

The Irreparable Rotator Cuff Tear: *Trauma 101: Shoulder Session #2*

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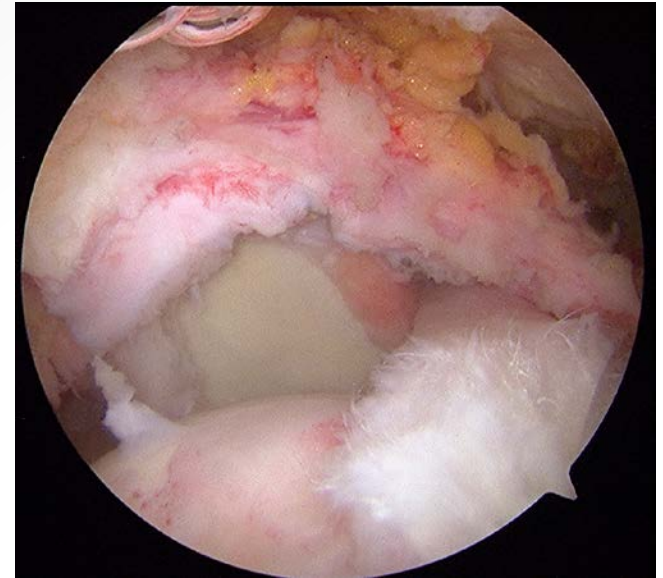


I HAVE NO DISCLOSURES or COI



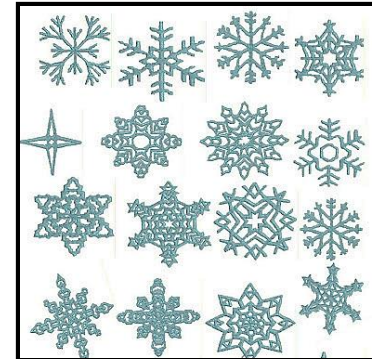
Outline

- Background
- Definition & Classification
- Pathomechanics
- Clinical Presentation
- Treatment Options
- Summary



“20 second TO”: What this talk is NOT

- *Comprehensive review of literature for treatment options for the irreparable rotator cuff tear*
- *Endorsement of any one treatment strategy*
- *Comprehensive review of rotator cuff tear arthropathy*



Background: Rotator Cuff Disease

Epidemiology

- Millions of Americans have some aspect of rotator cuff disease

- Full-thickness tear
 - 28% (> 60 yo)
 - 65% (>70 yo)

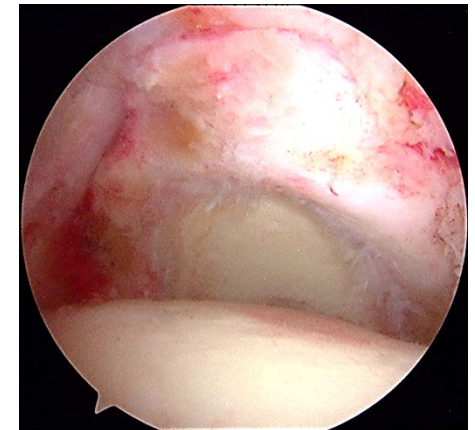
- Those with asx tear
 - 50% chance of developing sx/s w/in three years
 - 40% chance of tear progression



Background

Irreparable Rotator Cuff Tear (IRCT)

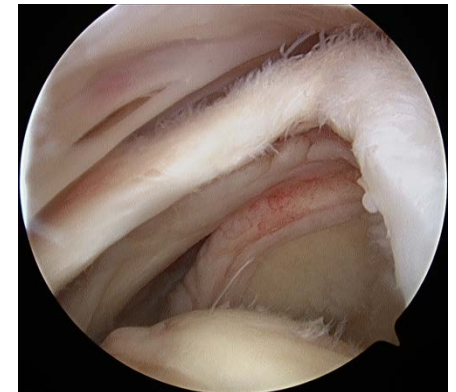
- Complex clinical spectrum
 - Lack of consensus (regarding treatment)
- Progression
 - Fatty infiltration
 - Tendon retraction
 - Inelastic tissue
 - Scar & adhesion formation
- Repair
 - Unpredictable
 - Highly morbid



Definition & Classification

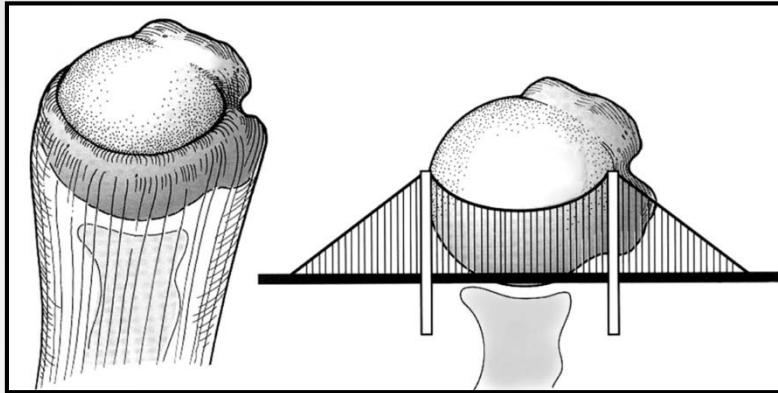
- Massive tear \neq Irreparable tear
 - Lack of healing potential
 - Not technical feasibility
- Size (USA)
 - Cofield JBS 1985
 - > 5 cm
- # of Tendons (Europe)
 - Gerber JBS 2000
 - Prognosis, function, outcome

Consider: amount of humeral head exposed, tear pattern, tissue mobility

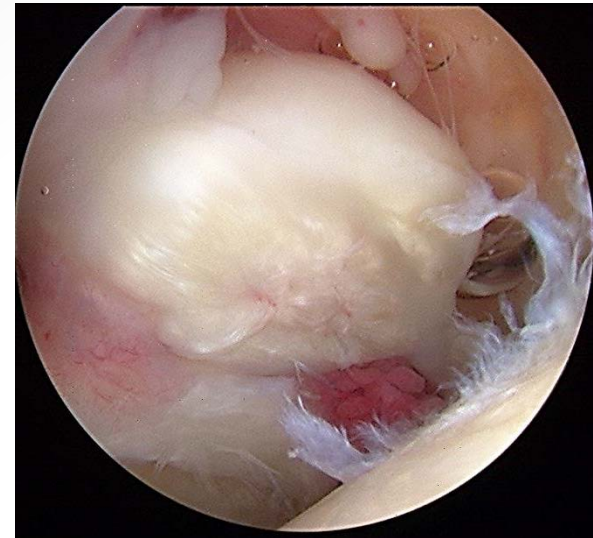
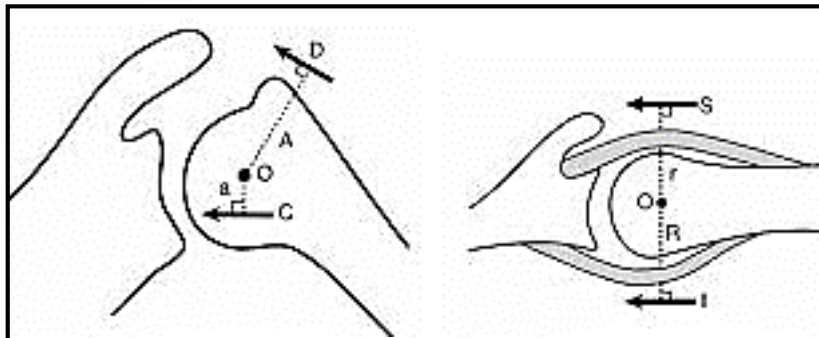


Pathomechanics

Suspension Bridge



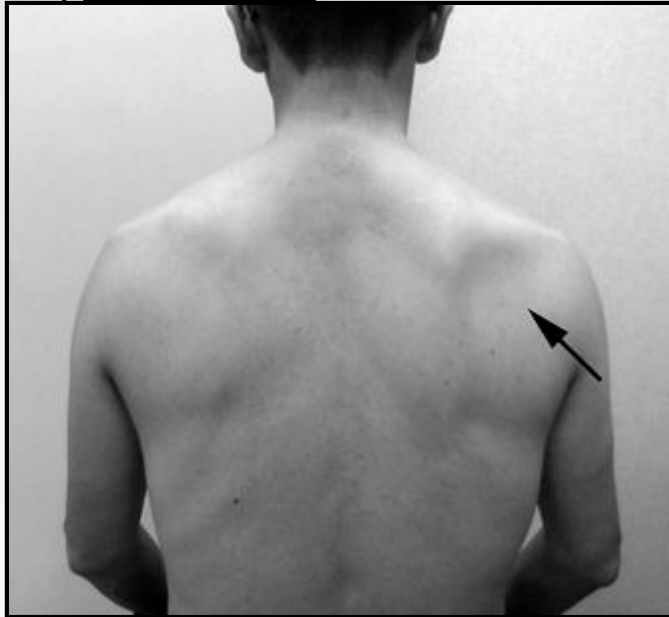
Force Couple



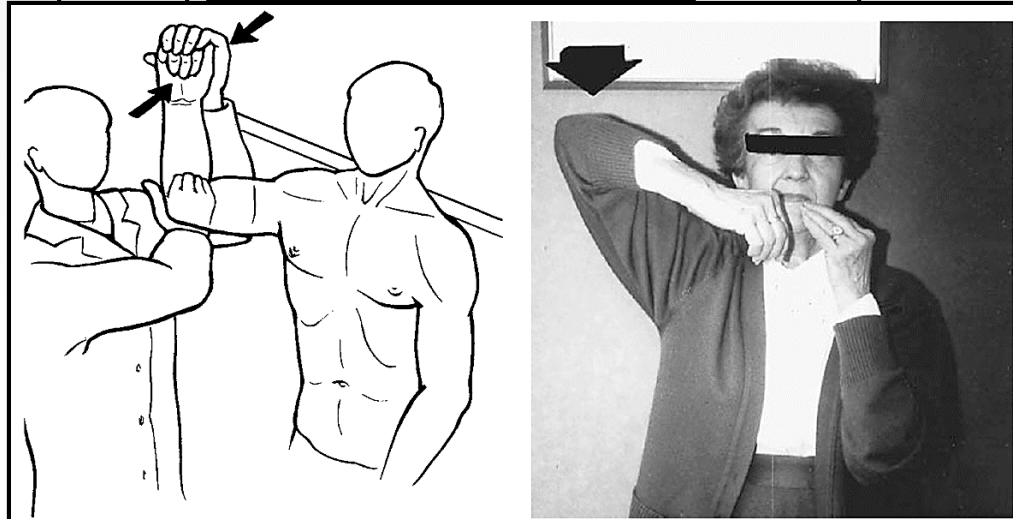
- Impoverished biologic environment
- ~~Attrition~~ **Concavity Compression**
- ~~Attrition~~ **Differs the head**
- Relative hypovascularity

Clinical Presentation (IRCT Pearls)

History

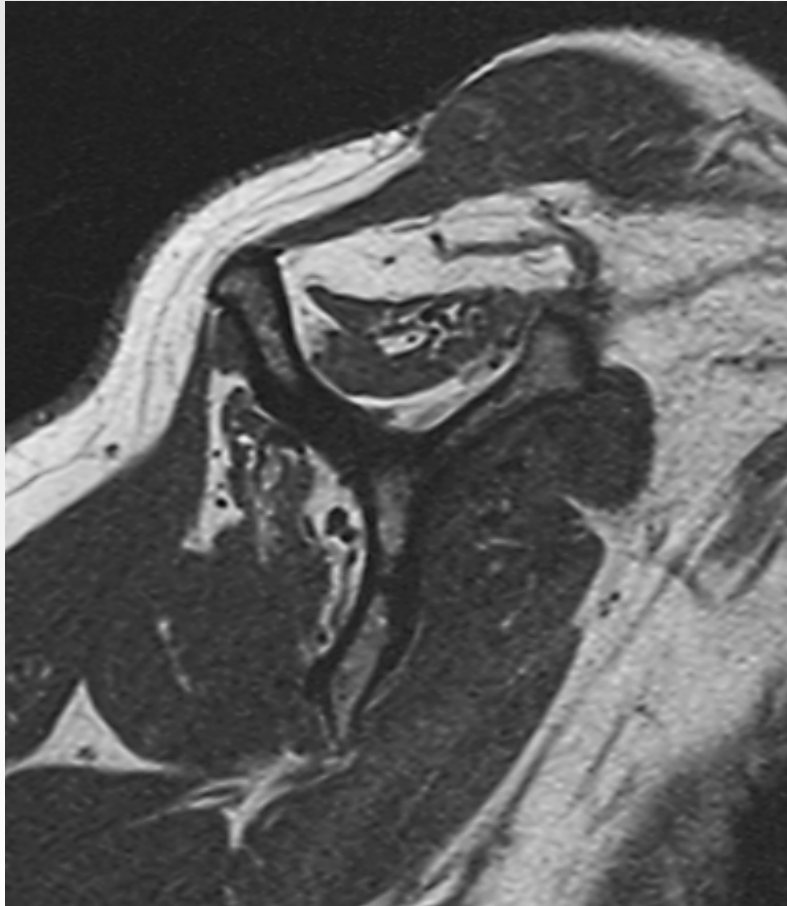


Physical Exam



- Lag signs

Clinical Presentation (IRCT Pearls)



MRI

- Size
- Retraction
- Fatty infiltration
 - Stage 3 & 4 no improvement after repair (AJR 2005)

U/S cannot determine reparability



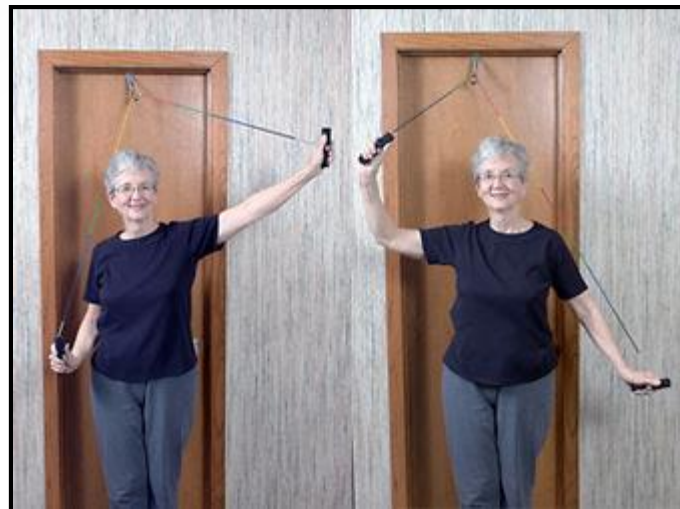
Treatment Options

Nonoperative

vs

Operative

....Who, What,
Where, How, Why,
and When ?



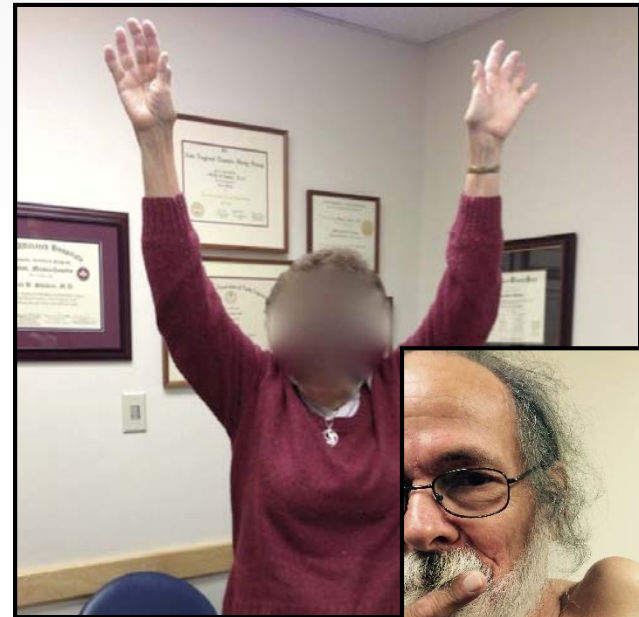
TAYLOR THE PLAN: patients goals, symptoms, demands
(patient and shoulder)... remember the snowflake



Treatment

Nonoperative

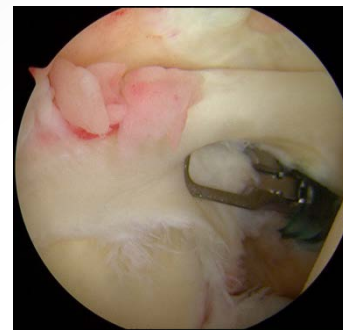
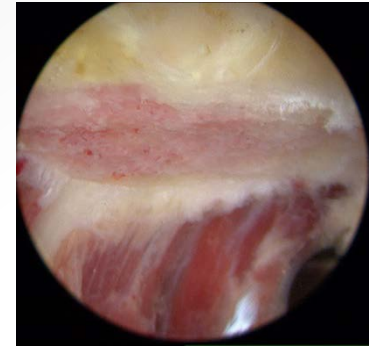
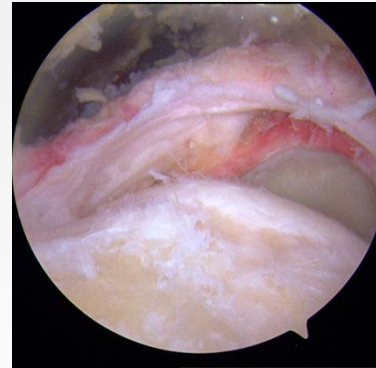
- Physical therapy
 - Subscap; trapezius;
 - **ANTERIOR DELT**
 - Scapular stabilization
- Corticosteroid injection
 - PT participation
 - Defines true pseudoparalysis v pain
- Treat people not x-rays



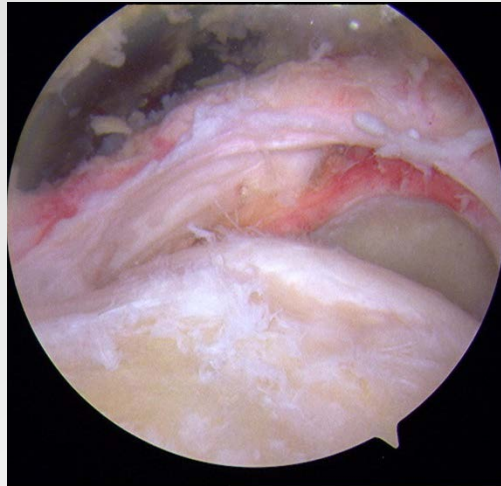
Treatment

Operative

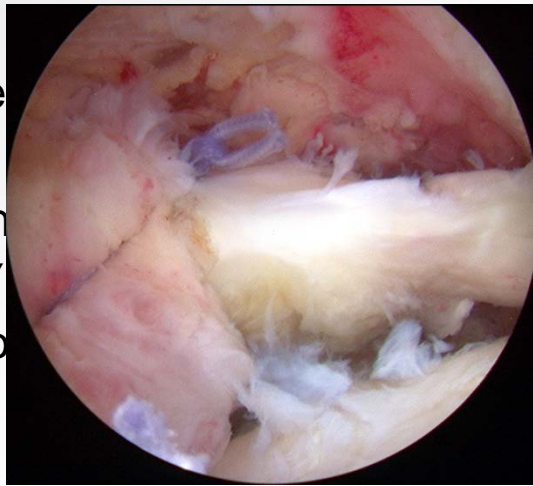
- Arthroscopic
- Reconstruction
 - Superior Capsule
 - Grafts
 - Tendon Transfers
- Arthroplasty
 - Hemi
 - RSA



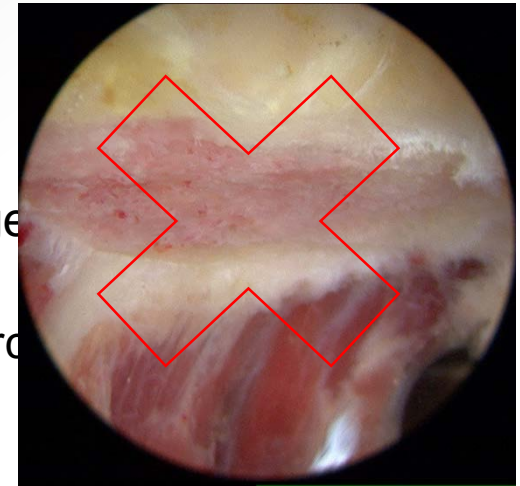
Treatment: Arthroscopic



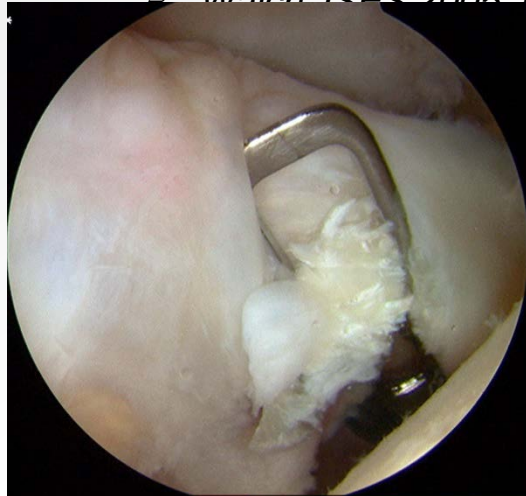
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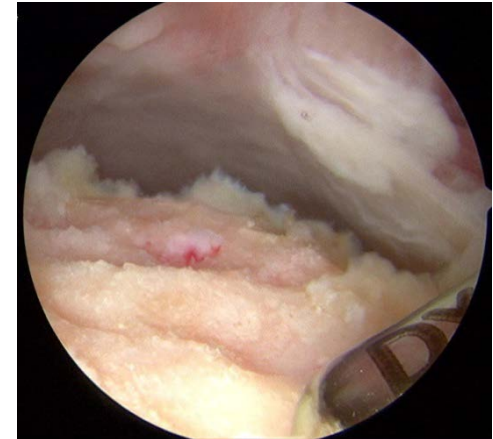
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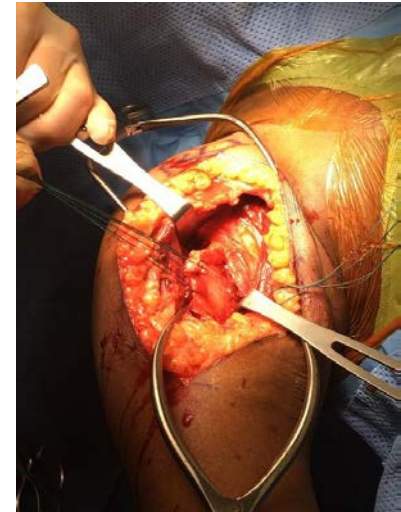
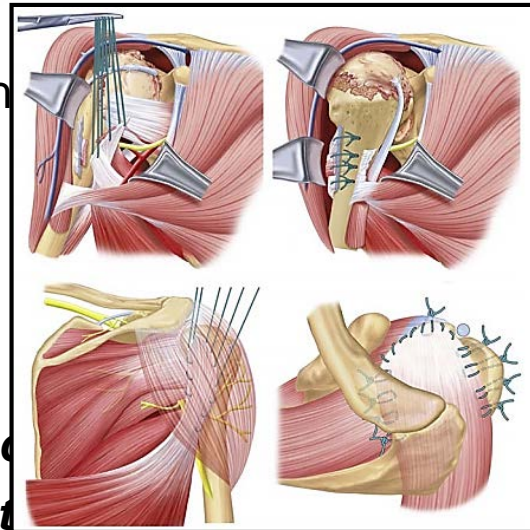
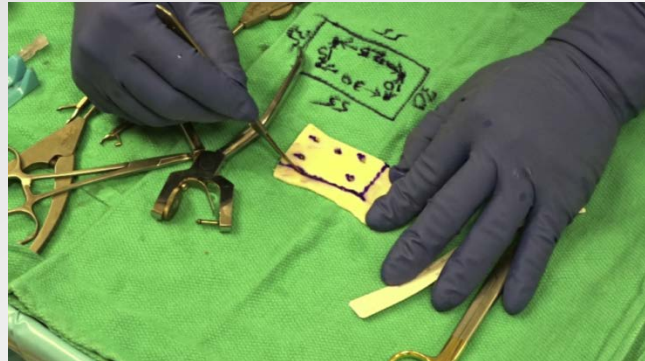
Walch JSES 2005; Boileau JBJS 2007



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Treatment: Reconstruction (Salvage?)



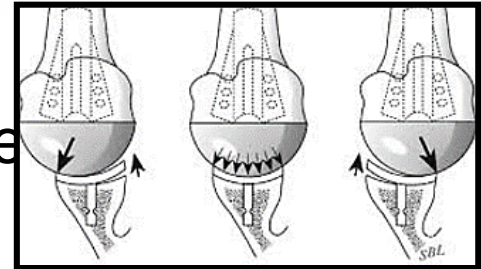
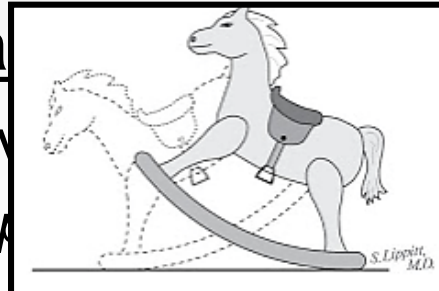
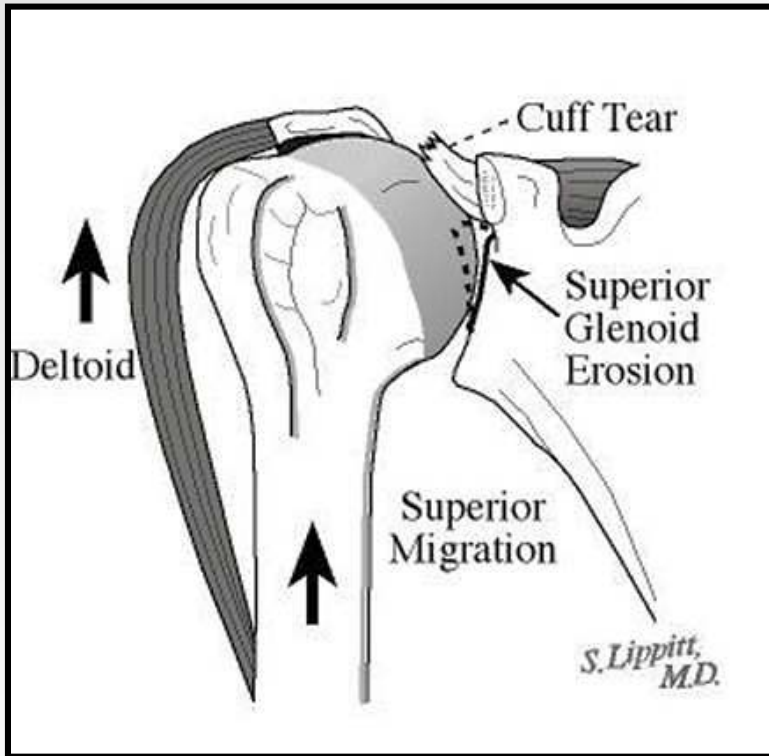
Treatment: Arthroplasty

Hemiarthroplasty

- Balance mechanics - AKA -
- Preserved coronal plane force couple (intact subscap)
- Conventional
 - 67% or 63% good results; previous SAD bad
 - Sanchez Sotelo JBJs 2001
 - Field JBJs 1997
- EAS head
 - Copeland J Surg Orthop Adv 2009
- Function and cost better with RSA
 - Leung JSES 2012; Leung JSES 2012

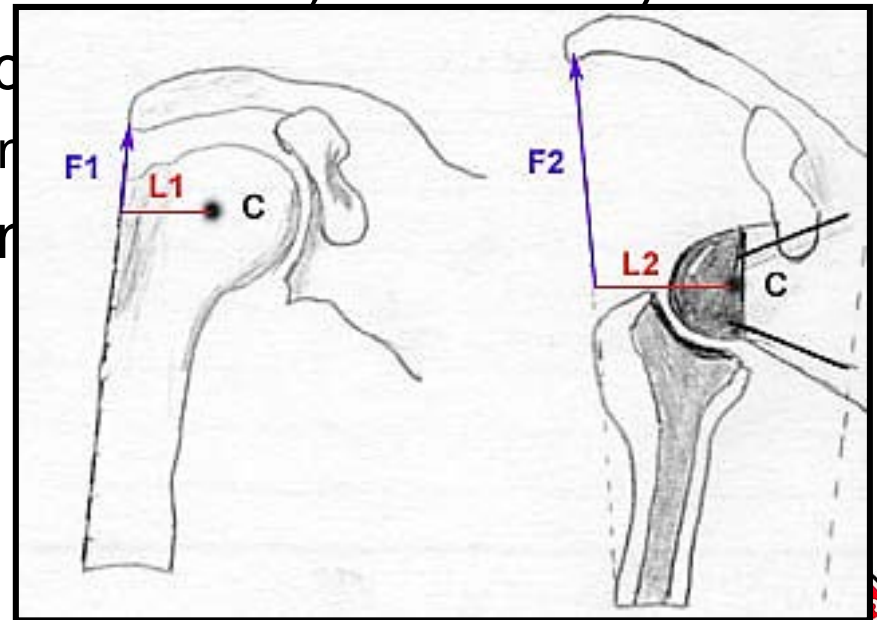


Treatment: Arthroplasty



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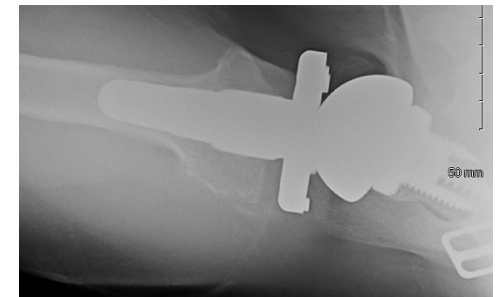
not too much) and distally



Treatment: Arthroplasty

Reverse Shoulder Replacement (Results)

- Grammont's modification (invented for CTA)
- Clinical Success
 - Boileau JSES 2007
 - Wall JBJS 2007
 - Frankle JBJS 2010
- DO's
 - Elderly; low demand; arthropathy; consider lat transfer too
- DON'T's
 - Young age; high function preop; neurologic dysfunction
- Maybe's
 - Revision surgery; no pseudoparalysis; severe concomitant cervical radiculopathy



Case 1: LE

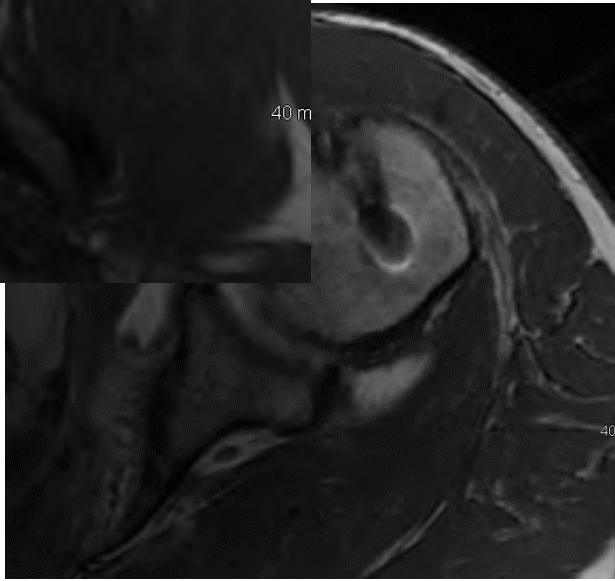
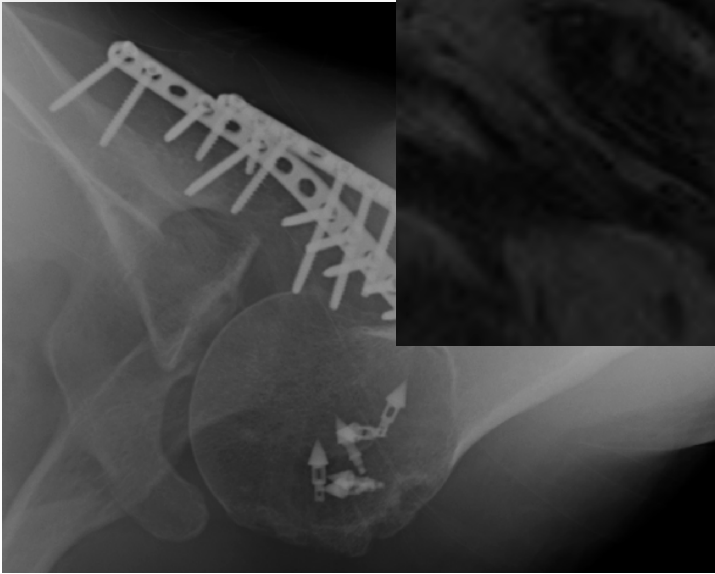
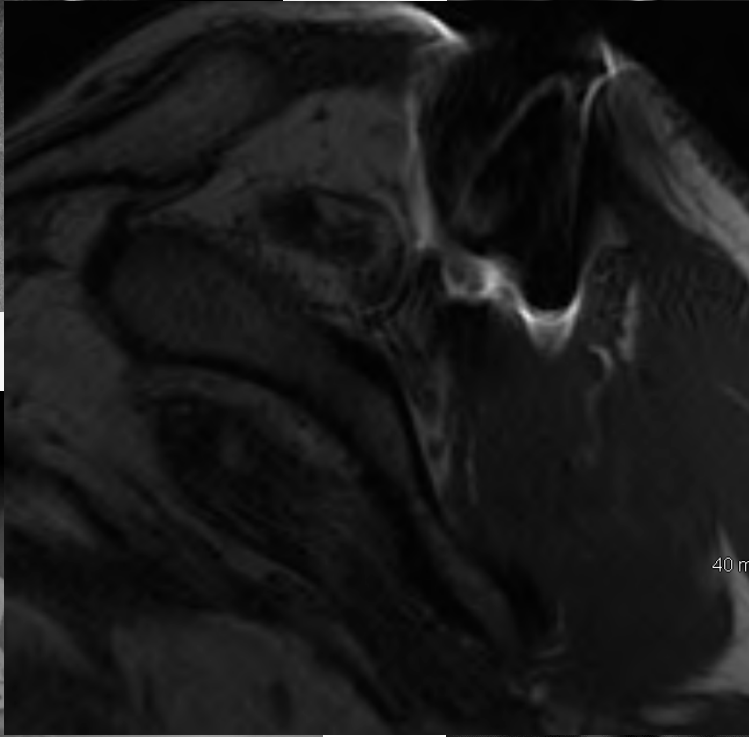
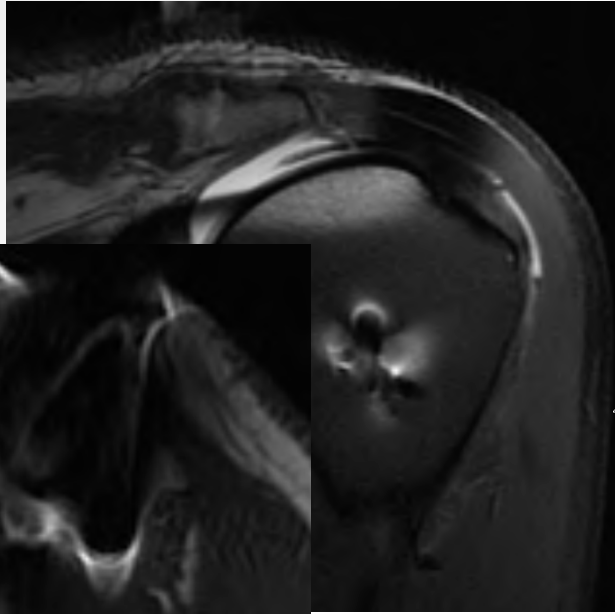
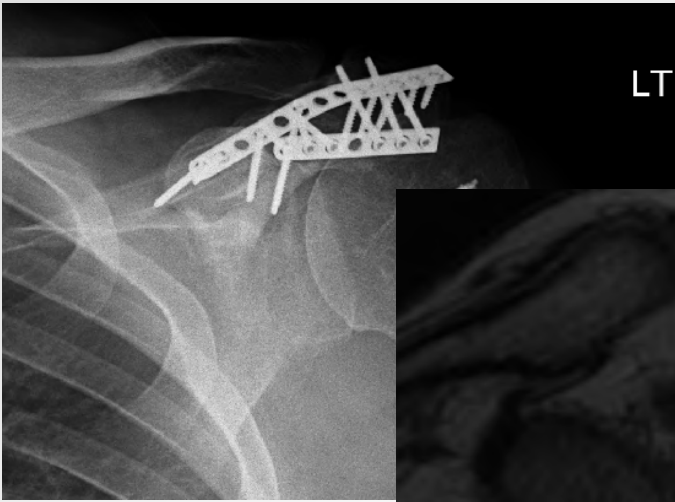
47 yo male s/p MVC

Poly trauma: flail chest, bilateral shoulder injuries w/ acromial fracture ORIF

Underwent attempt at RCR – failed

Now 8 months from initial injury





Case 1: LE

Summary

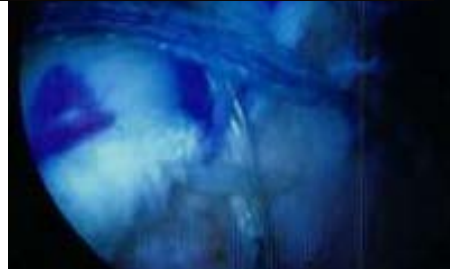
- Chronic subscap, supra, and infra tear
- Failed previous repair attempt
- Significant atrophy of supra

Plan

- Pectoralis major transfer
- SCR



Case 1: LE



* Pec transfer: under coracoid

* ASES:
39.9 → 100
*Back to work



Summary

- Treat all patients like snowflakes
- Define expectations early
- Consider injection to define pseudoparalysis
- PT should focus on ANTERIOR DELTOID
- Arthroscopic surgery can help in certain pts
- RSA should not be take lightly
 - Good pain control
 - Overhead power less reliable
 - Complication rate relative high



END



Thank you!
Questions / Comments

