



**The Irreparable Rotator Cuff Tear:
Trauma 101 Shoulder Symposium**

Brian Grawe, MD
Assistant Professor
Orthopaedics & Sports Medicine
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Brian Grawe, MD


Assistant Professor



Phone Number: 513-558-4516


Email: grawebn@ucmail.uc.edu

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

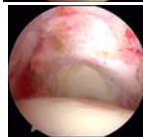
- Millions of Americans have some aspect of rotator cuff disease
- Full-thickness tear
 - 28% (> 60 yo)
 - 65% (>70 yo)
- Those with asx tear
 - 50% chance of developing sx/s w/in three years
 - 40% chance of tear progression



Background

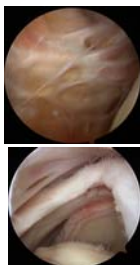
Irreparable Rotator Cuff Tear (IRCT)

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

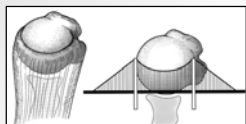


Consider: amount of humeral head exposed, tear pattern, tissue mobility

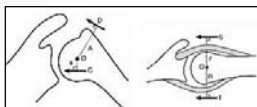


Pathomechanics

Suspension Bridge



Force Couple



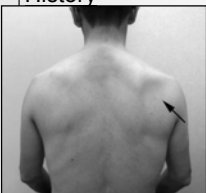
- Impoverished biologic environment
- Attrition by compression
- Attrition by the head
- Relative hypovascularity

JBJS 1999 & 2007



Clinical Presentation (IRCT Pearls)

History



Physical Exam

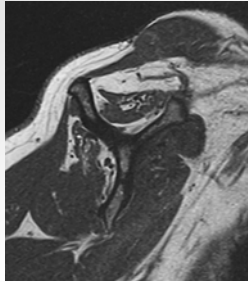


- Lag signs

JBJS Br 1998



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



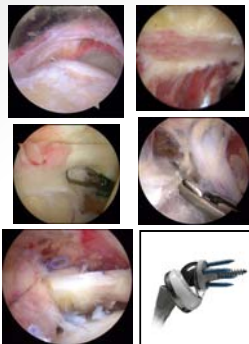
JBJs 2008 & 2012



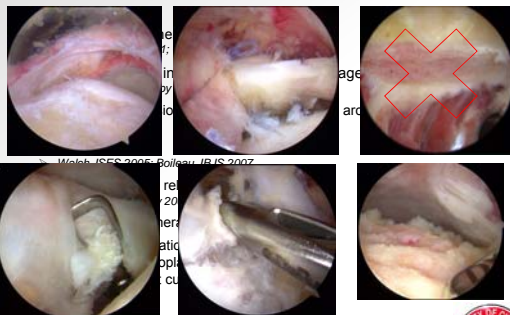
Treatment

Operative

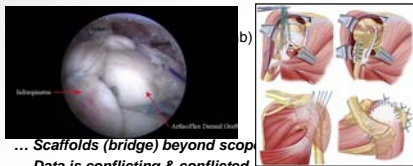
- Arthroscopic
- Reconstruction
 - Superior Capsule
 - Grafts
 - Tendon Transfers
- Arthroplasty
 - Hemi
 - RSA



Treatment: Arthroscopic



Treatment: Reconstruction (Salvage?)



... Scaffolds (bridge) beyond scop
... Data is conflicting & conflicted



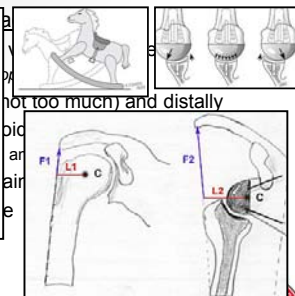
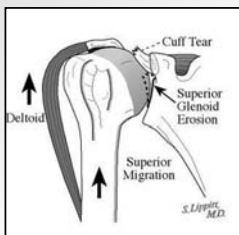
Treatment: Arthroplasty

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



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



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