

Relief for Hand or Wrist Arthritis

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720-798-2017

What is Arthritis?

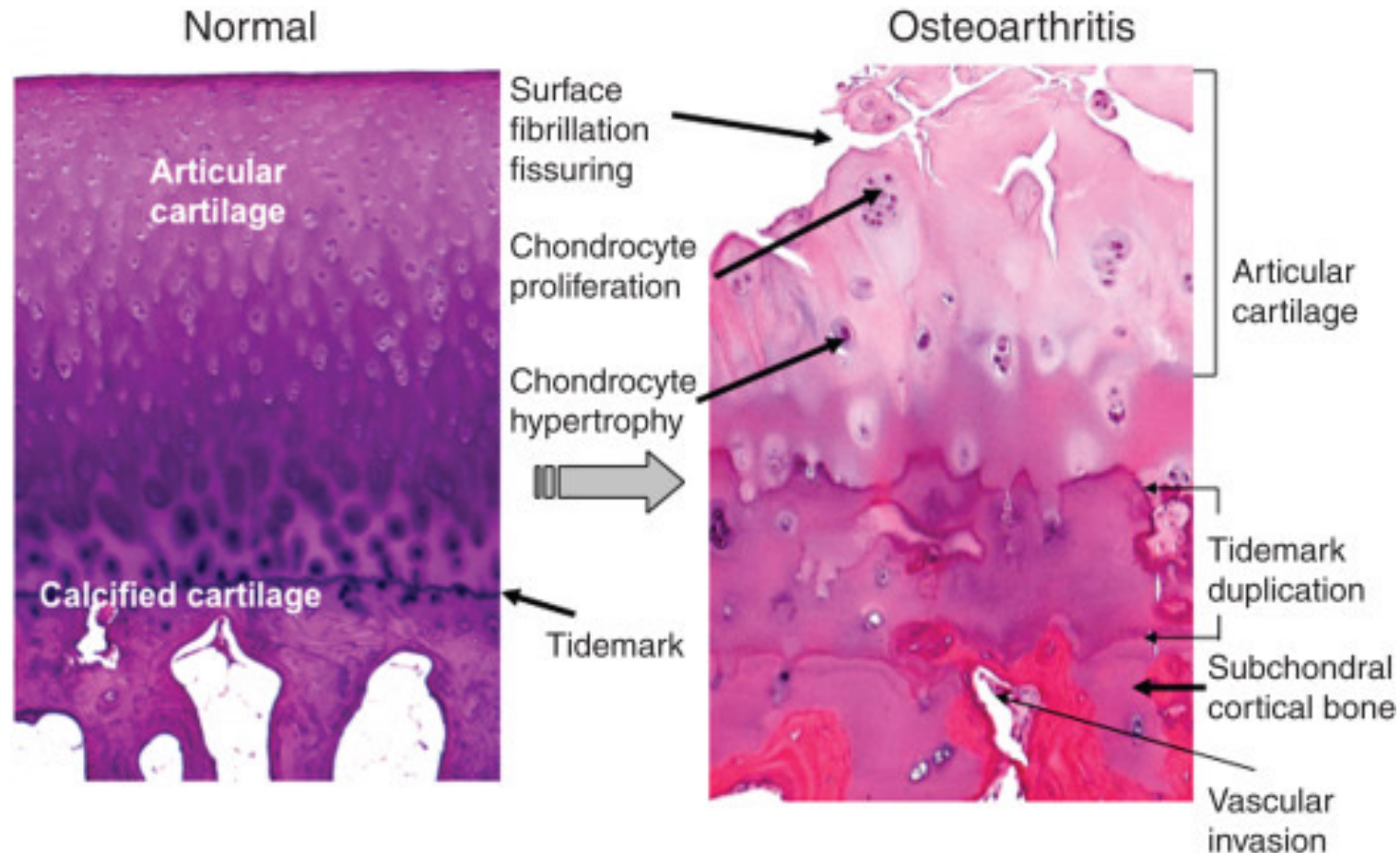
- Term is derived from ancient Greek
- Translated to “joint inflammation” or “disease of a joint”

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

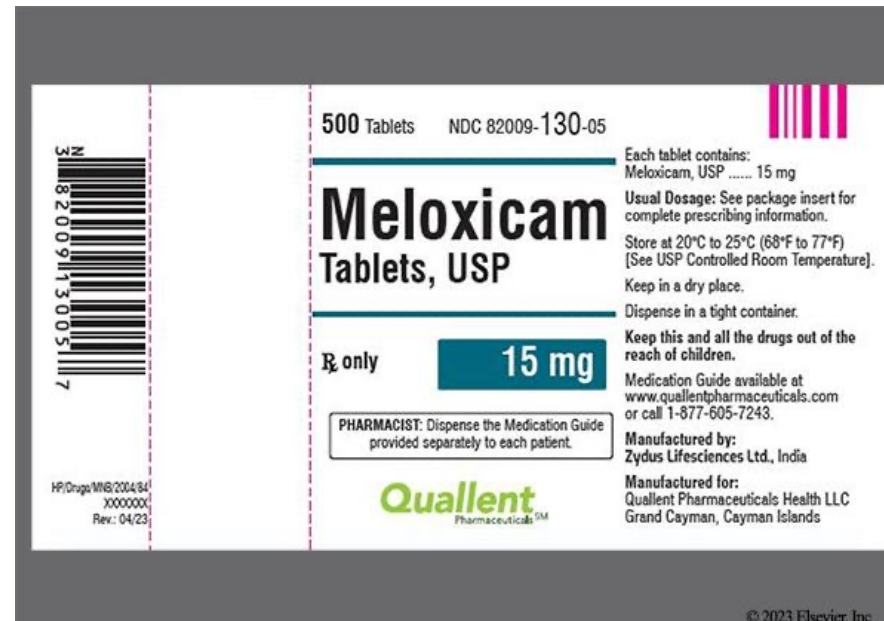
- Most symptoms due to OA can be treated effectively without surgery
- Treatments do not reverse arthritis or halt progression

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>

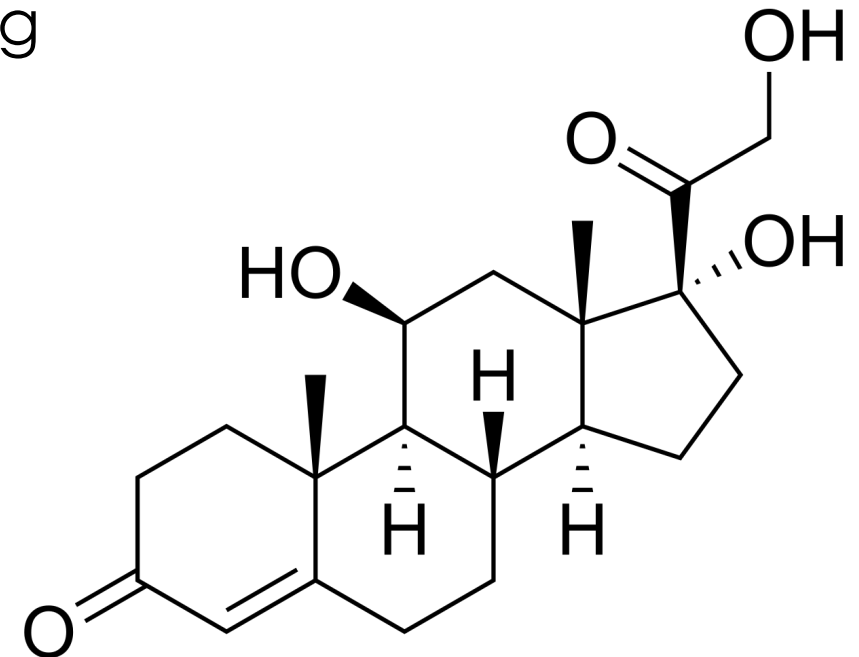
Symptomatic Effects of Chondroitin 4 and Chondroitin 6 Sulfate on Hand Osteoarthritis

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, MD¹, Xiaoyang Chen, MS¹, Michael LaValley, PhD², Michael Nevitt, PhD³, James Torner, PhD⁴, Cora E Lewis, MD⁵, David T. Felson, MD^{1,6}

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²Department of Biostatistics, Boston University School of Public Health

³University of California at San Francisco, San Francisco, CA

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⁵University of Alabama at Birmingham, Birmingham, AL

⁶University 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



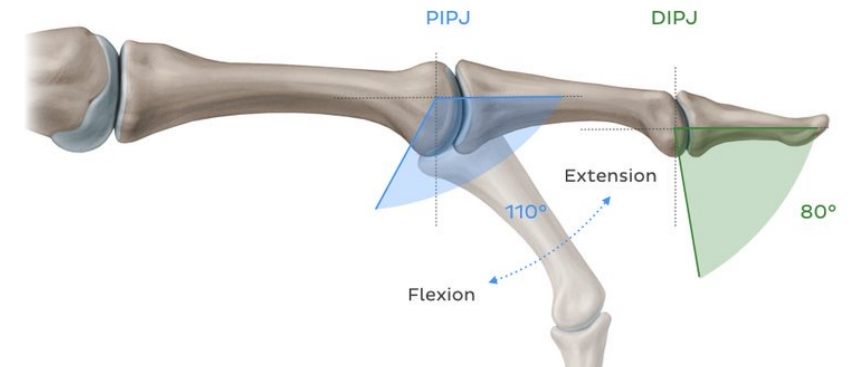
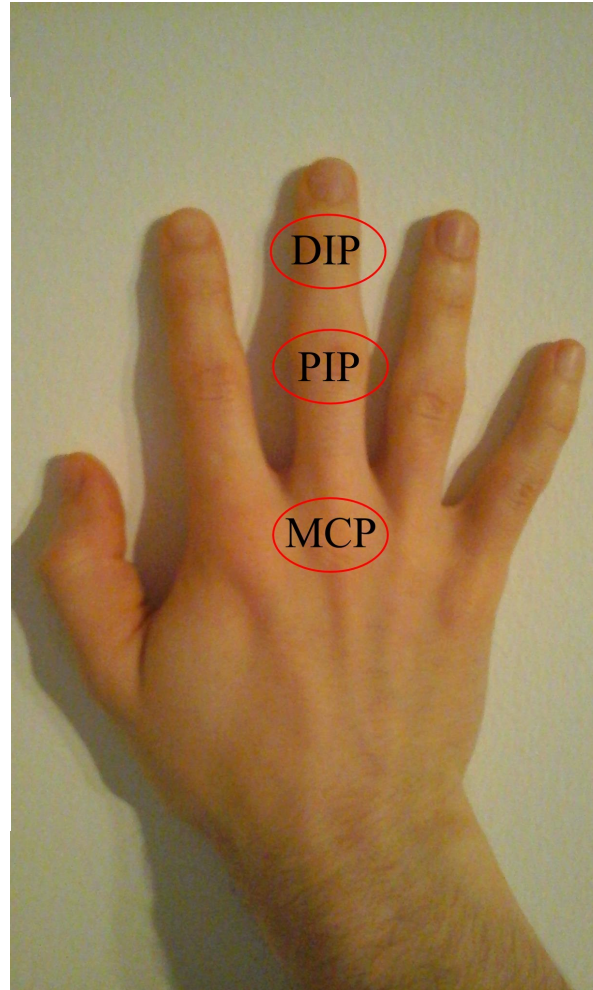
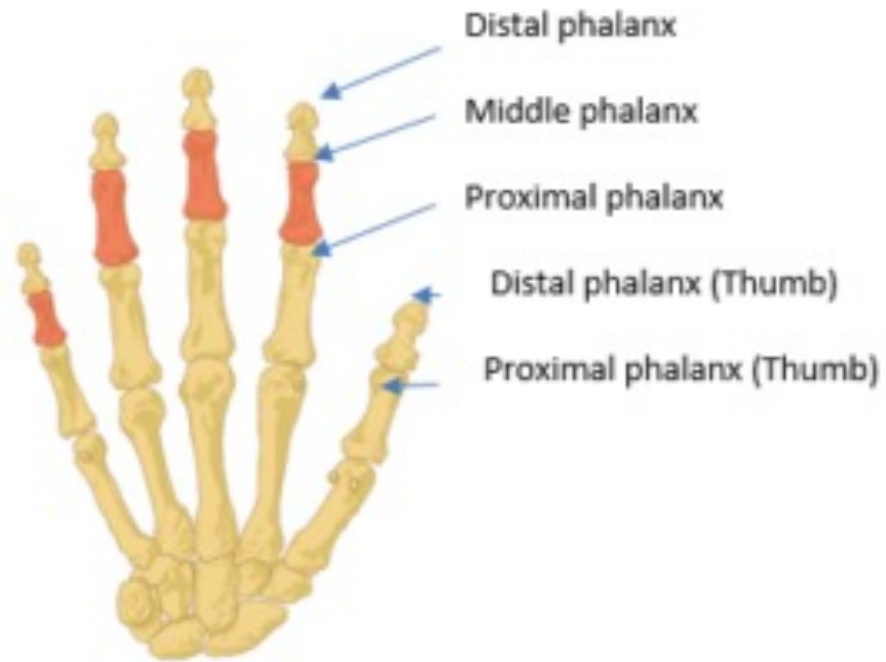
- Both physical therapy and occupational therapy
- Very useful adjunct
 - Ergonomics, activity modification, exercises, modalities

Bracing

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



Distal Interphalangeal Joint (DIP)



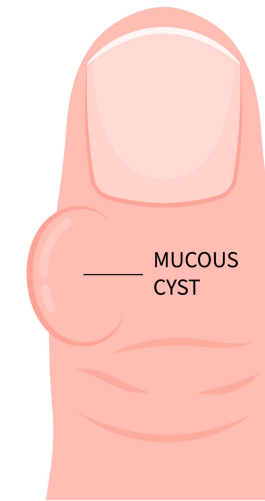
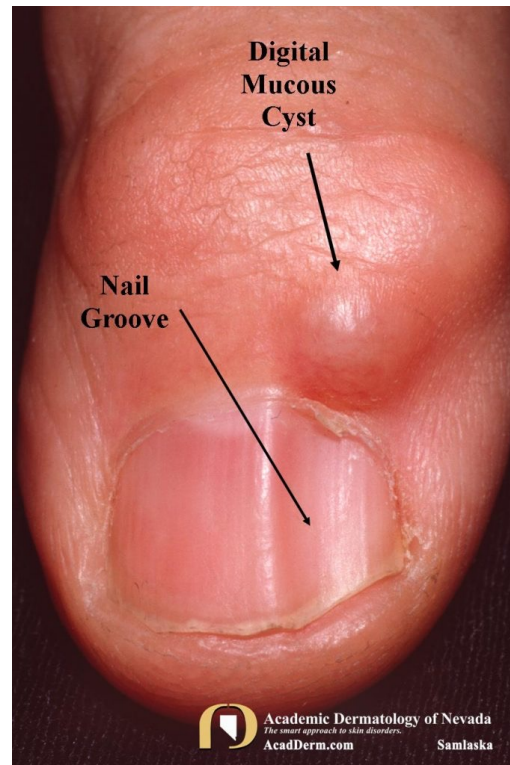
DIP Joint Arthritis

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

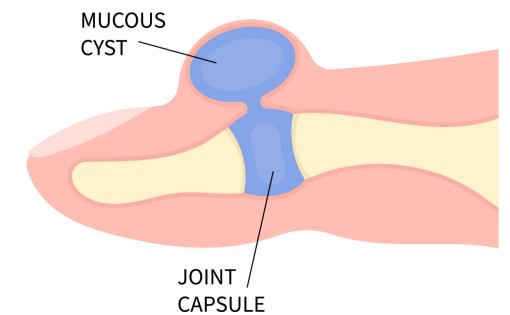


Muroid Cysts

- 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



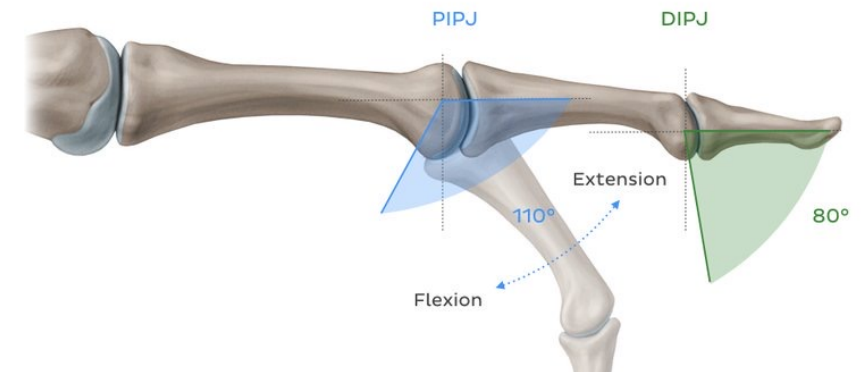
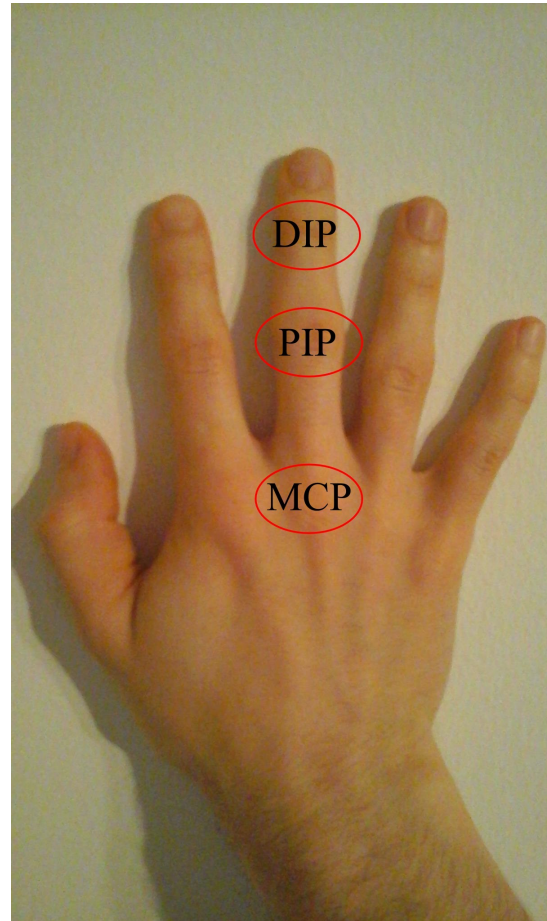
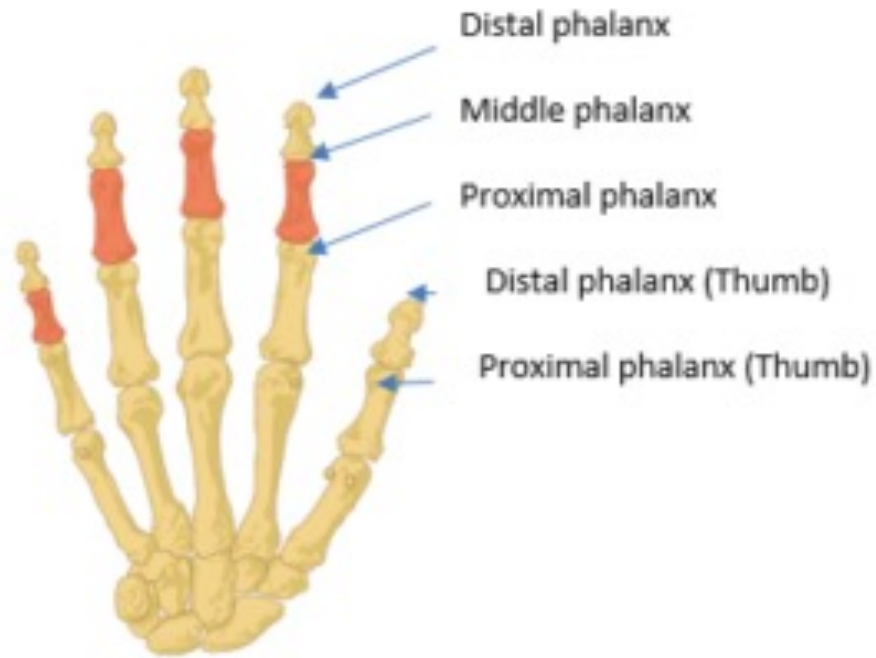
- Cheilectomy
 - Involves removing the bone spurs
 - Not as reliable for pain relief

> 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 ¹, Loukia K Papatheodorou ¹, Dean G Sotereanos ²

Proximal Interphalangeal Joint (PIP)



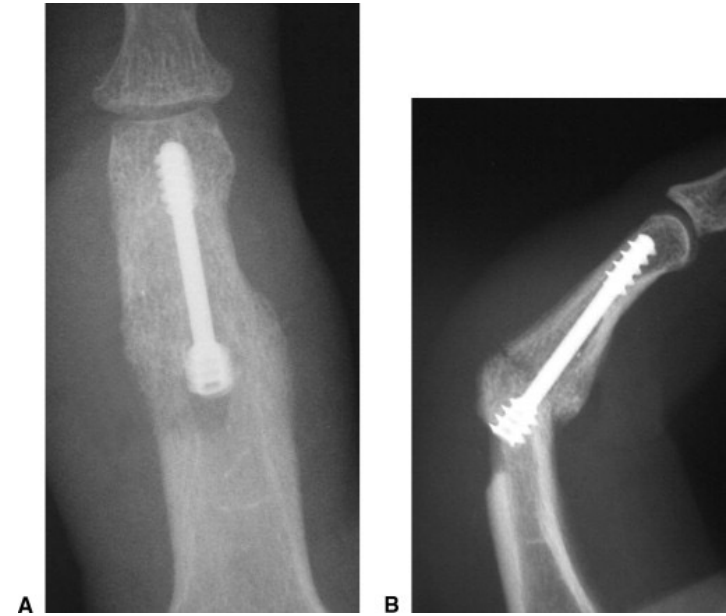
PIP Joint Arthritis

- 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



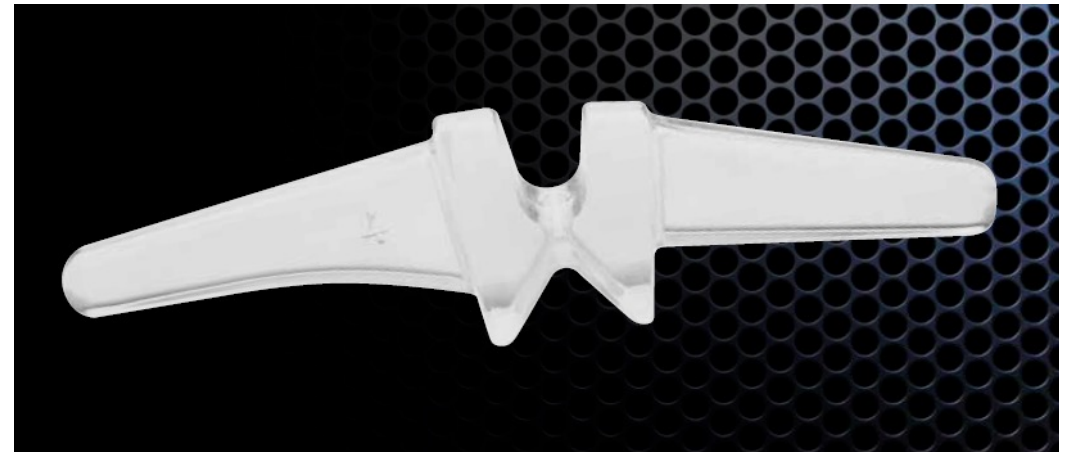
Surgical PIPJ Arthritis Treatments

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

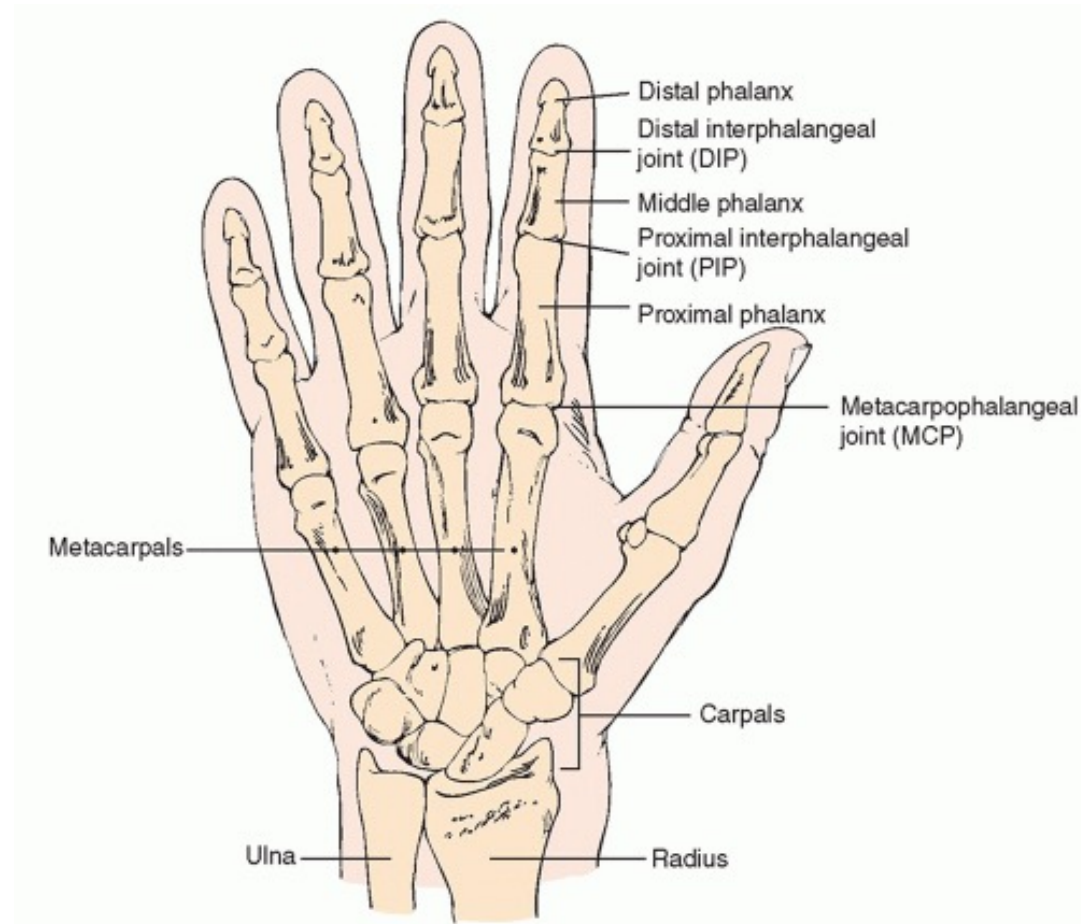
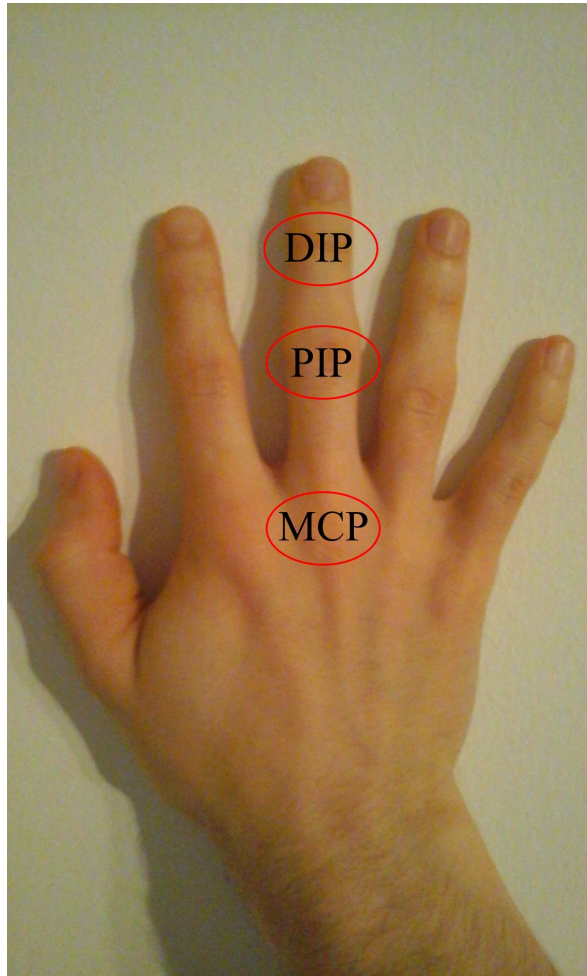


PIPJ Replacement

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



Metacarpophalangeal Joints (MPJ) Boulder Community Health



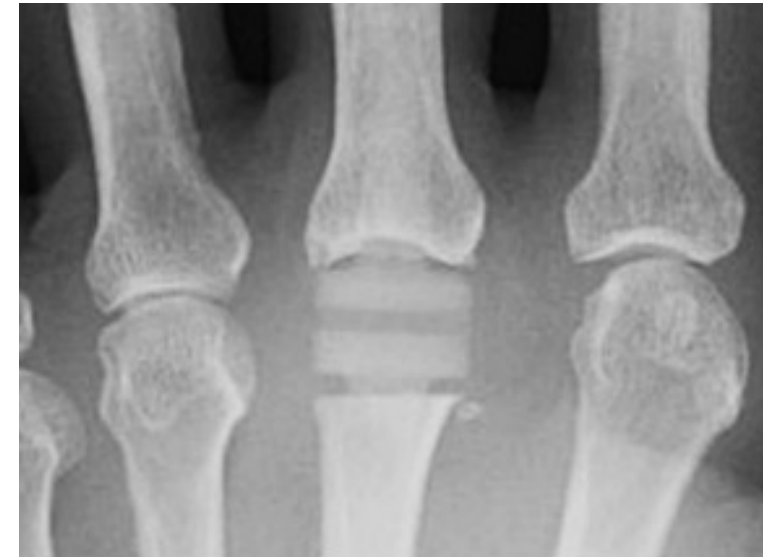
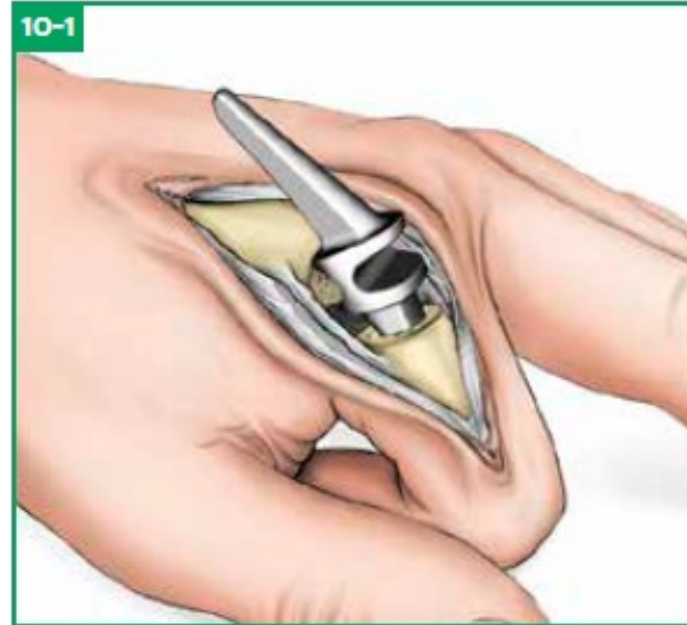
MP Joint Arthritis

- 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



EDITOR'S CHOICE

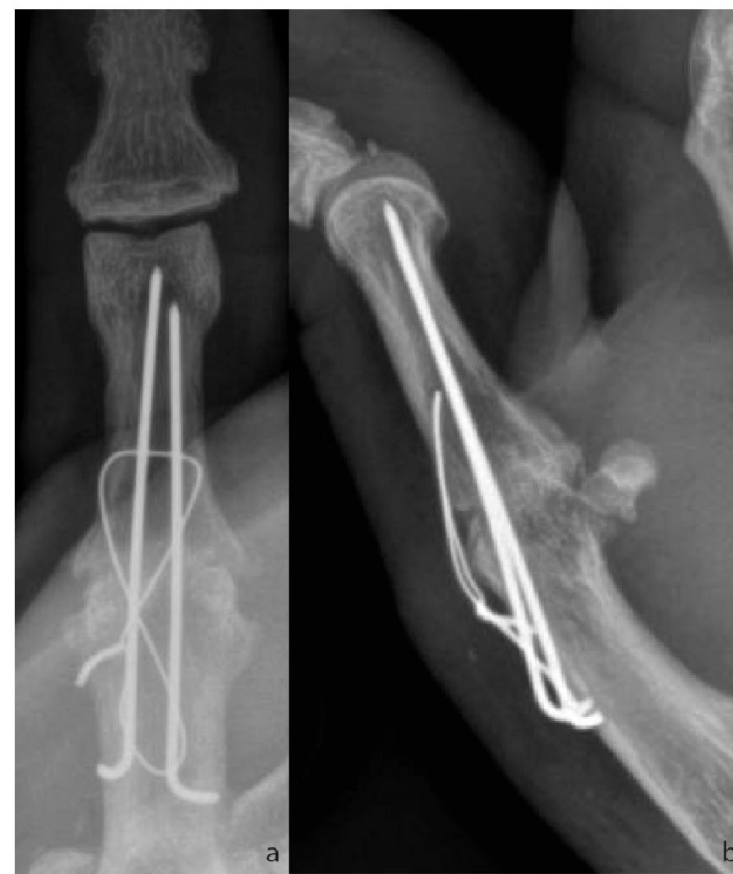
Silicone Metacarpophalangeal Arthroplasty for Osteoarthritis: Long-Term Results

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.)

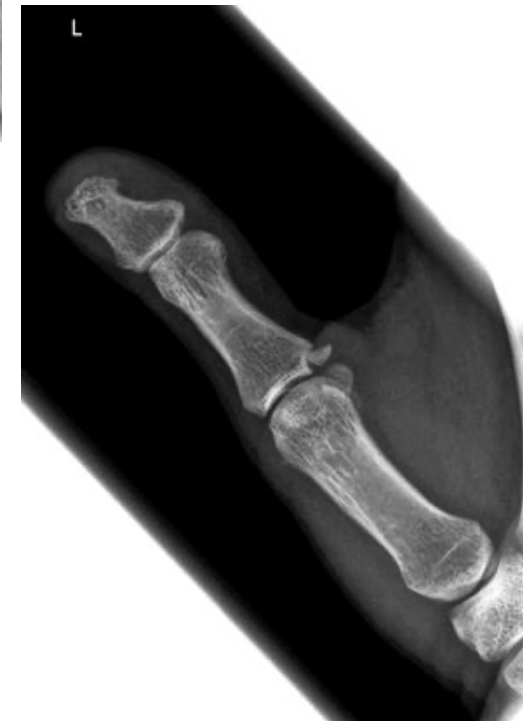
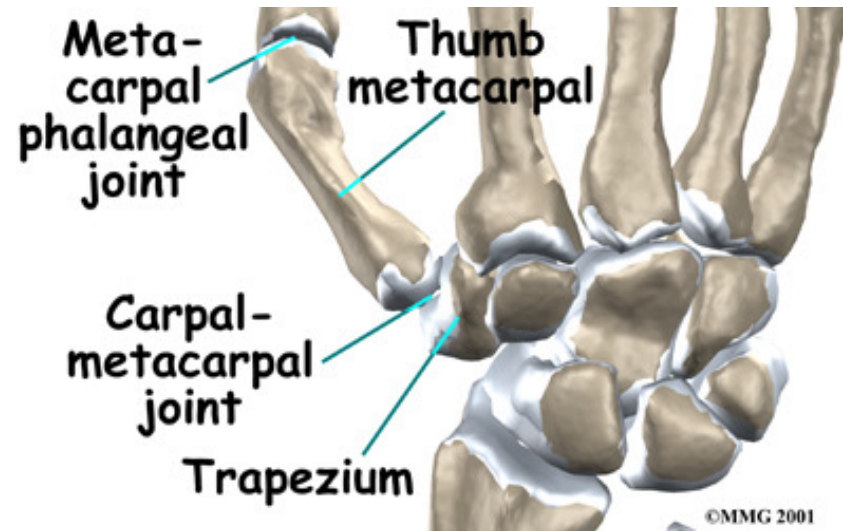
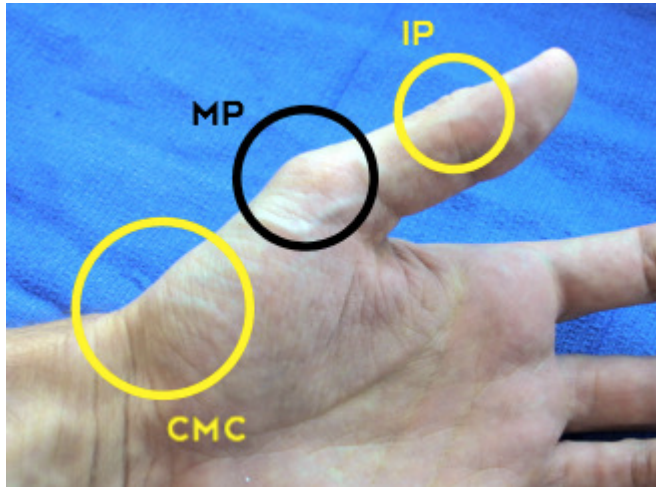
Thumb Metacarpophalangeal Joint

- 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)



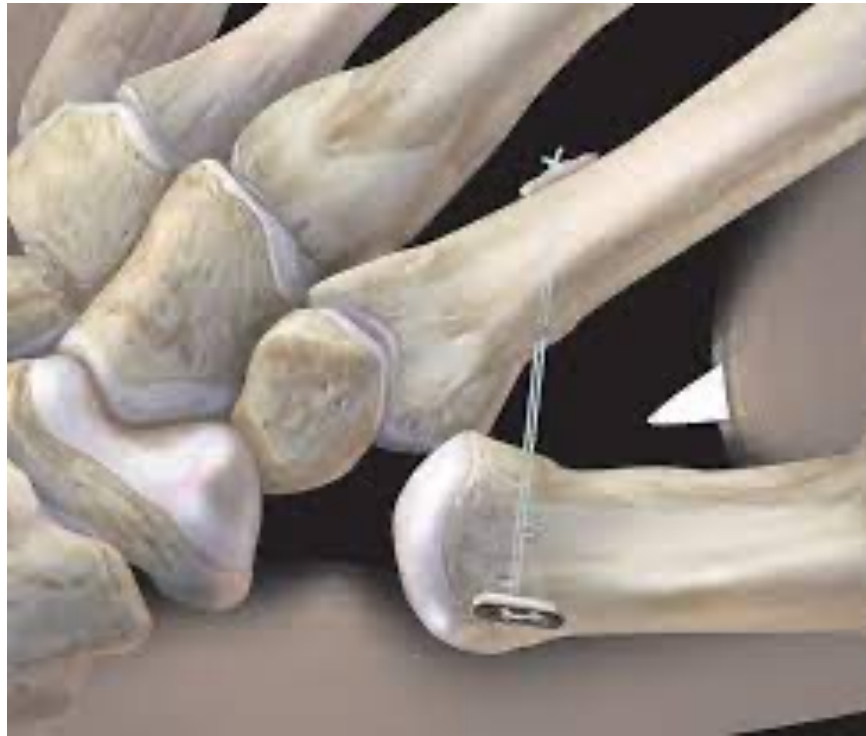
Bracing Options

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



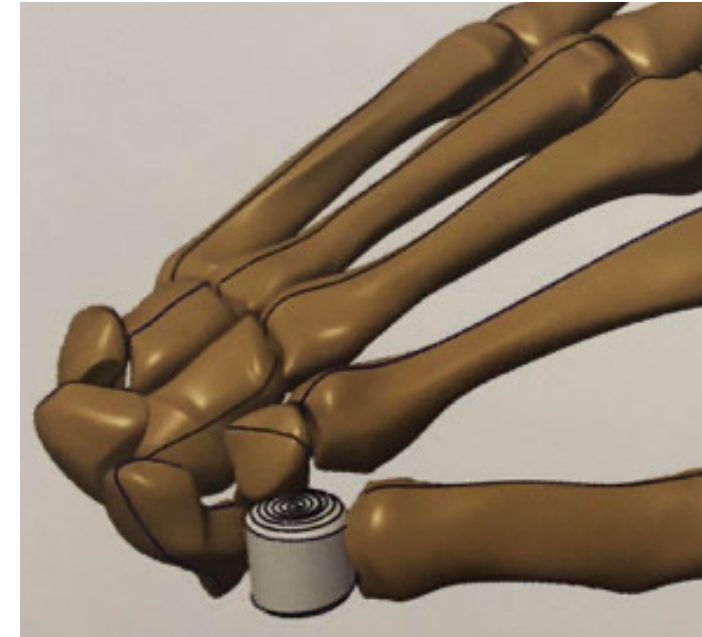
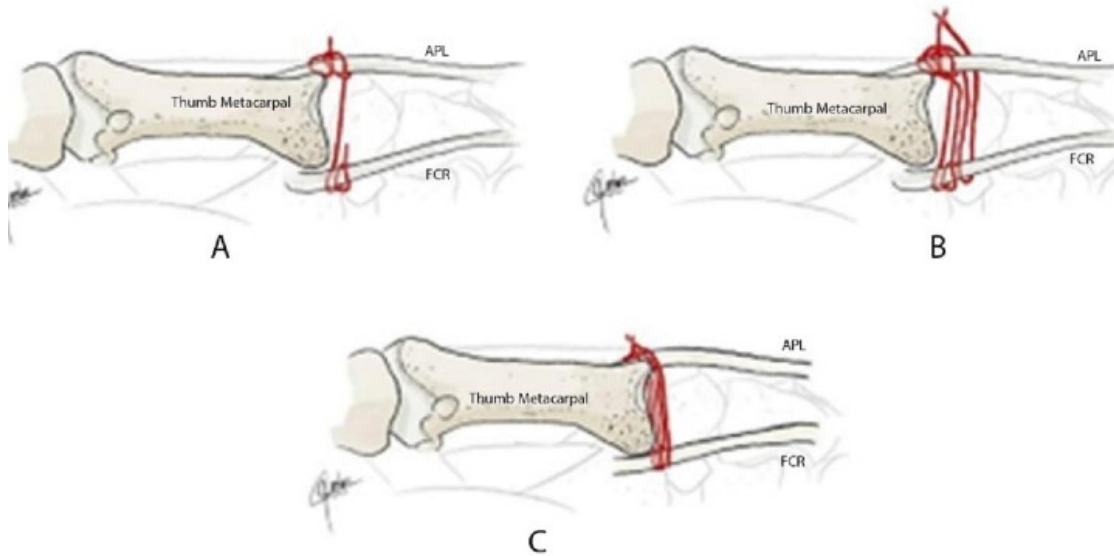
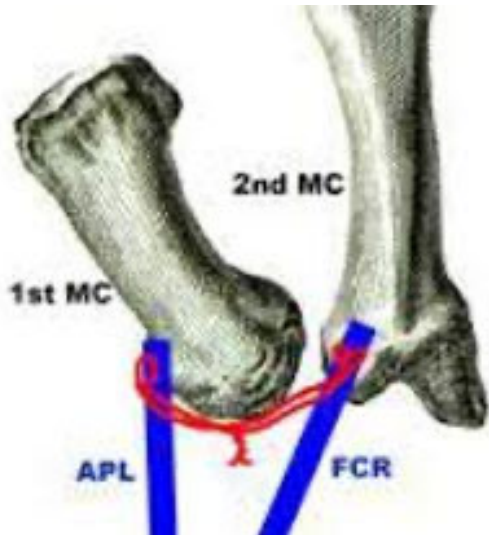
Surgical Treatments

- Trapeziectomy + (something to suspend the thumb)



Surgical Treatments

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



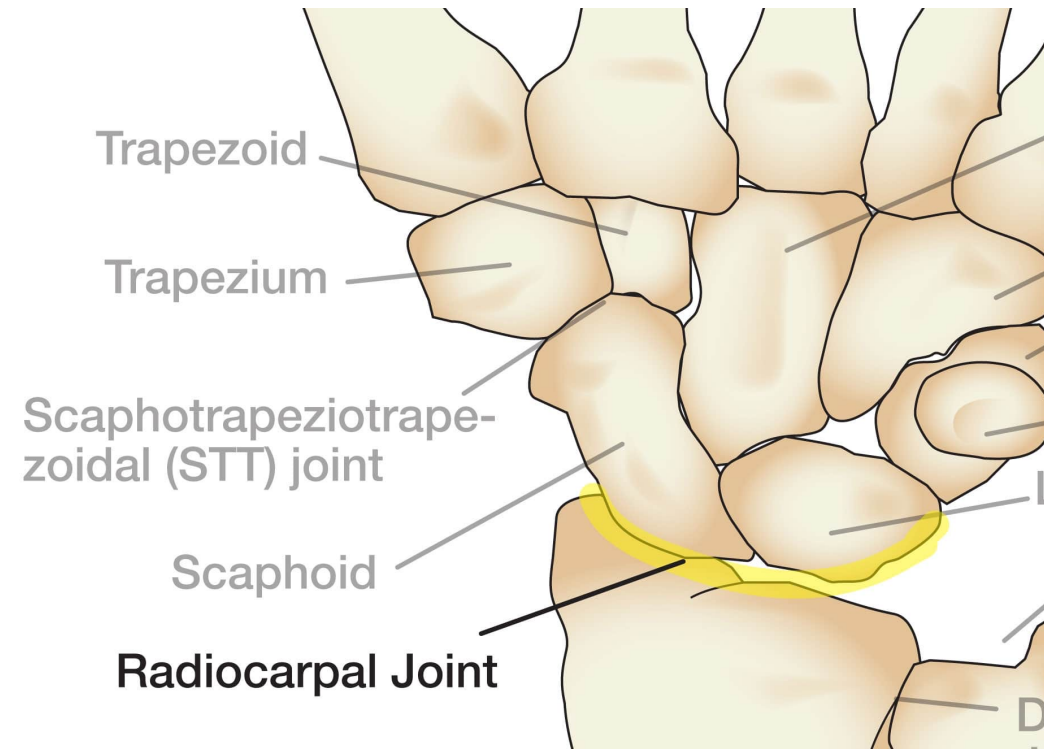
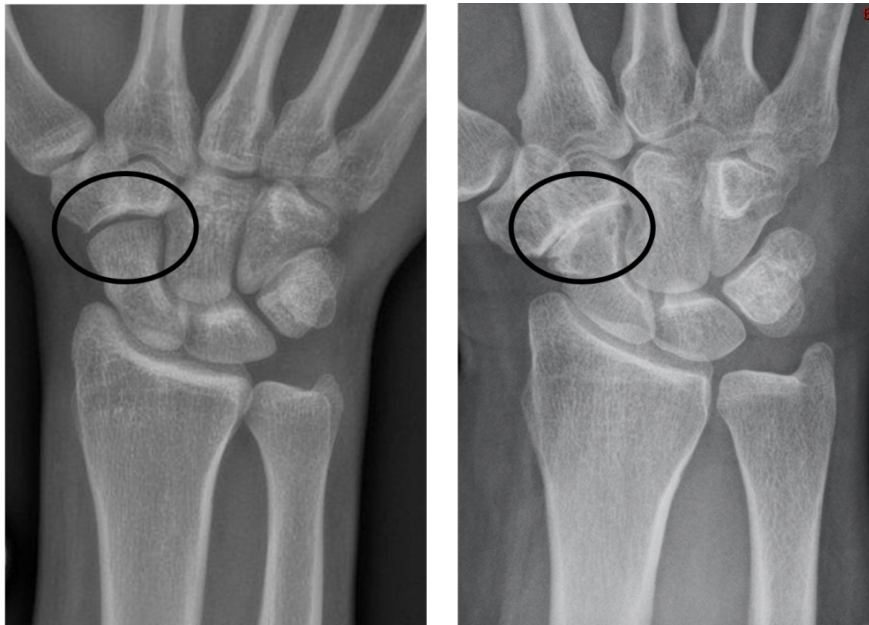
- Postop protocol
 - Thumb immobilized in a splint for 8 weeks total
 - 1- 2 weeks in plaster splint, then the remainder in custom removable brace
 - No cast
- Return of grip and pinch strength expected at 4-5 months

Other Surgical Treatments

- Fusion
- Replacement

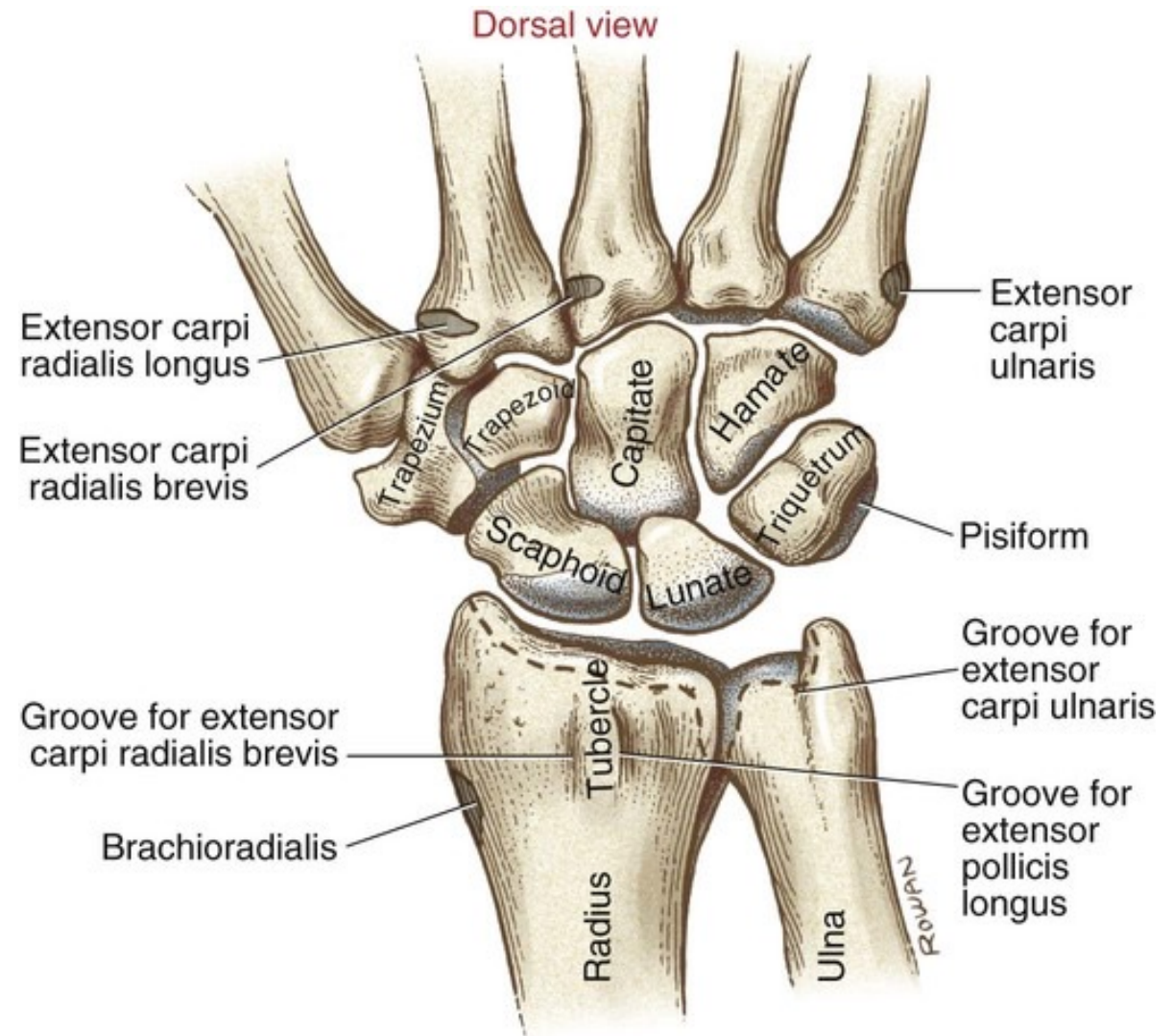
Scapho-Trapezial-Trapezoid (STT) Arthritis

- 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



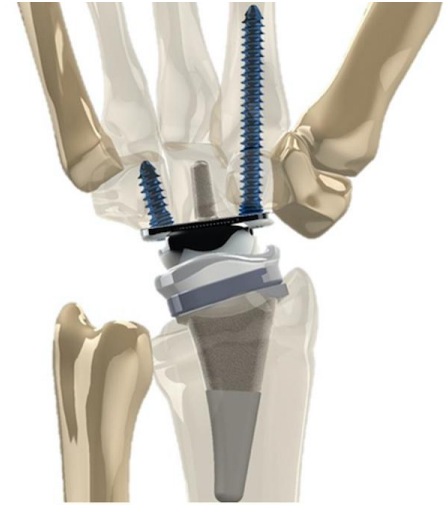
Alternatives to PRC or Fusion

- 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?

Relief for Hand or Wrist Arthritis

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