Current Concepts in Office Orthopedics

7th Annual Flagstaff Osteopathic Medical Conference
August 14, 2021

Michael Bagley, DO

Tuba City Regional Health Care Center

No Disclosures

Objectives:

- To increase awareness of current concepts in the approach and treatment of common shoulder and knee problems seen in the office.
- To provide more effective treatment of common knee and shoulder problems seen in the office of orthopedic and primary care specialists.

Knee & Shoulder Pain

General Approach

- Age
- Mechanism
- Location

Imaging

- Xray or MRI or both?

Treatment

- Steroid injections

Shoulder Pain….Age is Key

Young (25 and younger)

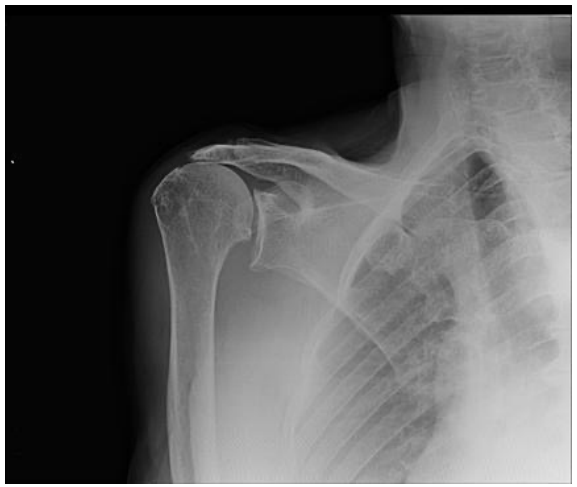
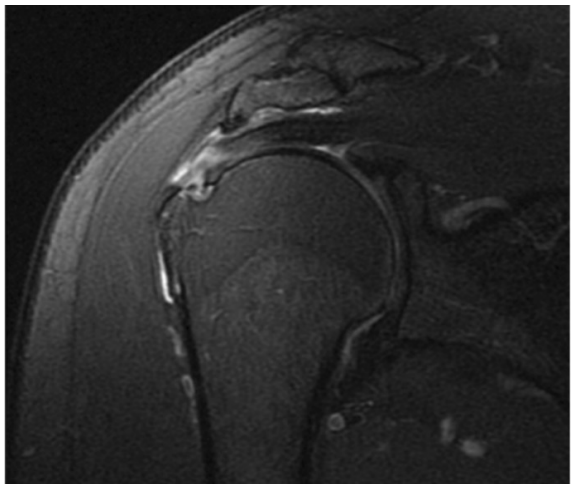
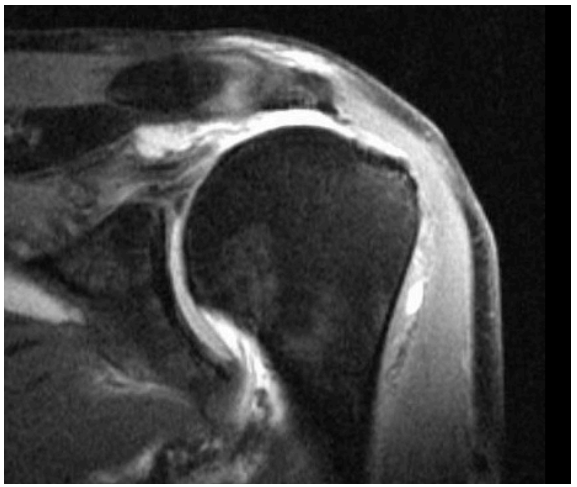
- Trauma - Instability → MRI Arthrogram

Not as young (25-40)

- Labrum and biceps tendon → MRI Arthrogram

40-50 yrs old

- Rotator Cuff, labrum, biceps → MRI Arthrogram

Shoulder Pain
Age is Key

50-70 yrs old

Rotator cuff

- X-ray then probably MRI – no arthrogram
- Dx Ultrasound

70+ yrs old

Rotator cuff tear athropathy and OA

- Xray then occasionally MRI – no arthrogram

Pain Regions

Deltoid area (Lateral arm)

- Rotator cuff, subacromial bursa

Anterior or deep in the shoulder

- Labrum, biceps, frozen shoulder

Superior – trapezius & scapular (No man's land)

- SSN (suprascapular nerve)
- Can be cervical spine or shoulder related – secondary in nature.

Shoulder Dislocations
Do Better With Early Surgery

Repair vs non-surgical in 1st time dislocators < 35 yrs old

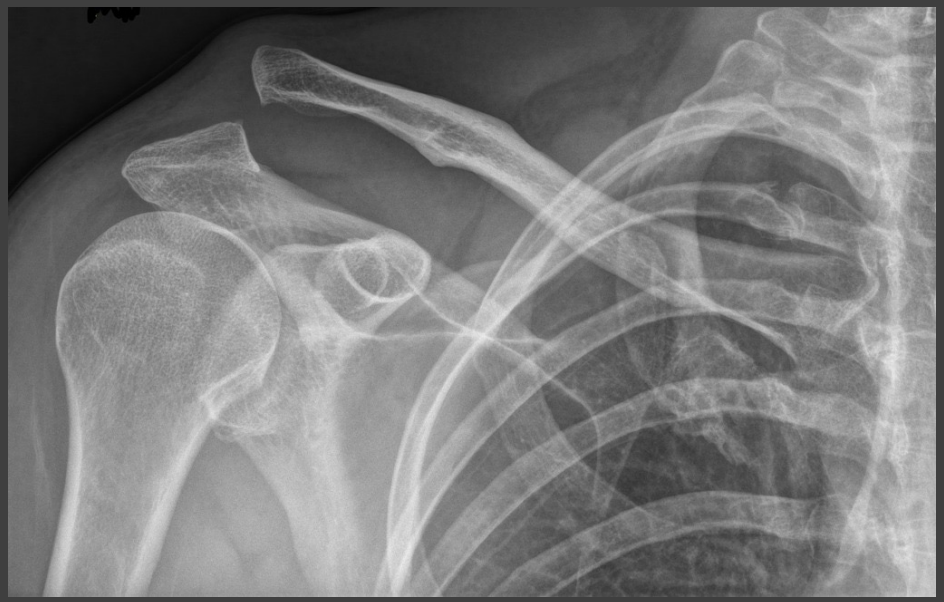
Surgery → 10% re-dislocation rate

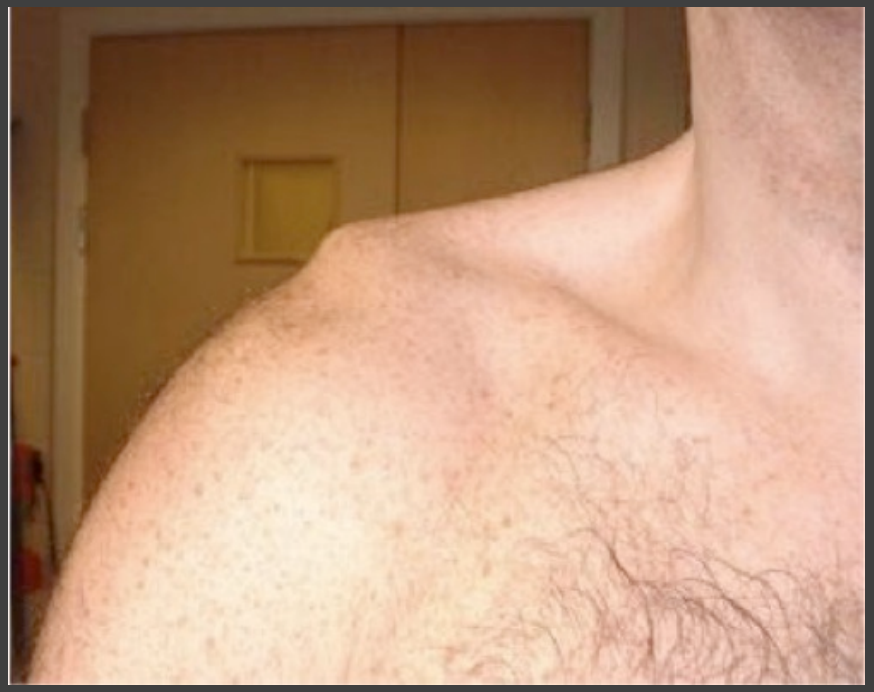
No Surgery → 50-60% re-dislocation rate

Timing – Within 6 months and <2 dislocations

Less recurrent dislocations

Less invasive surgery





AC Joint Injuries

AC Joint Reconstruction

Essentially Cosmetic

ORIF vs Nonoperative in Type III & IV AC Joint Injuries

- **No difference in pain or function at 12 months**

Rotator Cuff Pathology

Rotator Cuff Tendonosis

Rotator Cuff Tears

- Low grade
- High grade
- Full thickness
- Chronic with retraction and atrophy

Rotator Cuff Tendonosis

Cortisone Injection (subacromial) and PT/OT

Refer if no improvement after 2-3 months

Very careful with multiple cortisone injections

- Occult rotator cuff tear?
- Labrum or biceps tendon true source of pain?
- Consider glenohumeral joint injection – diagnostic and therapuetic

Rotator Cuff Tear Treatment

Low grade partial tear

- PT, activity modification, suprascapular nerve block

High grade partial tear

- Rotator cuff repair

Full thickness tear

- Rotator cuff repair

Full thickness tear with retraction and muscle atrophy

- Total shoulder pathway --> PT, cortisone, activity modification, eventual replacement...or not

No Cortisone in Rotator Cuff Tears

Injections Prior to Rotator Cuff Repair are Associated with 2x Increased Rotator Cuff Revision Rates

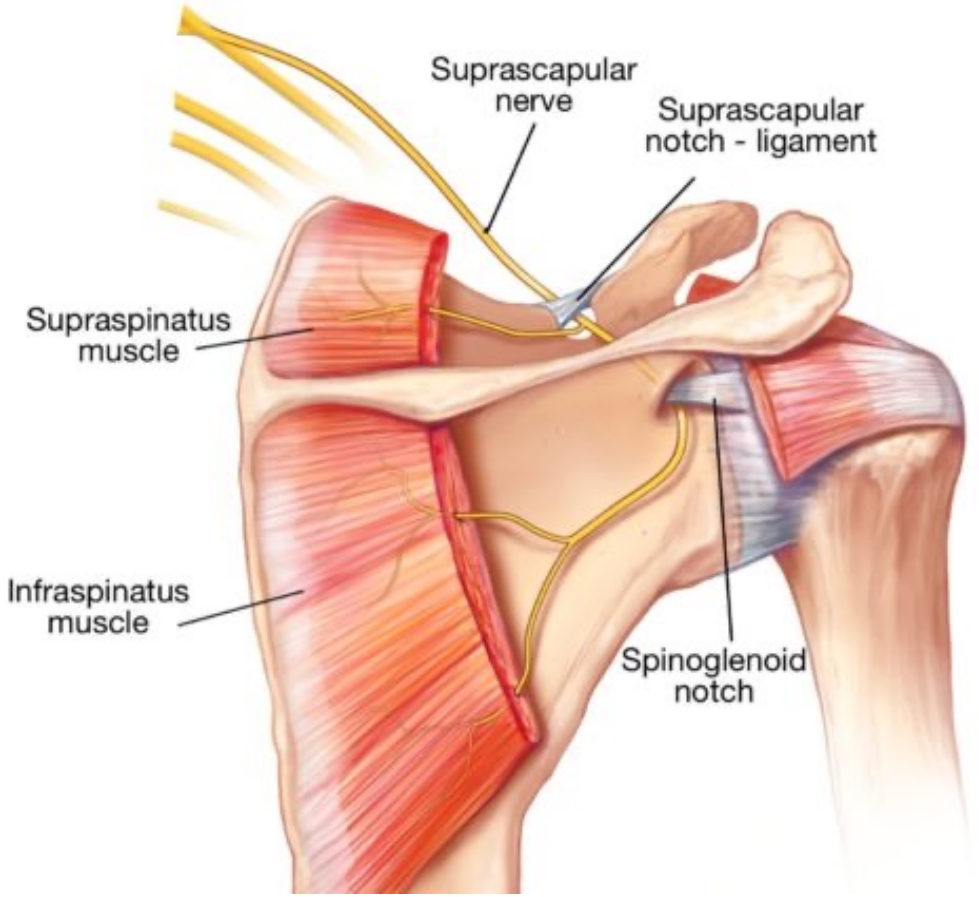
Arthroscopy, Weber et al, March 2019

- 22,156 pts, retrospective review
- Matched & adjusted for smoking, sex, obesity, and comorbidities
- 2 cortisone injections (or more) → 2x greater incident of revision rotator cuff repair.

Suprascapular Nerve Block

- Excellent tool for shoulder pain relief
- Provides sensory function to shoulder joints
  - AC
  - Glenohumeral
- Easy to perform! With or without US.

Suprascapular Nerve



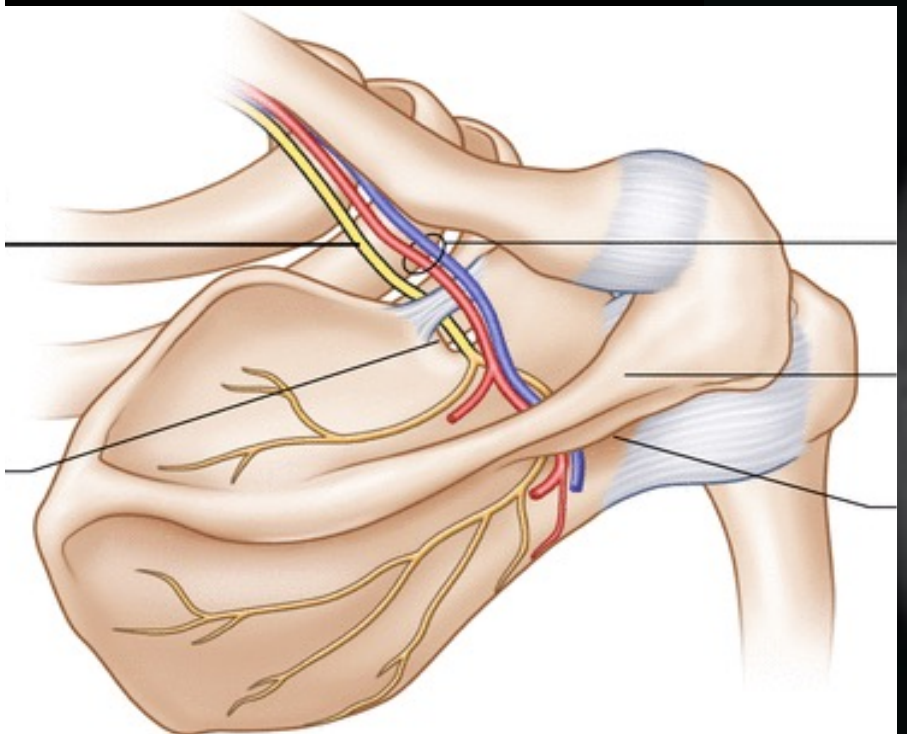
Suprascapular Nerve Block (SSNB)

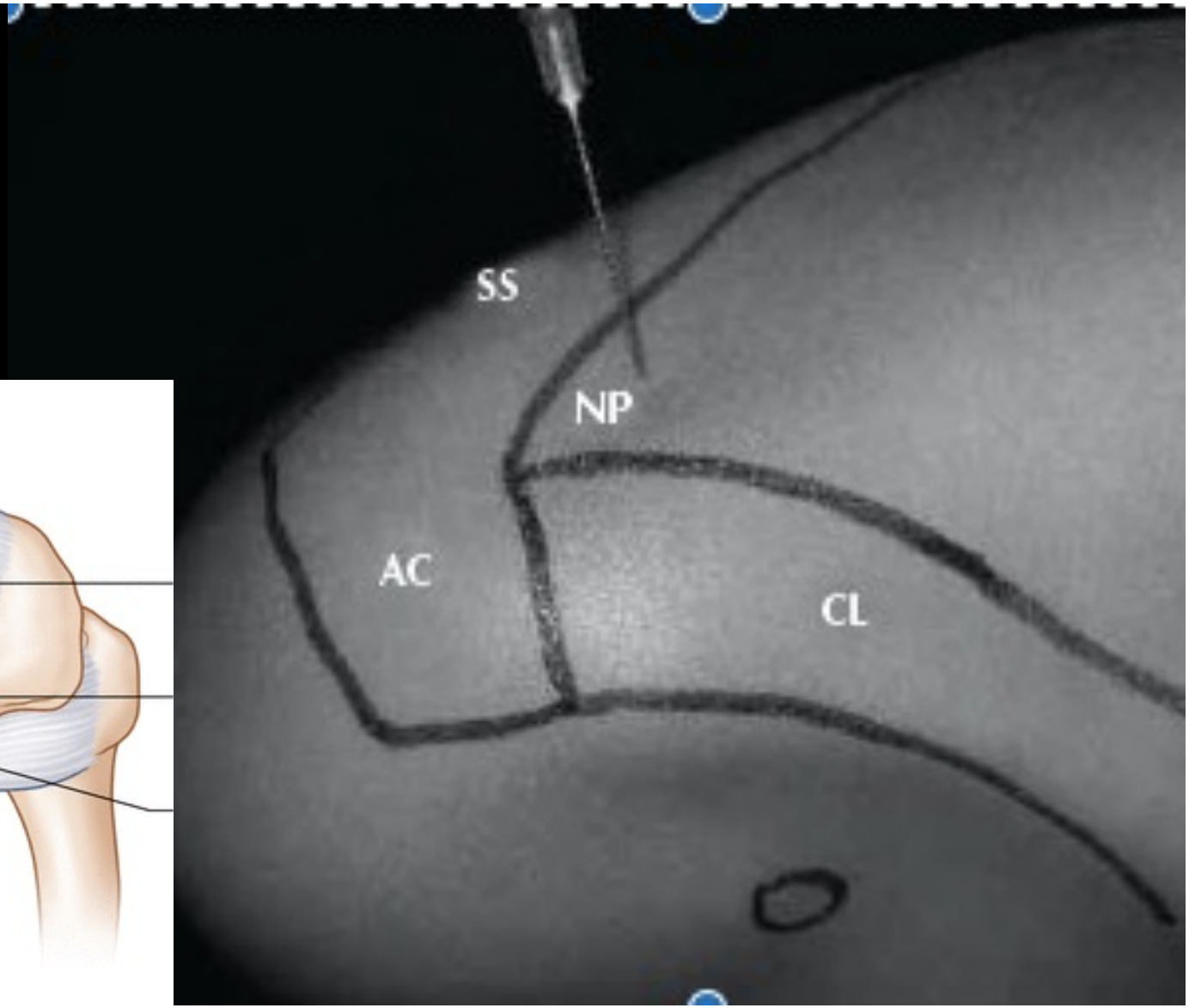
SSNB better than subacromial cortisone and less dangerous to rotator cuff

Less pain & better function at 6 & 12 weeks

J Shoulder Elbow Surg, Mar 2019
Coory et al, Australia
42 pts, randomized, controlled.
Confirmed partial and full thickness tears

SSN Block



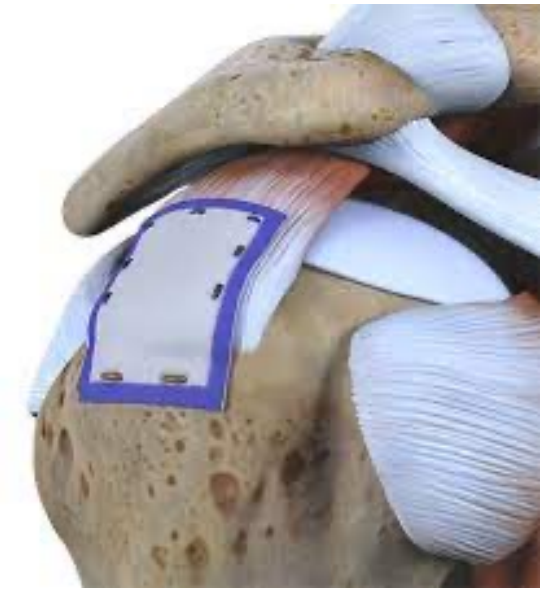


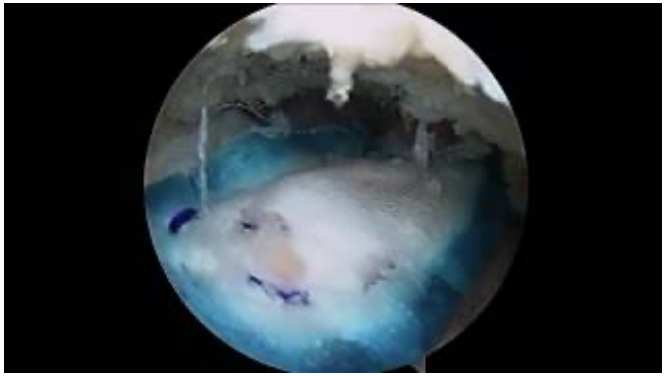
Suprascapular Neuropathy

- Presentation:
  - Superior shoulder pain, scapular pain, clavicle pain, shoulder pain
- Eval & treat any shoulder and neck pathology
- Suprascapular nerve block
  - CPT code 64418
  - Diagnosis: suprascapular neuritis
- OMT
  - Cervical, inlet, upper thoracics
- PT

Improved Rotator Cuff Healing

- No cortisone
- Regeneten Patch
  - Collagen
- Early ROM
  - Sling 1-2 days.

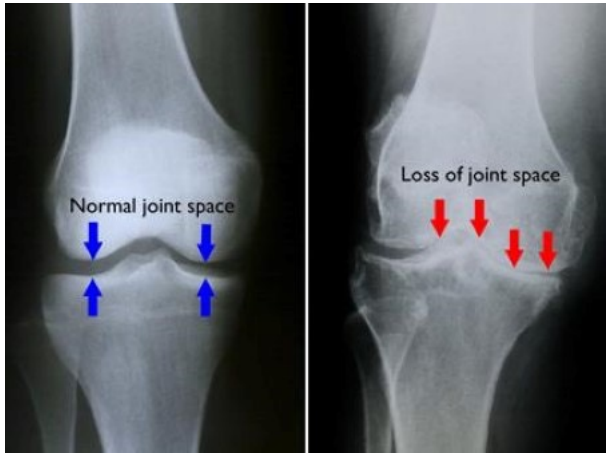




Approach to Knee Pain

- Age
- Mechanism
  - Insidious – OA or degenerative meniscal tear
  - Trauma – fracture, ligament injury, acute meniscal injury, plica
    - Loud pop and immediate swelling --> ACL
- Symptoms
  - Pain - cartilage, meniscus, plica, fracture, acute ligament
  - Instability – ACL

Imaging in Non-Traumatic Knee Pain



Always x-ray first.

Weightbearing

MRI may not be useful.

Moderate to Severe OA – TKA Pathway

- Weight loss
- Low impact activity
- PT
- Cortisone
- NSAIDs
- Eventual TKA

Knee OA Treatment

No Data to Support

- Glucosamine Chondroitin
- Hyaluronic Acid
- Bracing
- Wedge Insoles
- Acupuncture
- Acetaminiphen
- Platelet Rich Plasma (PRP)
- Arthroscopic partial meniscectomy
- Opioids
- Pain patches

Cortisone in Moderate to Severe OA

- Low dose cortisone
  - Triamcinolone 40mg
- No bupivicaine
- 3 months or more between injections.

Raynauld et al, University of Montreal *Arthritis Rheum,* 2003

- Randomized, double-blind, placebo-controlled
- Examined the effect of triamcinolone 40mg every 3 months in knee OA
- Conclusion:
  - Long term repeated triamcinolone injection did not cause narrowing of the radiographically measured joint space and appeared to be clinically effective for relief of the symptoms of knee OA without accelerated disease progression.

Wernecke et al, Stanford University
Ort*ho J Sports Med* Apr 2015

Systematic Review

Conclusion:

In vivo animal studies and human clinical studies have supported the possible chondral protection from injury or OA provided by triamcinolone.

CURRENT CONCEPTS REVIEW

Use of Intra-Articular Corticosteroids in Orthopaedics

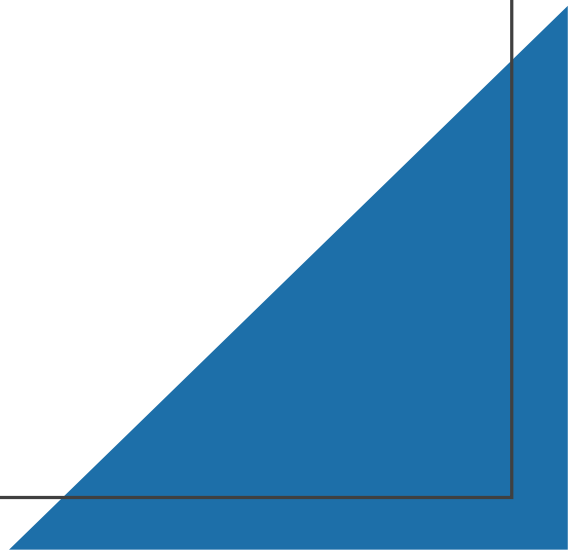
Scott D. Martin, MD, William K. Conaway, BA, and Pengfei Lei, MD

Investigation performed at the Department of Orthopaedic Surgery, Massachusetts General Hospital, Boston, Massachusetts

- A review of the evidence-based research on the efficacy of intra-articular corticosteroid injections of the osteoarthritic knee was inconclusive.
- Combining intra-articular corticosteroid injection with a higher-dose anesthetic may compound chondrotoxic effects.
- Compared with corticosteroid injections for osteoarthritis, intra-articular viscosupplements have not shown a substantial difference in pain relief or functional outcomes.
- Although rare and usually transient, systemic effects of intra-articular corticosteroid injections may occur and can be influenced by the type, frequency, and dosage of the corticosteroid used.
- Practitioners are encouraged to use corticosteroid injections judiciously to treat pain and joint inflammation from osteoarthritis and inflammatory arthritis of large joints.

Cortisone in Joints

- Literature conflicting and inconclusive.
- The bad – chondrotoxicity
  - Most studies from the late 1950's and 1960's
  - Seen mostly in hig & too frequent doses.
- The good – pain relief and increased function.
  - Decreases inflammatory pathways in synovial tissue and restores the natural milieu of the joint.
  - Allows for increased exercise and low impact activity
    - → Restores the natural joint milieu
    - → Strengthen knee and surrounding structures – Wolf's Law.



Take Away of Cortisone in the Knee

- Triamcinolone
  - Least soluble
- 40mg
  - Lower doses may actually protect the cartilage.
- Lidocaine or ropivacaine
  - NO Bupivacaine.
- 3 months

Summary

- No to cortisone in rotator cuff tears
- Yes to cortisone in arthritic knees.
- Suprascapular nerve block is a safe and effective injection technique for shoulder pain.
- No MRI's in advanced knee OA.
- Standing / Weight-bearing knee x-rays except in fractures.
- Shoulder dislocations usually do better with early surgery.
- AC joint injuries usually do not need surgery