

Relief for Hand or Wrist Arthritis

Dominik Rog, MD
Boulder Medical Center
720-954-2584

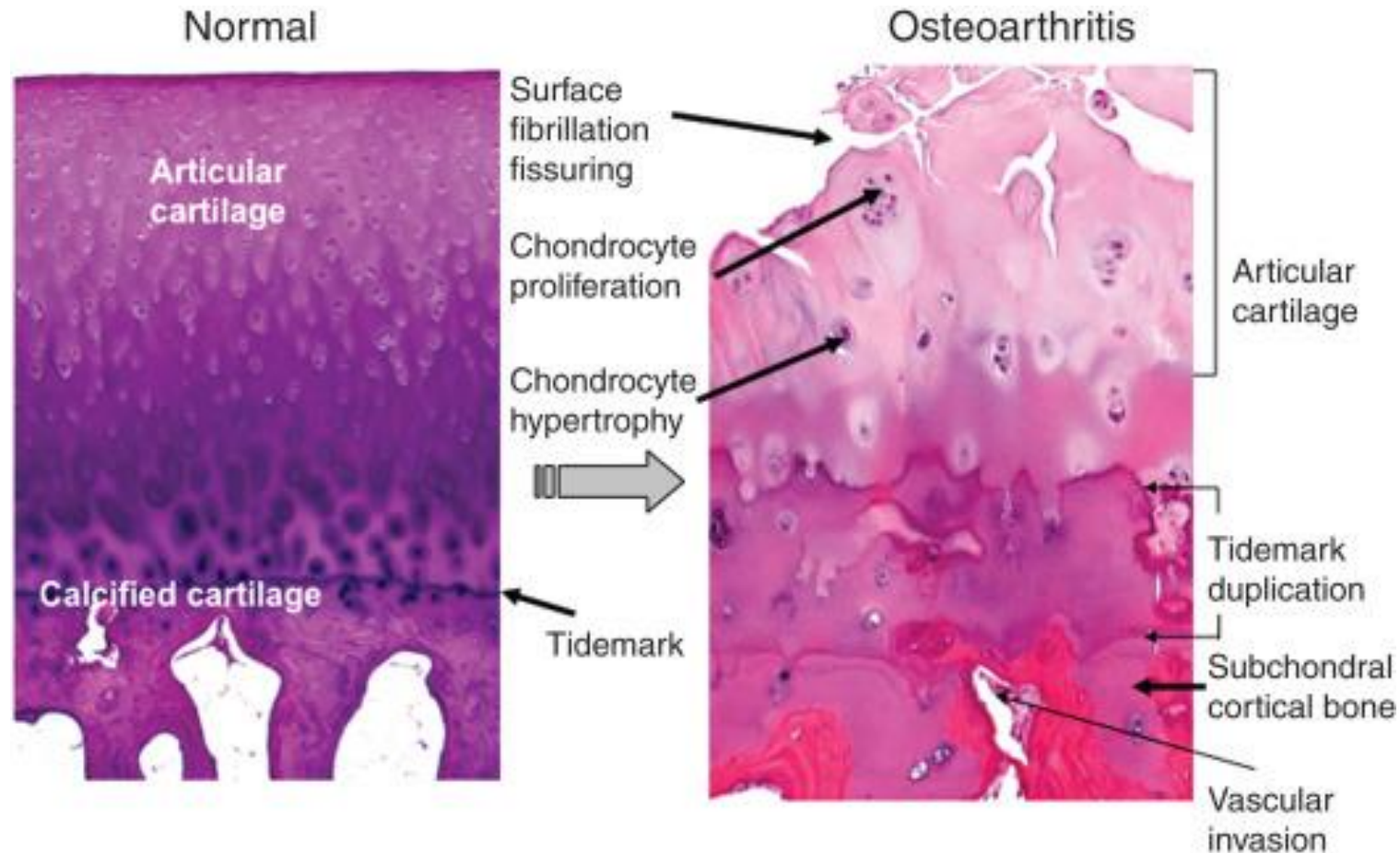


What is Arthritis?

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

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

- Characterized by breakdown of articular cartilage (hyaline cartilage)



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

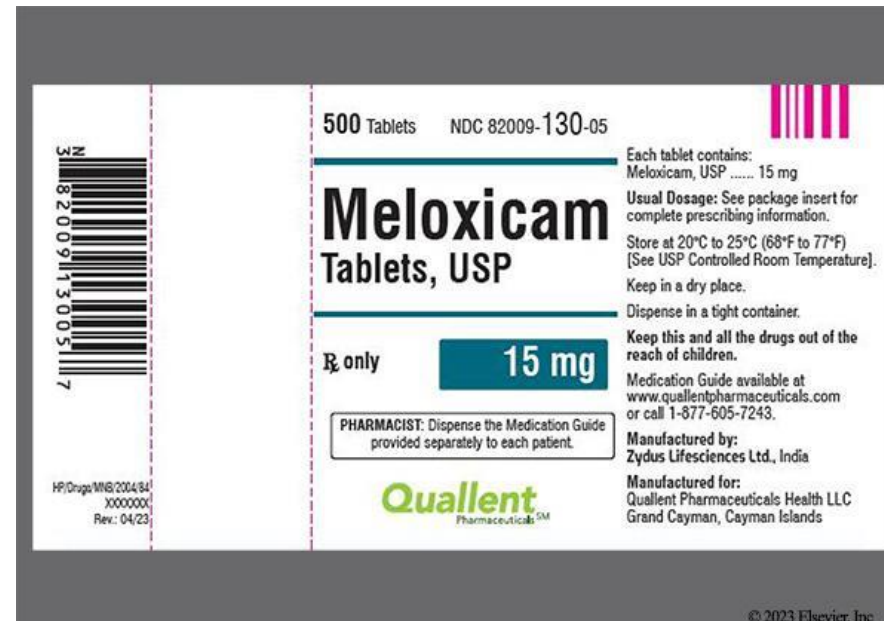


- Most symptoms due to OA can be treated effectively without surgery
- Treatments do not reverse arthritis or halt progression

Types of Treatments

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

- 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>

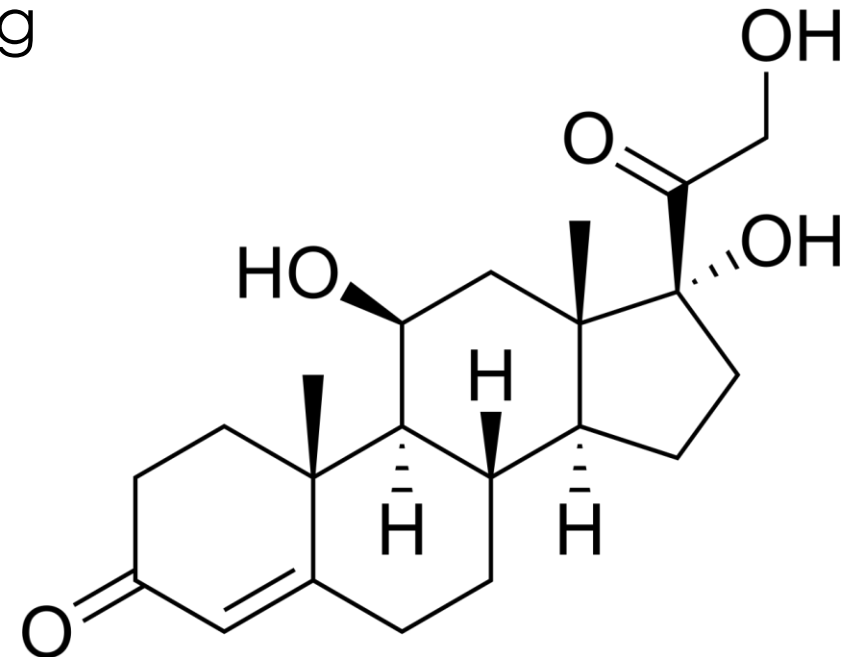
Symptomatic Effects of Chondroitin 4 and Chondroitin 6 Sulfate on Hand Osteoarthritis

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



- 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}

¹Department of Rheumatology, Boston University School of Medicine, Boston, MA

²Department of Biostatistics, Boston University School of Public Health

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

⁴University of Iowa, Iowa City, IA

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



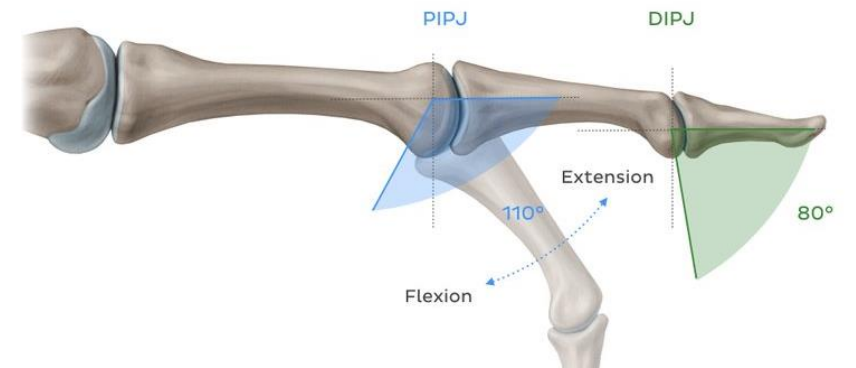
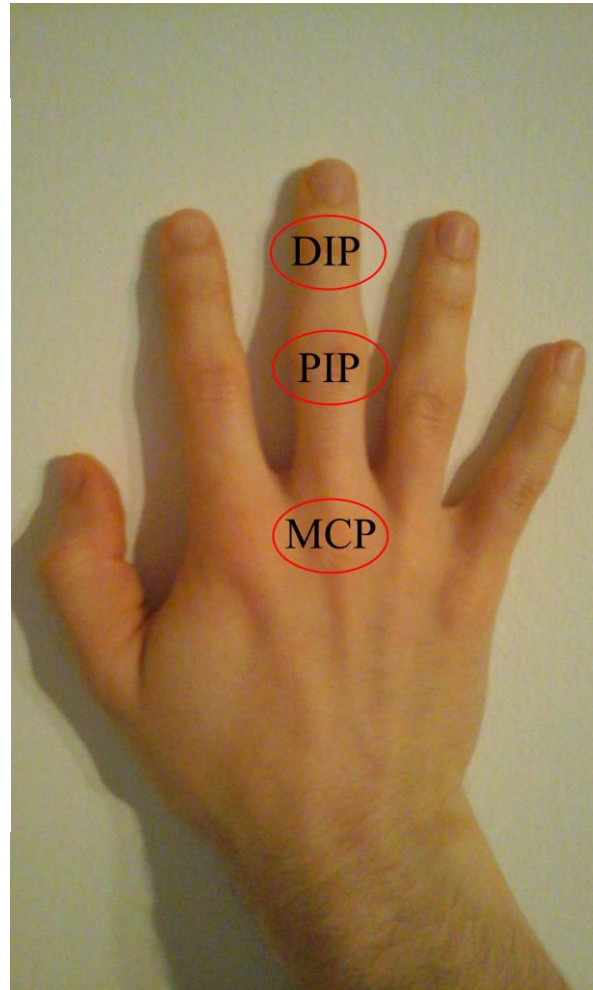
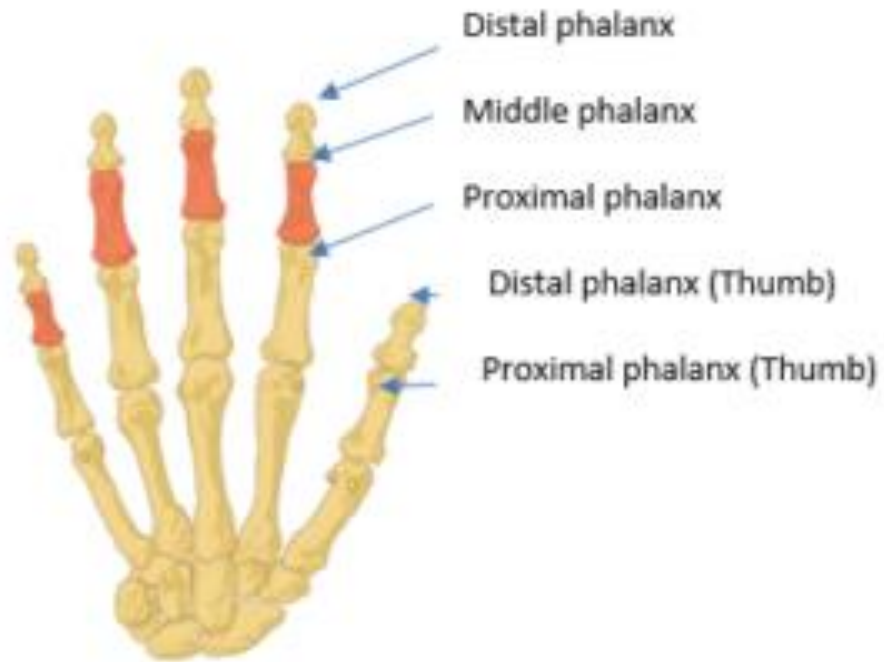
- Both physical therapy and occupational therapy
- Very useful adjunct
 - Ergonomics, activity modification, exercises, modalities

Bracing

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



Distal Interphalangeal Joint (DIP)



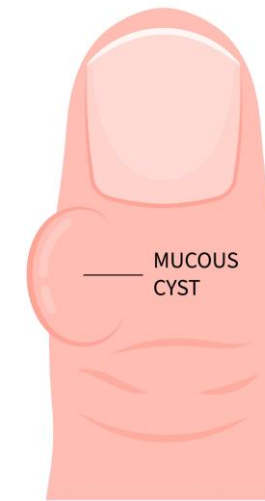
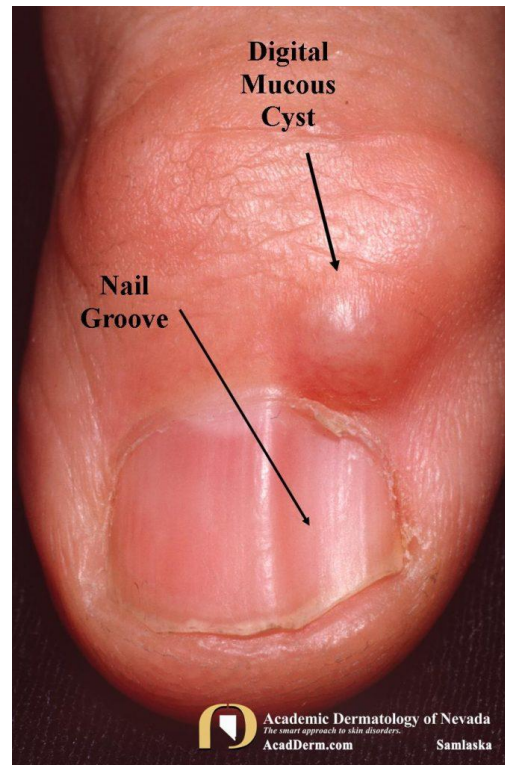
DIP Joint Arthritis

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

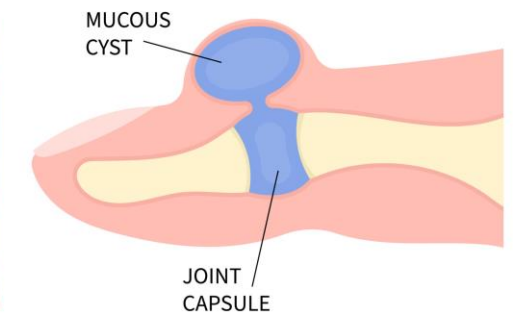


Muroid Cysts

- 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



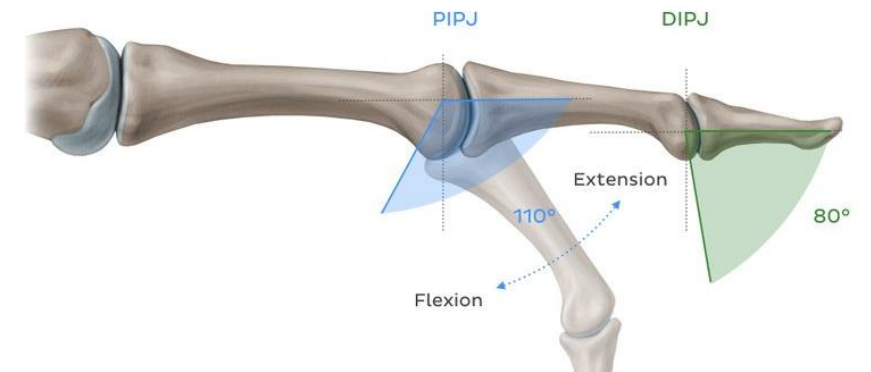
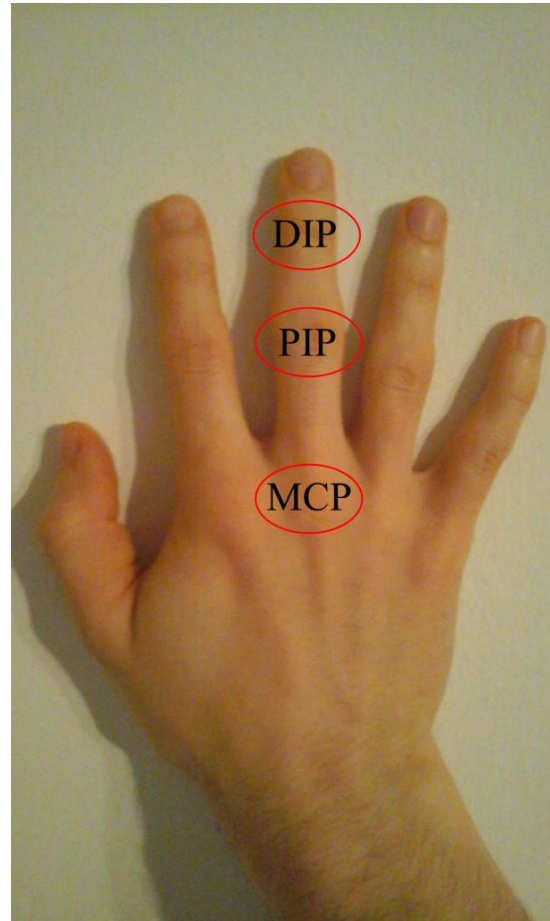
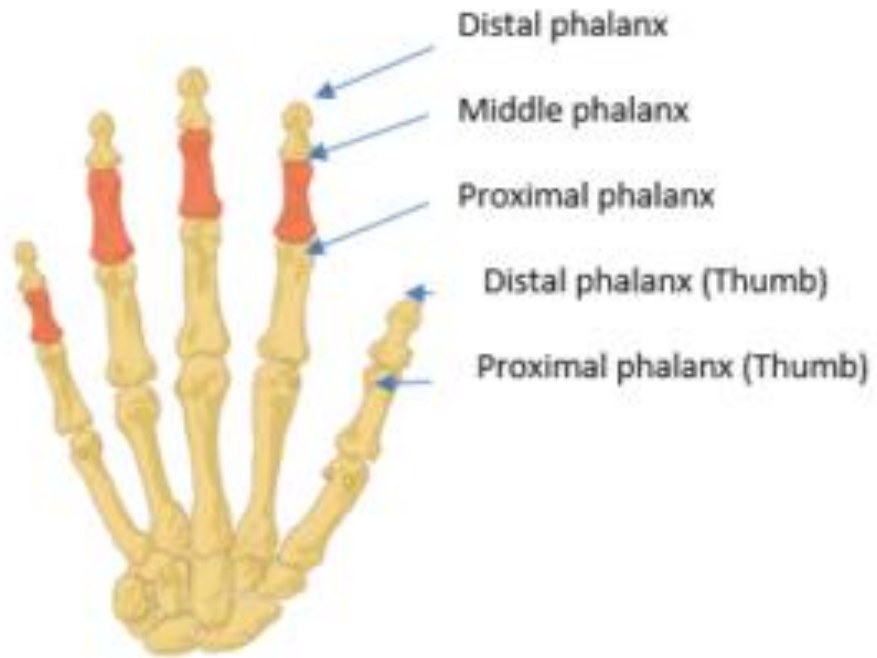
- Cheilectomy
 - Involves removing the bone spurs
 - Not as reliable for pain relief

> [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) Boulder Community Health



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



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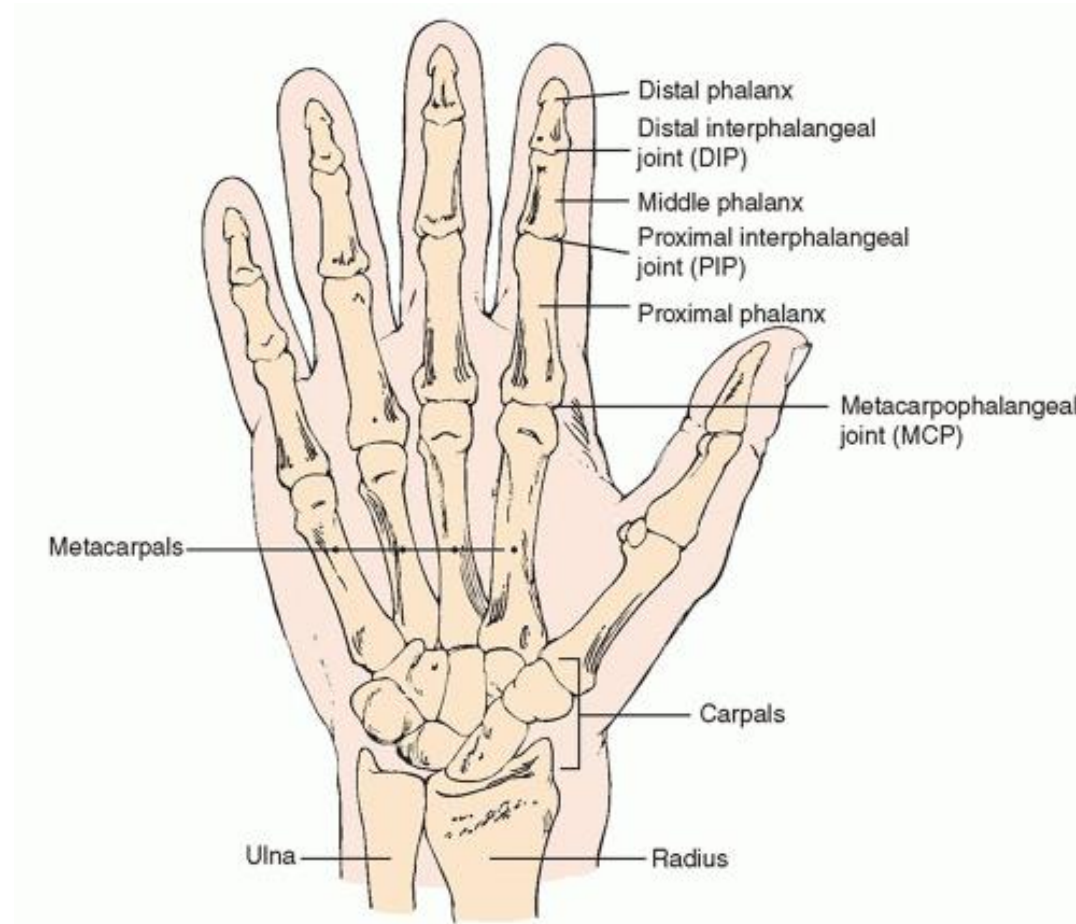
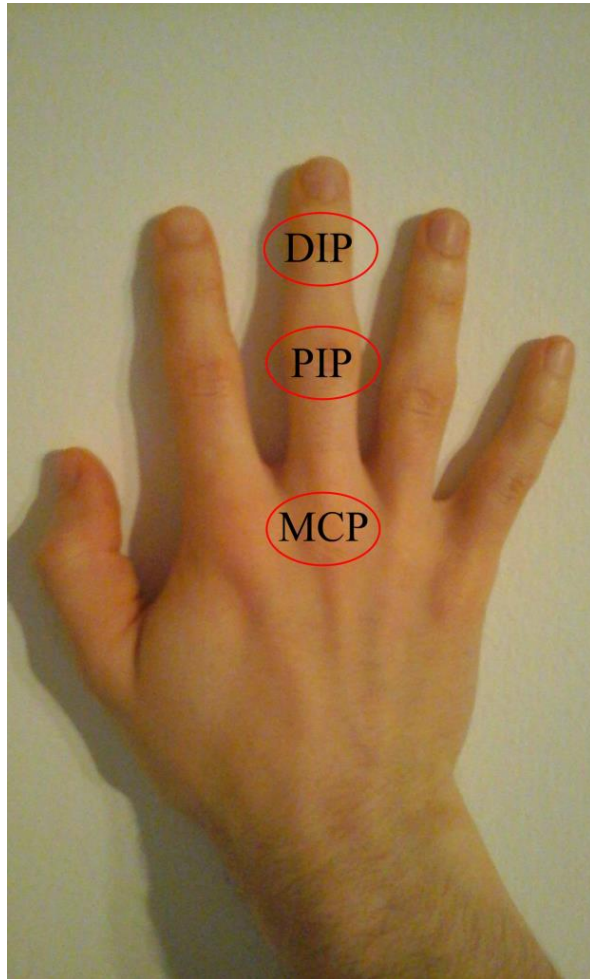
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PIPJ Replacement

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



Metacarpophalangeal Joints (MPJ) Boulder Community Health



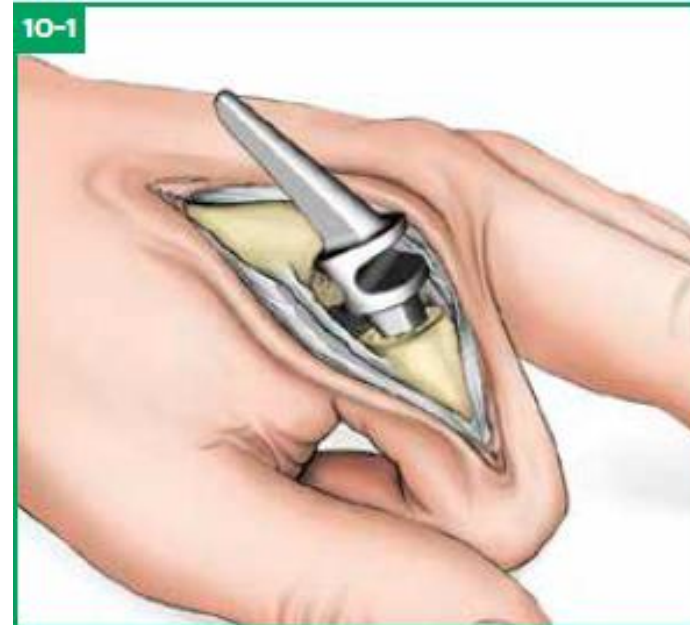
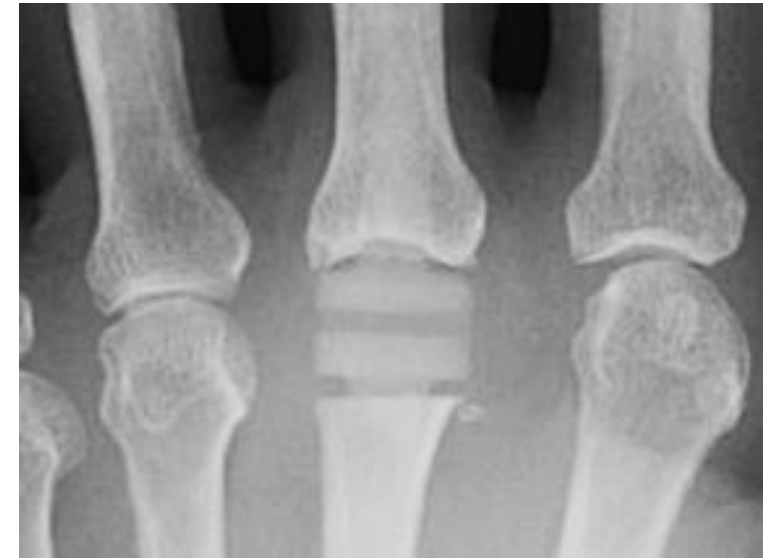
MP Joint Arthritis

- 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.)

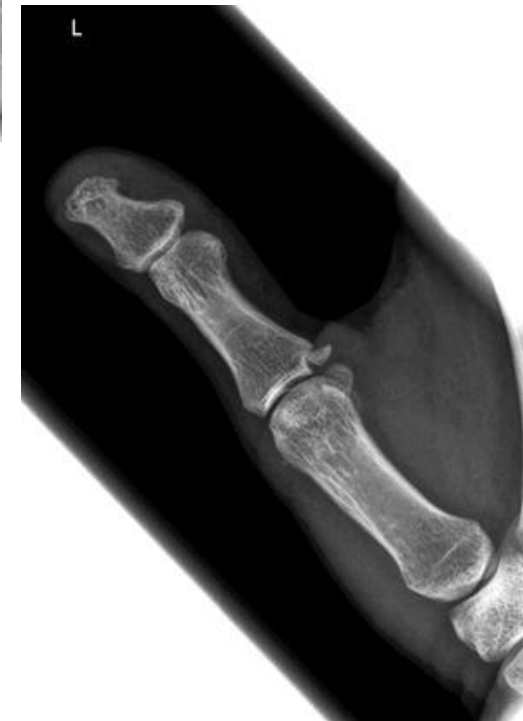
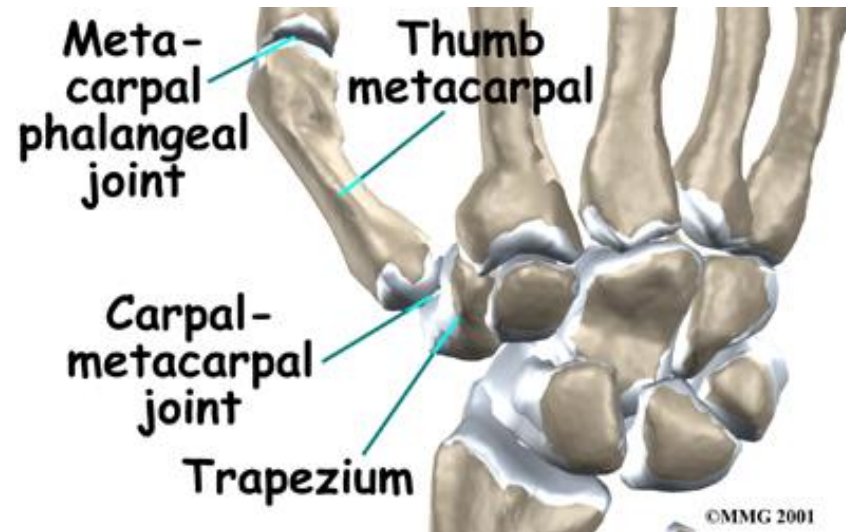
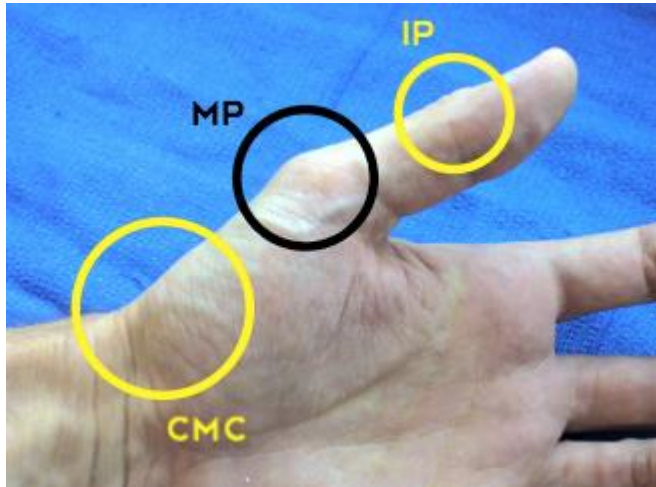
Thumb Metacarpophalangeal Joint

- 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)

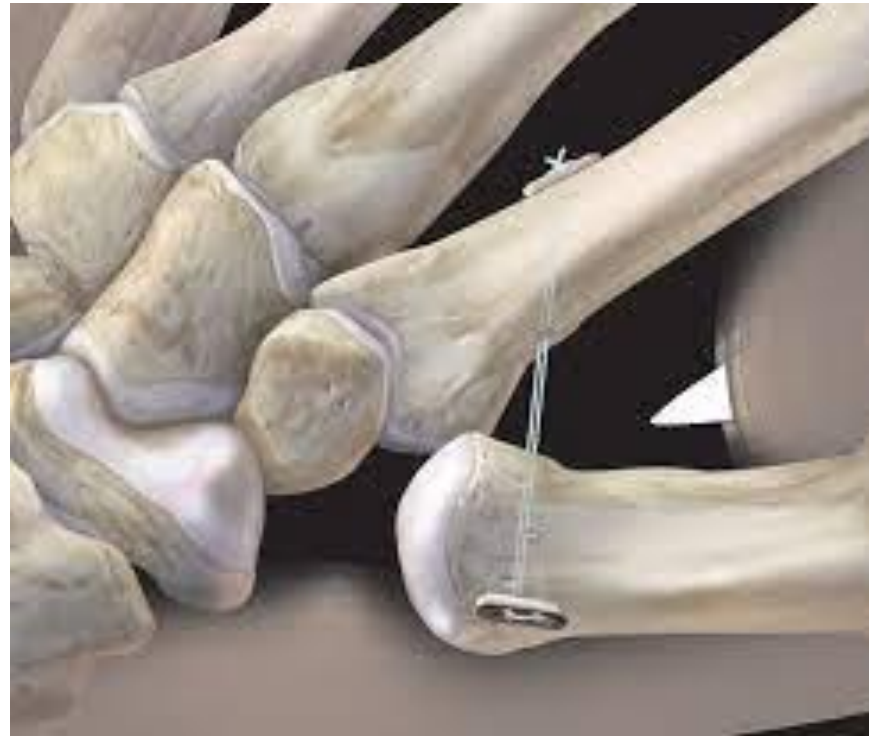


Bracing Options

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

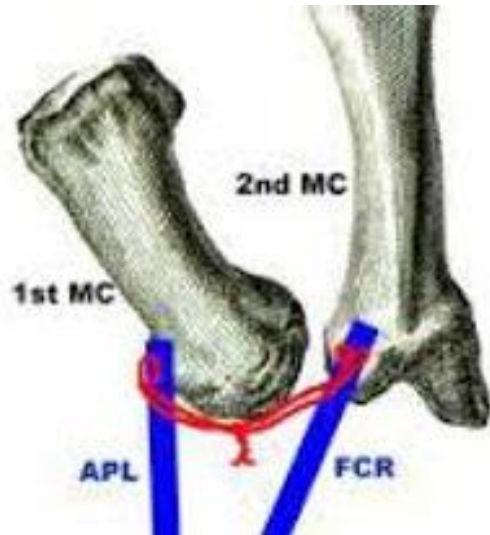


- Trapeziectomy + (something to suspend the thumb)



Surgical Treatments

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



- Post-op 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

Replacement



Replacement



ISSUE HIGHLIGHTS

- 400 Revision Strategies for Complications and Failure of Trapeziometacarpal Joint Arthroplasty Based on Residual Trapezial Bone Stock
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Editor-in-Chief: Gregory A. Merrell, MD

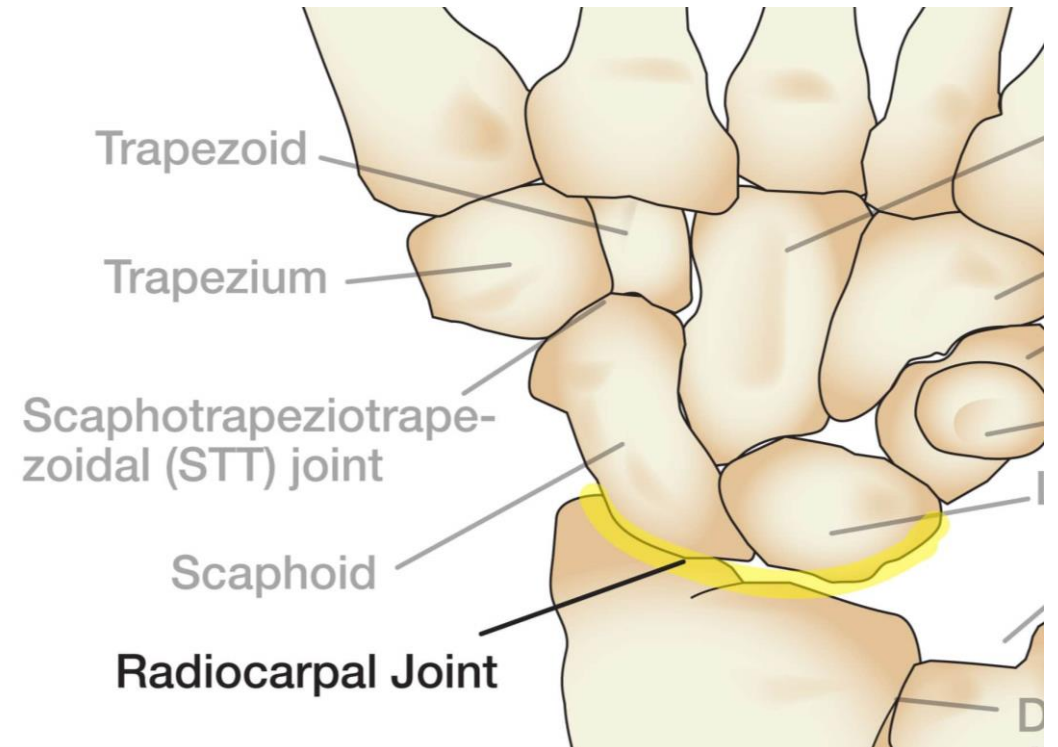


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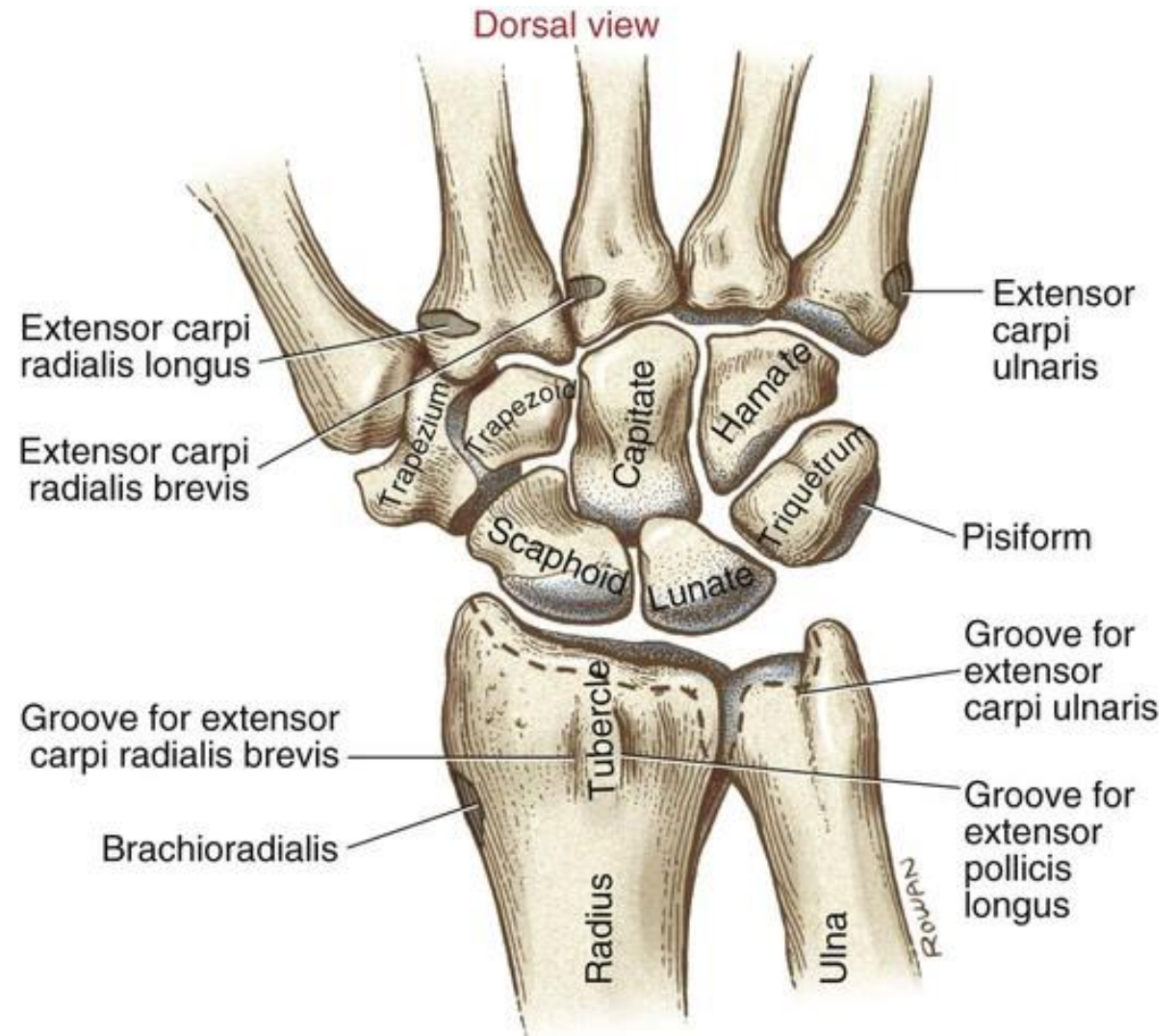
Scapho-Trapezial-Trapezoid (STT) Arthritis

- 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

- 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

- 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



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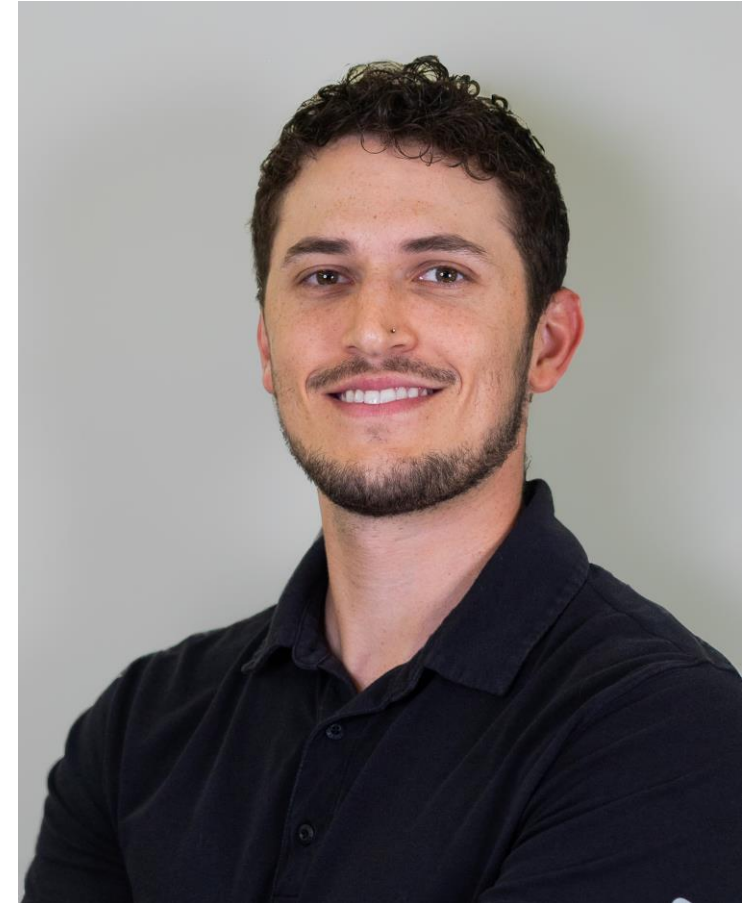
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Demonstrated by:

Jared Alme, OTR/L, CNS

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

COMMUNITY

We believe everyone should have a fair and just opportunity to reach their full health potential, both physically and mentally.

PATIENTS

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

WORKFORCE

We believe it's imperative to invest in the professional growth and physical and mental health of BCH's greatest asset—the staff and physicians providing care to the community.

Learn more at bch.org/foundation



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