

# Relief for Hand or Wrist Arthritis

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# What is Arthritis?

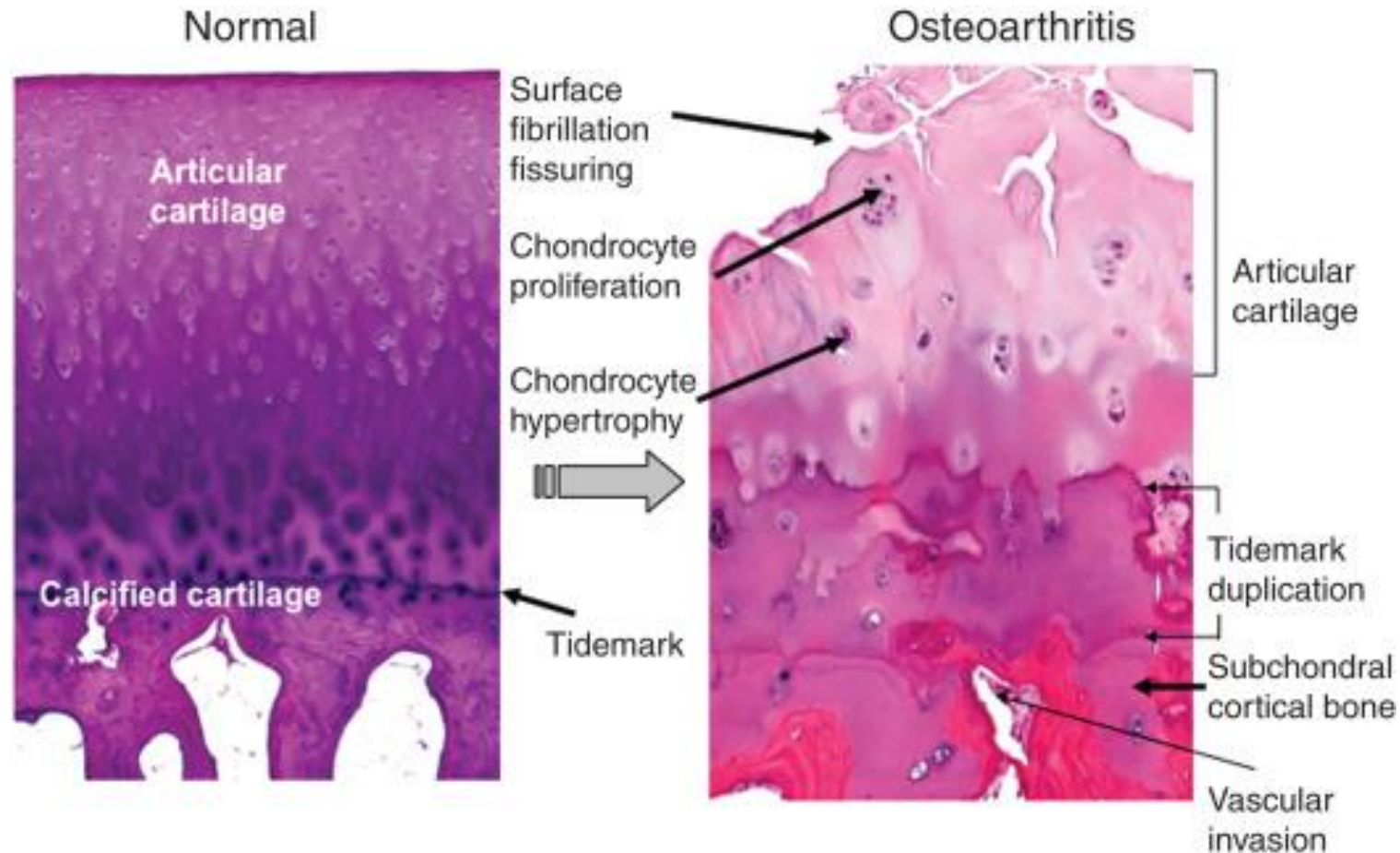
- Term is derived from ancient Greek
- Translated to “joint inflammation” or “disease of a joint”

# Types of Arthritis

- Osteoarthritis
- Autoimmune arthritis (rheumatoid arthritis, psoriatic arthritis)
- Crystalline (gout)
- Septic arthritis
- Many more

# Osteoarthritis

- Characterized by breakdown of articular cartilage (hyaline cartilage)



# Symptoms

- Pain
- Loss of range of motion (stiffness)
- Joint swelling
- Deformity in some joints, change in shape, bumps (osteophytes)
- Loss of grip strength



# Non-operative Treatments

- Most symptoms due to OA can be treated effectively without surgery
- Treatments do not reverse arthritis or halt progression

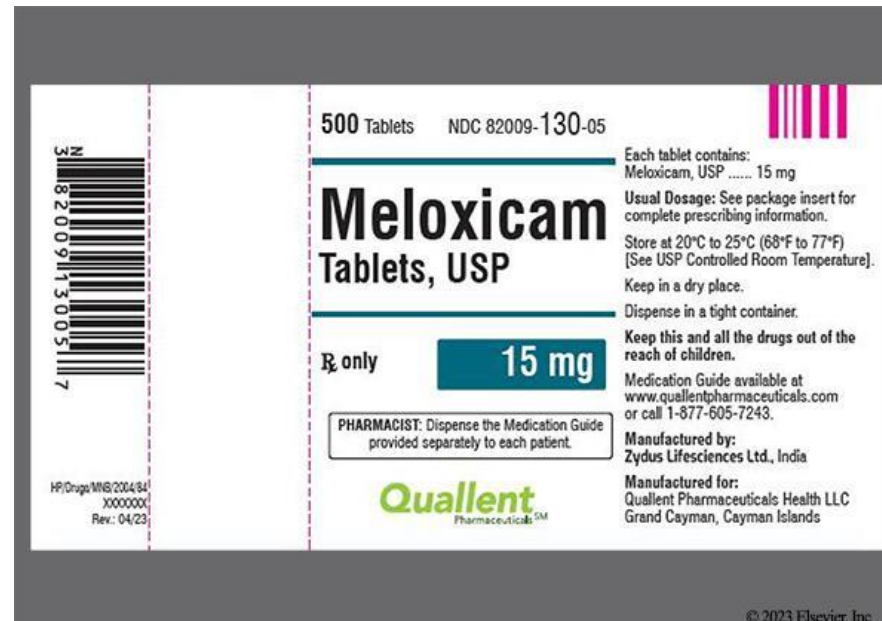
# Types of Treatments

- Topical and oral medications
- Supplements
- Injections
- Bracing
- Hand/occupational therapy
- Acupuncture



# Medications

- Voltaren (topical diclofenac, an NSAID)
- Oral anti-inflammatories (NSAIDs)
- Tylenol (acetaminophen)





- Glucosamine + chondroitin
  - <https://www.arthritis.org/>
- Turmeric (curcumin)
  - <https://www.assh.org/handcare/blog/turmeric-and-osteoarthritis>
  - <https://www.assh.org/handcare>

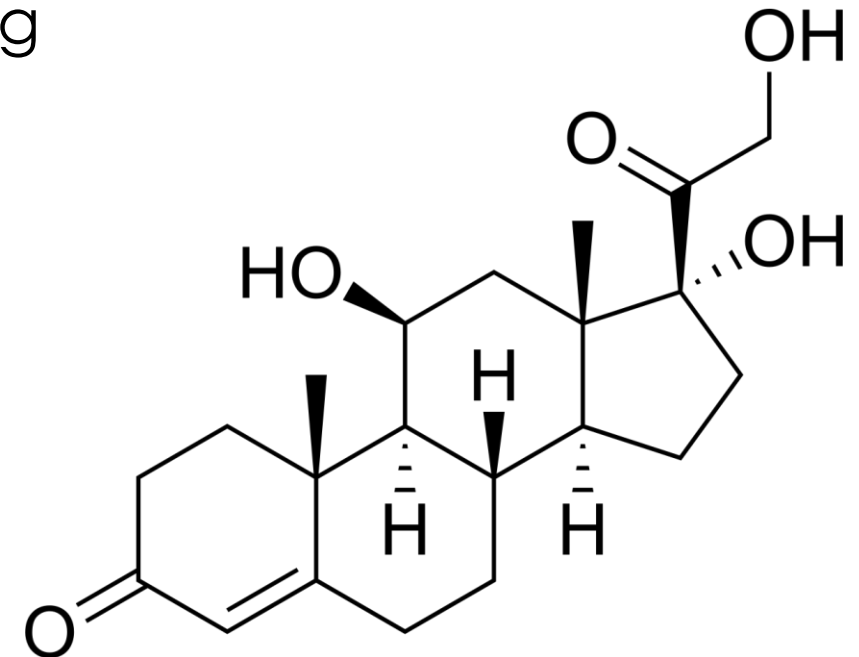
## Symptomatic Effects of Chondroitin 4 and Chondroitin 6 Sulfate on Hand Osteoarthritis

A Randomized, Double-Blind, Placebo-Controlled  
Clinical Trial at a Single Center

**Conclusion.** This study demonstrates that CS improves hand pain and function in patients with symptomatic OA of the hand and shows a good safety profile.

# Corticosteroid Injections

- Commonly called “cortisone injections”
- What are corticosteroids?
  - Steroid hormones produced in the adrenal gland
  - Cortisone is one of these naturally occurring hormones
- Injected corticosteroids are synthetic derivatives
  - Triamcinolone, dexamethasone, betamethasone



# Corticosteroid Injections

- Potent anti-inflammatory
- Decrease pain by reducing inflammation in the joint
- Risks
  - Injection site pain
  - Injection site skin thinning
  - Minimal systemic side effects, but can raise blood sugar in diabetics transiently

- Some studies show some risk of progression. Some do not.
- Usually studied in the setting of knee arthritis

## **Progression of Knee Osteoarthritis with use of Intra-articular Corticosteroids vs. Hyaluronic Acid**

**Justin Bucci, MD<sup>1</sup>, Xiaoyang Chen, MS<sup>1</sup>, Michael LaValley, PhD<sup>2</sup>, Michael Nevitt, PhD<sup>3</sup>, James Torner, PhD<sup>4</sup>, Cora E Lewis, MD<sup>5</sup>, David T. Felson, MD<sup>1,6</sup>**

<sup>1</sup>Department of Rheumatology, Boston University School of Medicine, Boston, MA

<sup>2</sup>Department of Biostatistics, Boston University School of Public Health

<sup>3</sup>University of California at San Francisco, San Francisco, CA

<sup>4</sup>University of Iowa, Iowa City, IA

<sup>5</sup>University of Alabama at Birmingham, Birmingham, AL

<sup>6</sup>University of Manchester and the NIHR Manchester Musculoskeletal Biomedical Research Centre, Manchester University Hospitals NHS Foundation Trust, Manchester, UK

**Conclusions:** Intraarticular corticosteroid injections are not associated with increased risk of progression compared to hyaluronic acid.

- Platelet rich plasma
  - Decent evidence for effectiveness in treatment of knee arthritis
  - Not covered by insurance
- Stem cells
  - Promising new treatment
    - techniques are still in the early stages of investigation
  - Not covered by insurance
  - \$\$\$

# Hyaluronic Acid

- Also called viscosupplementation
- FDA approved in 1997
- Widely used in knee arthritis
- Not covered by insurance for joints besides knee
- Very little studies in hands and wrists





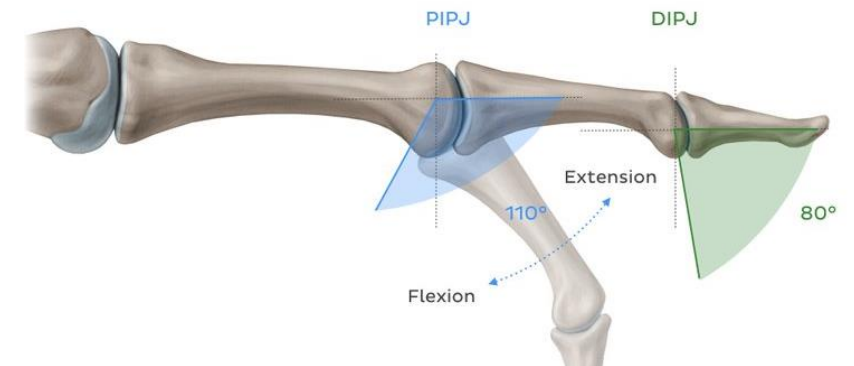
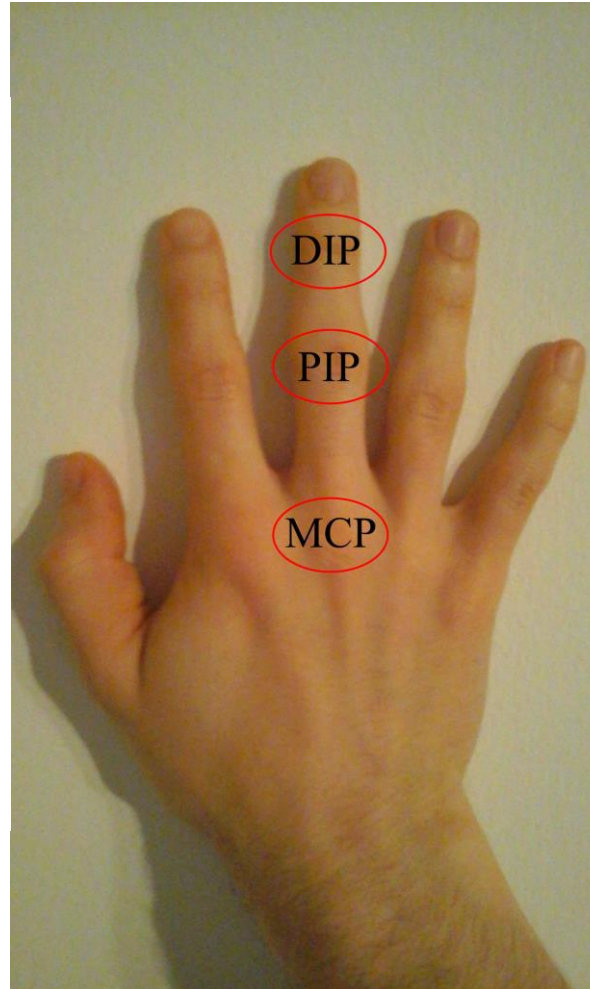
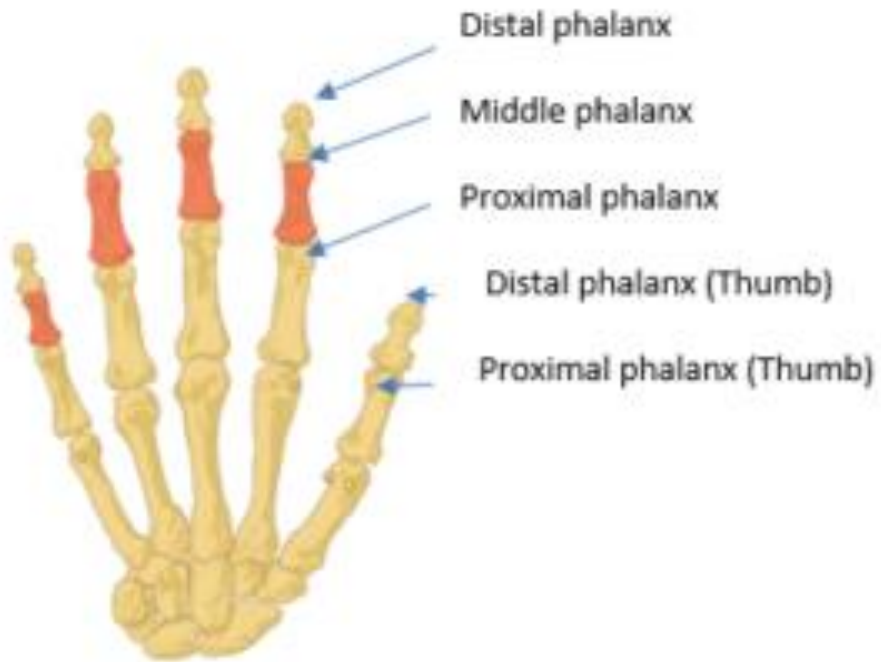
- Both physical therapy and occupational therapy
- Very useful adjunct
  - Ergonomics, activity modification, exercises, modalities

# Bracing

- Can be helpful for certain joints
- Not practical for other joints
- Custom splints can be fabricated by hand therapists



# Distal Interphalangeal Joint (DIP)



# DIP Joint Arthritis

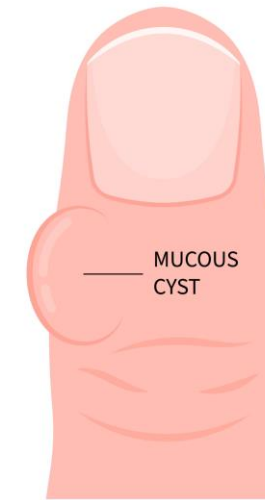
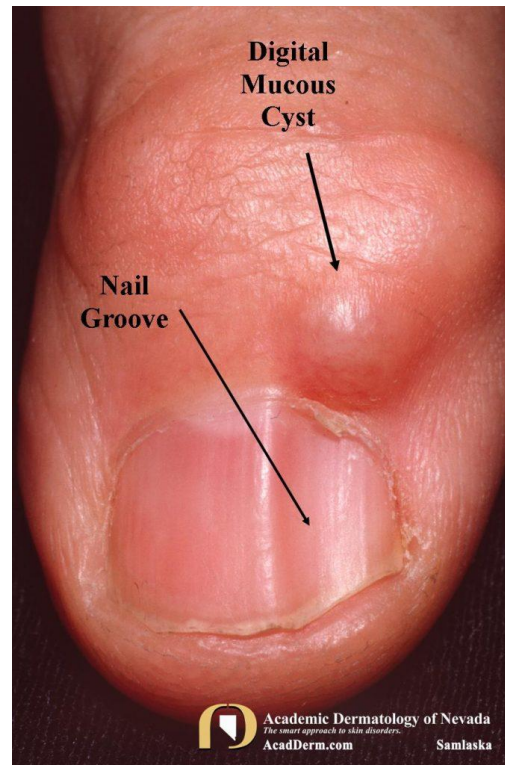
- Loss of motion
- Characteristic bone spurs (Heberden's nodes)
- Angular deformity
- Not always painful
- Strong genetic contribution



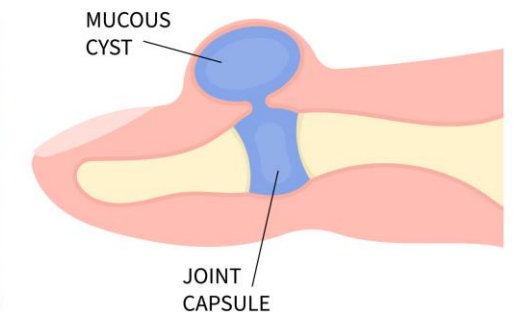


# Mucoid Cysts

- Common mass associated with DIP joint arthritis
- Drainage doesn't work (due to recurrence)
- Surgical excision can be performed in the office



## DIGITAL MUCOUS CYSTS



# Surgical DIPJ Arthritis Treatments

- Fusion/arthrodesis
- Effective for treatment of pain and angular deformity
- Joint no longer moves





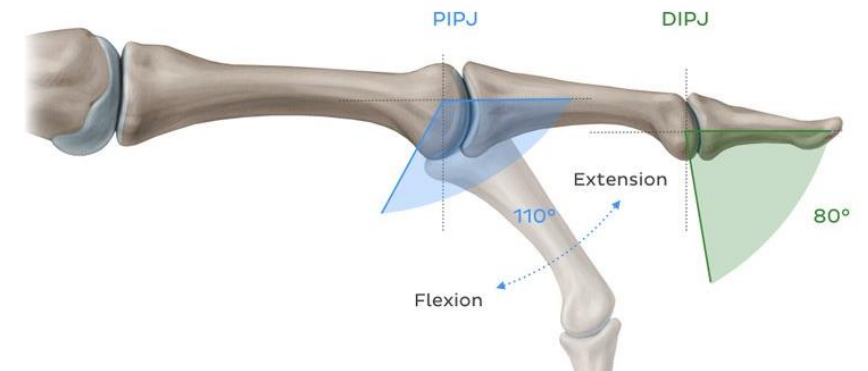
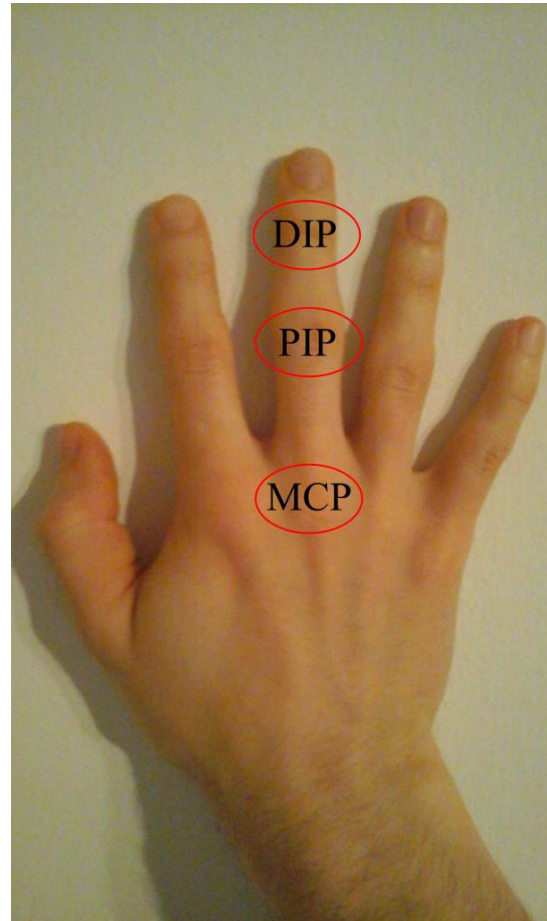
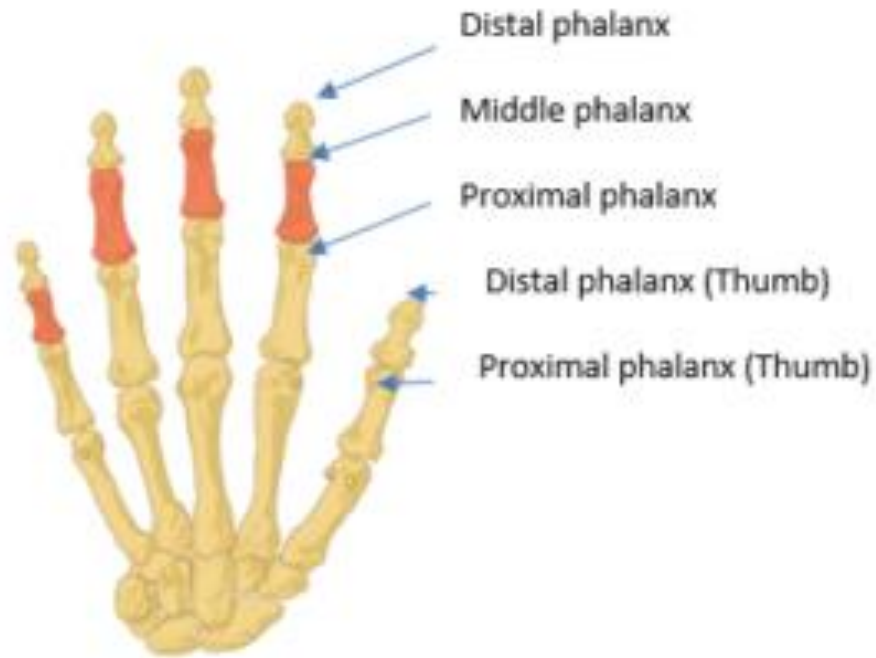
- Cheilectomy
  - Involves removing the bone spurs
  - Not as reliable for pain relief

➤ [J Hand Surg Am. 2017 Nov;42\(11\):889-893. doi: 10.1016/j.jhsa.2017.07.006. Epub 2017 Aug 9.](#)

## **Cheilectomy for Treatment of Symptomatic Distal Interphalangeal Joint Osteoarthritis: A Review of 78 Patients**

Edward A Lin <sup>1</sup>, Loukia K Papatheodorou <sup>1</sup>, Dean G Sotereanos <sup>2</sup>

# Proximal Interphalangeal Joint (PIP)



# PIP Joint Arthritis

- Loss of motion
  - Has a greater effect on hand function
- Bone spurs (Bouchard's nodes)
- Angular deformity
- May have genetic contribution, but can also be post-traumatic



# Surgical PIPJ Arthritis Treatments

- Fusion vs replacement
- My preference is replacement
- Fusion more reliable in certain scenarios
  - Index finger?
  - Instability
  - Significant deformity



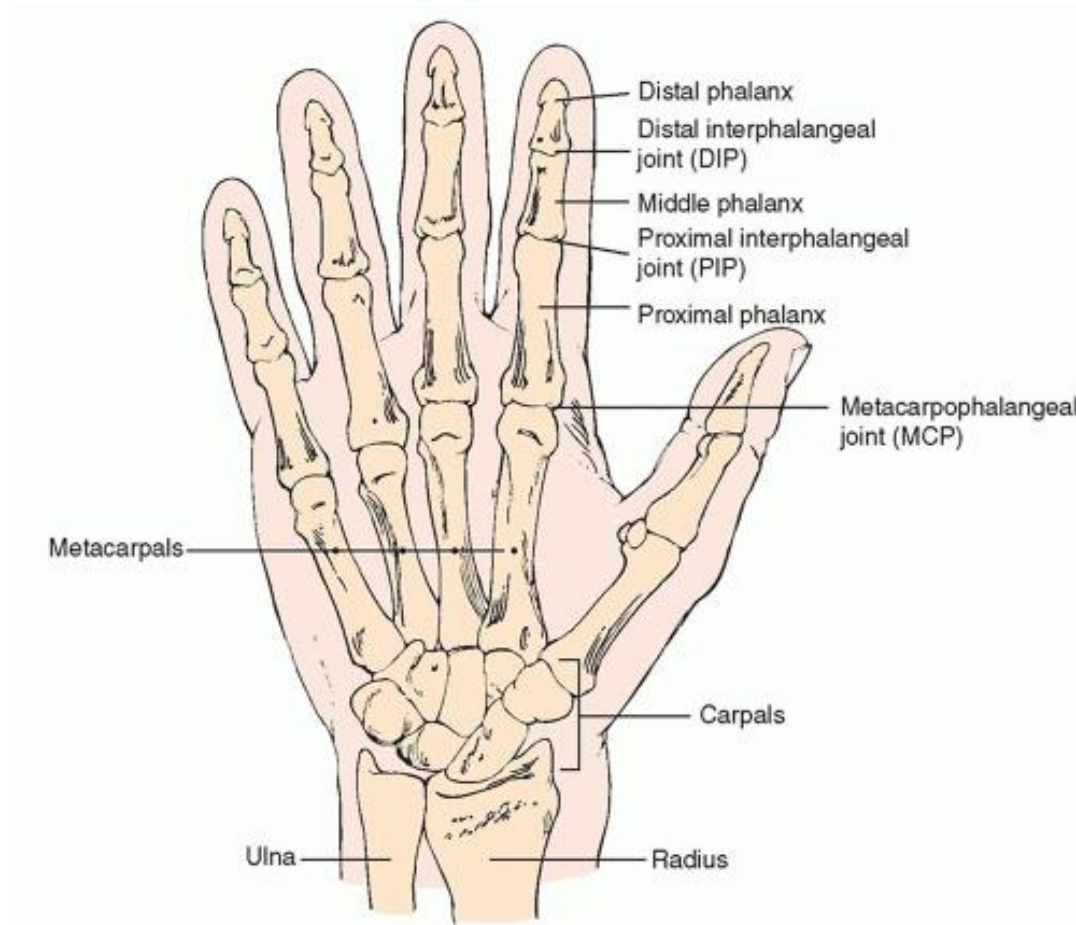
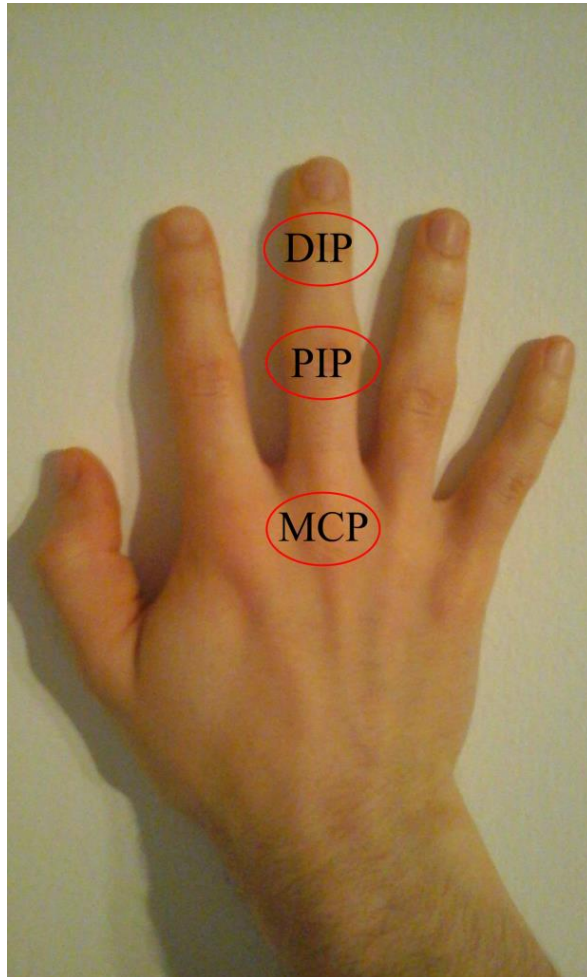


# PIPJ Replacement

- Silicone replacement has the best longevity
  - Pyrocarbon also utilized, but has a higher rate of loosening



# Metacarpophalangeal Joints (MPJ) Boulder Community Health





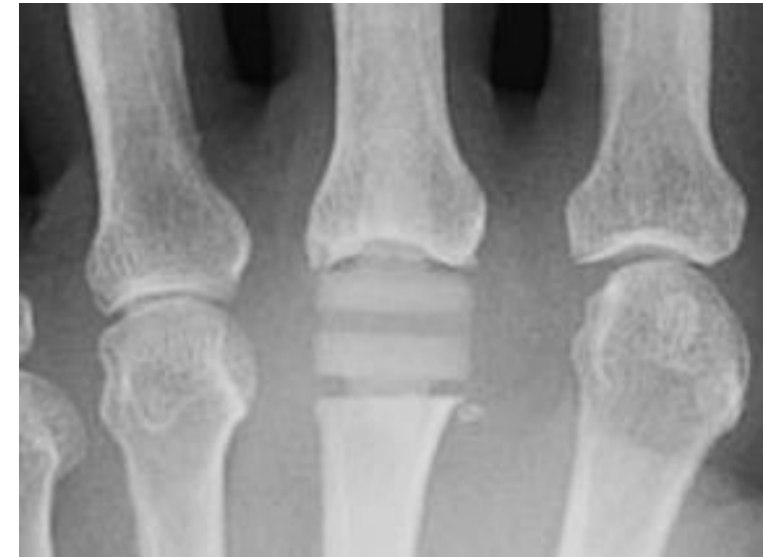
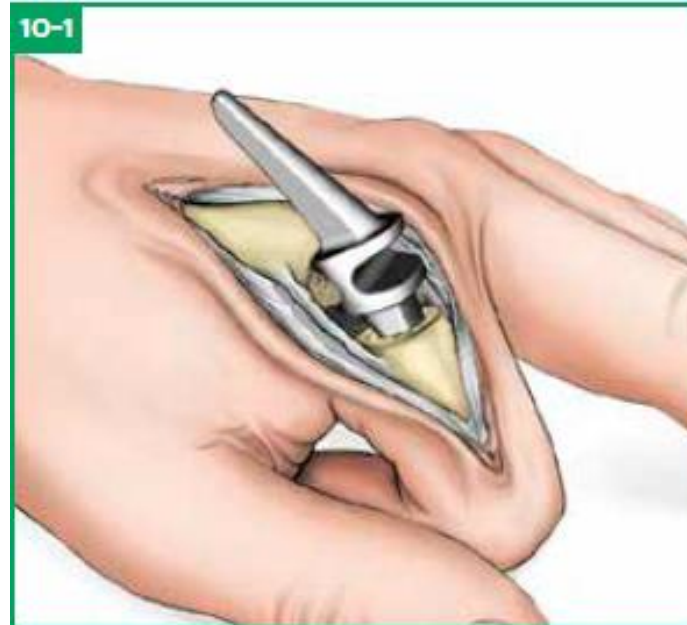
# MP Joint Arthritis

- Bone spurs not as visible as in DIP and PIP joints
  - May appear like “swelling”
- Loss of motion
- Pain with grip, motion of affected joint
- Usually not too much deformity unless multiple involved
- Usually starts with index finger and moves toward pinky



# Surgical MPJ Arthritis Treatments

- Replacement is my preference (except the thumb)
  - Silicone and pyrocarbon are options
- Fusion also performed



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EDITOR'S CHOICE

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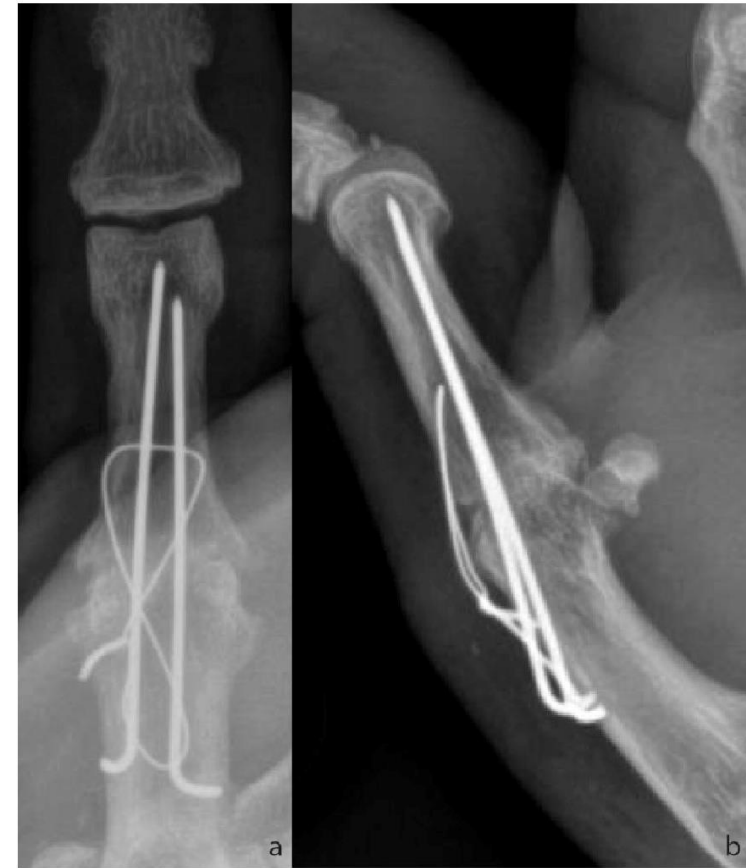
## Silicone Metacarpophalangeal Arthroplasty for Osteoarthritis: Long-Term Results

Nathan T. Morrell, MD,\* Arnold-Peter C. Weiss, MD†

**Conclusions** Silicone arthroplasty is effective in the treatment of primary MCP osteoarthritis. Implant survivorship is 97% (clinical) and 88% (radiographic) in long-term follow-up. (*J Hand Surg Am.* 2018;43(3):229–233. Copyright © 2018 by the American Society for Surgery of the Hand. All rights reserved.)

# Thumb Metacarpophalangeal Joint

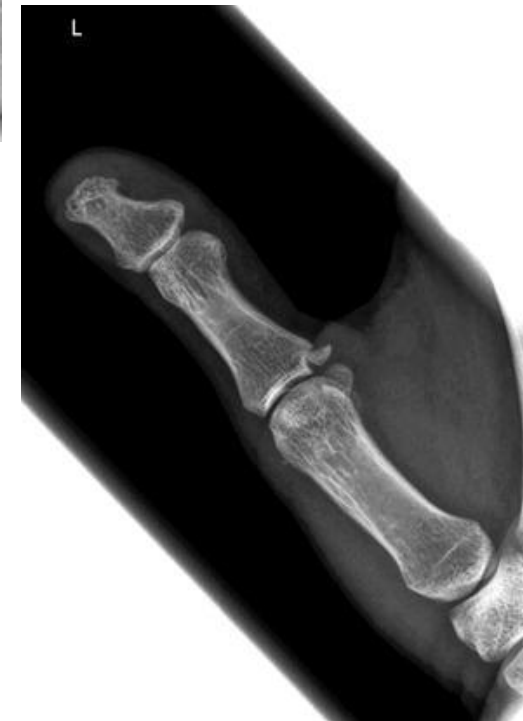
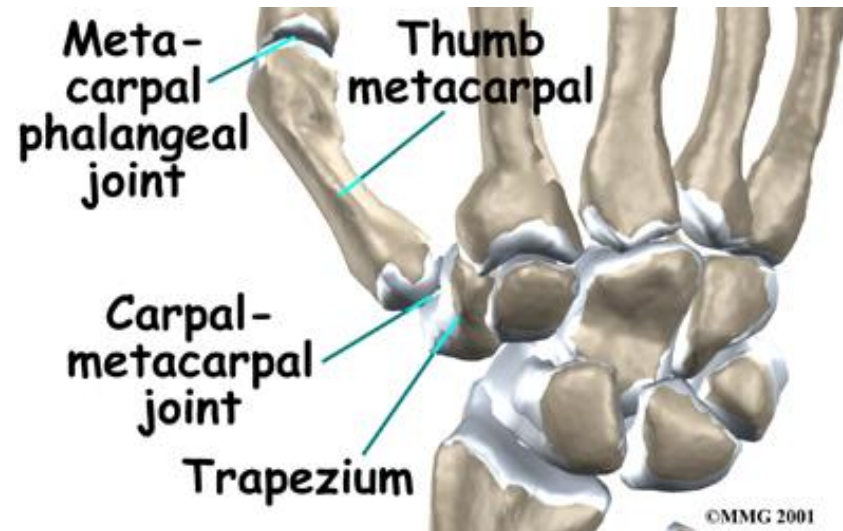
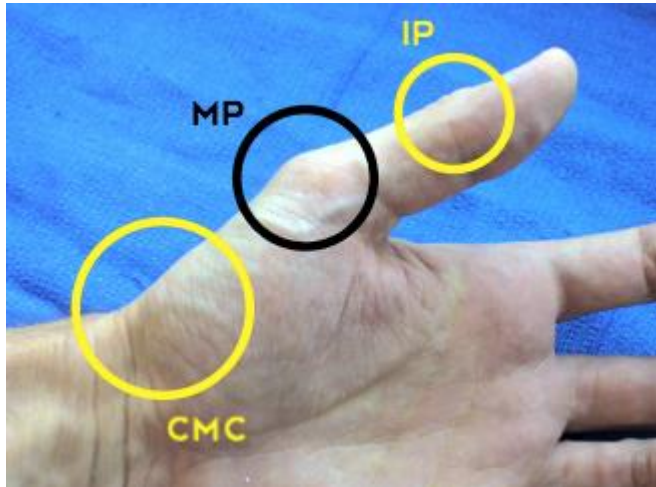
- Fusion is treatment of choice





# Thumb Carpometacarpal Joint (CMC)

- Also called the basal joint



# Thumb CMC Arthritis

- Can affect up to 11% of men and 33% of women in their 50s and 60s
- Symptoms
  - Pain (pinching, gripping)
  - Change in appearance of the thumb base





# Thumb CMC Arthritis

- Thumb base can appear more prominent
- Arthritis causes the thumb to pull into the palm (adduction contracture)
- Over time the MP joint can hyperextend to compensate (Z deformity)



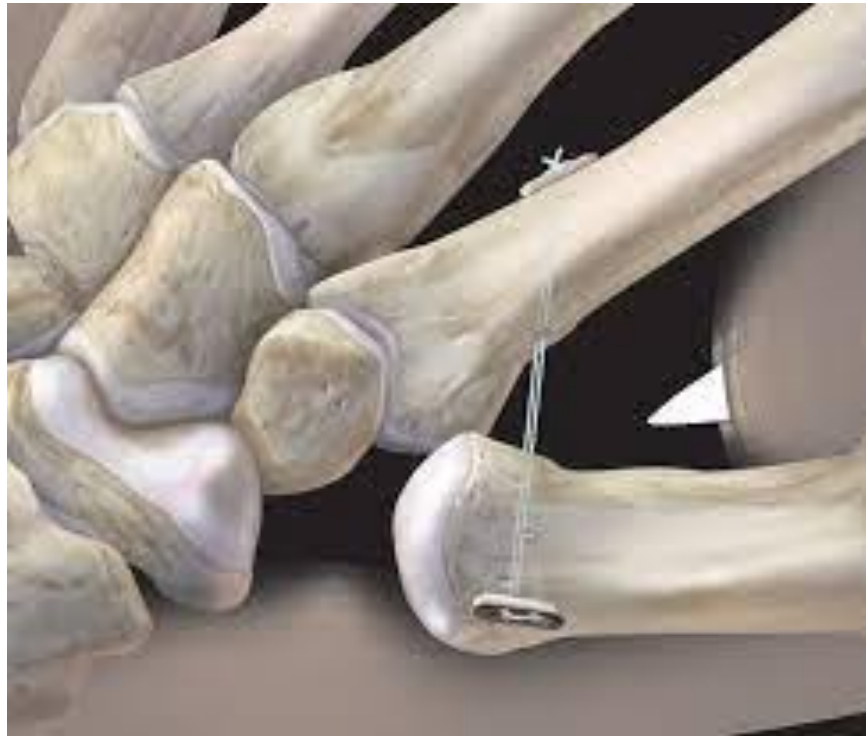
# Bracing Options

- Opponens splint
- Neoprene splint
- Off the shelf braces (Amazon, etc)



# Surgical Treatments

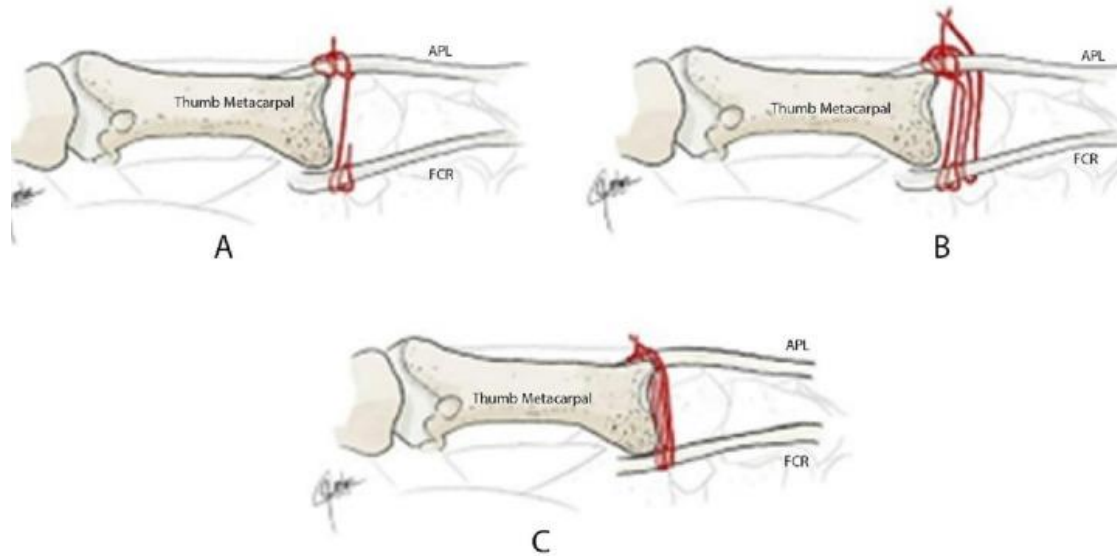
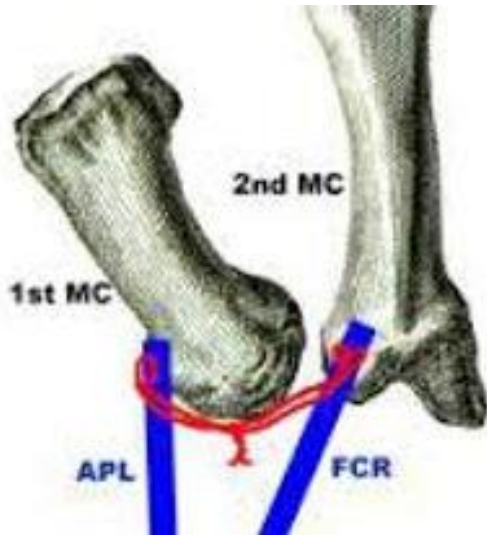
- Trapeziectomy + (something to suspend the thumb)





# Surgical Treatments

- Trapeziectomy and suture suspensionplasty
- Trapeziectomy and implant interposition (certain scenarios and revisions)



- Postop protocol
  - Thumb immobilized in a splint for 8 weeks total
  - 1- 2 weeks in plaster splint, then the remainder in custom removable brace
  - No cast
- Return of grip and pinch strength expected at 4-5 months

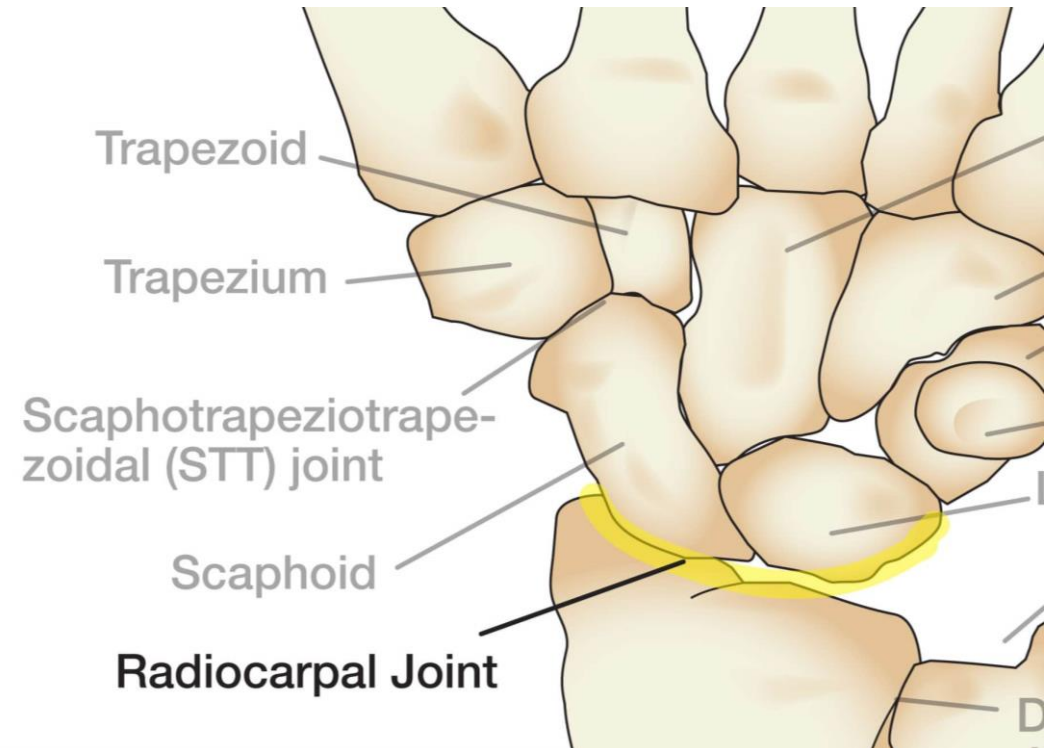
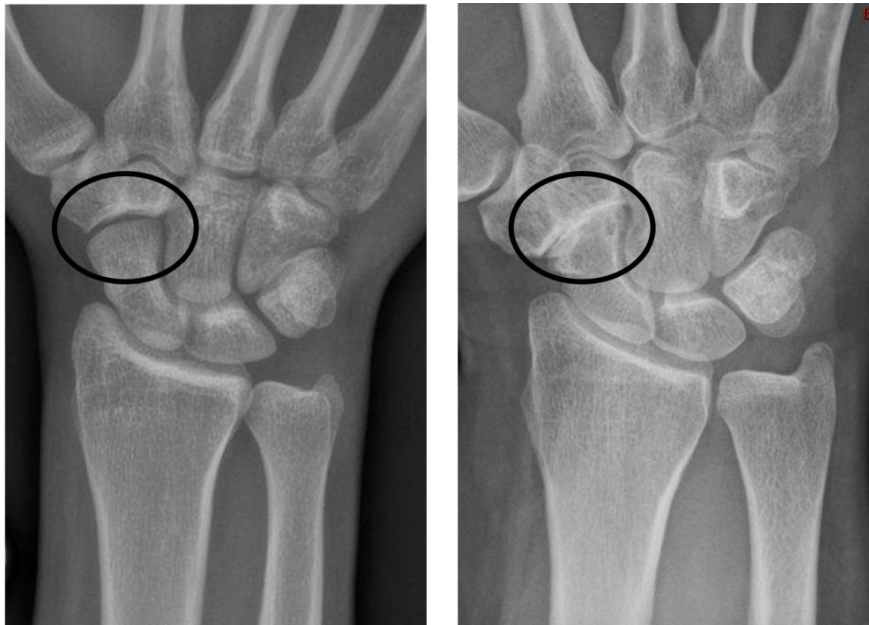


# Other Surgical Treatments

- Fusion
- Replacement

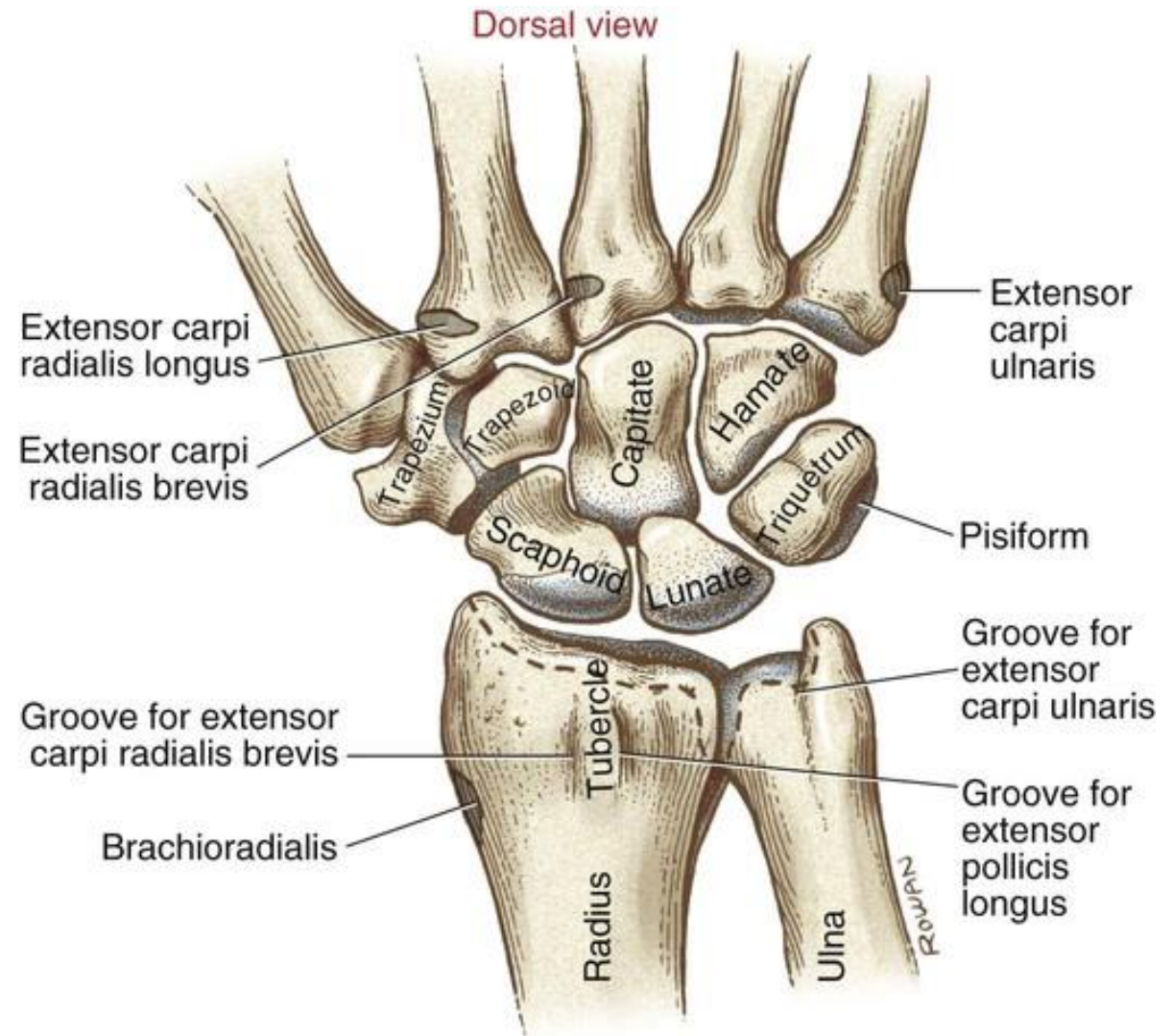
# Scapho-Trapezial-Trapezoid (STT) Arthritis

- Can coexist with thumb CMC arthritis
- Deep pain on the thumb side of palm and wrist
- Pain worse with activity



- Trapeziectomy will affectively treat this form of arthritis
- Fusion or excision of top portion of scaphoid bone

# Wrist Mid-Carpal and Radiocarpal Joints



- Most common forms are post-traumatic (SLAC and SNAC wrist)
- Also due to autoimmune/inflammatory arthritis



# SLAC/SNAC Arthritis

- Due to a ligament tear in the past (scapholunate ligament)
- Or an untreated scaphoid fracture



- Loss of wrist motion
- Pain with activity
- Swelling of top and thumb side of wrist

# SLAC/SNAC Arthritis Treatments

- Proximal row carpectomy
- Proximal row carpectomy with capitate replacement
- Partial wrist fusion



# Alternatives to PRC or Fusion

- Partial wrist denervation +/- wrist arthroscopy
- Procedure ablates two nerves that only transmit pain from wrist joint
- Wrist arthroscopy can be utilized to shave away part of radius that is arthritic
- Can potentially buy some time without sacrificing wrist motion



# Other Surgical Treatments

- Total wrist fusion
- Total wrist arthroplasty





# Exercises for Hand & Wrist Arthritis



Demonstrated by:

Ann Brexa, OTR/L  
Boulder Community Health  
Outpatient Rehabilitation



Thank You!

**Questions?**



Boulder Community Health Foundation

*Over 40 Years of Community Impact*

**Enhancing the quality and availability  
of health care in our community**

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## PATIENTS

**We believe** providing the community with the highest value in health care requires an innovative, patient-centered environment.

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