Tendinopathies

Primary care webinar
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Scope

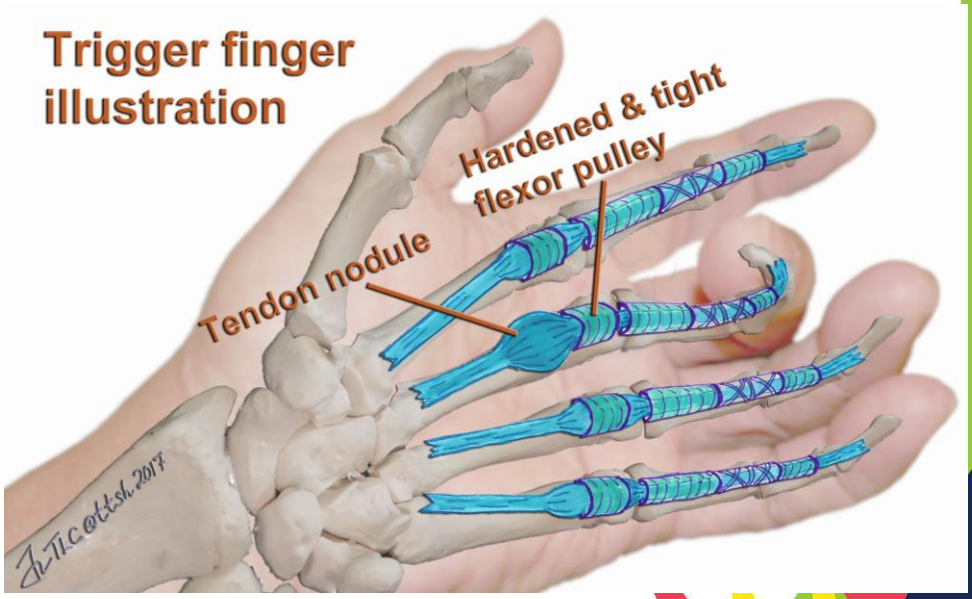
- Common tendinopathies
- Differentials
- Treatment
- H&L
- WH Hand OT
- When to refer
- Surgery

Tendinopathy

- Painful conditions affecting tendons of the wrist and hand
- Tendon entrapment
  - Trigger finger
  - De Quervains
  - ECU tendinitis
- Inflammatory conditions
  - RA
  - Gout, amyloidosis
  - Septic tenosynovitis

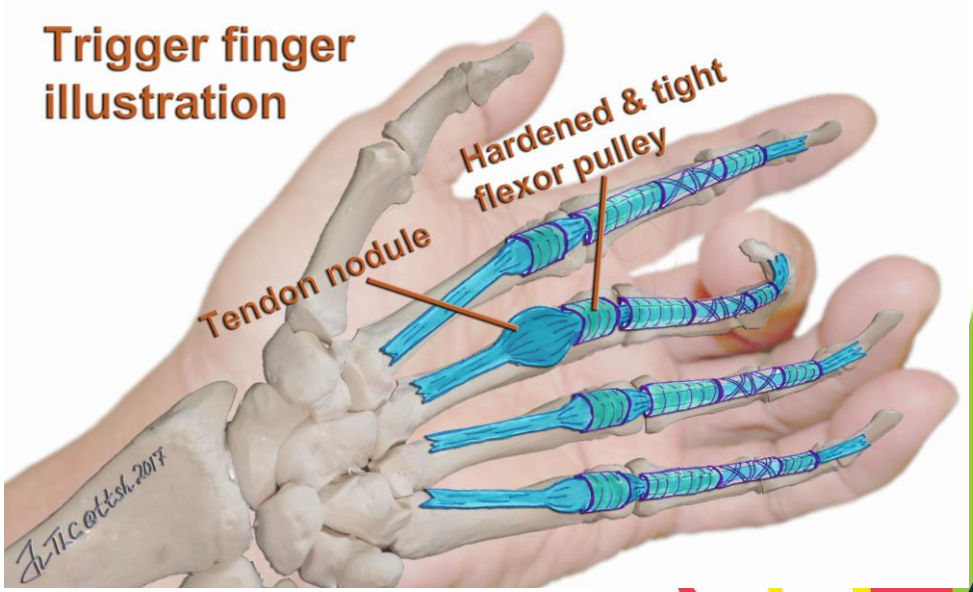
Trigger finger

- Catching/locking of finger
  - Volume mismatch between tendon and sheath
- Degenerative condition of flexor tendon and A1 pulley
- Fibrocartilaginous metaplasia



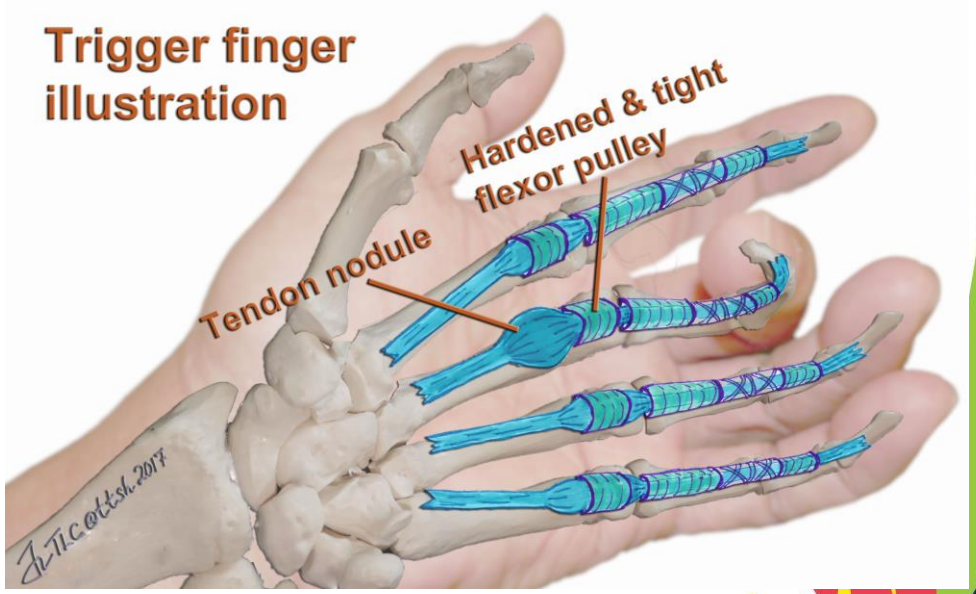
Trigger finger

- RF -> thumb
- More common
  - Females
  - Age 50-70
  - Diabetics



Trigger finger

- Clinical
  - Tenderness over A1 pulley
  - Nodule
  - Triggering
  - PIPJ flexion contracture



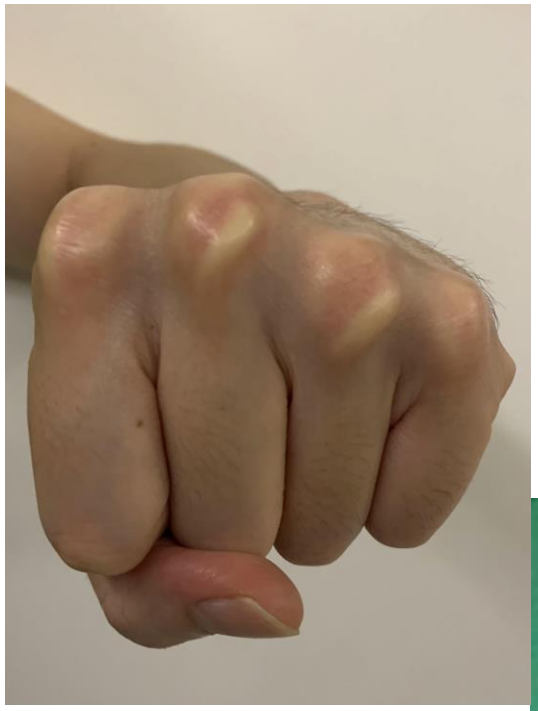
Trigger finger

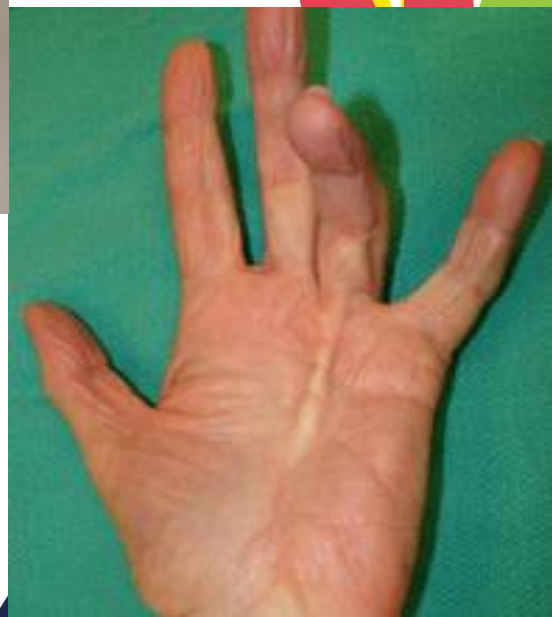
Quinnell Classification

Grade	Definition
I (Pre triggering)	Pain
II (Active)	Demonstrable catching
IIIA (passive)	Locking requiring passive extension
IIIB (passive)	Locking requiring passive flexion
IV (contracture)	Fixed flexion contracture of PIPJ

Trigger finger

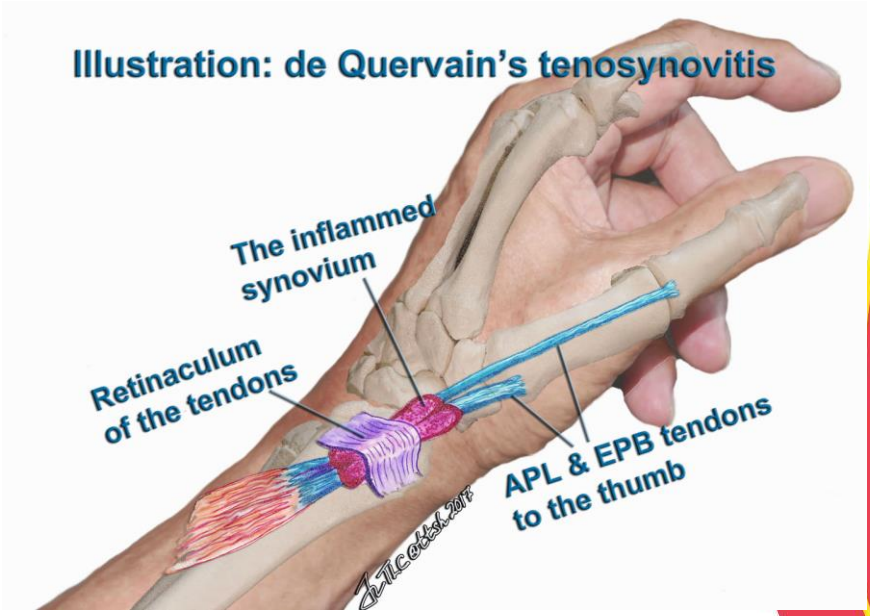
- Differentials
  - Extensor tendon subluxation
  - Dupuytren disease
  - PIPJ sprain
  - Sesamoiditis





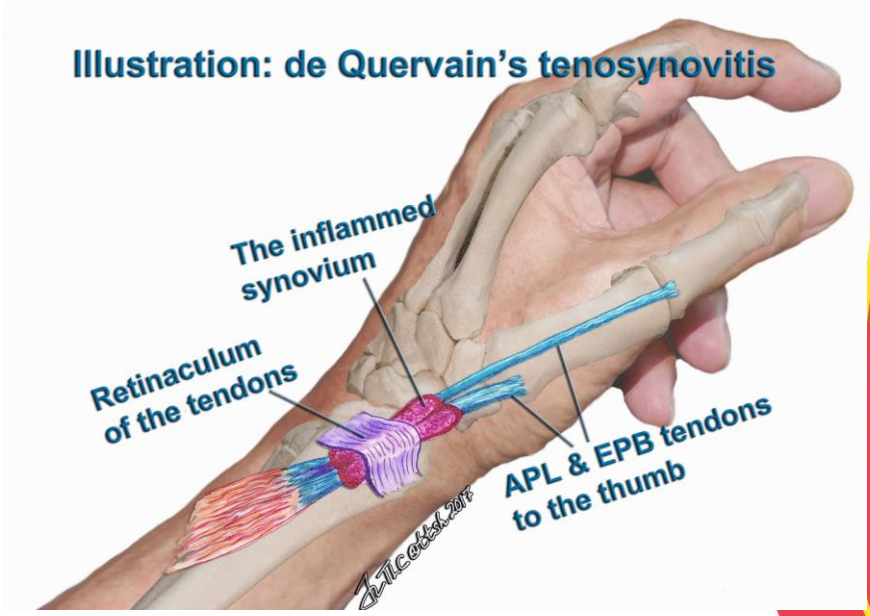
De Quervain tenosynovitis (DQ)

- Swelling and narrowing of the 1st dorsal extensor compartment
  - Thickening of fibrosseous sheath
- Repeititive strain with abduction of thumb and simultaneous ulnar deviation of wrist



De Quervain tenosynovitis

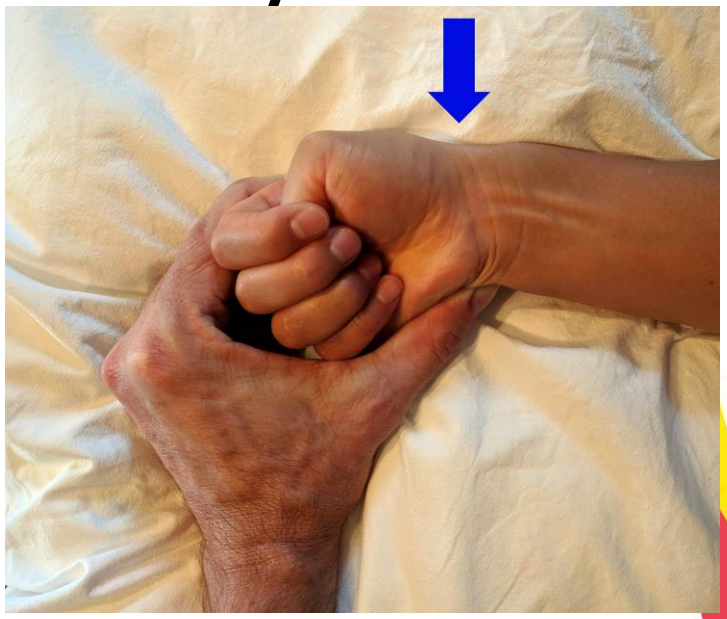
- Risk factors
  - Female
  - Increased age
  - Pregnancy and postpartum

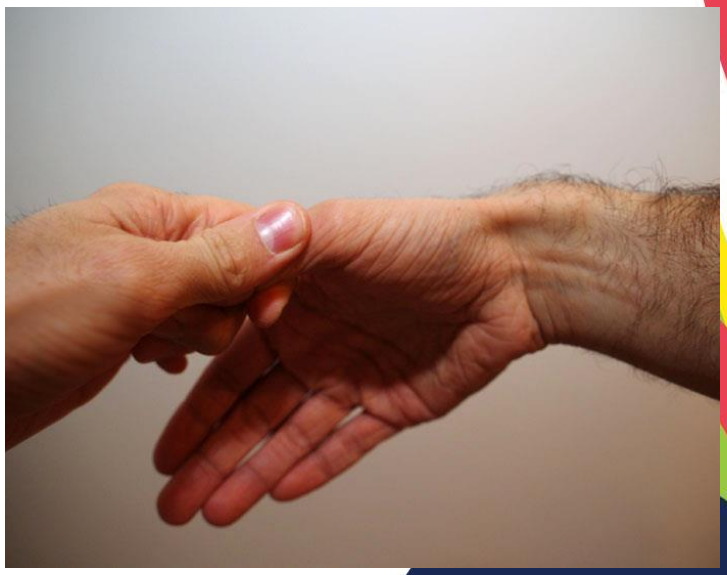


De Quervain tenosynovitis

- Clinical
  - Tenderness of radial side of wrist
  - Eichhoff maneuver
  - Finkelstein test

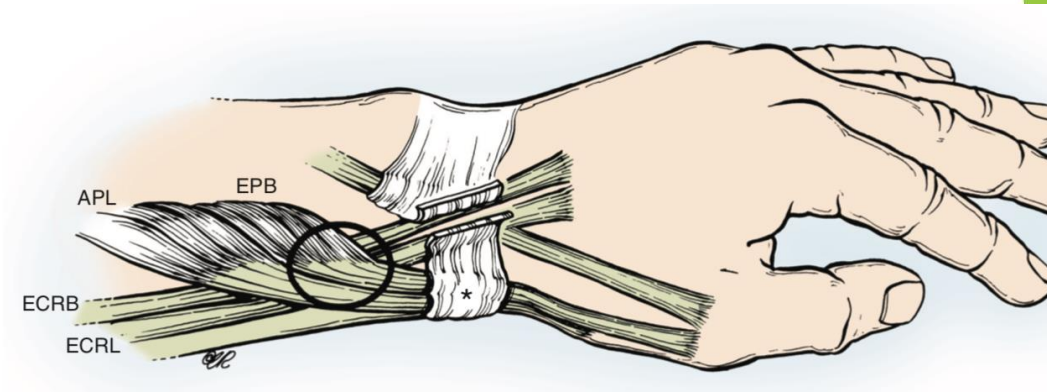
  - Snuffbox
  - SRN sensation

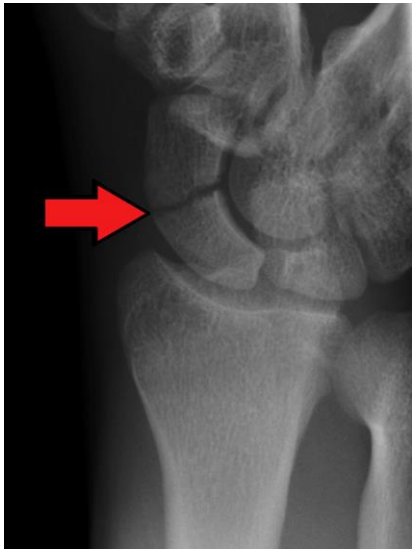


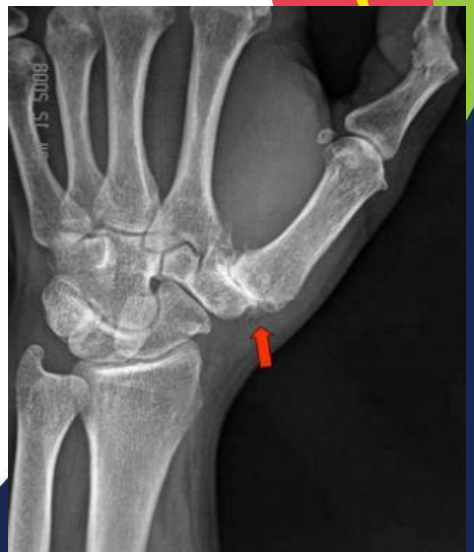


De Quervain Tenosynovitis

- Differentials
  - Intersection syndrome
  - Fracture of radial styloid
  - Fracture of scaphoid
  - 1st CMCJ OA

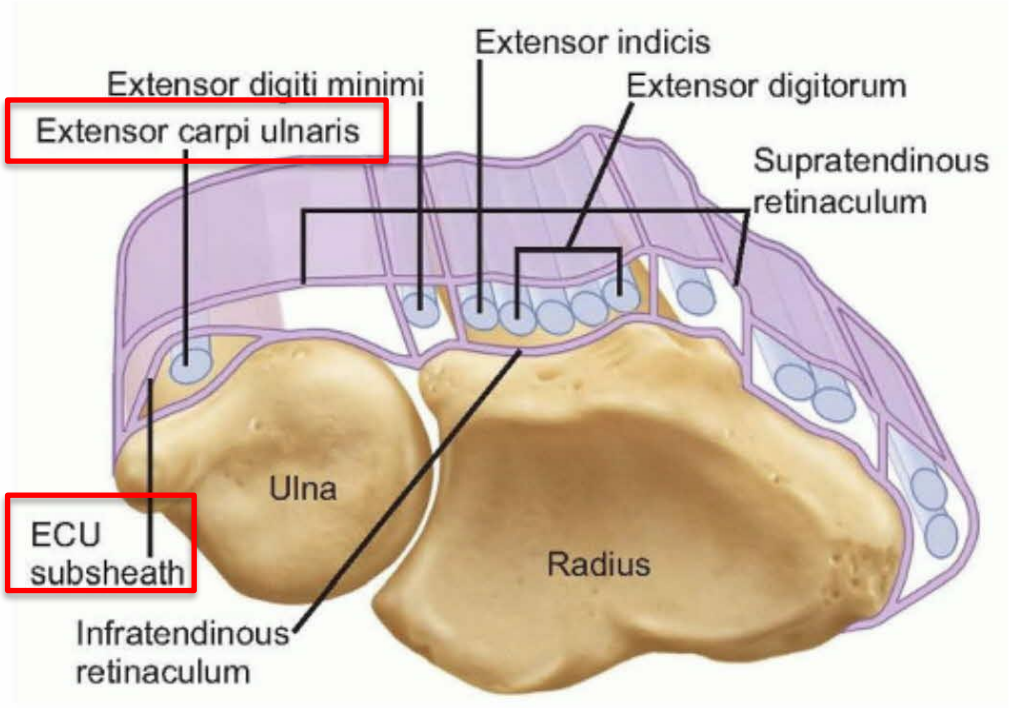






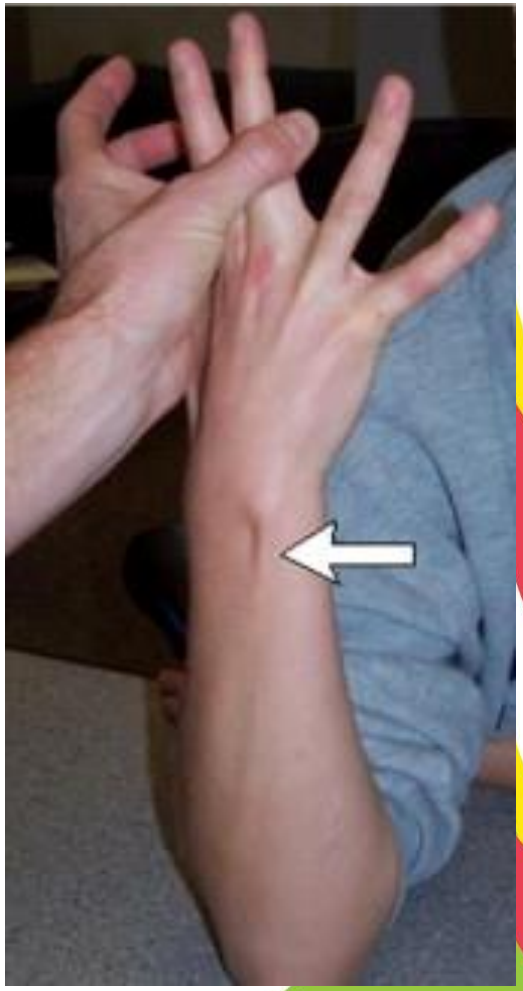
ECU tendinitis

- Reactive tendinitis of the 6th dorsal extensor compartment
- Injury or overuse



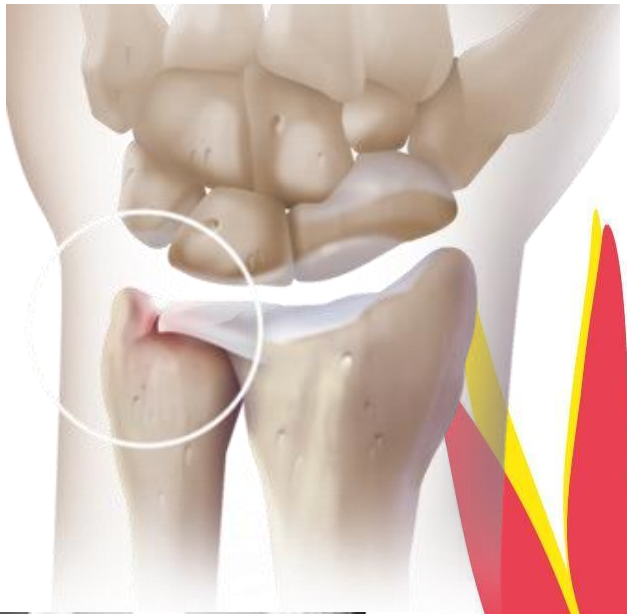
ECU tendinitis

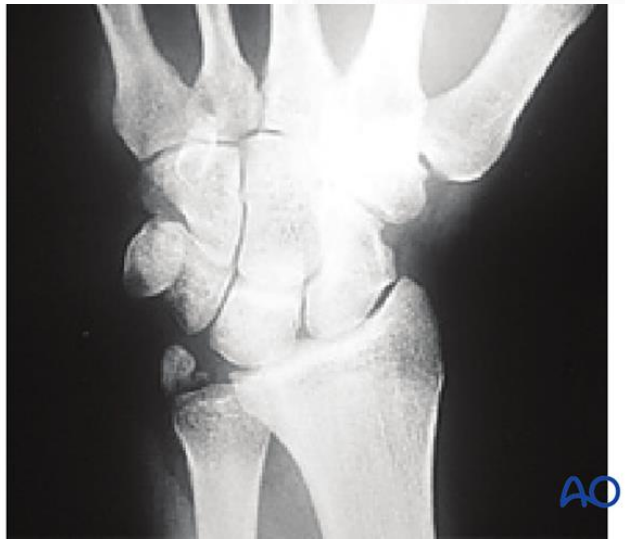
- Clinical
  - Dorsoulnar pain
    - Supination
    - Wrist flexion
    - Ulnar deviation
  - Tenderness/swelling over ECU, ulna head
  - ECU subluxation
  - ECU stress test
  - Wrist synergy test



ECU tendinitis

- Differentials
  - TFCC injuries
  - DRUJ OA
  - Ulno-carpal impaction
  - Ulna styloid fractures





Treatment

- Conservative
  - Hand OT, activity modification, NSAIDS
  - H&L
- Surgery

H&L

- One of the mainstays of conservative treatment
- Overall efficacy rate of 66-80% for trigger digits
  - Less effective for diabetics
- 39% success rate after 2nd or 3rd H&L

  AZ Dardas et al. JHSA 2017

- Similar success rates for DQ

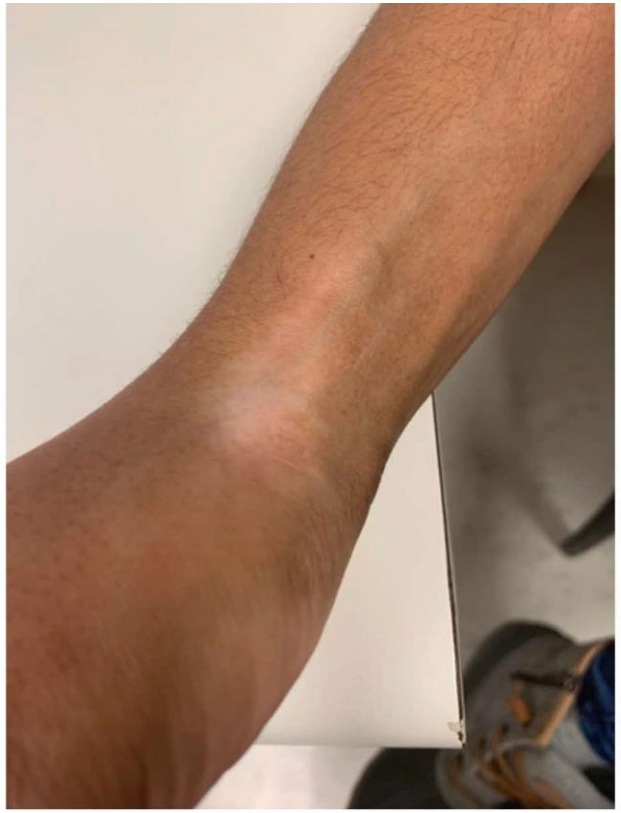
H&L

- Complications
  - Minor (0-81%)
    - Steroid Flare
    - Skin rash
    - Soft tissue atrophy
    - Hypopigmentation
    - Flushing
    - Menstrual changes
  - Major (0-5.8%)
    - Tendon rupture
    - Suppurative flexor tenosynovitis
    - Necrotising fasciitis
    - Osteomyelitis

Brinks A et al. BMC Musculoskelet Disord. 2010

H&L

- Soft tissue atrophy 1.5-40%
- Hypopigmentaton 1.3-4%
- Particularly susceptible for DQ



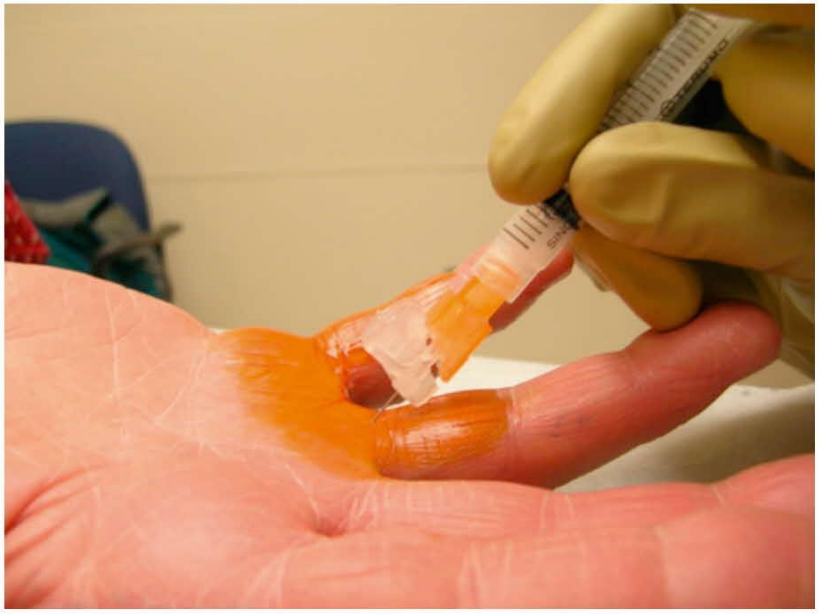
Brinks A et al. BMC Musculoskelet Disord. 2010

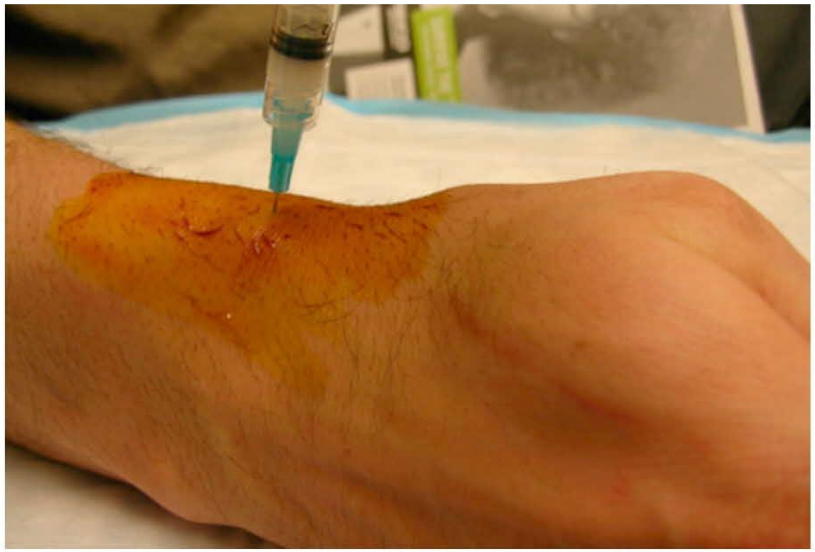
- Manifest within 2-4 months of initial injection
- Usually self resolving within 1yr

CS Pace et al. JHSA 2018

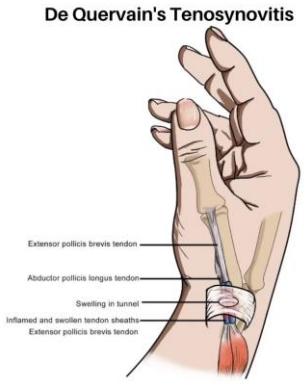
H&L

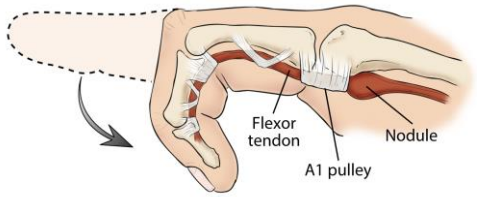
- Recommendations
  - Smaller size needle (23-27G)
  - Minimize multiple passes
  - 1 ml total volume (50% lignocaine, 50% triamcinolone)
  - 6months apart between injections
  - PROPER COUNSELLING and documentation

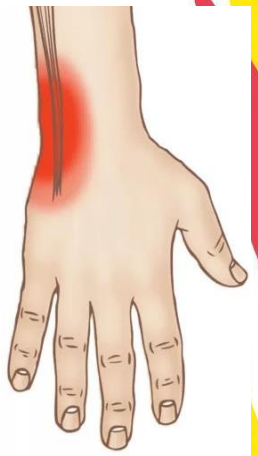




Role of Occupational Therapy in Tendinopathies







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Role of Occupational Therapy in Tendinopathies

Acute Phase

- Educate patient on their diagnosis and aggravating actions/ activities
- Explore Activities of Daily Living (ADL) modification, including prescription of assistive aids
- Prescribe appropriate splint
- Provide treatment modalities if suitable (e.g. heat, ultrasound)
- To prescribe hand exercises for gentle tendon gliding and maintenance of joint ROM

Recovery Phase

- Gradual strengthening of hand as tolerated
- Resumption of ADL with modification to prevent further exacerbation/recurrence
- Reinforce patient's knowledge of diagnosis and aggravating actions/activities

Prescription of Assistive Aids

Aim: To reduce stress over affected joints

Built up handles for utensils

Jar Opener

Key Holder

Slip Resistant Cloth

Prescription of Splints

Condition	Trigger Finger	De Quervain	ECU Tendonitis
Splinting Regime	During functional use / PRN night	Intermittent use / immobilization depending on pain level	
Type of splint	Oval-8 	Radial Gutter 	Ulna Gutter 

Patient Educational Material - Conditions

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Trigger Finger

Trigger Finger

Trigger finger occurs when the space between the tendon and the pulley of the finger becomes smaller, preventing the tendons to glide smoothly through the pulley system. As the tendon squeezes through the pulley system, the finger becomes stuck in a bent position resulting in a "locking" effect. Triggering of the thumb is called trigger thumb.

Symptoms of Trigger Finger

The early symptoms of trigger finger can be a dull or painless locking of the finger. Tenderness or a small lump at the base of the finger may be present. Trigger finger of the thumb, middle and ring finger are the most common.

As the condition worsens, you may find it painful to open or close the finger. Activities such as writing, holding a knife, washing the dishes and wringing the cloth can become difficult to perform.

Causes of Trigger Finger

Trigger finger is associated with the overuse of the hands for gripping and grasping activities. Most trigger fingers however usually arise from unknown causes. People with diabetes may have a higher risk for trigger finger.

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De Quervain's Tenosynovitis

De Quervain's Tenosynovitis

The tendons of the thumb passes through a "tunnel" in the wrist at the base of the thumb where it helps spread the thumb away from the palm. De Quervain's tenosynovitis occurs when the tendons of the thumb are unable to glide smoothly through this tunnel.

Symptoms of De Quervain's Tenosynovitis

Common symptoms include pain in the wrist near the base of the thumb with certain movements of your wrist. You may find difficulty performing simple activities such as brushing your teeth and wringing a towel.

Causes of De Quervain's Tenosynovitis

De Quervain's tenosynovitis is commonly associated with overuse, trauma and awkward movements of the thumb and wrist.

How Can a Hand Occupational Therapist Help You?

A hand occupational therapist will explore your daily activities and suggest ways for you to modify them to relieve your symptoms. To reduce irritation of the tendon, a customised splint may be made for you to either protect, support or prevent undesired movements of your thumb and wrist.

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Patient Educational Material – Downloadable version

Trigger Finger Educational Brochure

De Quervain's Educational Brochure

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Patient Educational Material – Home Exercise

Wrist and Forearm Exercises (Active)

Regime: ____ repetitions, ____ /day

Wrist Flexion & Extension

Move wrist forward and backwards. Keep your fingers relaxed.

Forearm Rotation

Keep elbow to the side with elbow bent at 90°. Turn hand over "palm-up" and "palm-down".

Wrist Deviation

Move wrist from side to side.

Disclaimer:
Exercises shown in this handout are meant to be carried out under the advice of your occupational therapist. Kindly contact your occupational therapist if you require any clarifications.

Tendon Gliding Exercises

Regime: ____ repetitions, ____ /day

Straight Hand

1

Start with fingers and wrist straight

Hook Fist

2

Bend fingers into a claw position

Composite Fist

3

Curl fingers into a fist

Table-Top

4

Bend knuckles and keep fingers straight

Straight Fist

5

Bend fingers down, reaching to the base of the palm

Disclaimer:
Exercises shown in this handout are meant to be carried out under the advice of your occupational therapist. Kindly contact your occupational therapist if you require any clarifications.

Modalities

Aim: Pain management, facilitate tissue healing, reduce tightness

Heat Pack

Cryotherapy

Ultrasound Therapy

When to refer

- Recurrence of symptoms post H&L
- Symptomatic patient who is not keen for H&L
- Atypical presentation of common tendinopathy conditions
- Patient who is keen for surgery

Surgery

- Day surgery under LA
- Wound healing in 2/52 then STO
- Avoid strenuous activity for 2/52
- Scar massage
- Expect soreness for 4-6/52

WH Procedure room

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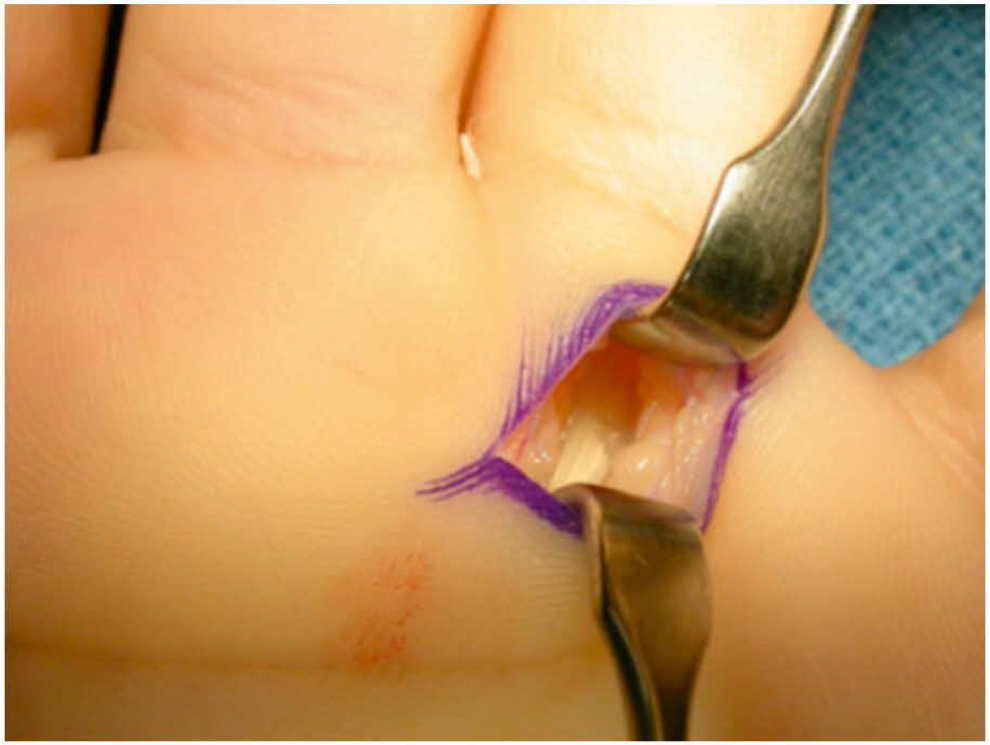
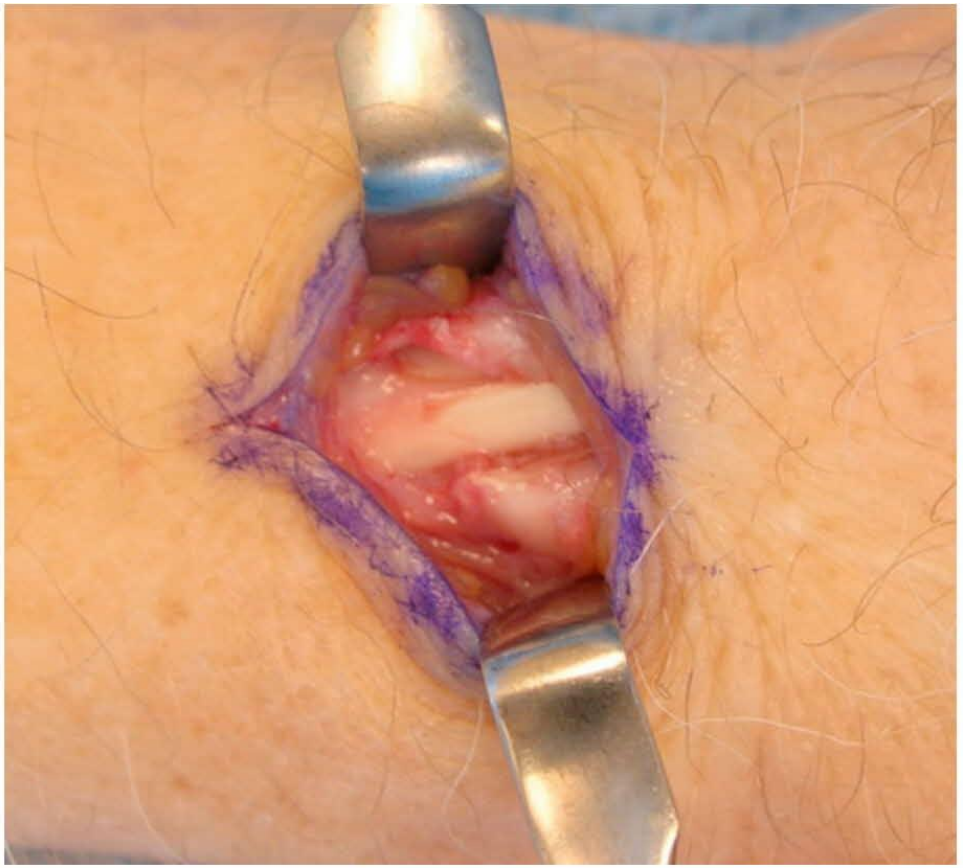
Surgery (trigger finger)

- A1 pulley release
- Complications
  - Persistent triggering 0.6%
  - Infection
  - Stiffness/contracture PIPJ
  - Nerve injury



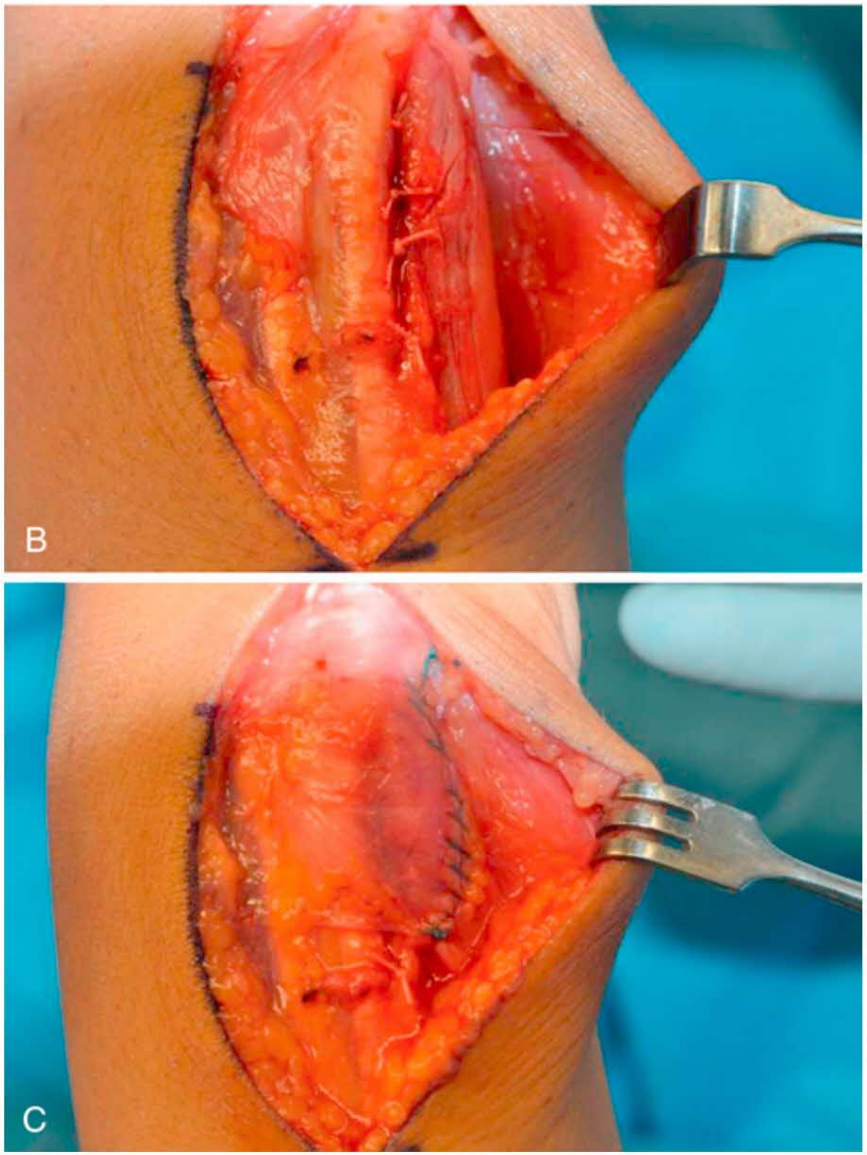
Surgery (DQ)

- 1st dorsal compartment sheath release
- Complications
  - Recurrence
  - Tendon subluxation
  - Injury/irritation of SRN

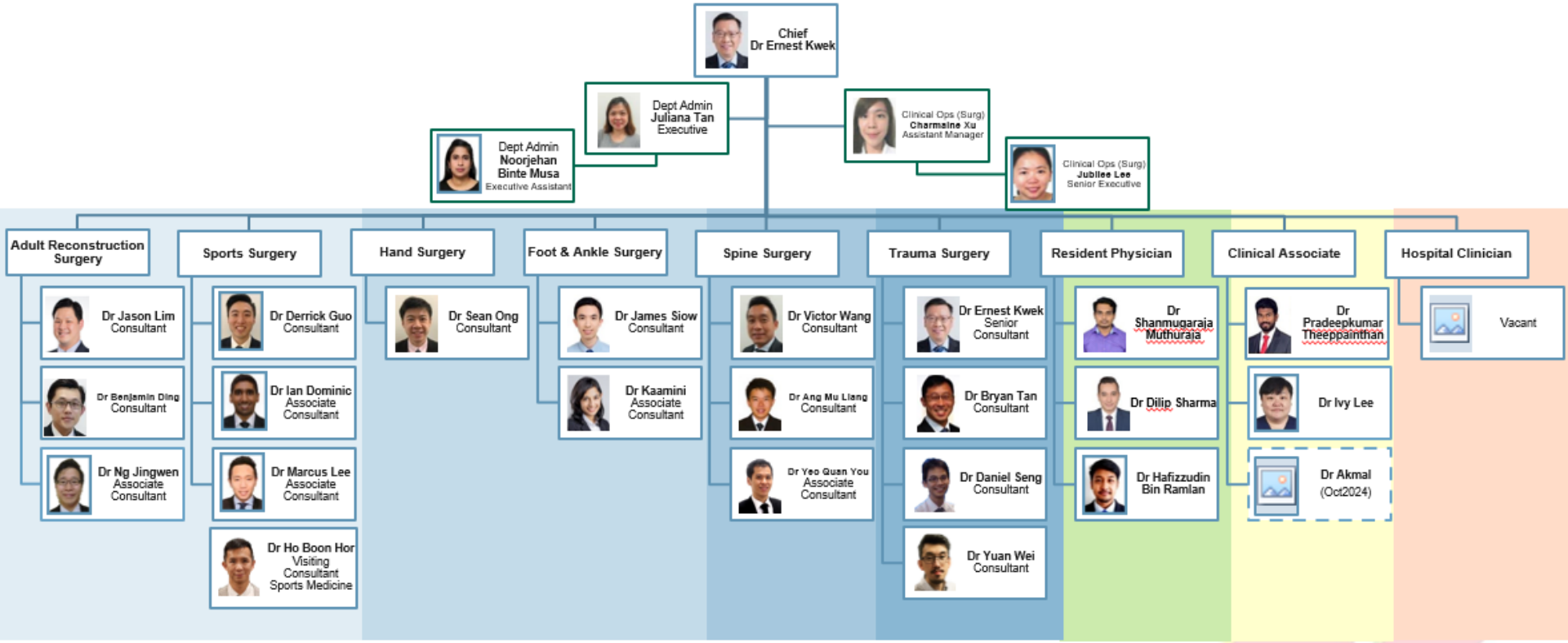


Surgery (ECU)

- Release of 6th dorsal compartment
  - +/- reconstruction of ECU subsheath
- Complications
  - Recurrence
  - Irritation of DCBUN



Orthopaedic Surgery Department



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Enquiries/Referrals

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Thank you for your attention

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Questions?