E Poster # 70
Prevalence of Subscapularis Tears and One Year Clinical Outcomes in 593 Consecutive Primary Rotator Cuff Repairs

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Disclosures

- Dr. Adkison is a member of the speakers bureau for Smith and Nephew
Objectives

1. Report the prevalence of subscapularis tears in a consecutive series of arthroscopic rotator cuff repairs by a single surgeon

2. Report the clinical outcomes with regard to persistent disability or reoperation rate with at least one year follow up after surgery

3. Report the outcomes utilizing the principles of biceps long head preservation and immediate motion rehabilitation
Methods

- 593 consecutive arthroscopic rotator cuff repairs between December 2015 and July 2017
  - Excluded revision repairs and massive cuff tear repairs
- All tears were repaired with the same suture anchors for the subscapularis and the medial row of these knotted constructs
  - Smith and Nephew Healicoil Regenesorb and Ultratape
- Immediate motion rehabilitation protocol for all patients
Surgical Technique

- Lateral position with the arm adducted to the side, 5-15 pounds of inline traction, gravity fluid management
- Minimal removal of subacromial bursal tissue
- Frequent recontouring of coracoacromial ligament if there was evidence of cuff abrasion; infrequent removal of subacromial bone
- Single anchor for subscapularis repair; double row for all full thickness supraspinatus and infraspinatus repairs
- Biceps long head was preserved unless there was evidence of extensive disease
Results: Subscapularis Tears

- 378 of 593 patients (63.7%) had subscapularis injury with varying degrees of biceps long head instability. All tears were classified by Lafosse grade:
  - Grade 1 – 253
  - Grade 2 – 107
  - Grade 3 – 17
  - Grade 4 – 1
  - Grade 5 - 0
Biceps tenotomy/tenodesis

- 39 of 593 patients (6.6%) had biceps tenodesis or tenotomy
  - Only if there was evidence of extensive biceps long head disease
  - Fraying of less than 10% at the articular interface with the humeral head was considered to be a sign of biceps pulley insufficiency
    - Tendon was debrided and pulley was reinforced with the subscapularis repair
  - All tenodeses were performed by suturing the tenolysed tendon to the rotator cuff
Biceps pulley anatomy and lesions
(image from Capetown Orthopaedics website)

1. Note the approximately 45 degree angle between the SGHL and head.

Fraying of the SGHL or flattening with a decrease in the angle with the head was considered to be a sign of biceps long head instability, and was confirmed by drawing the biceps tendon past the SGHL with a probe.
Overall clinical success rate of 94.8%

- 31 of 593 total patients had clinical failure of their repairs
  - Patients were followed either by exam or by telephone for at least one year or until clinical repair failure (range 2 months to 3.5 years)
  - Time to failure ranged from 2 months to 18 months
    - Atraumatic failures usually occurred before 4 months postoperative
    - Traumatic failures occurred later in a functionally successfully repaired rotator cuff
  - All failures were confirmed with MRI
  - No patient required post operative manipulation under anesthesia
Biceps pain at 1 year or at the time of repair failure

- 5/39 (12.8%) who had tenotomoy or tenodesis
- 6/31 (19.4%) who had cuff repair failure
- 18/562 (3.2%) who had clinically successful cuff repair
Discussion

- Many subscapularis tears did not fit precisely into a Lafosse grade; most grade 1 and grade 2 tears were hidden until viewed with a load shift maneuver.
- Biceps pulley distortion or disruption was commonly associated with subscapularis tears.
- Biceps long head anatomy was overwhelmingly normal.
Conclusions

- Subscapularis tears are highly prevalent in patients with rotator cuff tears, but often must be sought during arthroscopy.
- The biceps long head need not be tenolysed routinely.
- Rotator cuff repair using a bioabsorbable anchor and suture tape yields superb clinical outcomes.
- Immediate motion rehabilitation did not degrade clinical success rate.