

# Hand Surgery Update

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# Outline

- ▶ Distal radius fracture
- ▶ Metacarpal fractures
- ▶ Carpal tunnel syndrome
- ▶ Cubital tunnel syndrome
- ▶ Trigger finger
- ▶ Lumps and bumps



# Distal Radius Fracture

- ▶ Common patterns
- ▶ Reduction maneuvers
- ▶ Splinting/casting
- ▶ Medical management (Vitamin C, Calcium+D)
- ▶ Operative treatment (elderly vs young)



# Distal Radius Fracture

- ▶ Epidemiology
  - Most common orthopaedic injury
  - Bimodal age distribution
    - Young patients (high energy)
    - Old patients (low energy falls)



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# Distal Radius Fracture

- ▶ Extra-articular (Colle's vs Smith's)



# Distal Radius Fracture

- ▶ Extra-articular (Colle's vs Smith's)





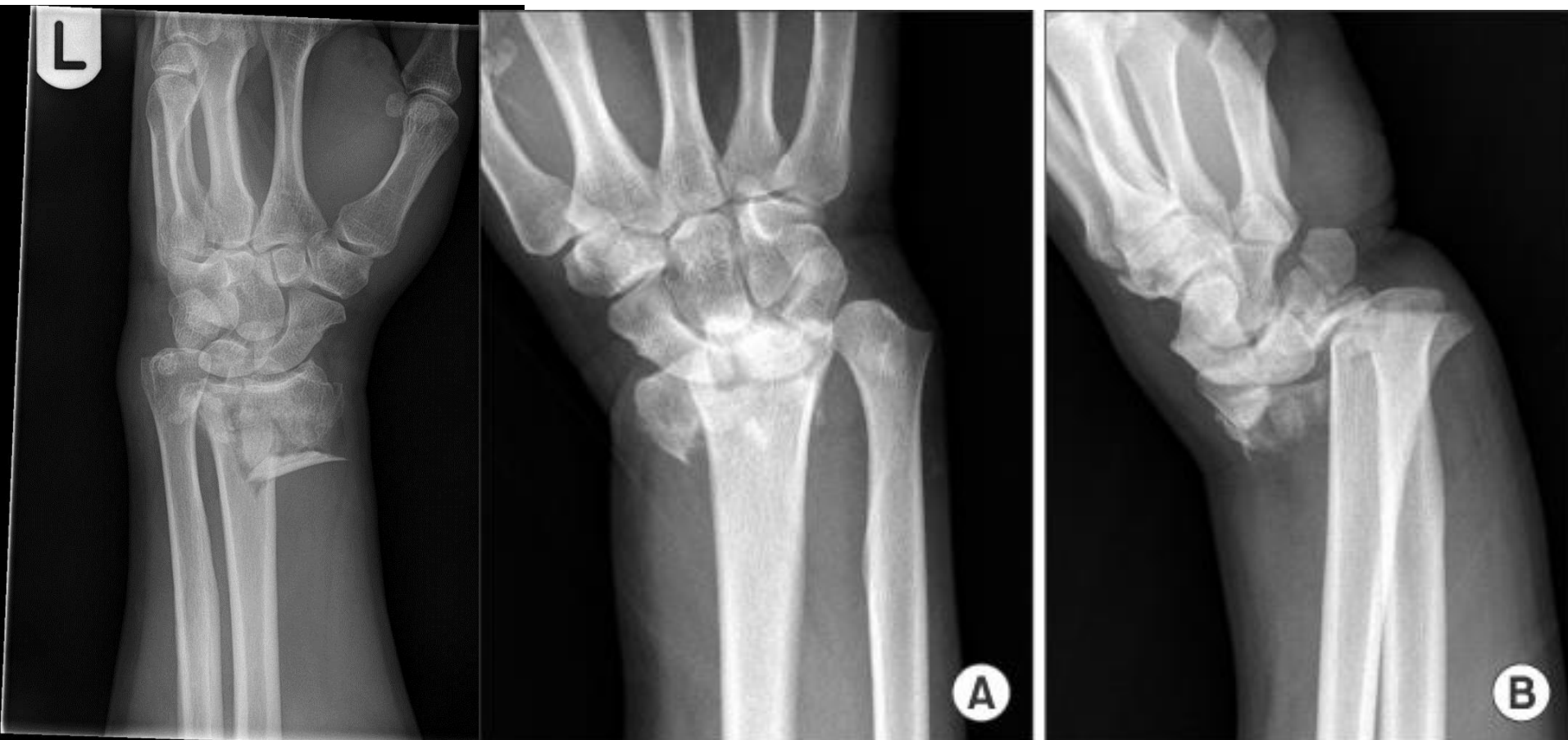
# Distal Radius Fracture

- ▶ Simple Intra-articular (Barton's)



# Distal Radius Fracture

- ▶ Comminuted Intra-articular





# Distal Radius Fracture

## ▶ History

- Age
- Hand dominance
- Mechanism
- Occupation

## ▶ Physical exam

- Open wound
- Nerve/vascular exam (Acute carpal tunnel syndrome)



# Distal Radius Fracture

## ► Reduction

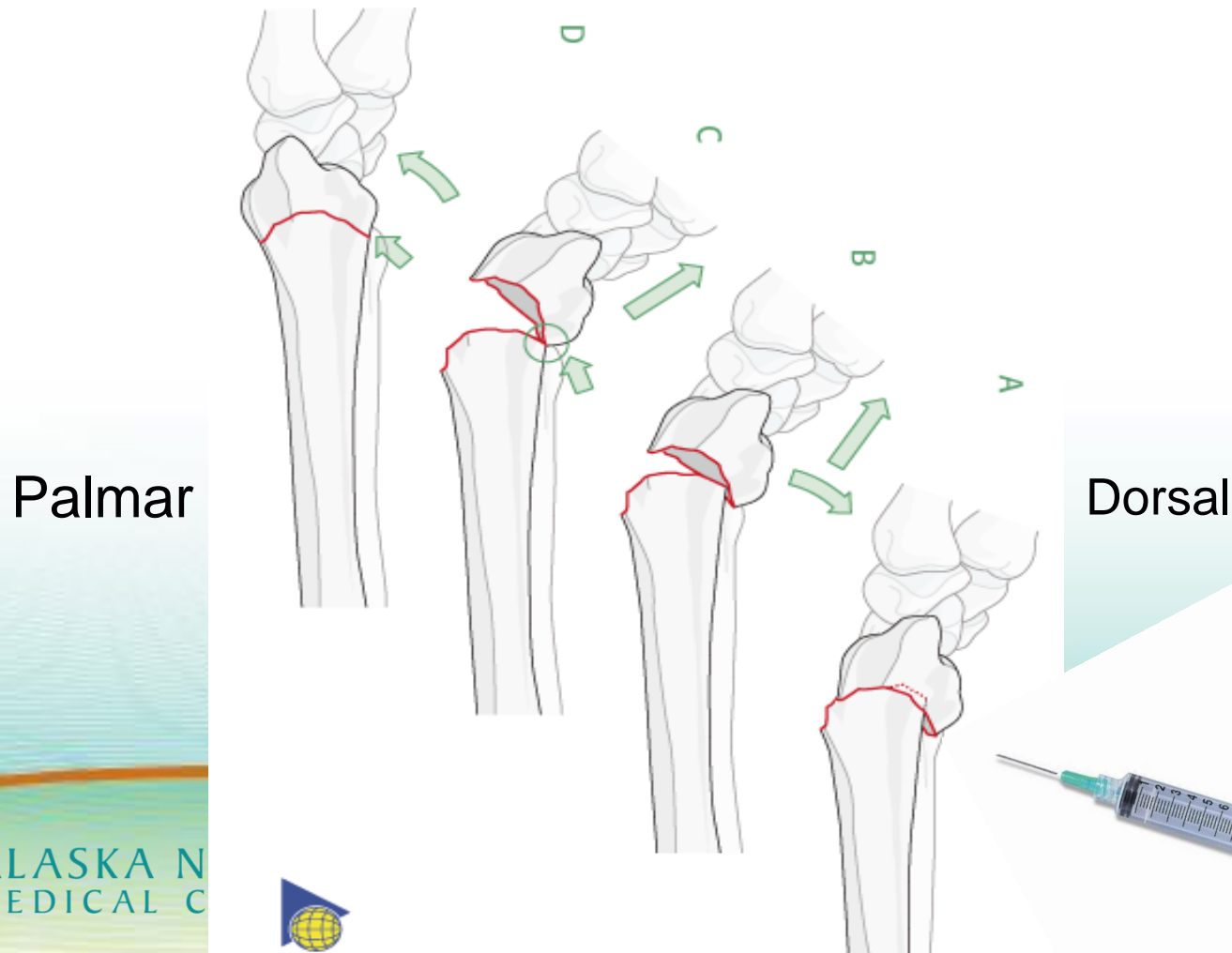


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# Distal Radius Fracture

- ▶ Typical reduction maneuver



# Distal Radius Fracture



# Distal Radius Fracture

- ▶ Atypical fracture pattern/palmarly displaced
  - Perform opposite reduction and mold
- ▶ Elderly patients
  - Beware of thin skin
  - Imperfect alignment is acceptable



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# Operative Indications

- ▶ Open injuries
- ▶ Young patient <65 with
  - >1mm intra-articular step-off
  - 3mm shortening
  - 10 degrees dorsal tilt post-reduction
- ▶ Fracture dislocations (shear patterns)



# Elderly Distal Radius Fracture

- ▶ Studies show that in patients >65yo
  - No difference between surgery and no surgery
    - Risks of surgery vs treatment course for non-op



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# Non-op Management

- ▶ Post-reduction splint xrays
- ▶ 2 weeks→Convert to short arm cast and xray
- ▶ 6 weeks→xray out of cast and recast/brace
- ▶ 10 weeks→OOC xrays and examine



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# Medical Management

- ▶ Marker of osteoporosis
  - DEXA scan recommended for women
  - 25 hydroxyvitamin D level
  - Calcium and Vitamin D supplementation
- ▶ CRPS incidence
  - Vitamin C 500mg Qd



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# Metacarpal Fractures

- ▶ Boxer's (neck fracture)
- ▶ Shaft fracture
- ▶ Base fracture (carpometacarpal injuries)



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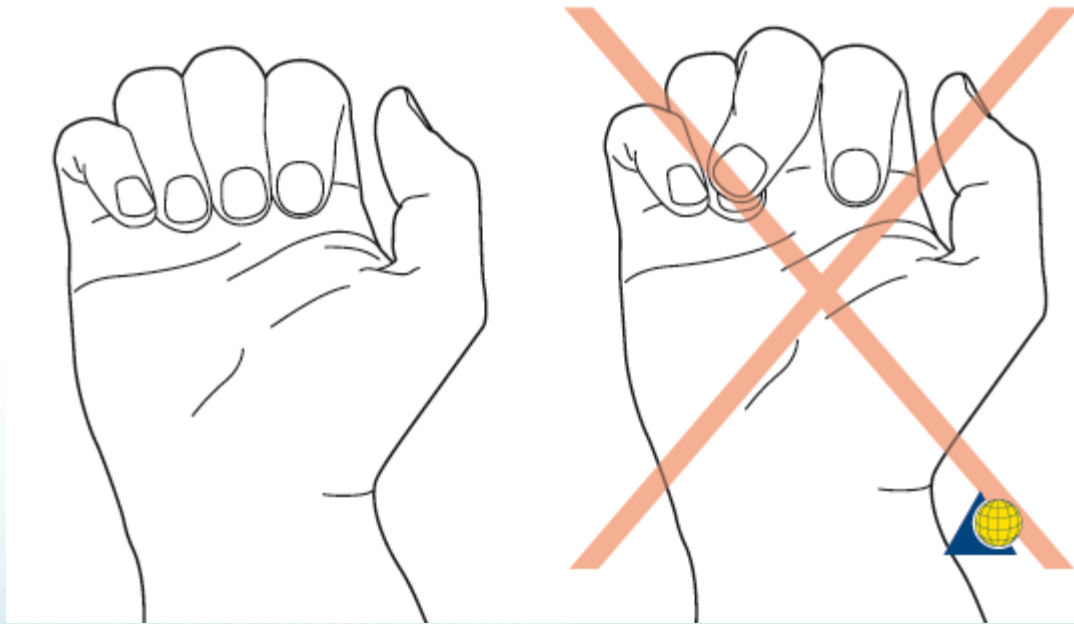


# Boxer's Fracture

- ▶ Inspect skin
  - Open fx
  - Fight bite
- ▶ Neurovascular exam
- ▶ Clinical assessment of rotation
  - Asymmetry of digits
  - Scissoring



# Metacarpal Malrotation

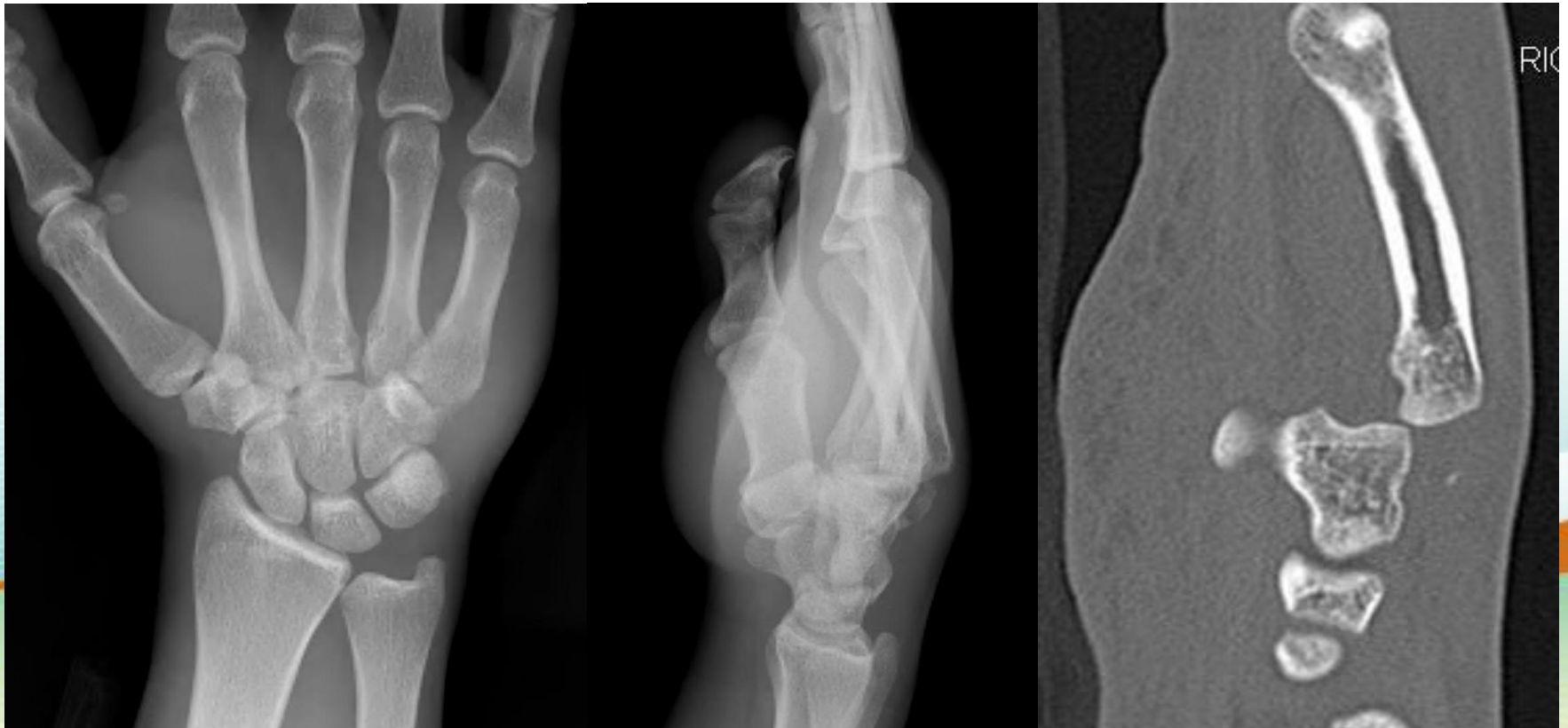


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# Metacarpal Base/CMC Injuries

- ▶ Easily missed
- ▶ Semi-supinated oblique xray to evaluate 4<sup>th</sup>/5<sup>th</sup>
- ▶ Semi-pronated oblique to evaluate index/long



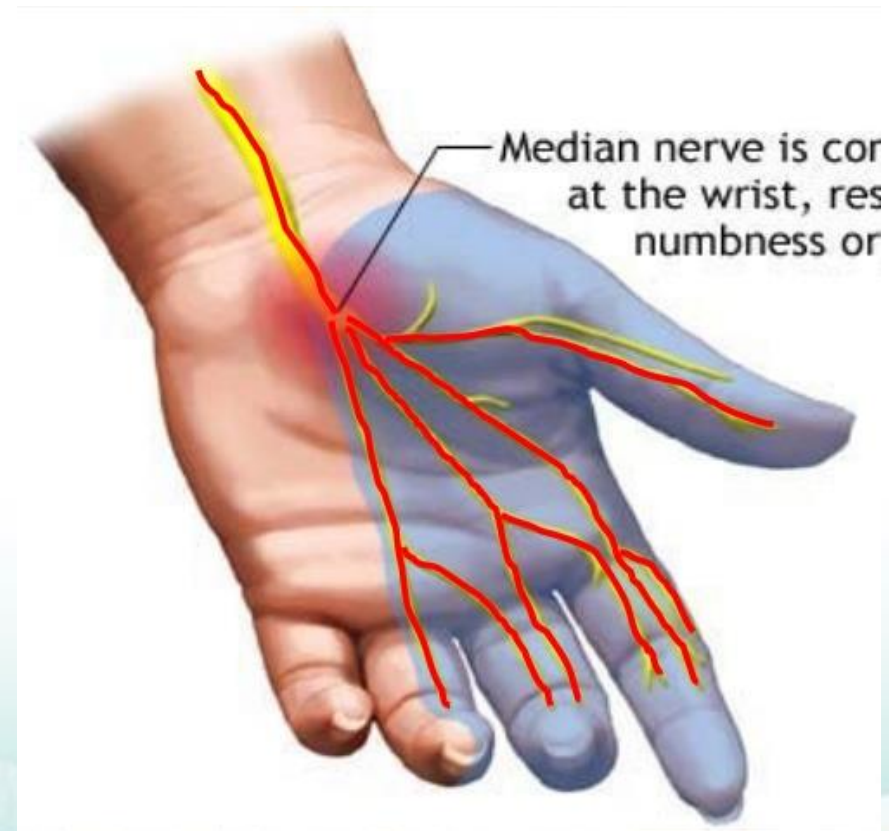
# Operative Indications

- ▶ Open fracture
- ▶ Fight bite
- ▶ Multiple metacarpals involved
- ▶ Malrotation
- ▶ CMC Dislocation
- ▶ Malangulation



# Carpal Tunnel Syndrome

- ▶ Numbness/tingling in median nerve distribution
- ▶ Night-time symptoms
- ▶ Positive Tinel's, Phelan's, Carpal tunnel compression
- ▶ Look for thenar atrophy, persistent numbness





# Carpal Tunnel Syndrome

- ▶ Conservative management 6 weeks
  - Night splints (flatten cock-up brace)
- ▶ EMG-NCV
  - If still symptomatic >6 wks splinting
  - Daily persistent numbness
  - Visible atrophy on presentation



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# Cubital Tunnel Syndrome

*Anterior View*

- ▶ Numbness/tingling small and ring finger
- ▶ Elbow flexion test, Tinel's at elbow
- ▶ Visible intrinsic atrophy



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# Cubital Tunnel Syndrome

- ▶ Conservative treatment
  - Heelbo pad, elbow night-splint

Foam Pad Model

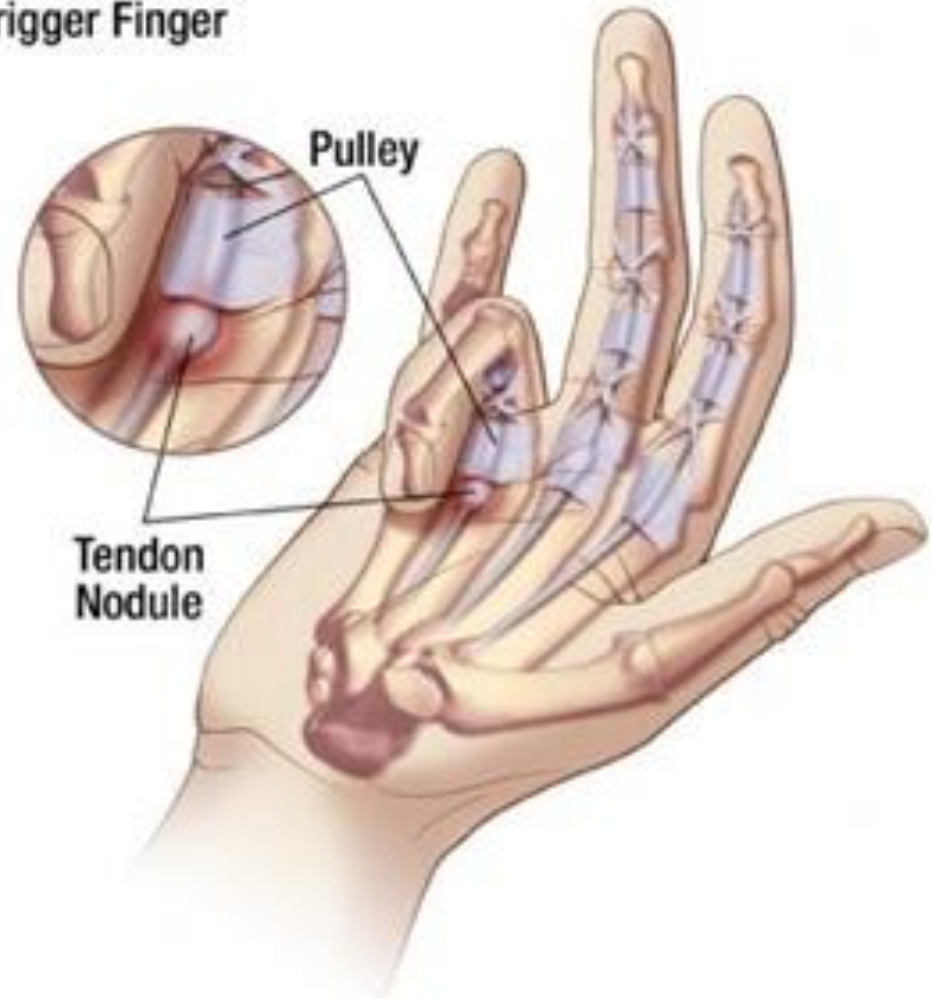


# Trigger Finger

- ▶ Pain and swelling in palm
- ▶ Triggering or locked digit with more advanced disease



Trigger Finger





# Trigger Finger

- ▶ Cortisone injection
  - Subdermal
  - 0.5ml kenalog
  - Up to 2 injections
- ▶ Diabetics
  - Surgery better than injections



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# Cysts and Masses

- ▶ Finger and wrist ganglions
  - Refer to hand surgery if patient wants it out
- ▶ Atypical masses
  - MRI and hand surgery referral



# Review

- ▶ Distal radius fractures
  - Pay attention to direction of displacement
  - Reduce and consult ortho
- ▶ Metacarpal fractures
  - Look for fight bite, open wounds, **malrotation**
  - Don't forget CMC injuries!
- ▶ Carpal and cubital tunnel
  - Daily, persistent symptoms→EMG & refer to hand
  - Mild, intermittent symptoms→6 weeks of conservative tx



# Review

- ▶ Trigger fingers
  - Up to 2 cortisone injections unless diabetic
- ▶ Cysts and masses
  - Refer to hand
  - If >2-3cm or atypical location then get MRI



# Questions?



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