

Common wrist conditions: acute and chronic

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Disclosures

- We have no disclosures that are pertinent to this presentation



Objectives

At the end of this session, learners will be able to

- Identify and initiate care for common traumatic wrist conditions including distal radius fracture, scaphoid fracture, perilunate dislocations
- Identify and initiate care for common nontraumatic wrist conditions including thumb CMC arthritis, Dequervains tenosynovitis and wrist arthritis



I think I sprained my wrist . . .

- Patient age
- Injury mechanism (low energy or high energy)
- Presence of ecchymosis or swelling
- If there has been trauma, always get xrays
 - AP, lateral, +/- oblique, +/- scaphoid view





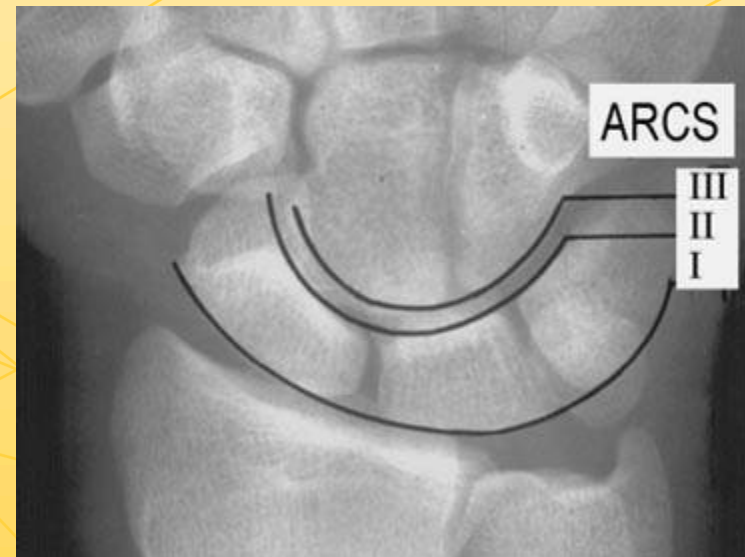
Radiographs

Gilula's Arcs

Seen on AP wrist

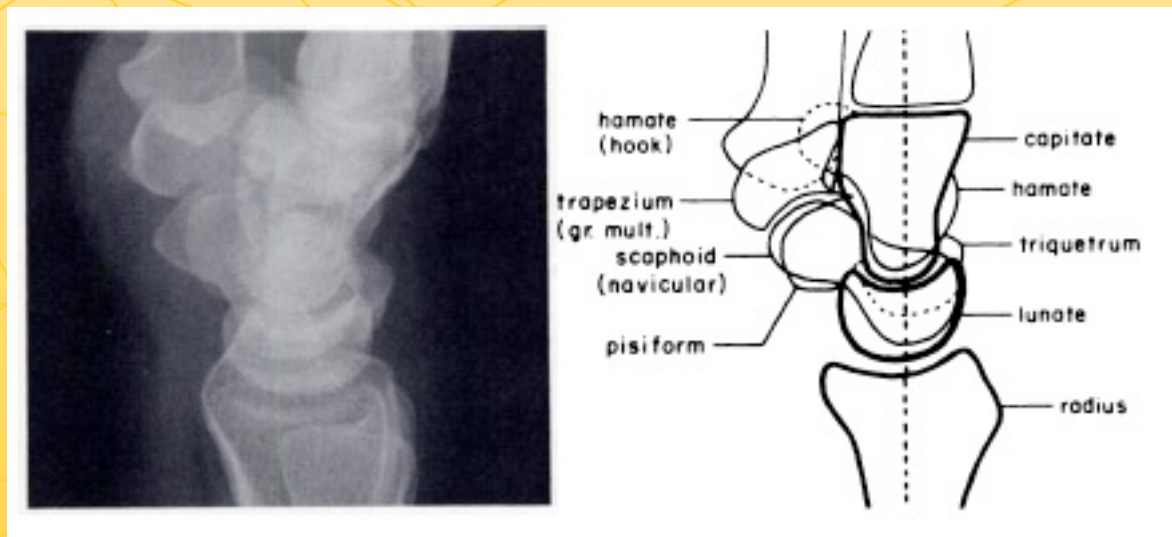
Broken arc indicates
disruption of joint

Overlap of two
normally parallel
articular surfaces
suggests
subluxation



Radiographs

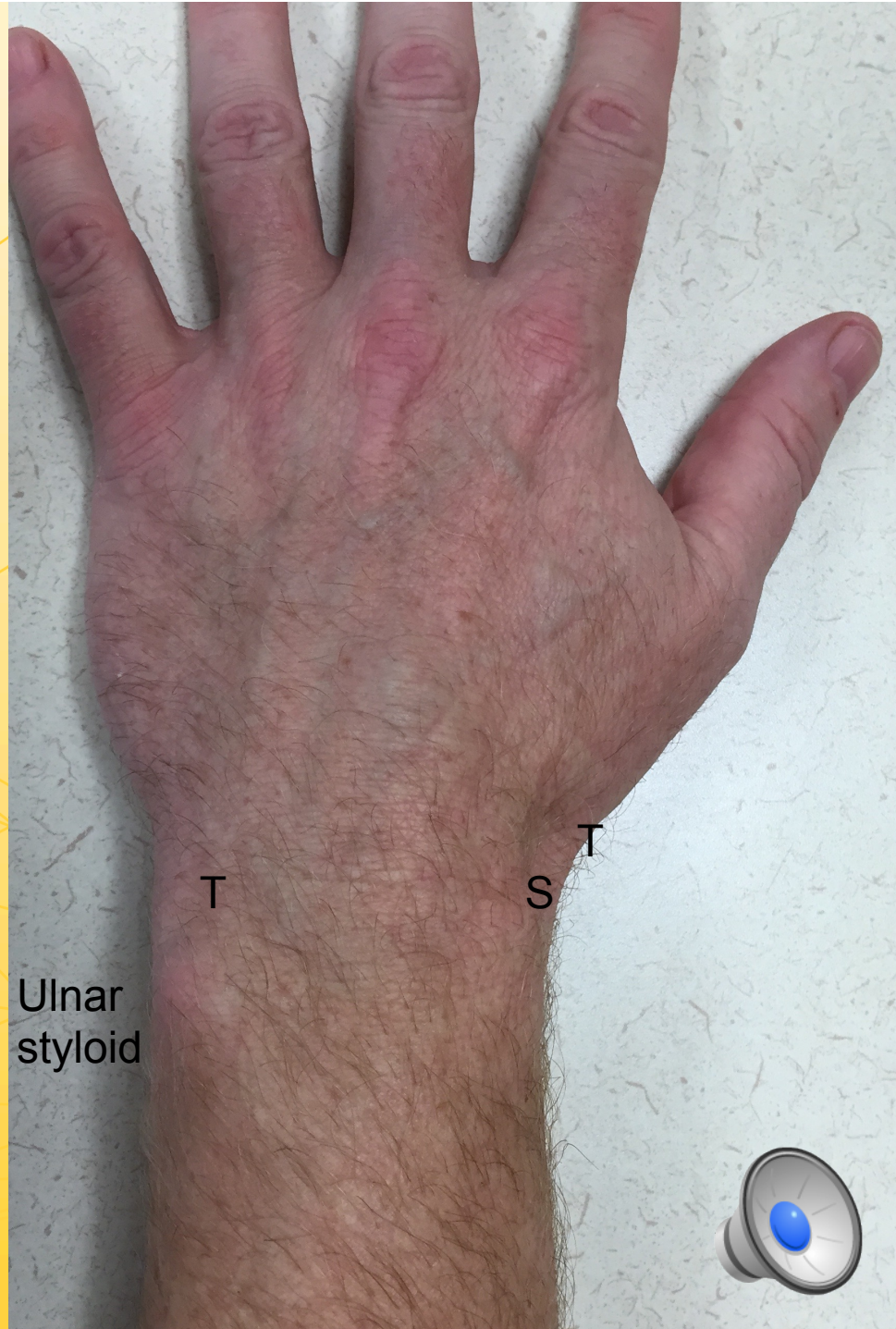
- Proximal pole of scaphoid, lunate, and triquetrum overlap
- No clear space between pisiform and carpus





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Differential diagnosis

- Distal radius fracture
- Scaphoid fracture
- Triquetral fracture

- Perilunate dislocation

- Scapholunate ligament injury
- TFCC injury. . .



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Distal Radius Fracture



Epidemiology

- Wide spectrum of injury
- Most common mechanism is a FOOSH
- Older patients- low energy
- Younger patients- high energy



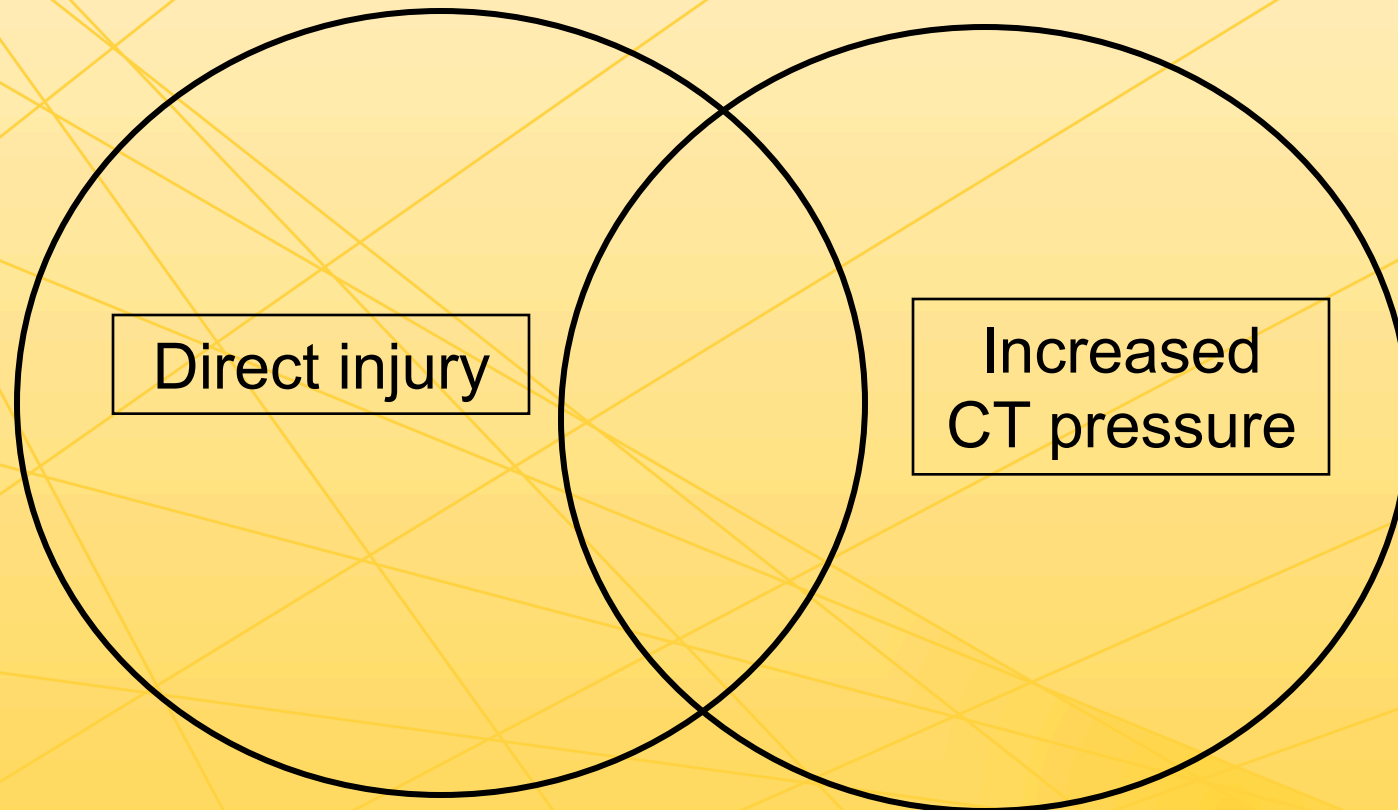
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Physical Exam

- Open vs. closed
 - Skin tears are common in elderly
 - Open fracture skin breach is often on the ulnar side
- Document clear neurovascular exam before initiating any treatment
 - Median nerve contusion is common; acute carpal tunnel syndrome is not. But missing an acute carpal tunnel syndrome has severe consequences.



Median Nerve Dysfunction



“We are unable to recommend for or against performing nerve decompression when nerve dysfunction persists after reduction.”

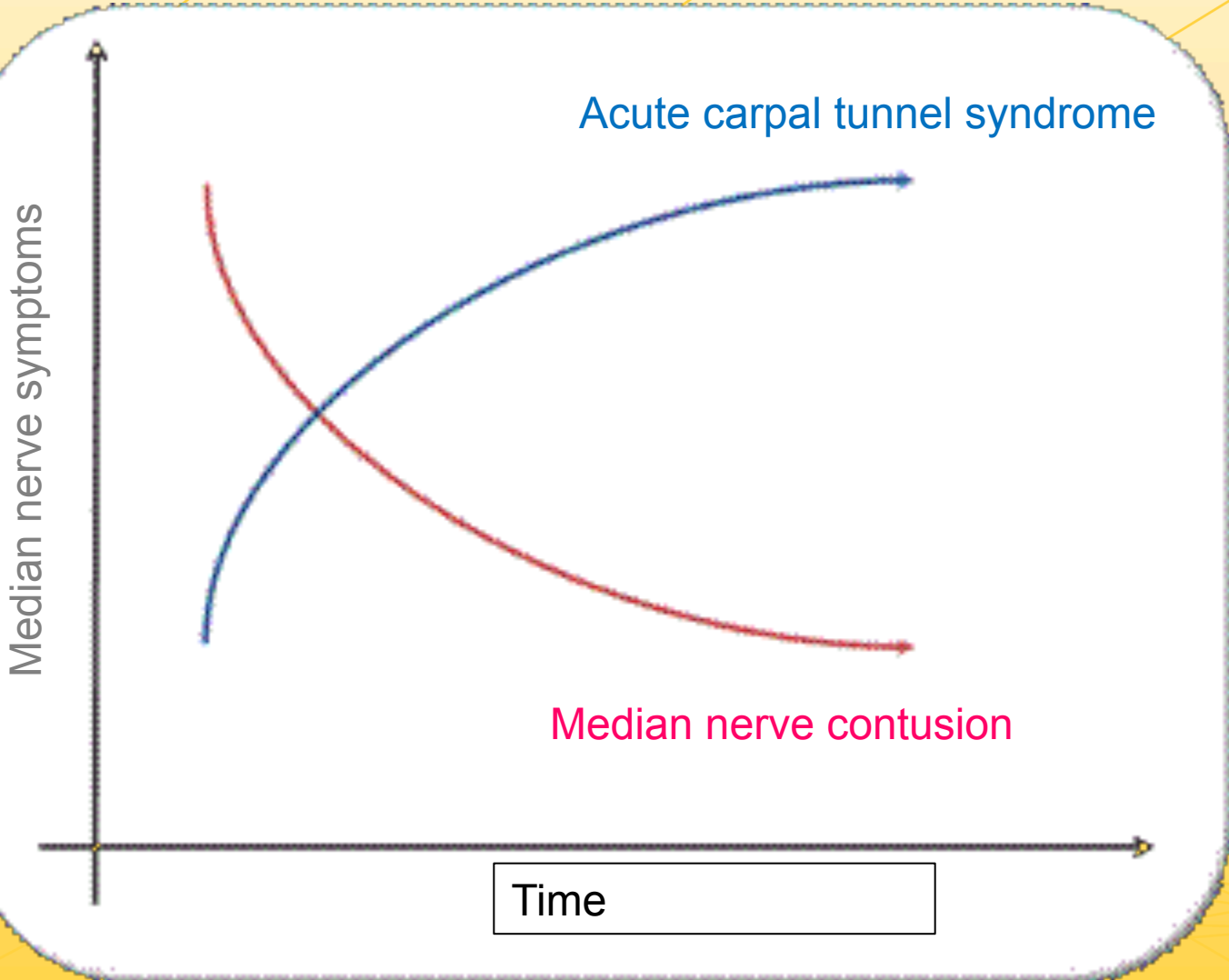


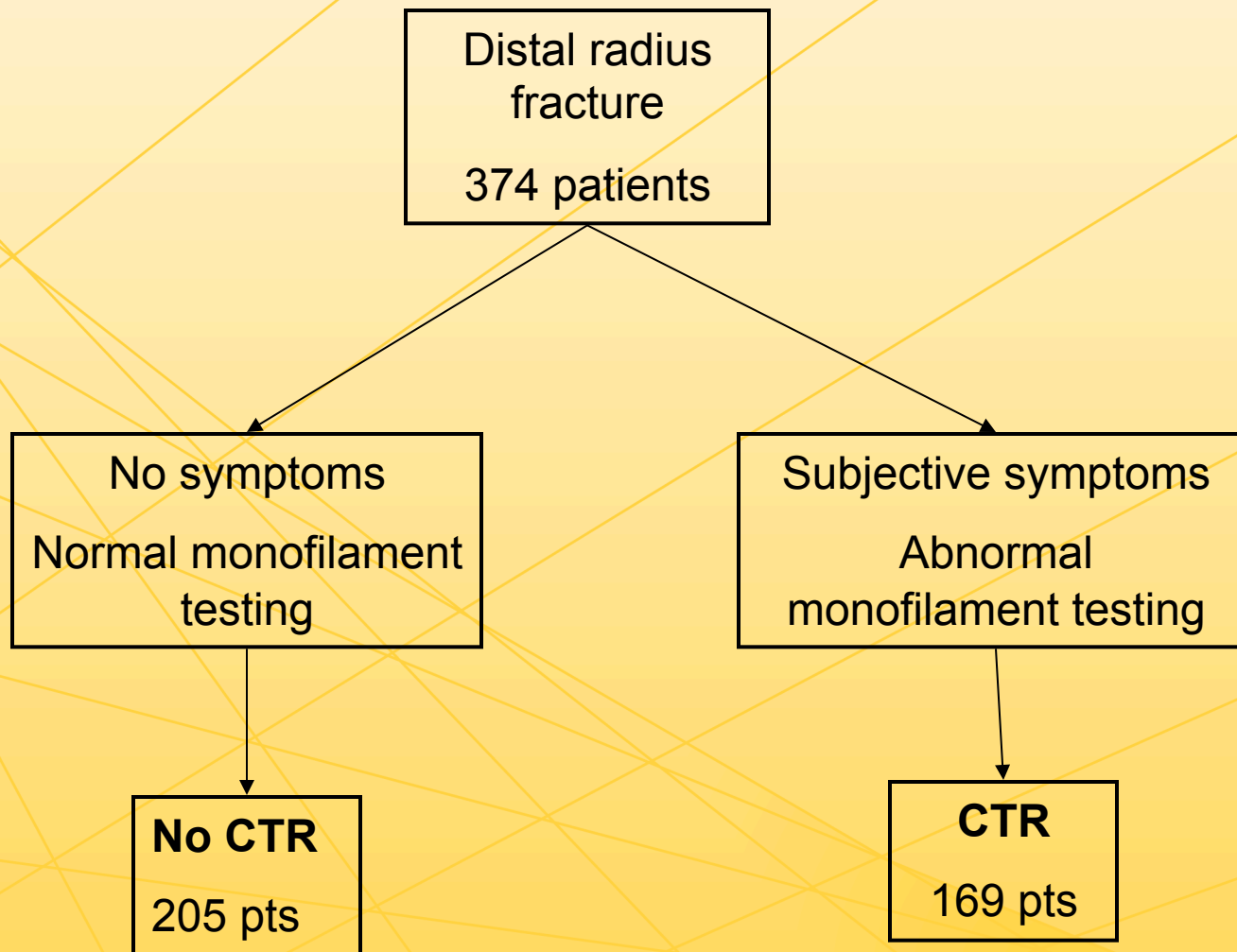
AAGS Clinical Practice Guideline
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No patients with CTS or CRPS during follow-up



- Henry and Stutz, Hand Surgery 2007



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Reduction

- Hematoma block
- Hang in finger traps with 5-10 lbs of weight
- Flexion while pushing distal fragment in distal and volar direction
- Beware elderly patient skin!



Youtube: Zwank distal radius





YouTube

zwank distal radius

CHRISTINA WARD, MD TAKING CARE OF A DISTAL RADIUS FRACTURE

INTRO BY MICHAEL ZWANK, MD



0:03 / 19:39



Distal Radius Reduction

38,755 views • Jun 24, 2017



223



13



SHARE



SAVE



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Sugar tong splint

Avoid placing any
splint material
distal to distal
palmar crease



Avoid extreme
po



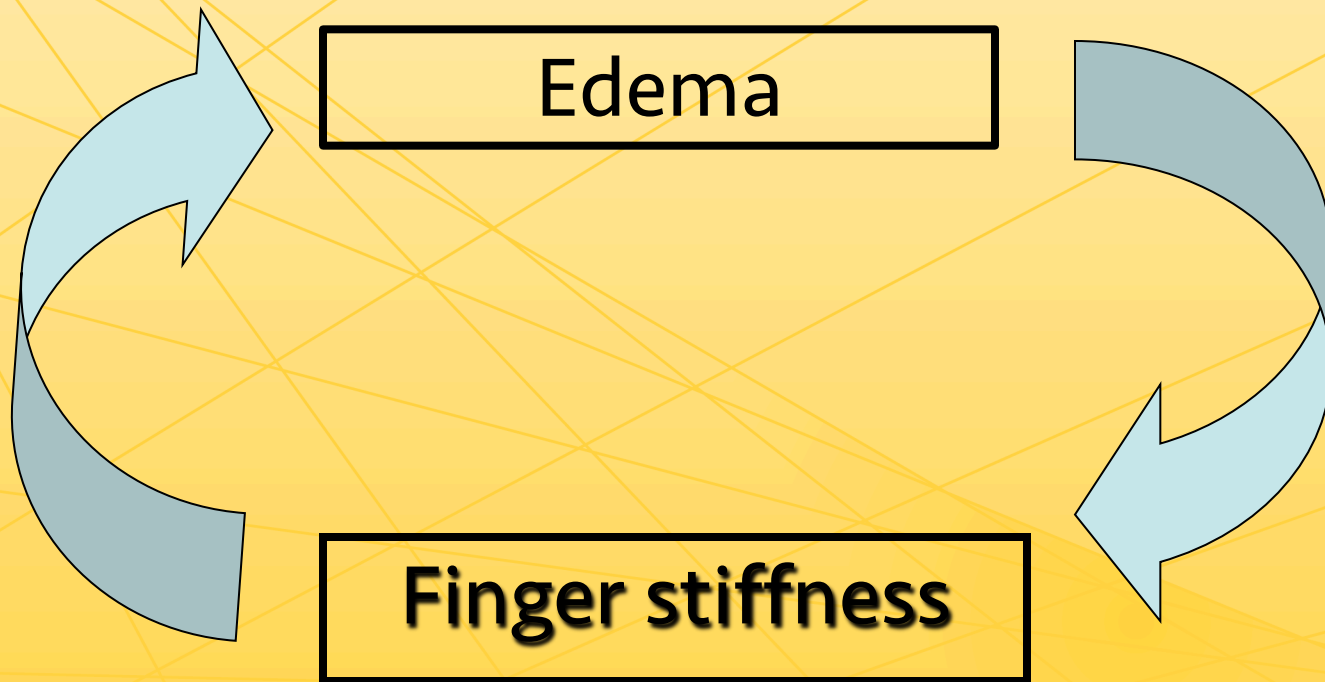
Youtube: search “Zwank distal radius”



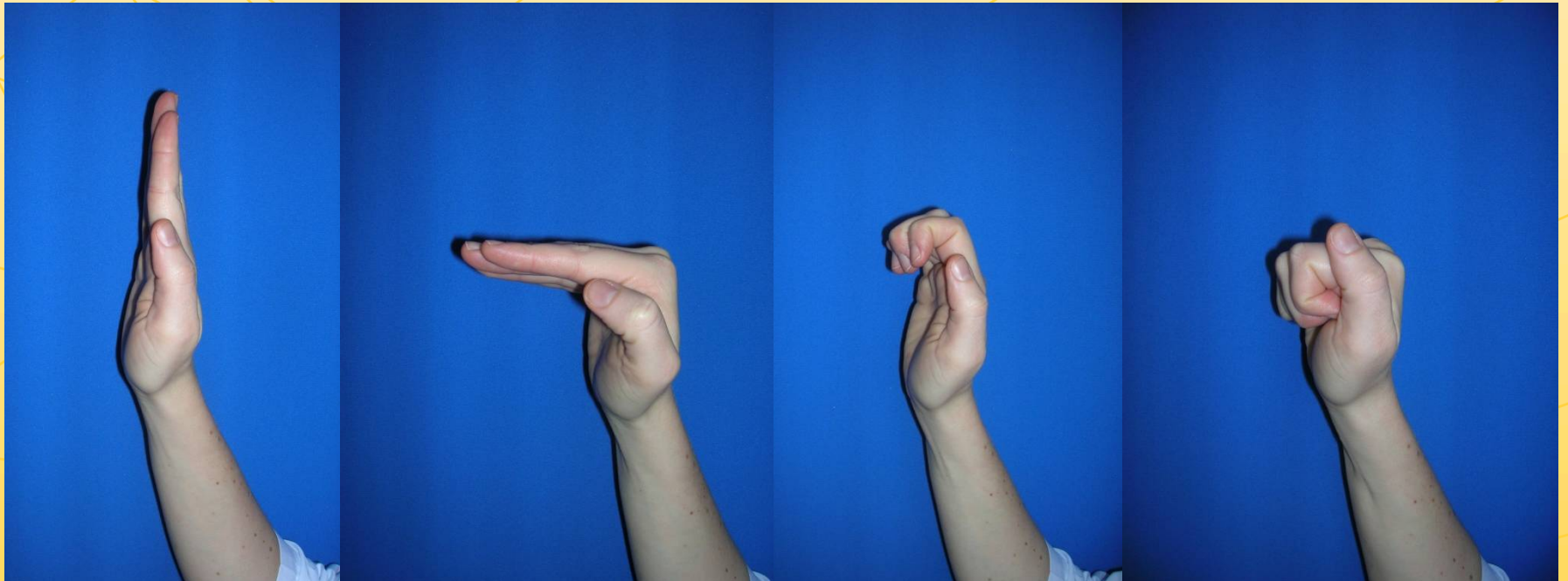
CB101311 [RF] © www.visualphotos.com



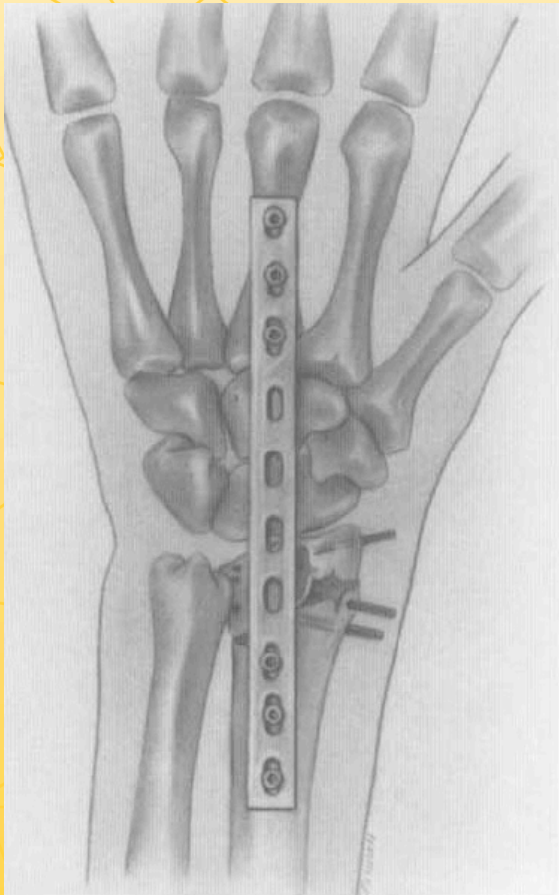
Initiating digital motion



Simple finger motion exercises



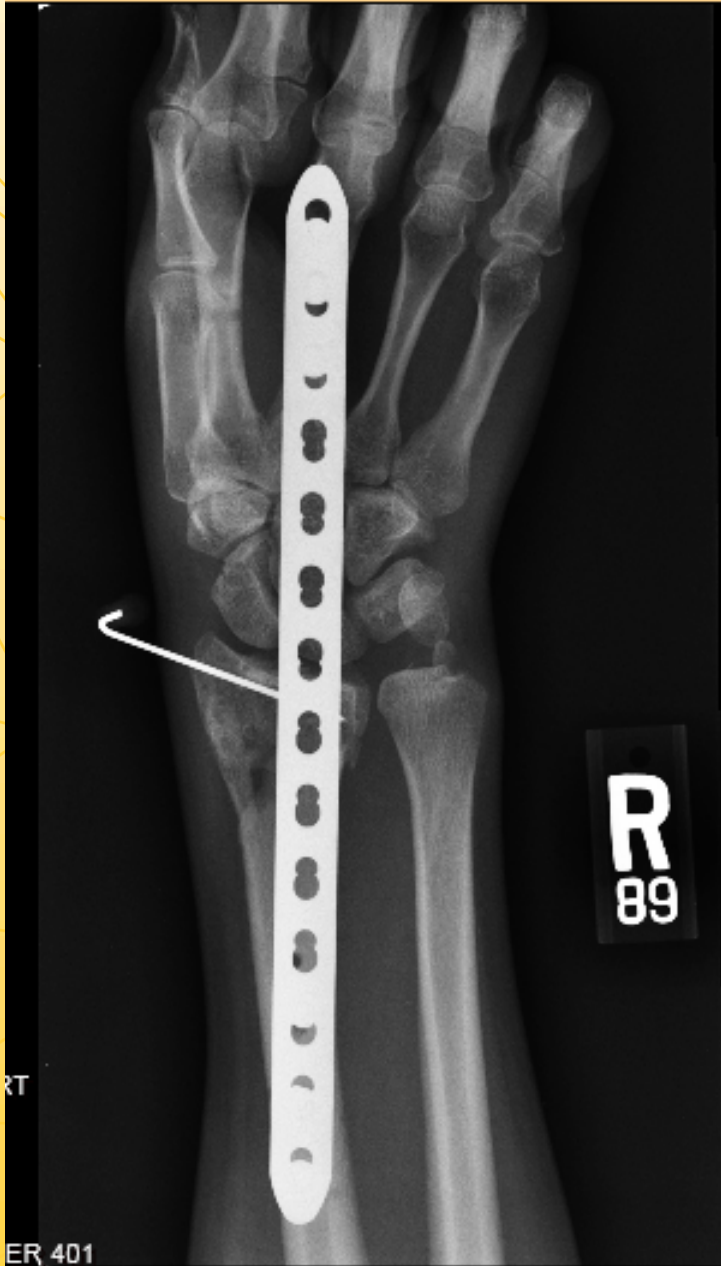
Distraction (Bridge) plating



- Alternative for highly comminuted distal radius fractures
- Good for fractures with metaphyseal and intraarticular comminution







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Osteoporosis Evaluation



THE AMERICAN ORTHOPAEDIC ASSOCIATION

Leadership in Orthopaedics since 1887

LEADERSHIP IN ORTHOPAEDICS: TAKING A STAND TO OWN THE BONE

AMERICAN ORTHOPAEDIC ASSOCIATION POSITION PAPER

In 2004 State of Health Care Quality study
only **11.6%** of women over 65 who had a fragility fracture
were treated for osteoporosis in the year following the fracture

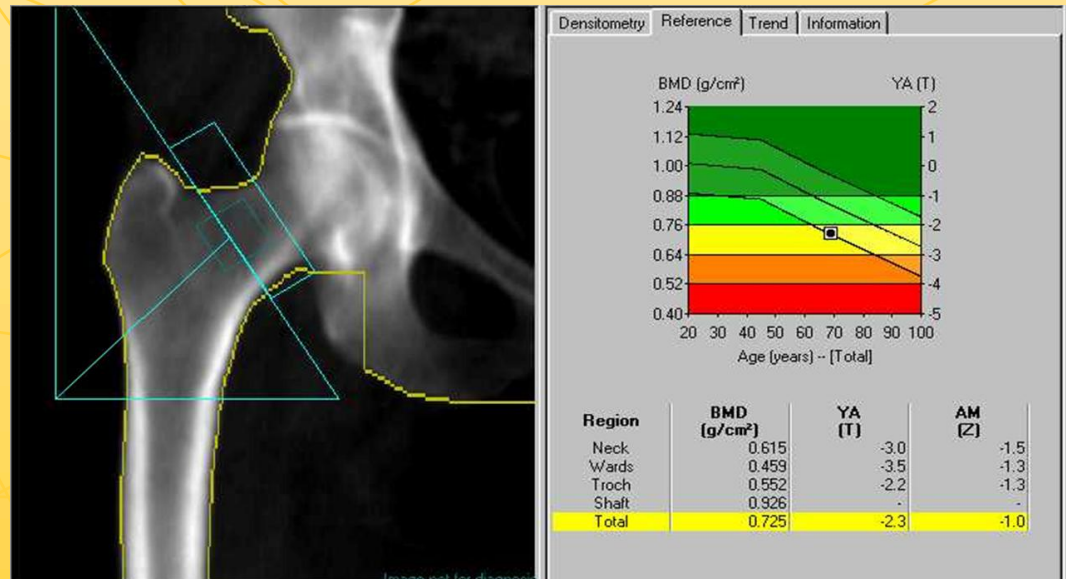
In 2012, **14.3%** of Medicare patients received osteoporosis treatment
within 6 months of a fragility fracture



Osteoporosis Evaluation

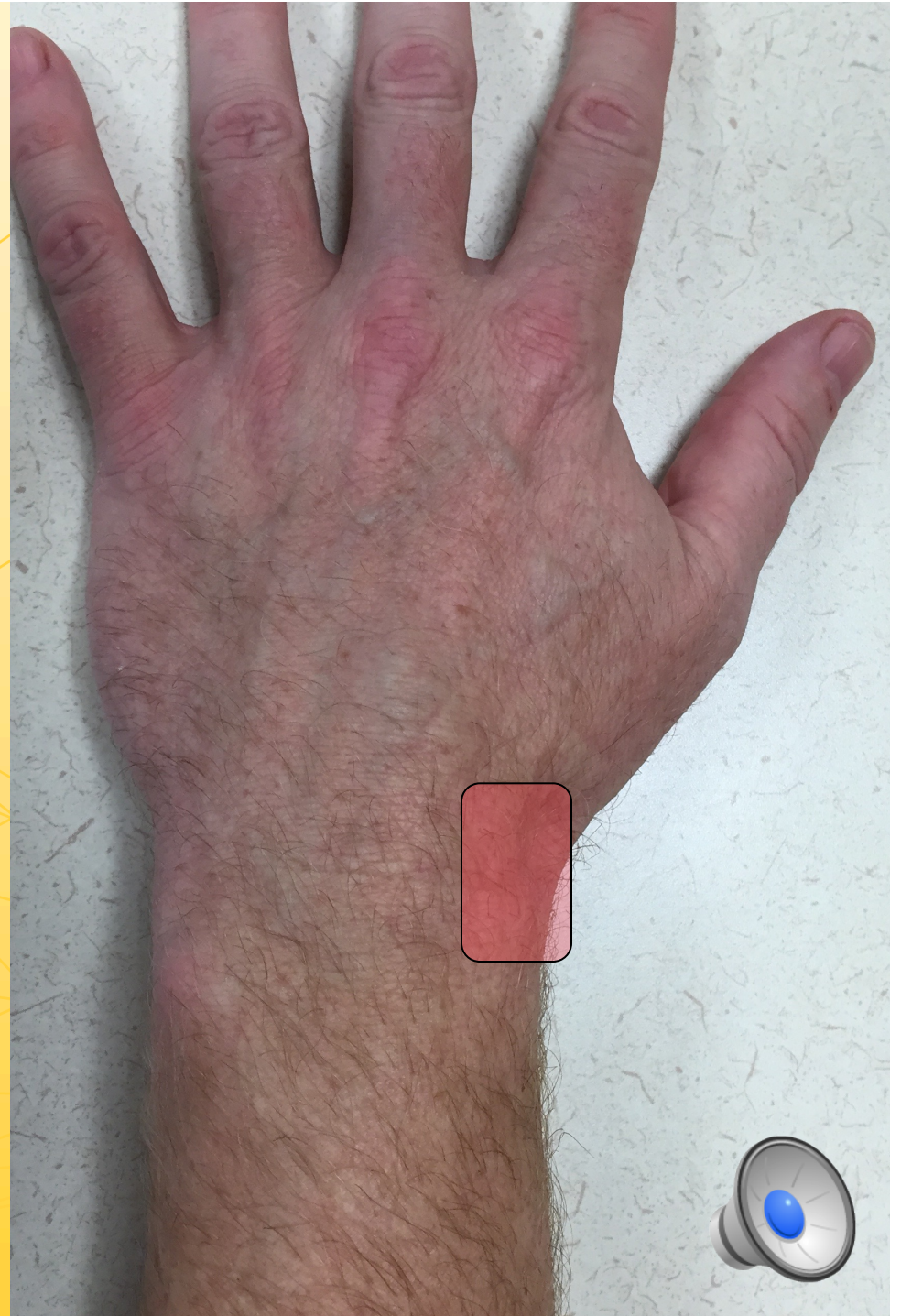
Who should be screened for osteoporosis?

1. Age over 50
2. Low energy fracture mechanism



Scaphoid Fracture

- Typically <50 yo
- On exam-
 - Snuffbox tenderness
 - Edema in the snuffbox
 - Pain with thumb axial loading
- Xrays with scaphoid view

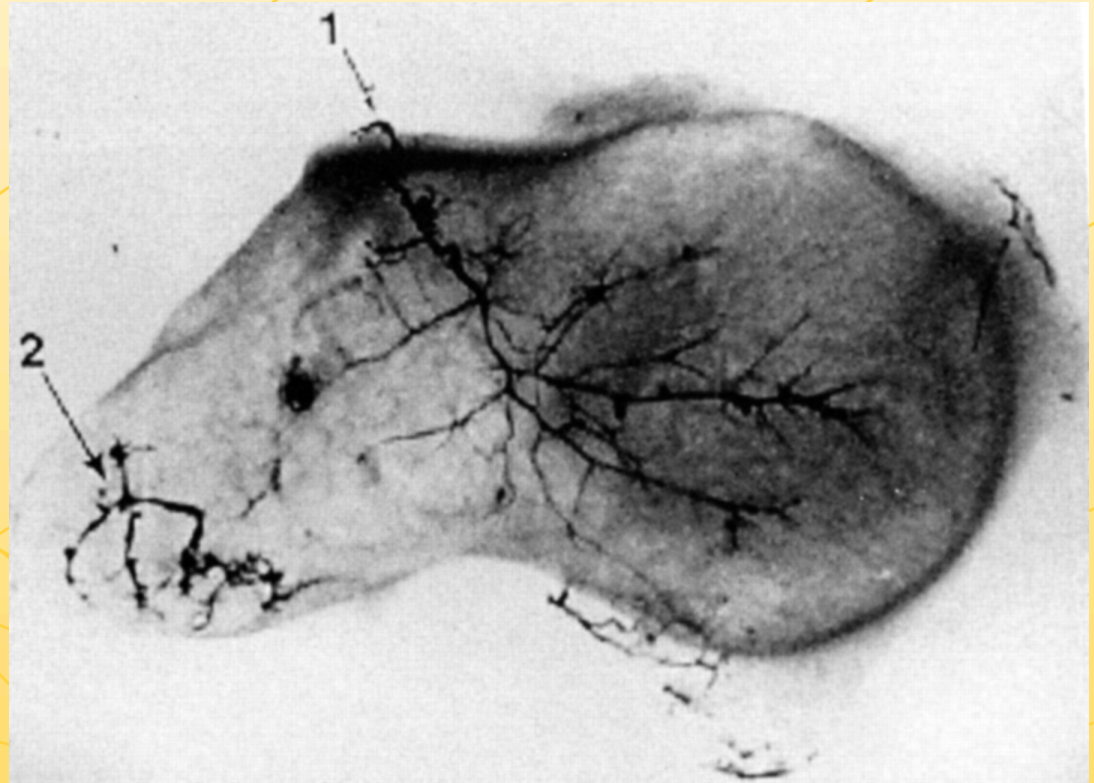




Classification

- Proximal
- Waist
- Distal

- Displaced
- Nondisplaced



- Displaced scaphoid fracture → ORIF
- Proximal pole scaphoid fracture → ORIF
- Nondisplaced scaphoid waist fracture → casting OR ORIF
- Distal pole fracture → casting

- What if you're not sure?



20's M, fell snowboarding



Snuffbox tenderness and negative xrays: Should you get an MRI?

- Shows occult fracture in about 40% of cases
 - 19% showed scaphoid fracture

Early MRI in the management of clinical scaphoid fracture

A BRYDIE, BSc, MRCP, FRCR and N RABY, MRCP, FRCR

Department of Radiology, Western Infirmary, Dumbarton Road, Glasgow G11 6NT

- Direct medical costs are nearly equal

Cost-Effectiveness of Immediate MR Imaging Versus Traditional Follow-Up for Revealing Radiographically Occult Scaphoid Fractures

Theodore A. Dorsay¹
Nancy M. Major
Clyde A. Helms

OBJECTIVE. For suspected scaphoid fractures with no radiographic evidence of fracture, treating symptoms with immobilization and radiographic follow-up has long been the standard of care. Modified MR imaging of the wrist is offered at our institution in screening for radiographically occult scaphoid fractures at the time of initial presentation to the emergency





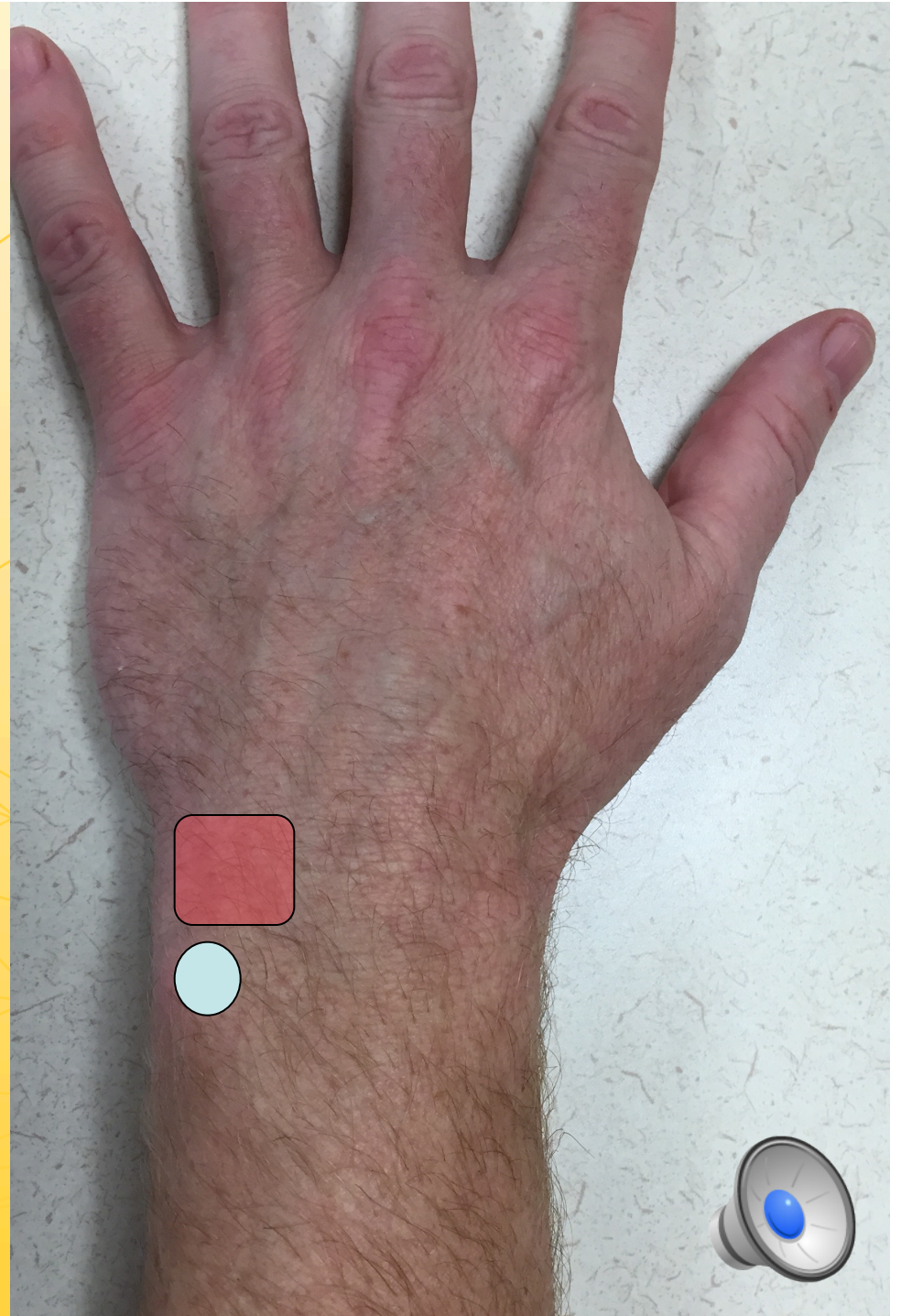
Nondisplaced scaphoid fractures

- **Waist**
 - union rate 87-100% with casting
 - Time to heal 6-14 weeks
- **Distal pole**
 - Union rate 100%
 - Time to heal 3-6 weeks



Triquetral “chip” fracture

- FOOSH injuries
- Minimal swelling
- Point tender at dorsal triquetrum
- May or may not see small fleck on xrays



Triquetral “chip” fracture

- Short arm cast or removable brace x 3-4 weeks
- Should feel better in 2 weeks
- Can be point tender for 3 months



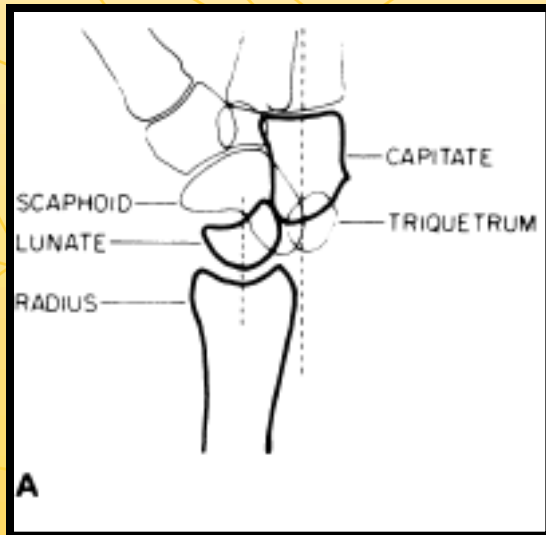
30's M, MVA 11 days ago



Perilunate dislocation

- Usually high energy mechanism
- Males > females
- Sometimes missed on xrays
- Often causes median nerve symptoms and acute carpal tunnel syndrome
- Needs same day ER visit





20's M, motorcycle accident



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Anything else

SP

NUMBNESS
AND
TINGLING

TENSE
SWELLING



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Chronic/subacute wrist and hand pain

- Thumb CMC arthritis/ aka basilar thumb OA
- Dequervain's tenosynovitis
- Wrist osteoarthritis



Thumb CMC arthritis

- women >> men
- > 50 years old
- Pain with grip, opening jars
- 30% with concomitant CTS

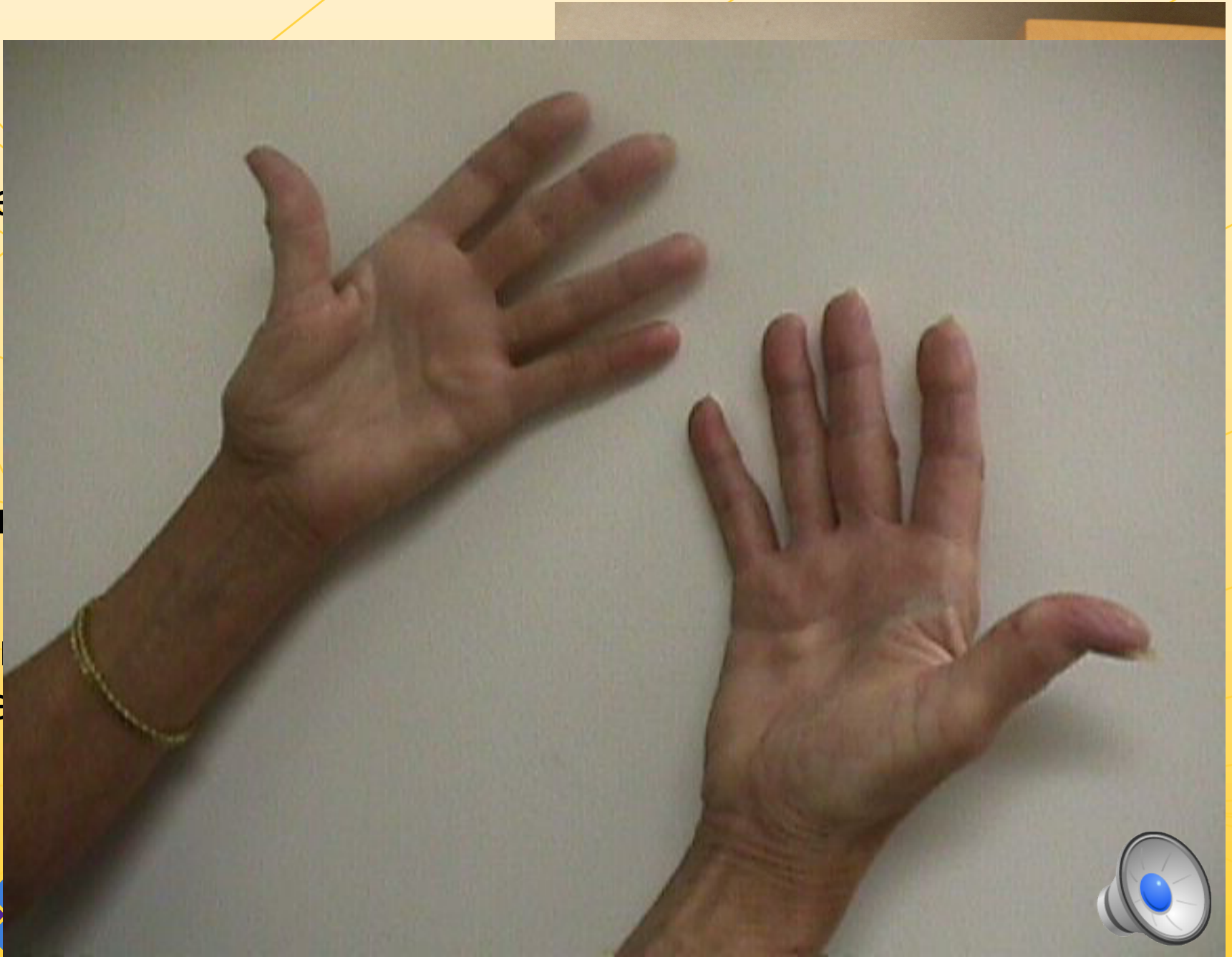


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Thumb CMC arthritis



Treatment options

- Hand therapy
- Splints or braces
- Steroid injection
- Surgery
 - Variety of techniques
 - 3 to 4 months to recover
 - *(think of it like knee replacement surgery)*



Dequervains tenosynovitis

- New moms, esp if breastfeeding
- SHARP pain
- Tender on 1st dorsal compartment
- Finkelsteins test
- WHAT test- Wrist Hyperflexion Abduction of the Thumb



Dequervains tenosynovitis- WHAT test

Patient flexes wrist and brings thumb away from palm against resistance.



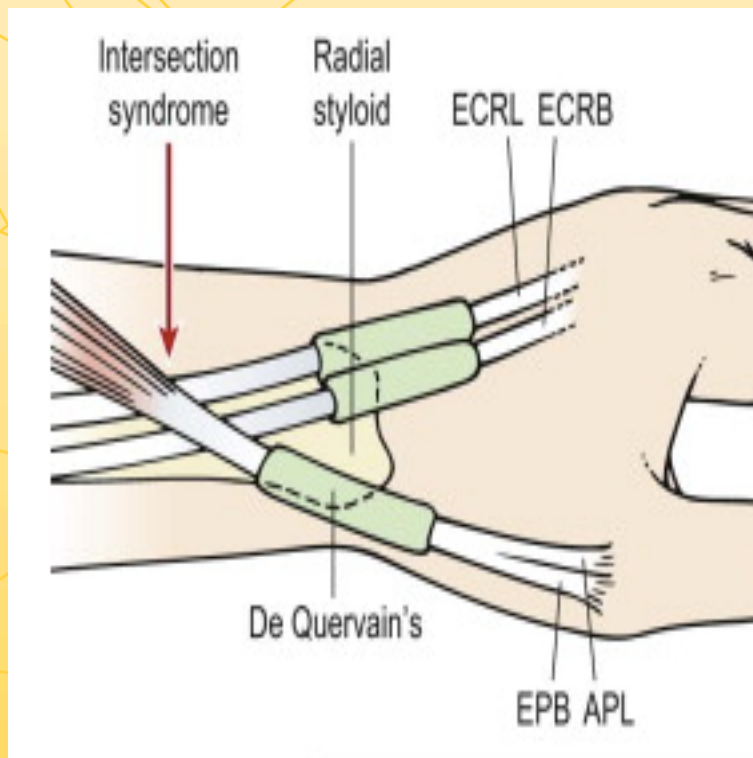
Dequervains tenosynovitis



- Bracing and NSAIDs
 - 50-60% improve
 - Must include the thumb
- Steroid injection
 - Injection + bracing: 90% improve
 - Steroid atrophy
- Occasionally surgical release



Intersection syndrome



- Pain proximal to wrist where wrist extensor tendons and thumb abduction/extension tendons cross
- Seen with activities such as rowing, ice climbing, hammering



Intersection syndrome

- Usually onset over the course of a few days
- Tenderness and CREPITUS at the intersection
- Finkelsteins will be painful, but tenderness will be more proximal than typical Dequervains
- Often have visible swelling



Intersection syndrome

- Start with the usual . . .
 - Brace with wrist in slight extension (day and night)
 - Ice the area
 - NSAIDS
- steroid injection
- ? Taping
- Rarely surgery



Wrist arthritis

- May have remote or recent history of injury
 - Often exacerbated by recent injury/activity
- Males > females
- Pain with lifting, wrist motion



Wrist arthritis

- Decreased motion
 - Flexion/extension
 - Forearm rotation



Wrist arthritis

- Xray usually diagnostic (do NOT need MRI)
- Splint/NSAIDS
- Intermittent steroid injection
- Partial/complete fusion vs arthroplasty



THANK YOU!

