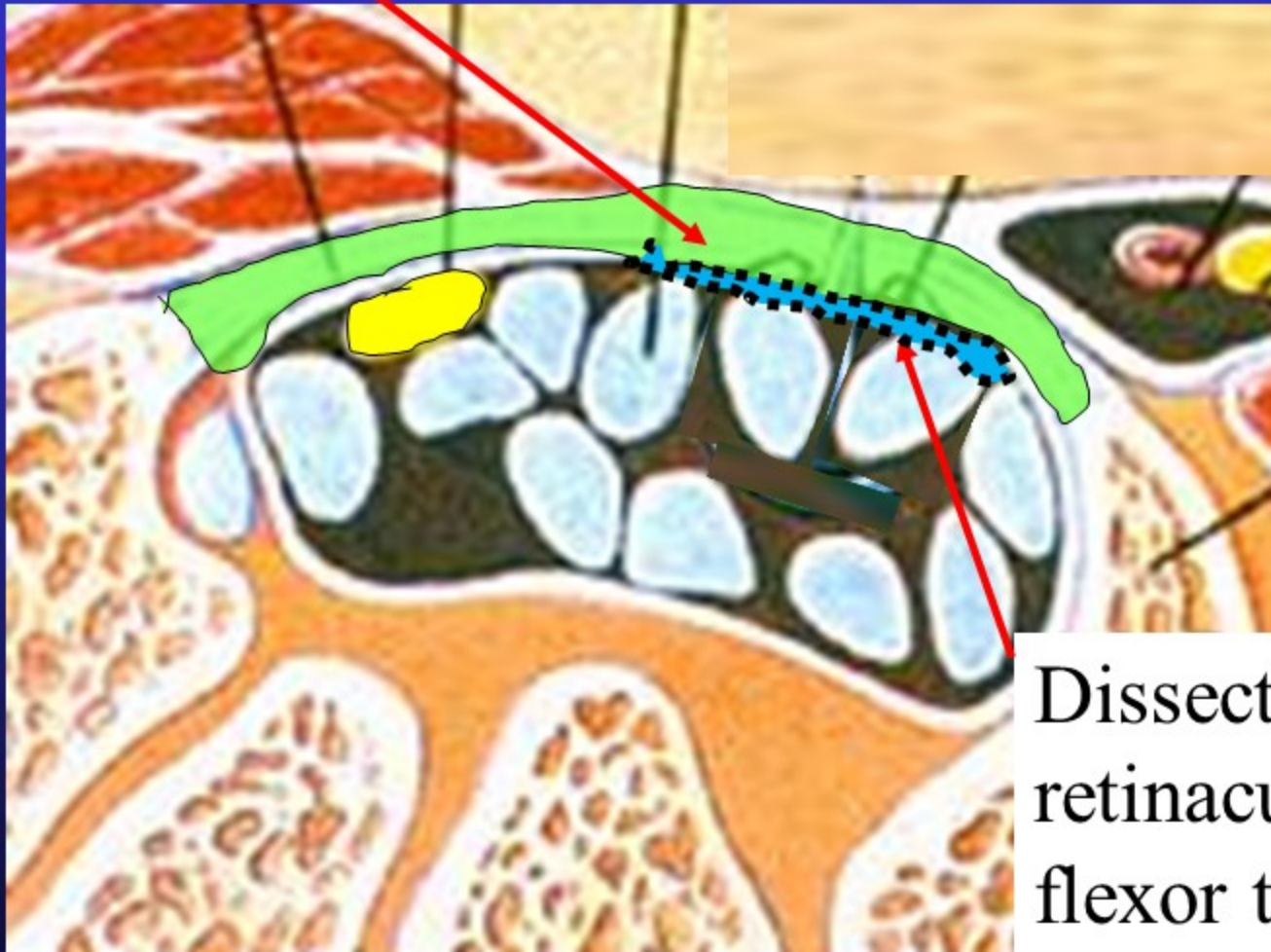


Dissector

Dissector clears tissue from under retinaculum



Flexor retinaculum



Dissection between  
retinaculum and  
flexor tendons

Dissector is used to confirm site of second incision



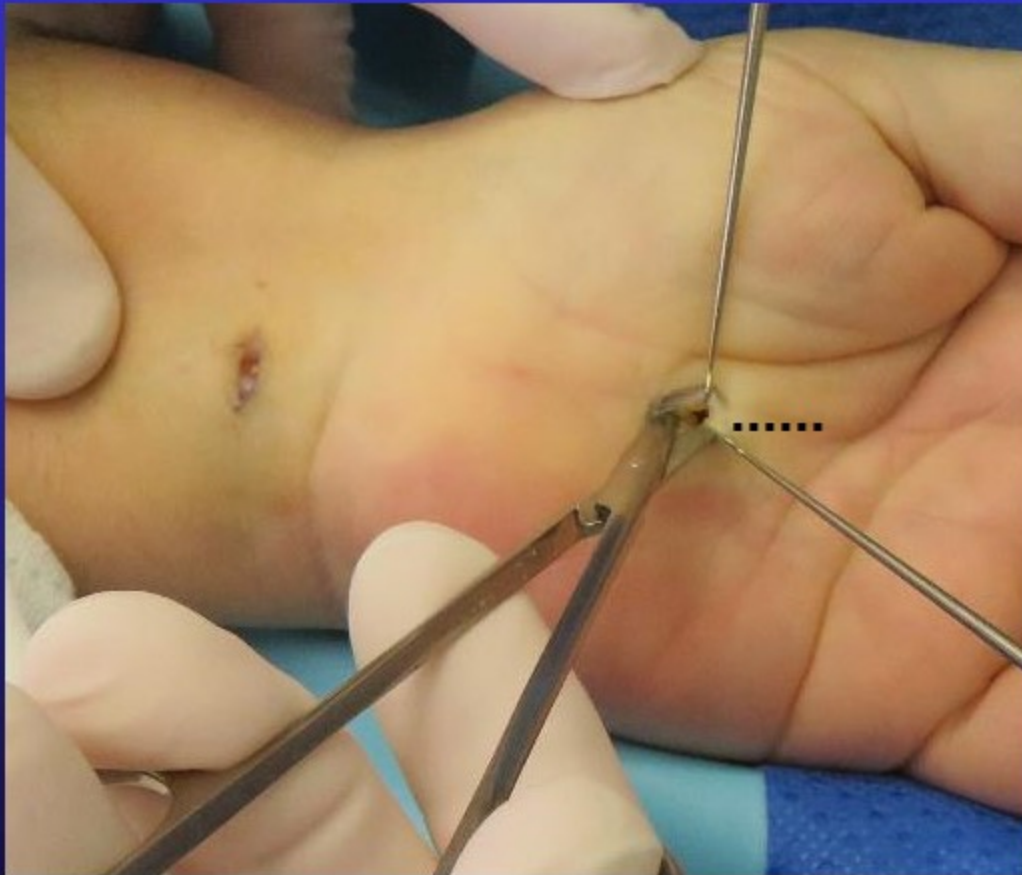
# Slotted Canula



Introducer

Slotted canula

# Second Portal



Deep fascia divided for 1 cm into palm



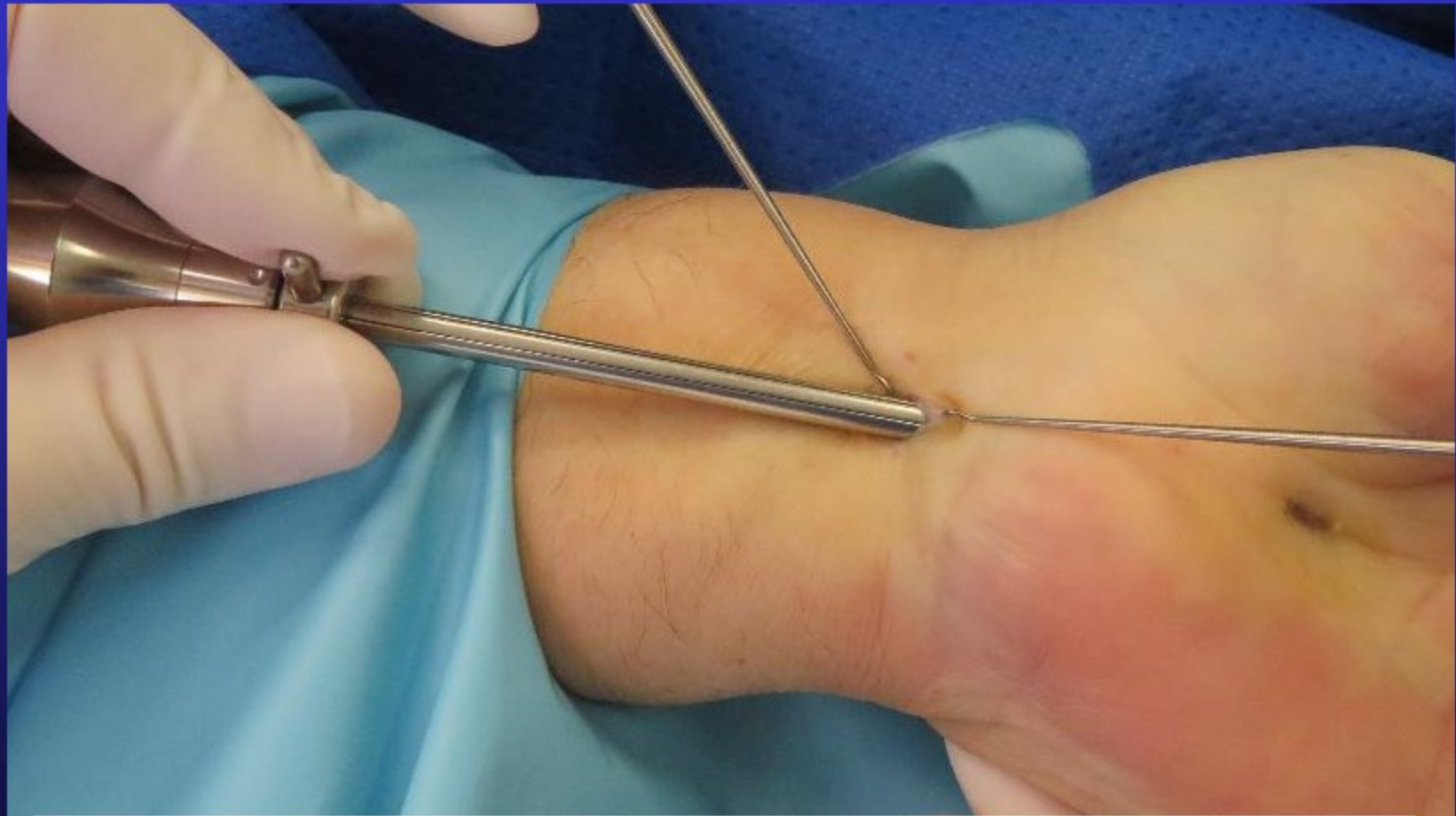
# Introduce slotted canula



# Introduce slotted canula



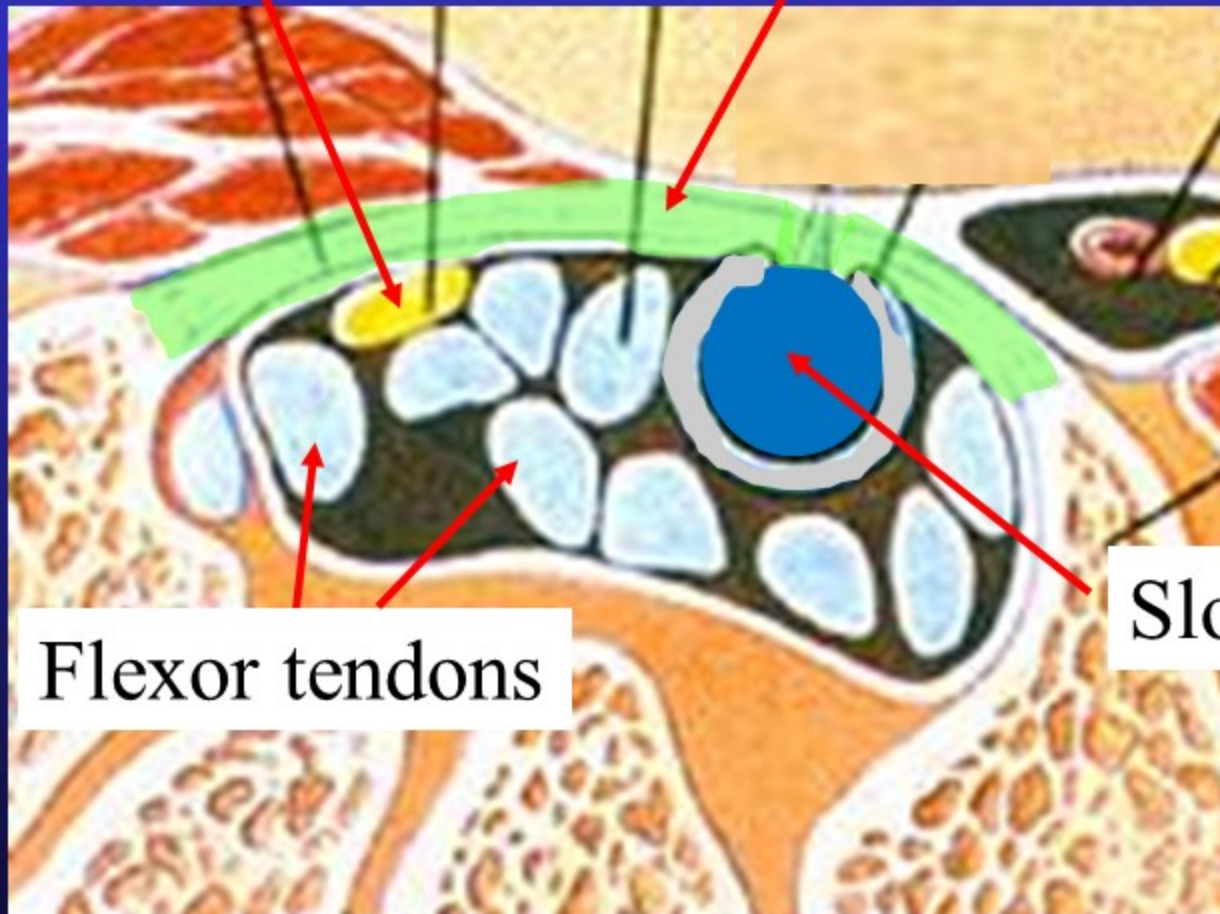
# Introduce slotted canula



Placed immediately deep to retinaculum by “Feel”

Median Nerve

Flexor retinaculum



Flexor tendons

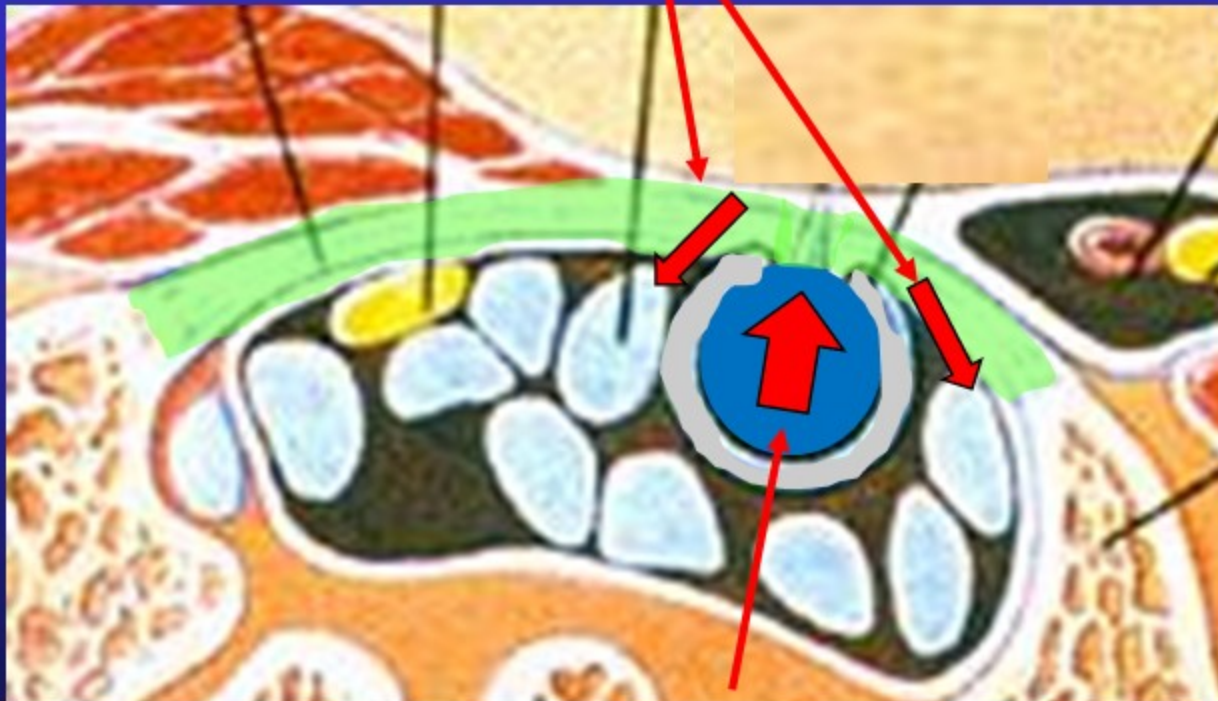
Slotted Canula



Wrist dorsiflexed to traction flexor tendons out of the way



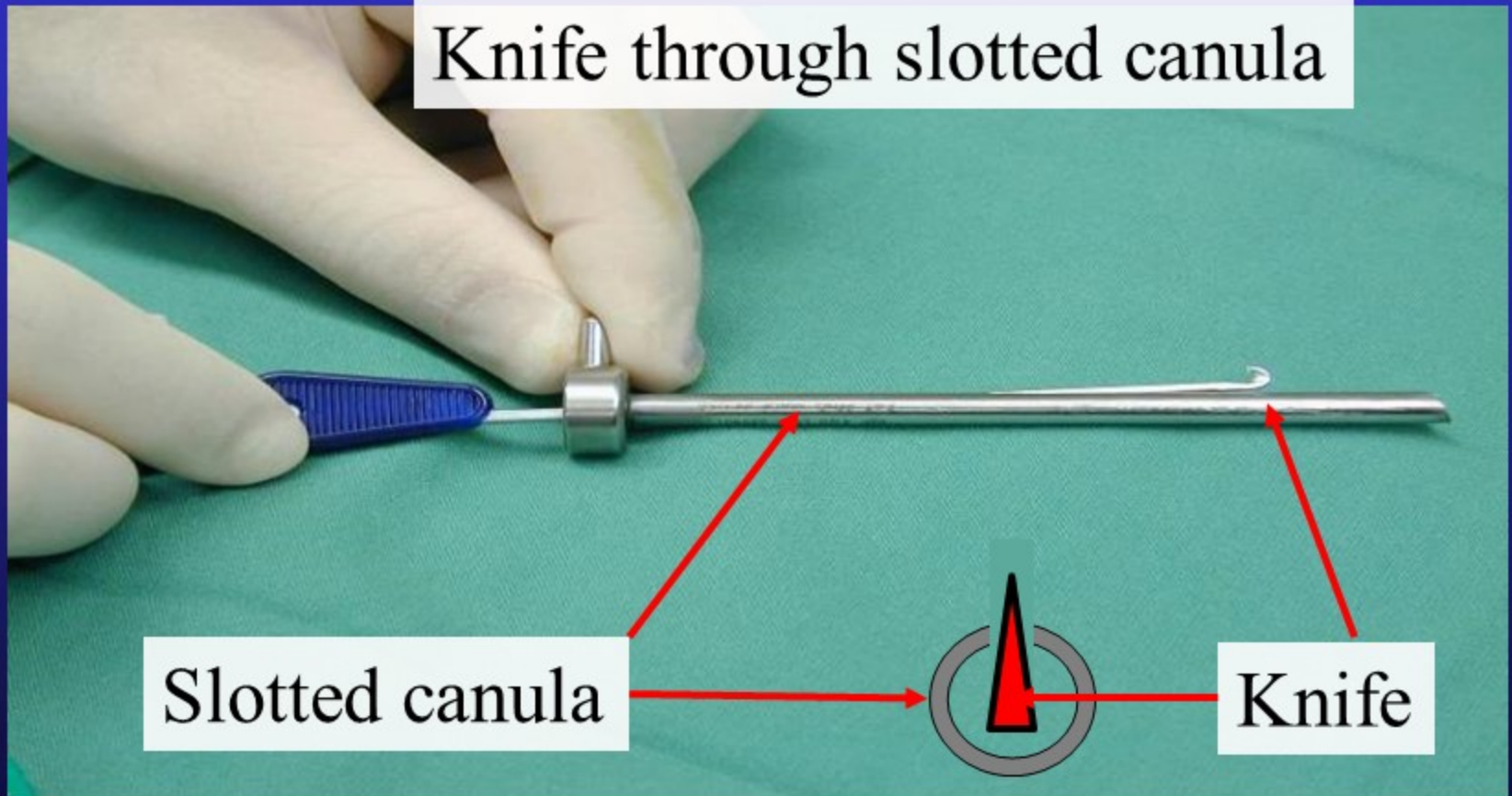
Tendons tractioned out of way of slotted canula



Clear view of under surface of retinaculum through arthroscopy camera

# Endoscopic Knives

Knife through slotted canula

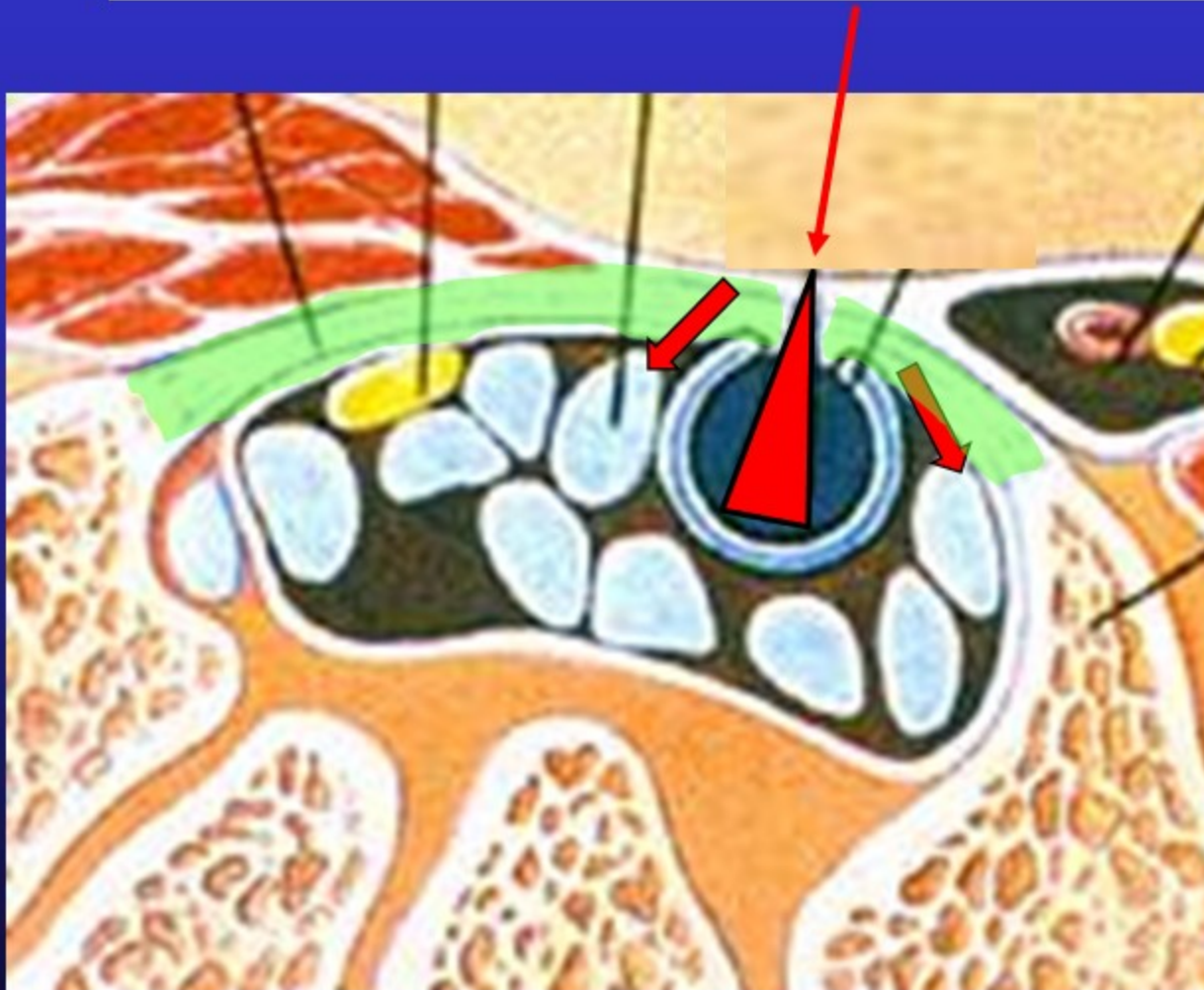


Slotted canula

Knife



Endoscopic knife divides retinaculum  
under direct view



# Wrist in Support stand



- Dorsiflexion tensions nerves and tendons so that they displace either side of slotted canula
- Allows Clear view of retinaculum

# Wrist in Support stand

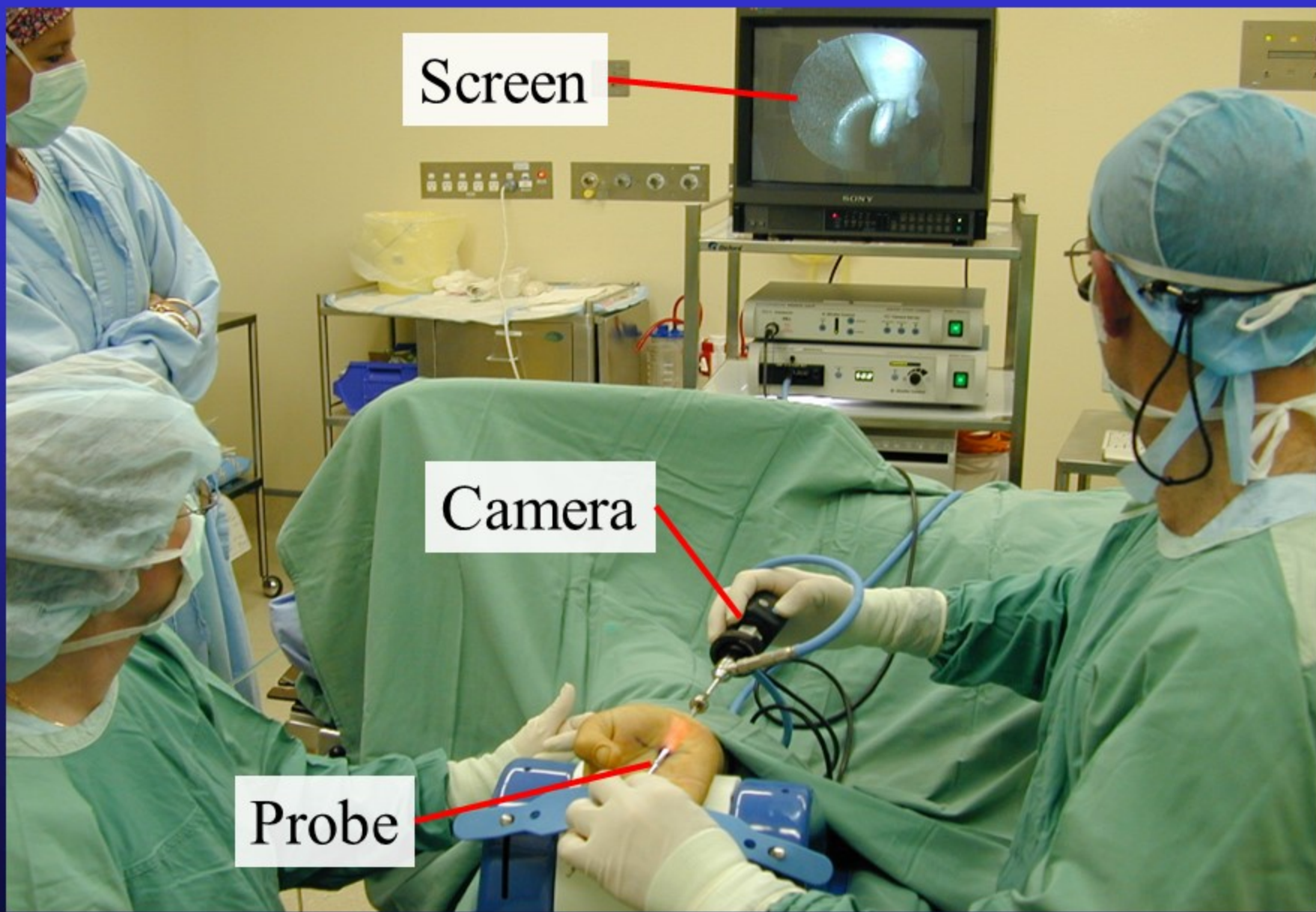


Camera

Screen

Camera

Probe



# Camera lens cleaned with swab on stick

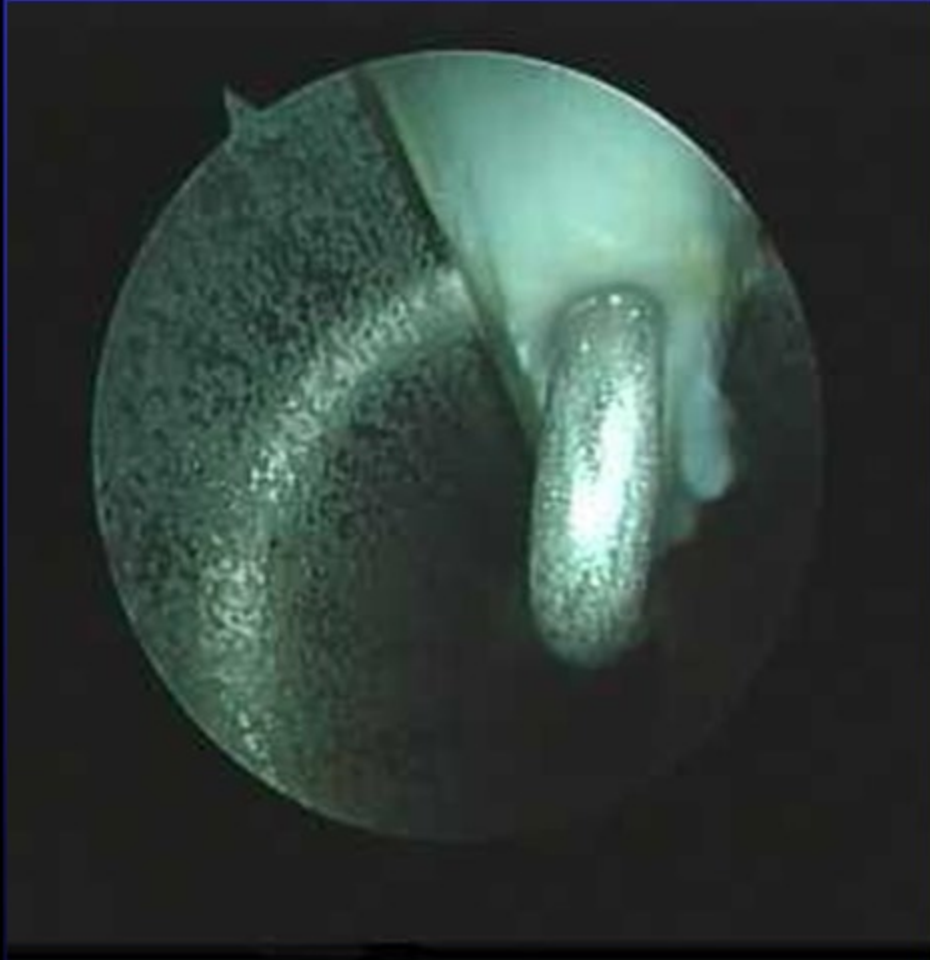
- Wrist dorsiflexed on stand with strap maintaining position







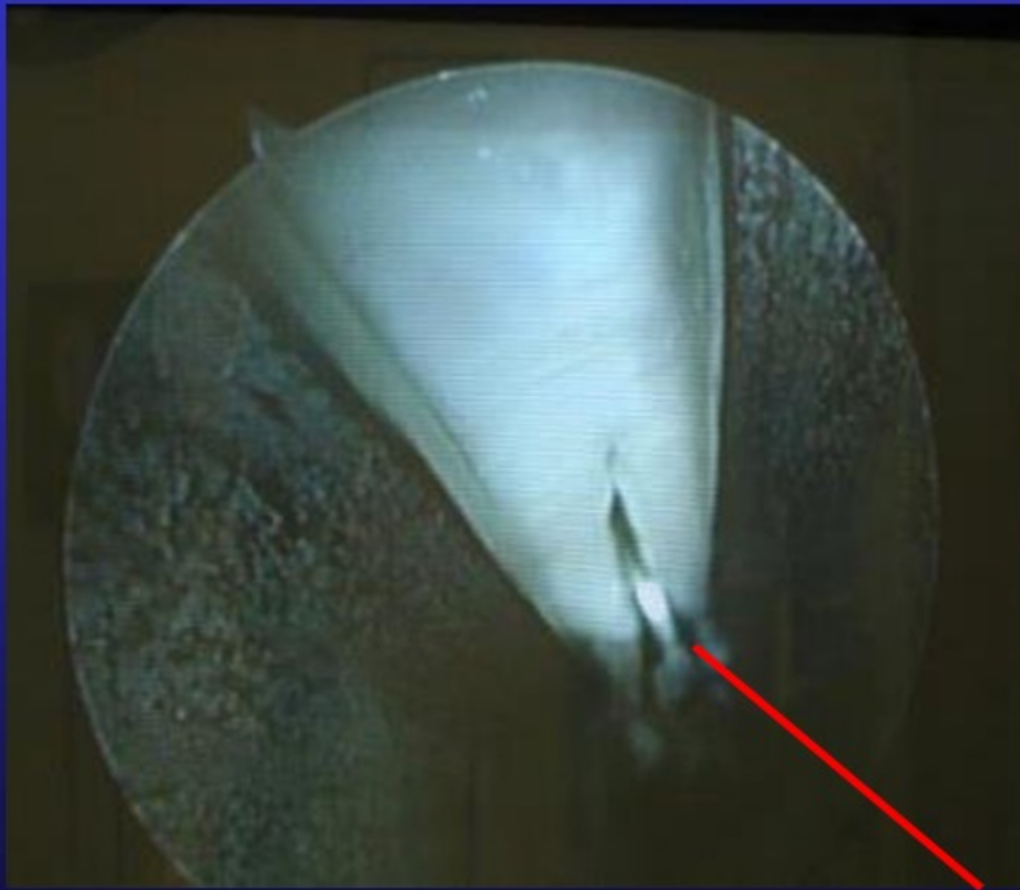
# Probe



- Check for nerves and tendons
- Under surface of retinaculum feels like rough “train track” when passing probe



# View on screen



- Retinaculum divided by endoscopic knife

- Knife



# Crepe bandage for 2 days



A nighttime photograph of a city skyline with numerous illuminated skyscrapers. The lights are reflected in the water in the foreground. A yellow rectangular box is overlaid on the image, containing the website address.

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**The End**