Rotator Cuff Tear Management in 2019
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What is the Rotator Cuff?
Spectrum of Rotator Cuff Disease

- Tendinitis (tendinopathy)
- Partial Thickness Tear
- Full Thickness Tear
- Irreparable Tear
- Rotator Cuff Tear Arthropathy

Types of Tears

- Full Thickness
- Partial

- Traumatic vs Atraumatic (degenerative)
Treatments

- Injections – Cortisone, PRP
- Therapy
- Rest
- Activity Modification
- Medications
- Surgery

Surgery Or Not

- Nonoperative treatment is effective for many
- 10% of US population > 60 yrs have a rotator cuff tear
- 6 million US citizens have cuff tears
- Based on industry reports approximately 100,000 – 200,000 repairs are done annually
  - < 5% of all cuff tears are being repaired
Effectiveness of physical therapy in treating atraumatic full-thickness rotator cuff tears: a multicenter prospective cohort study

- **Purpose:** to assess the effectiveness of a non-operative physical therapy in treating full thickness atraumatic rotator cuff tears
- **Methods:** 452 pts. (62 yrs), prospective, therapy for 6 -12 weeks, 1) cured or 2) Improved but still some pain (further therapy offered) 3) no improvement (surgery offered). Patients contacted by phone at 1 and 2 years
- **Results:** Improved significantly at 6 and 12 weeks of therapy, patients elected to undergo surgery < 25% of time, If elected to proceed with surgery did so between 6 and 12 weeks, very few had surgery between 3-24 months
- **Conclusion:** Nonop tx with therapy is effective for treating atraumatic full thickness tears in 75% patients followed for 2 years

Predictors of Failure of Nonoperative Treatment of Chronic, Symptomatic Full Thickness Rotator Cuff Tears

- **Purpose:** To help define indications for surgical repair by identifying predictors of failure for nonoperative care
- **Methods:** Level 1 Prospective, multicenter study.
- **Results:** Patient expectations regarding therapy highest predictor of undergoing surgery
- **Conclusion:** A patient’s decision to undergo surgery is influenced more by low expectations regarding the effectiveness of PT/OT than by patient symptoms or anatomic features of the tear. As such, patient symptoms and anatomic features of the rotator cuff tear may not be the best features to use when deciding on surgical intervention
Who Should Have Surgery?

- Traumatic Tear vs Degenerative Tears (do not be aggressive)

Factors For Healing

- Surgical
  - Fixation strength
  - Technique - Open vs Arthroscopic
- Rehab protocol
  - Allow to heal but prevent adhesions
- Environmental
  - Smoking
  - Comorbidities
- Biology (Probably most important)
  - Degenerative tissue
Biology for healing

• Age at tear
  • Tears become more prevalent as we age
  • No tears < 20
  • Unilateral tear – > 50
  • Bilateral tears – > 65
• Small Tears heal better than larger ones
• Literature
  • Healing rates of 6-100%
  • More recent literature – 70-80%

Healing Potential – *Limiting Factor*

• Age (60 yrs) – Physiological vs chronological
• Tear characteristic – size, atrophy
• Co-morbidities
• Smoking
Healing Potential

- Good biologic potential for healing
  - Young (≤ 60 yrs)
  - Acute traumatic tears, partial tears (can heal nonsurgical vs surgical)

- Poor Potential
  - Older (> 60 yrs)
  - Large tears
  - Revisions

Objectives of Cuff Repair

- Closure of cuff defect
- Eliminate impingement
- Prevent adhesions postoperatively and stimulate healing without disturbing the repair through an exercise program
Advantages of Arthroscopic Arthroscopic Rotator Cuff Repair

- Ability to diagnose and treat a greater spectrum of concurrent shoulder pathology
- Much lower risk of infection and stiffness
- Earlier functional recovery
- Avoid injury to normal tissues
- Minimal scar
Irreparable Rotator Cuff Tears

• Thinned and attenuated tissue
• Degenerative tears
• If not addressed in time........
  • Muscles undergo atrophy and fatty infiltration
  • Waiting too long – reparable → irreparable with poor tissue and prognosis

Irreparable Rotator Cuff Tear
Irreparable Rotator Cuff Tear

Patch/Graft Augmentation
Superior Capsular Reconstruction

Reverse Shoulder Arthroplasty
Reverse Total Shoulder Arthroplasty

• Safe and reliable
• Rehab is faster and easier than cuff repair
• Functional results are better and more reliable than repairing massive rotator cuff tears
• 90% longevity at 10 yrs, 70% at 15 yrs
• Can be performed as an outpatient

Conclusion

• Many options
• Differences between traumatic and degenerative rotator cuff tear
• Difference between repairable and healable