

# Relieving Shoulder Pain: Innovative Treatments for Rotator Cuff Injury

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**Boulder Centre**  
*for* Orthopedics & Spine

Your Life in Motion



- **Common causes of degenerative shoulder pain:**
  - Rotator Cuff Tendinosis/Impingement
  - Rotator Cuff Tear
  - Osteoarthritis
  - Rotator Cuff Arthropathy
- **Evaluation and Initial Management**
- **Surgical options:**
  - Rotator Cuff Debridement/ Repair
  - Superior Capsular Reconstruction
  - Total Shoulder Arthroplasty
  - Reverse Total Shoulder Arthroplasty
- **Recovery**

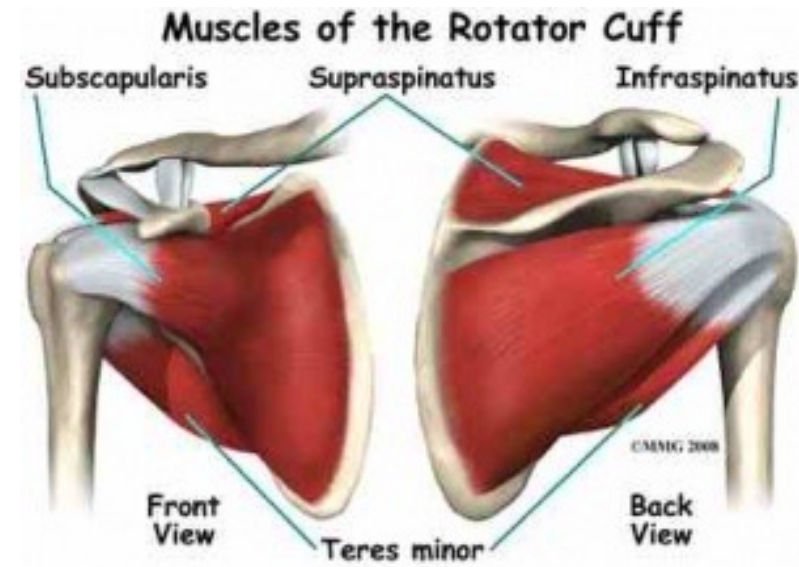
# Rotator Cuff Anatomy

Supraspinatus

Infraspinatus

Teres Minor

Subscapularis



# Part I

## Rotator Cuff Tendinosis/Impingement



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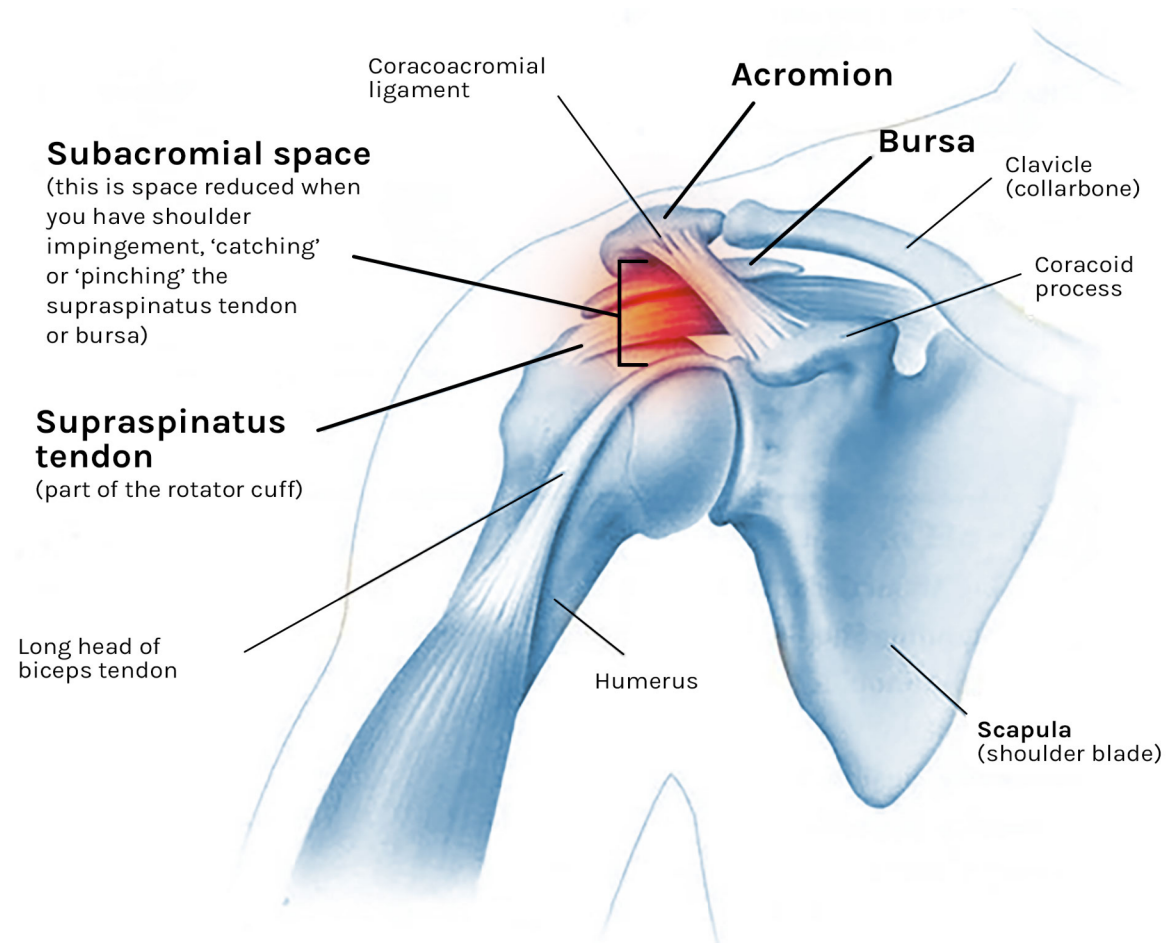
Your Life in Motion



# Rotator Cuff Tendinosis/Impingement

Most common cause of shoulder pain

→ External compression on RC/Bursa



## History of Symptoms:

- Shoulder pain on the front and side
- Difficulty with overhead activities and reaching
- Should not have weakness
- Slow onset or from overuse
- Waxes and wanes

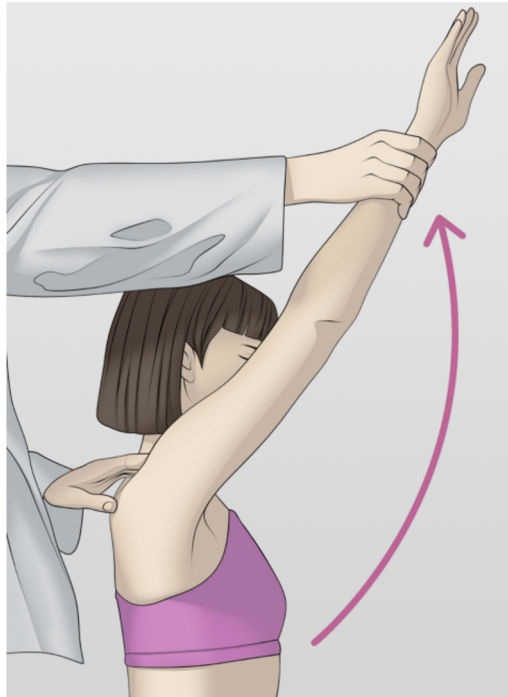
## Imaging:

X-rays are often normal, but can show a “hook.”



## Physical Exam:

- Pain with forward elevation of the shoulder
- Pain with shoulder abducted (out to the side) and internally rotated (turned down)





## **Initial Conservative Treatment:** Non-operative!

- NSAIDs
- PT
- Activity modifications
- Steroid injection

## **“When Do I Need Surgery?”**

- *An option for pain > 3 months without improvement from conservative therapy*
- Shoulder arthroscopy: Subacromial decompression with possible acromioplasty
  - Short recovery and minimal restrictions

# Part II

## Rotator Cuff Tear



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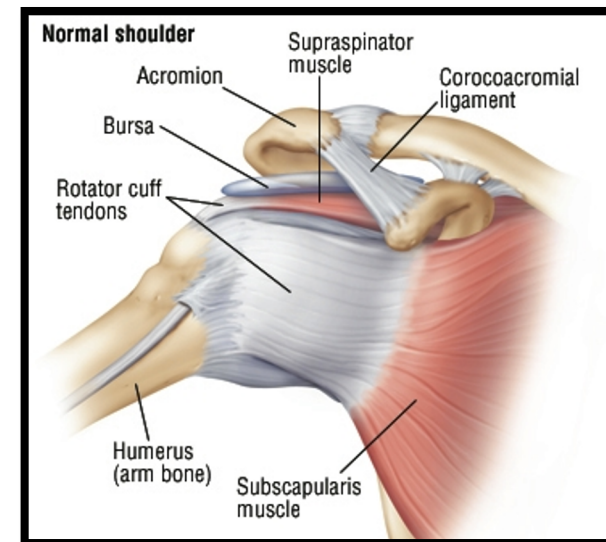
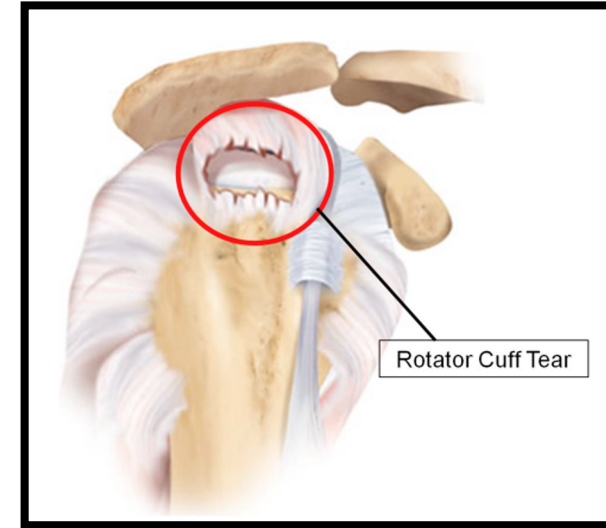
# Rotator Cuff Tear

Affect about 17 million in U.S.

4.5 million physician visits per year

Between 200,000 – 300,000  
surgically repaired each year

Reported complication rate 10 – 14 %





## History of Symptoms:

Traumatic injury

- a. Examples: fall on outstretched arm, lifting heavy object overhead
- b. Can hear a “pop”
- c. Loss of active shoulder motion

Chronic rotator tearing

- a. Slow onset of pain *with loss of strength*
- b. Pain at night
- c. Difficulty with daily activities

Risk Factors: Age >60, use of tobacco, diabetes

## Imaging:

X-rays are often normal!

# Rotator Cuff Tear

## Physical Exam:

- Loss of ability to raise arm overhead
- "Drop arm"
- Weakness: with resisted arm elevation, external rotation, "lift off" strength



# Rotator Cuff Tear

## **Traumatic Injuries Should Be Evaluated by an Orthopaedic Surgeon**

- MRI without contrast: evaluates soft tissue structures of the shoulder

## **Initial Conservative Treatment**

- Appropriate for partial and some chronic tears
  - NSAIDs
  - PT
  - Activity mod
  - Steroid injection

## **“When Do I Need Surgery?”**

- Traumatic, complete tears
- Significant weakness
- Pain despite conservative treatment





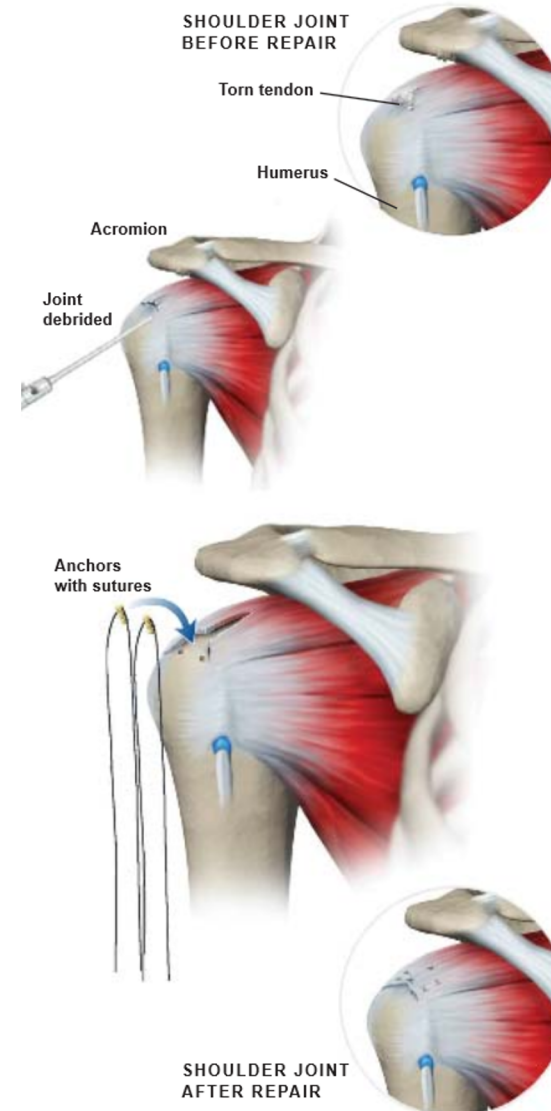
# Rotator Cuff Tear

## Traumatic tear:

- Arthroscopic surgery for repair

## Chronic tear:

- Arthroscopic surgery for repair
- Augmentation
- Superior capsular reconstruction



# Rotator Cuff Tear

## **Post-operative course:**

- Sling with pillow 4-6 weeks
- No lifting for 12 weeks
- Full recovery ~ 6 months



# Part III

## Glenohumeral Osteoarthritis



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Your Life in Motion

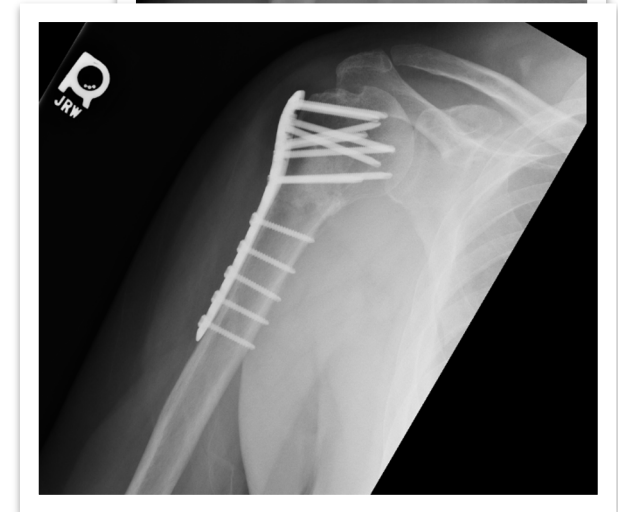
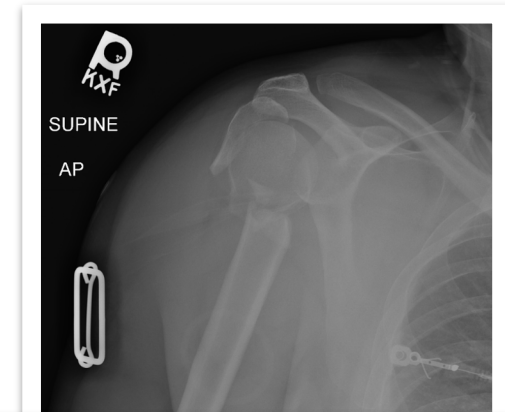
# Glenohumeral Osteoarthritis

## History of Symptoms:

- Slow loss of active range of motion
- "wear and tear"
- Popping or grinding with motion
- Deep, aching pain
- Consistent night pain

## Risk Factors:

- Throwing athletes: baseball, lacrosse
- Manual labor
- Rheumatologic disease
- Prior shoulder dislocation
- Prior broken arm bone (humerus)
  - with or without surgery

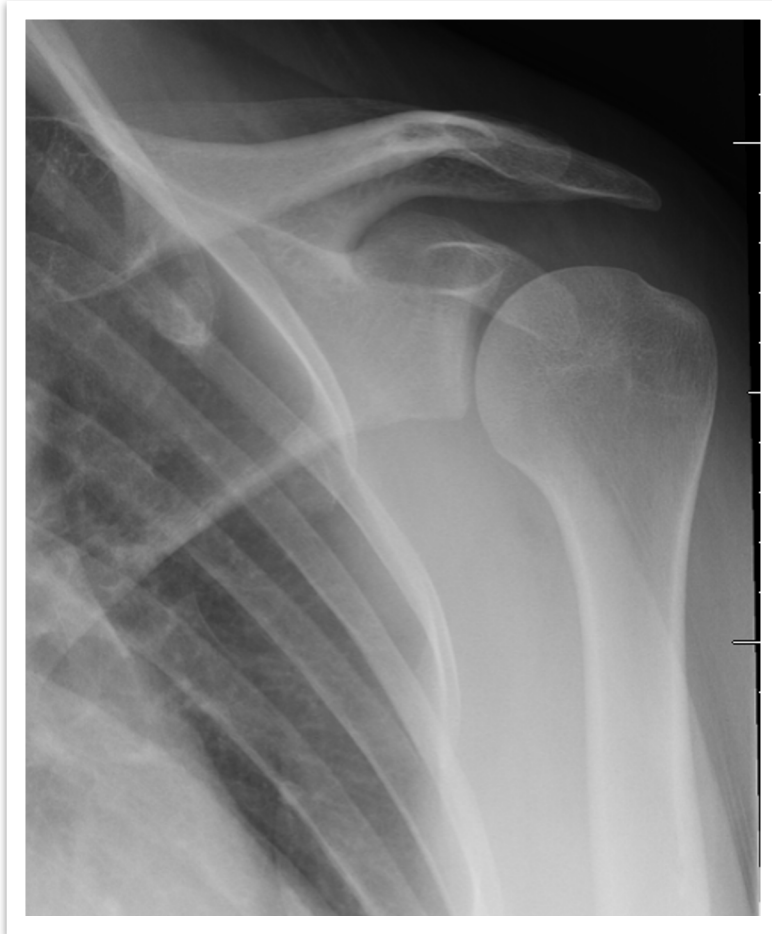


## **Imaging:**

- Multiple upright X-ray views
  - helps determine if mild, moderate, or severe
  - often followed by MRI and/or CT scan



## Plain X-rays:



## AP



## Plain X-rays:



## Internal AP



## Plain X-rays:



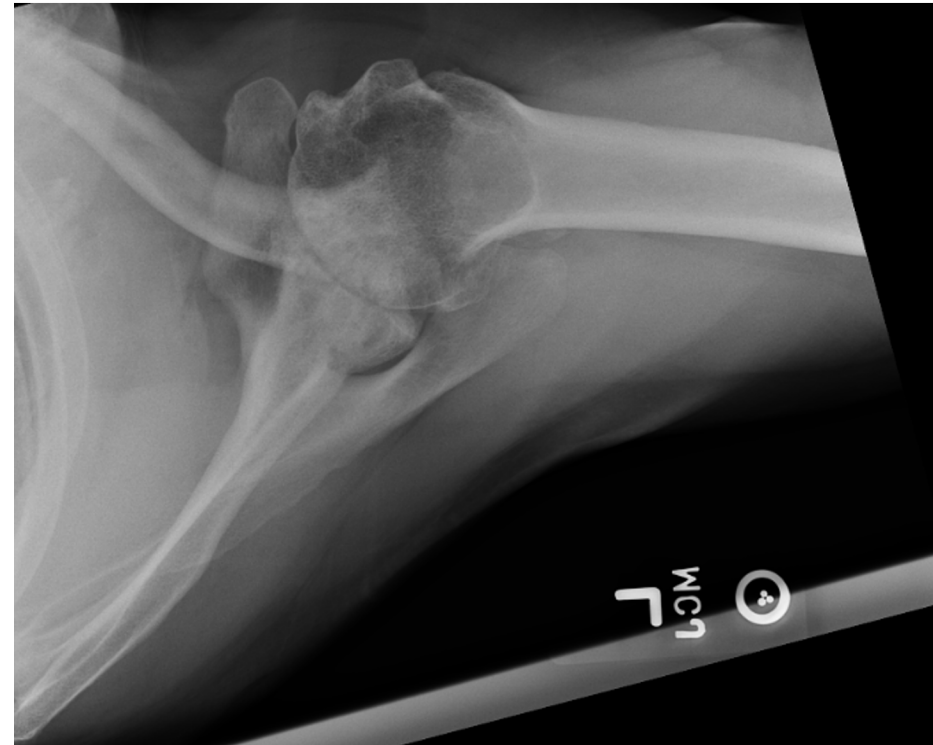
## Scapular Y



## Plain X-rays:

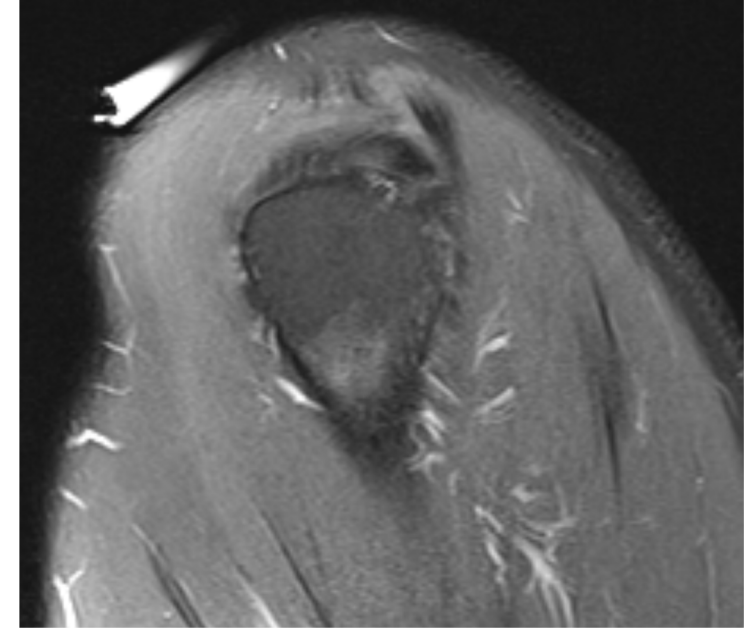
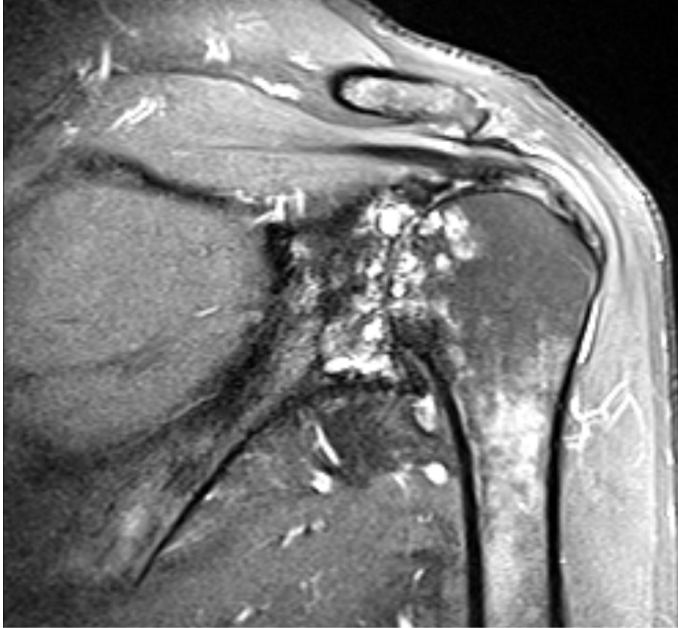


## Axillary Lateral





# MRI without Contrast



# Glenohumeral Osteoarthritis

## Physical Exam:

- Motion limited in all directions
- External rotation is disproportionately lost
- Noise and grinding with motion





## **Initial Conservative Treatment:**

- Steroid Injections
- PT for mild/moderate
- NSAIDS
- PRP/SC injections?

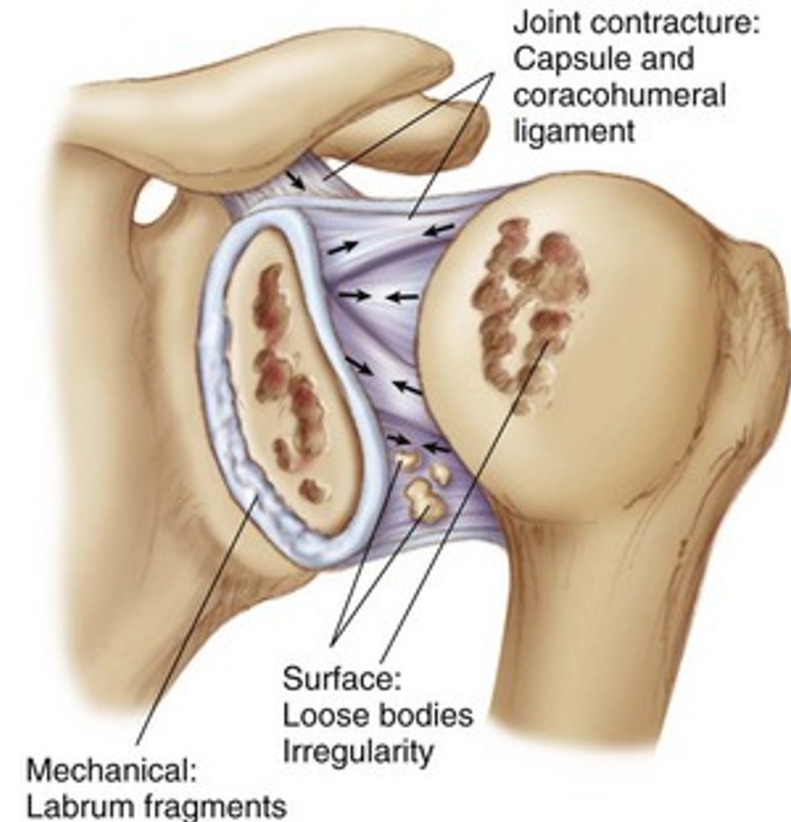
## **“When Do I Need Surgery?”**

- Pain despite conservative treatment
- Progressive or severe loss of motion

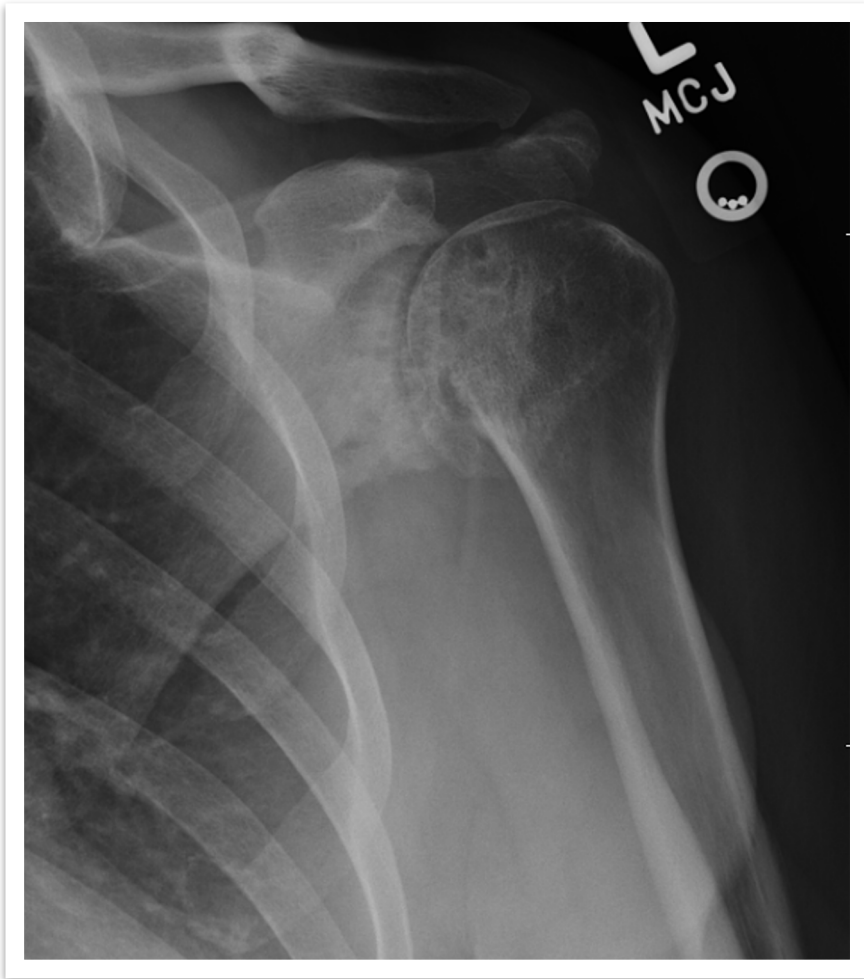
## Comprehensive Arthroscopic Management

- for mild to moderate arthritis
- remove bone spurs and loose bone fragments
- stimulate bone marrow
- release soft tissue surrounding joint for mobility

***Quick recovery!***



## Total Shoulder Replacement



## Total Shoulder Replacement

### **Post-operative course:**

- Same day or inpatient surgery
- Sling with pillow for 6 weeks
- Progressive physical therapy for 12 weeks
- Full recovery 4-6 months

# Part IV

## Rotator Cuff Arthropathy



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## **History of Symptoms:**

- Long history of known rotator cuff tear
- Complete loss of shoulder function
- History of minor injury that made shoulder function significantly worse

## **Risk Factors:**

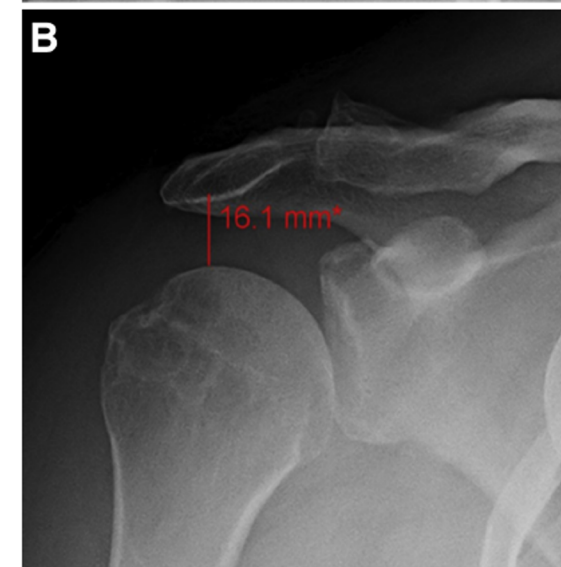
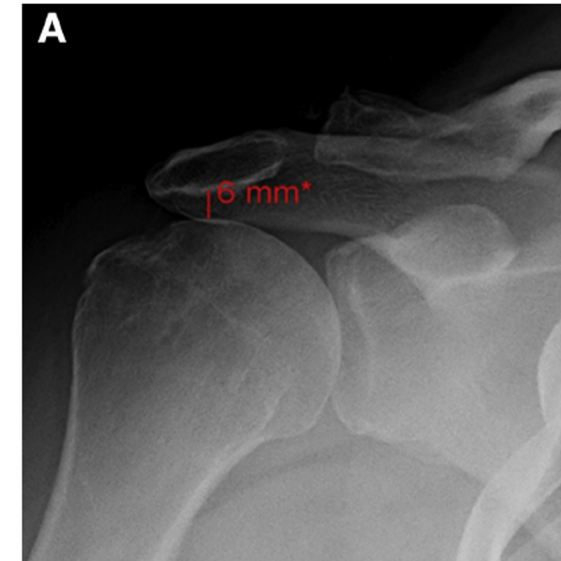
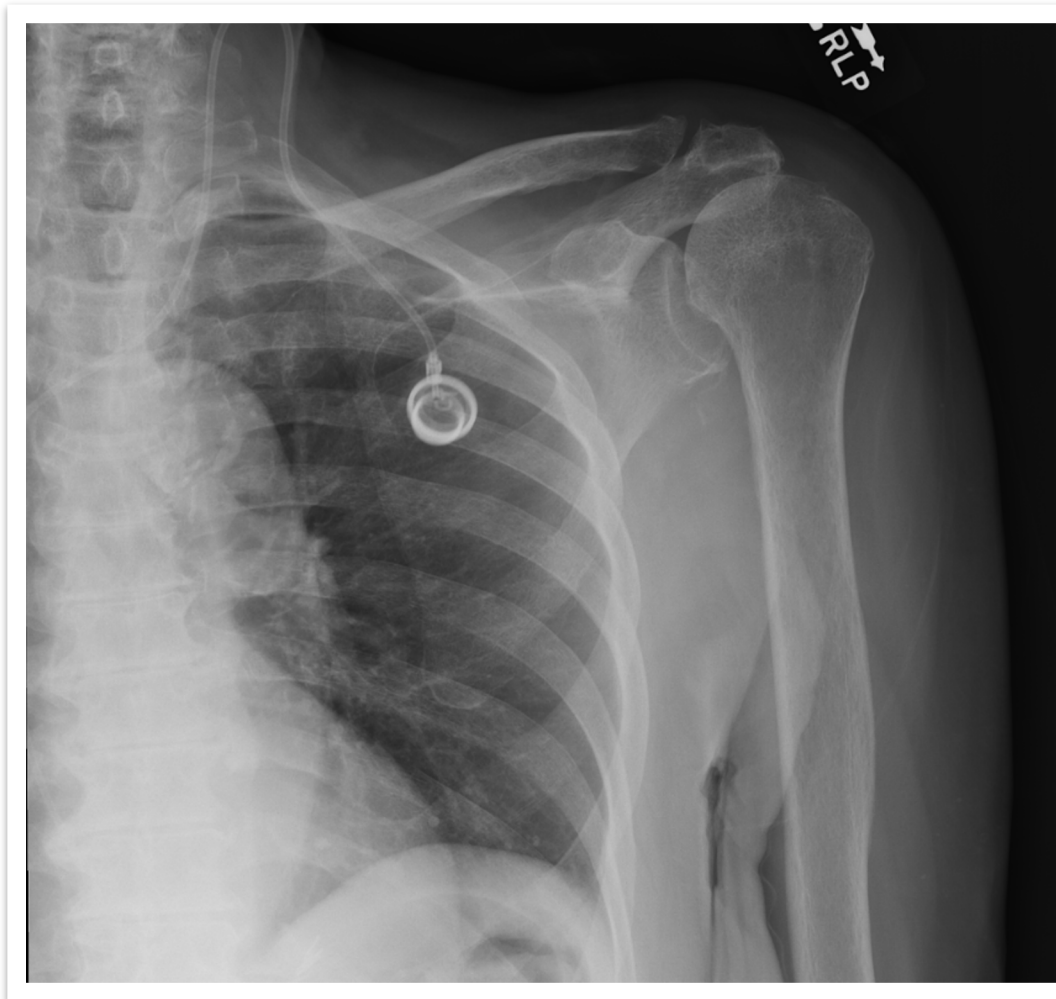
- Age over 70
- Females
- Rheumatologic disease

## **Imaging:**

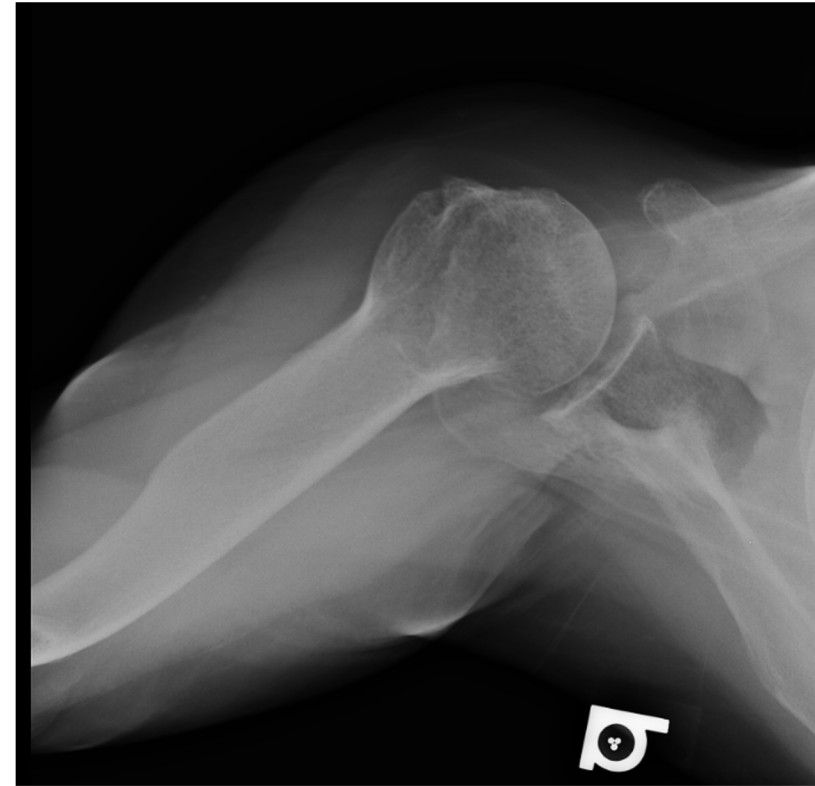
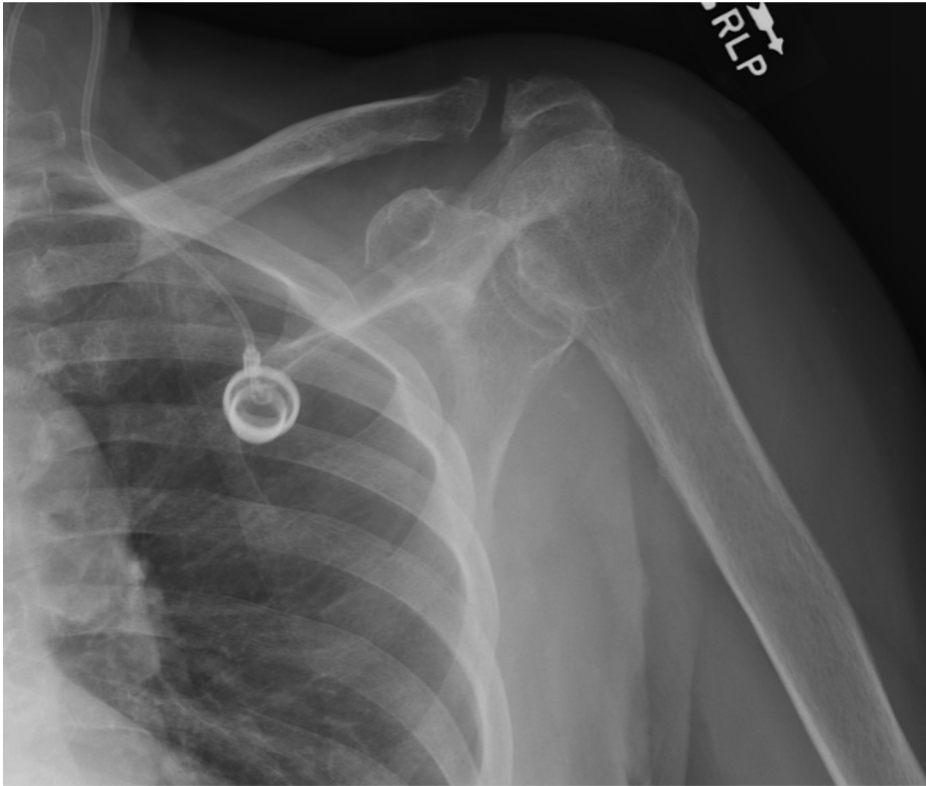
Multiple upright X-ray views

- helps determine degree of changed bony anatomy  
→ progresses with time
- often followed by MRI and/or CT scan

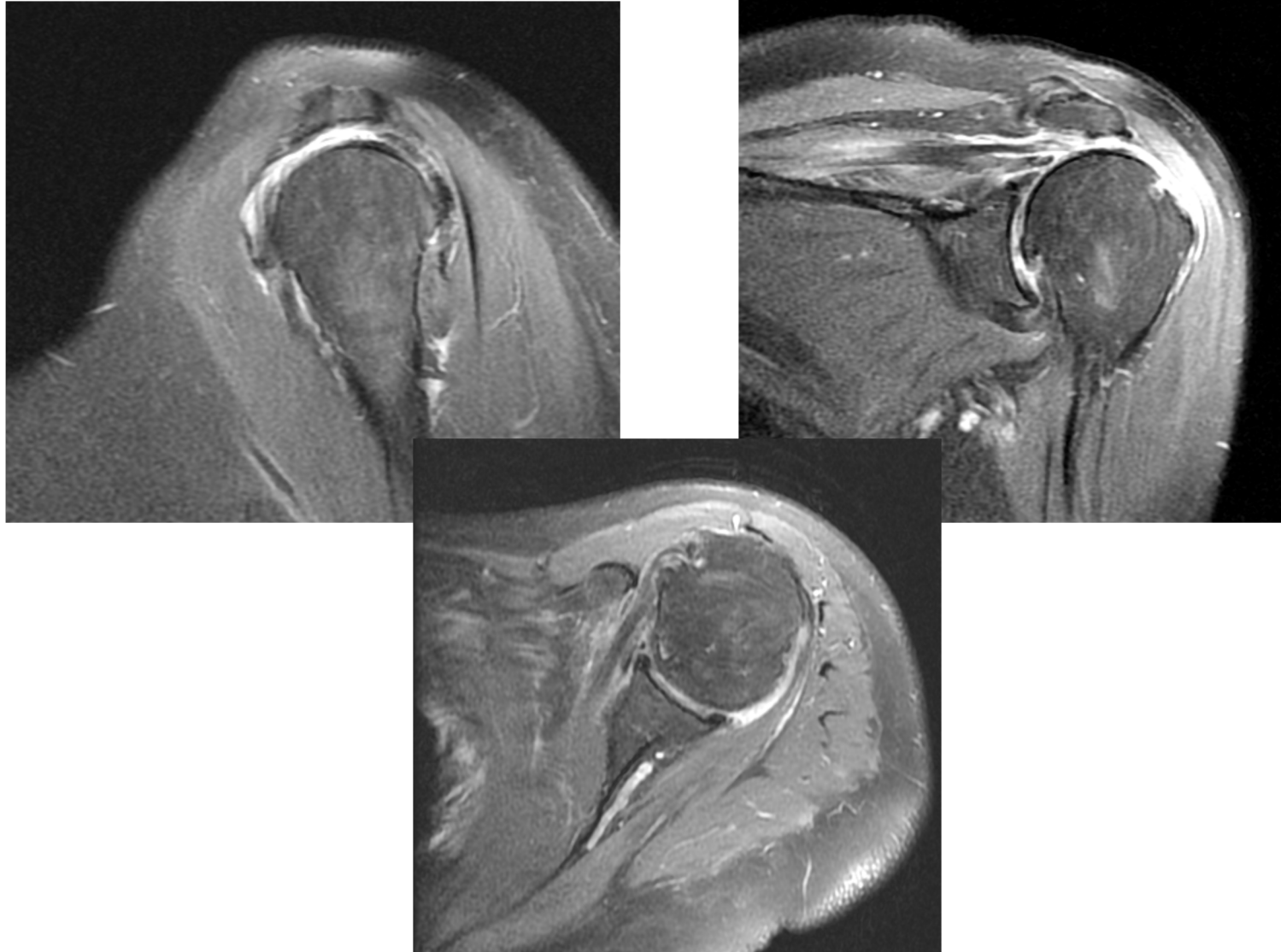
## Plain X-rays:



## Plain X-rays:



# MRI without Contrast





# Rotator Cuff Arthropathy

## Exam:

- Motion limited in all directions  
→ Can be true inability to move arm
- Muscular wasting of the back of the shoulder
- Bony prominence in front of shoulder



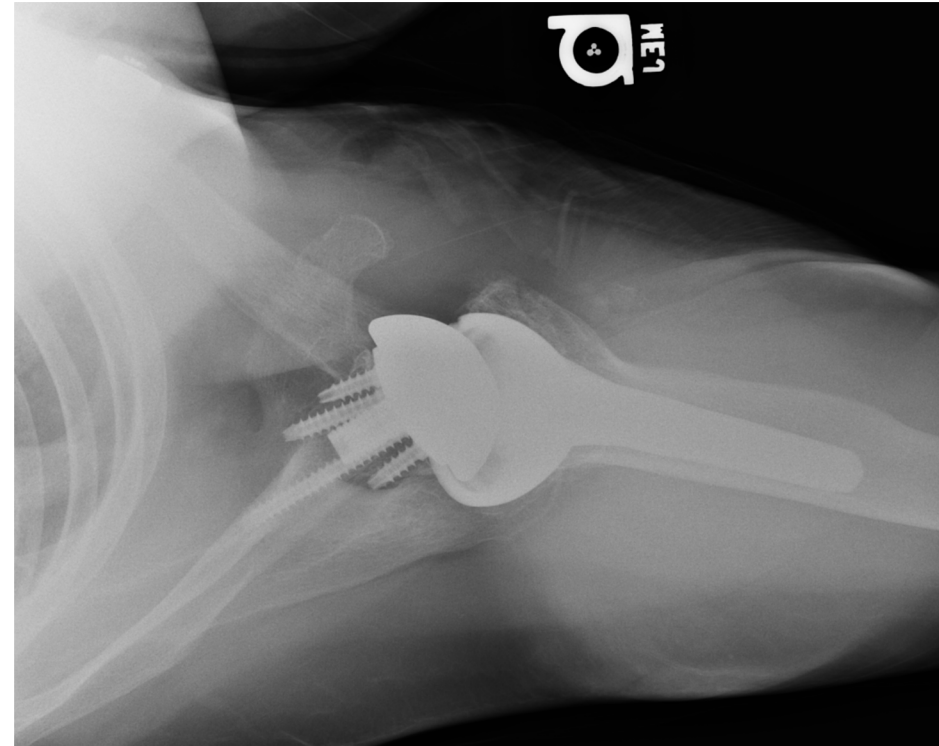
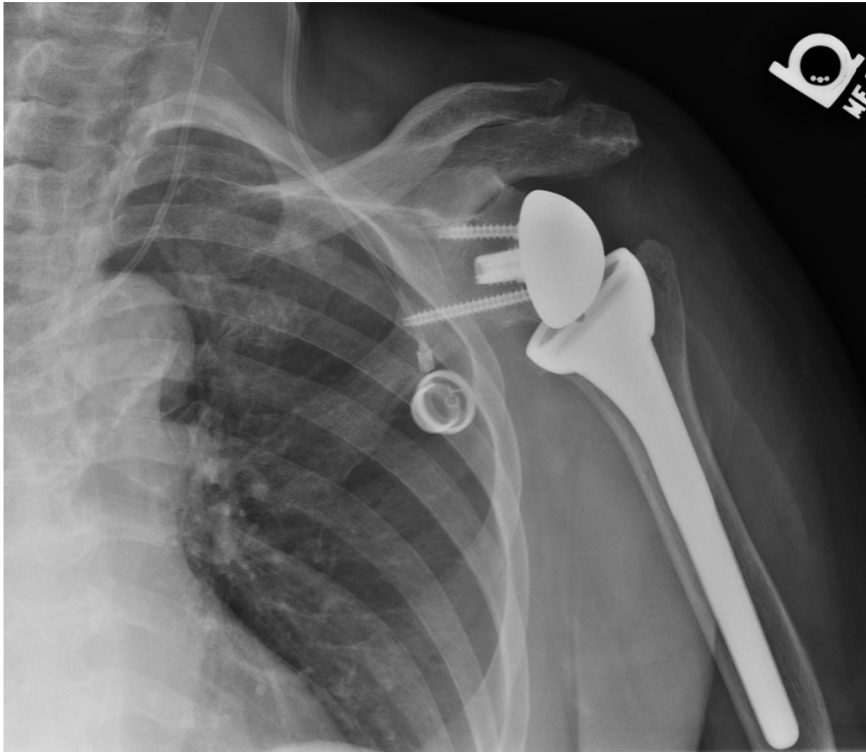
## **Initial Conservative Treatment:**

- Steroid injections
- NSAIDS
- PT for mild/moderate

## **“When Do I Need Surgery?”**

- Pain despite conservative treatment
- Progressive or severe loss of motion

## Reverse Total Shoulder Arthroplasty



## Reverse Total Shoulder Arthroplasty

### **Post-operative course:**

- Same day or inpatient surgery
- Sling with pillow for 6 weeks
- Progressive physical therapy for 12 weeks
- Recovery 6 months

***-No repetitive heavy lifting >15 pounds indefinitely!***

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  - Reverse Total Shoulder Arthroplasty
- **Recovery**



# Thank You!



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