

### Early MRI Findings of Arthroscopic Superior Capsule Reconstruction (ASCR): How to Prevent Early Failure

SS-47



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**Introduction:** Find out the early graft failure rate and analyze the factors after ASCR.

**Methods:** From June 2013 to April 2016, consecutive patients who underwent ASCR in our institution were queried. Indication for ASCR was patients with massive cuff tear that were deemed irreparable after arthroscopic examination. Any patients who were lost to follow-up, or did not have MRI postoperatively were excluded. When ASCR were determined after arthroscopic examination, bursectomy and acromioplasty are done. Ipsilateral autogenous fascia lata was harvested and prepared to be folded in 2-3 layers. Two or three anchors are inserted on glenoid and greater tuberosity, respectively. During regular postoperative follow-up, MRI was used to check the integrity of graft. Graft tear was defined as loss of continuity on T2 coronal image. Patient's age, failure site and preoperative tear size was compared between failure group and intact group.

**Results:** A total of 28 patients underwent ASCR, 2 patients were lost follow-up. A mean 5 months postoperative MRI was analyzed for graft tear. Average age of patients was 64.8 years, and consists of 9 male and 17 female. Eight patients out of 26 patients show graft tear. Most of these failure were early cases of the study. Six patients showed failure of graft at lateral anchor area, and two patients showed mid-substance graft failure. Mean age of failure group was 70.9 years old which was higher than the intact group (62.1 years).

**Conclusion:** Early failure rate by MRI study was 30.7%. Most failures occurred at the lateral anchor site presumably because of failure to match the graft size which led to excessive tension. Also age was a risk factor for early failure. To prevent these early failure, it is important to harvest adequate graft and acquire reconstruction with minimum tension. Older patients may need different approach considering the relatively high failure rate.

### Biceps Tendon Tenodesis without Tenotomy: A Method of Augmenting Partial Repairs of Massive Rotator Cuff Tears

SS-48



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**Introduction:** To determine if biceps tendon tenodesis without tenotomy, when used in addition to partial repairs of massive rotator cuff tears, allowed for improved patient satisfaction outcomes without significant loss of motion.

**Methods:** 15 patients with massive cuff tears (>5 sq. cm.) underwent repair in addition to tenodesis of the long head

biceps tendon. The long head origin was not cut and therefore left intact. The follow up period was a minimum of 12 months with a maximum of 24 months. Preoperative and follow up results were measured by Oxford Pain Scores, American Shoulder and Elbow Surgeons Score (ASES), and Constant Shoulder Score. Range of motion loss was measured as a percentage of the combined range of motion of the opposite shoulder.

**Results:** The averaged Constant Score improved from 17.8 to 75.3. ASES improved from 16.3 to 77.4. Oxford Pain Score improved from 14 to 33. The average combined loss of motion was 9 degrees. No patient had pain in the biceps tendon groove at final evaluation.

**Conclusion:** Tenodesis without tenotomy of the biceps tendon long head when used in addition to partial repair of massive rotator cuff tears, may help to improve patient satisfaction scores. The tenodesed long head may act as a restraint to superior humeral head migration, thereby reducing some of the stresses on the competed partial rotator cuff repair. This construct however, could result in a tethering of the shoulder and thereby result in significant loss of motion. The average combined loss of only 9 degrees had minimal clinical significance.

### Sustained Improvement Following Arthroscopic Repair Massive Rotator Cuff Tears

SS-49



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**Introduction:** To determine the longer term outcomes of arthroscopic repair of massive rotator cuff tears.

**Methods:** A retrospective review of patients who underwent arthroscopic repairs of massive rotator cuff tears by a single surgeon was conducted. Criteria for inclusion were age greater than 18, history of arthroscopic repair of a massive rotator cuff tear (>5cm or >two tendons), no prior history of tear, and at least three years of follow-up visits following surgery. Once a list of patients meeting these criteria was collated, patients were contacted and informed consent was obtained. The main study variables consisted of the Penn Shoulder Score and ASES Shoulder Score; as such, these standard surveys were administered by research personnel following consent. An average score for each survey was calculated and surgical notes were reviewed to determine strength on external rotation prior to surgery and whether full or partial coverage was achieved arthroscopically.

**Results:** 50 patients were deemed eligible for the study. 8 were excluded due to lack of clinical follow up and an additional 6 became deceased. Of 36 patients 5 patients declined participation and 6 were unable to be contacted leaving a response rate of 69%. The average participant age was 64.6, with 40% female and 60% male. 76% of participants were white, 20% African American, and 4% Asian. The average ASES survey score was 77.73, and the average Penn Shoulder Score was 78.08. Partial Repair (n=12) Full Repair (n=13) All Patients (n=25) Average

ASES Score 68.19 86.92 77.73. Average Penn Shoulder Score 69.58 85.92 78.08.

**Conclusion:** Arthroscopic repair of massive rotator cuff tears yields sustained improvement. Complete coverage yielded slightly superior outcomes but partial repairs were still deemed satisfactory.

### Does Patient Education Prior to Arthroscopic Rotator Cuff Repair Decrease Narcotic Consumption? A Randomized Prospective Study

**SS-50**

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**Introduction:** We sought to determine, through a randomized prospective study design, if patient education on proper use of narcotic medication would decrease narcotic consumption in the post-operative period after arthroscopic rotator cuff repair (ARCR).

**Methods:** Patients undergoing primary ARCR were prospectively enrolled in a randomized fashion, to receive either formal education on proper use of narcotics versus no education. The education group received instruction on the proper use of opioids, dosage, side effects, dependence, and addiction while the control group received education regarding the surgery. To determine risk of opioid abuse of the patient, the physician completed a validated Opioid Risk Tool (ORT). Patients filled out questionnaires at their 2- and 6- week follow up querying VAS pain score, refills, and total number of narcotic pills remaining. Standard statistical comparison was performed with t test calculations.

**Results:** 67 patients completed 6-week follow-up and there were no statistically significant differences in age, sex, BMI, ORT score, preoperative and postoperatively VAS score between the study and control groups. Patients who received pre-operative education on average consumed 26 pills compared to 35 in the control group. More than 20 pills were consumed by only 48% of the study group compared to 76% in the control group ( $p = 0.01$ ).

**Conclusion:** Patient education is associated with a significant decrease in the number of patients consuming more than 20 narcotic pills in the acute post-operative period. The increased frequency of patients in the control group that consumed a high number of narcotics suggests preoperative education was beneficial. This is the first study to document that preoperative education can help reduce the number of patients consuming high levels of post-operative narcotics. Future recruitment and study

analysis will help determine if this effect is long-lasting and can help reduce the incidence of drug dependence and addiction among this patient population.

### Arthroscopic Rotator Cuff Repair with and without Suprascapular Nerve Decompression in Massive Rotator Cuff Tears

**SS-51**

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**Introduction:** The purpose of this study was to compare clinical outcomes of the arthroscopic rotator cuff repair (ARCR) with or without arthroscopic suprascapular nerve (SSN) decompression in massive rotator cuff tears.

**Methods:** A retrospective study was conducted on 132 consecutive patients who were treated with ARCR for massive rotator cuff tears. A total of 71 patients (mean 66.2 yo; male 45, female 26) were treated with SSN decompression (group 1), and 61 patients (mean 66.9 yo; male 39, female 22) were treated without SSN decompression (group 2). The clinical and functional outcomes were evaluated using the University of California, Los Angeles (UCLA) score, active range of motion (flexion and external rotation) and a visual analog scale (VAS) for pain. Magnetic resonance imaging (MRI) was used to analyze the integrity of tendons at 12-month follow-up in 89 of 132 patients (67.4%). Patients were followed up for a mean of 20.1 months.

**Results:** Clinical outcome measures significantly improved in both group postoperatively, however, there was no significant difference at final follow-up (table). The UCLA score were 30.1 in group 1 and 30.3 points in group 2 ( $p = 0.82$ ); those for the VAS score were 18.3 mm and 11.9 mm, respectively ( $p = 0.05007$ ); those for the active flexion angle were  $147^\circ$  and  $148^\circ$ , respectively ( $p = 0.71$ ); and those for the external rotation angle were  $45.2^\circ$  and  $43.0^\circ$ , respectively ( $p = 0.53$ ). Retear (shown as Sugaya type 4 or type 5) was observed in 29.5% (14 of 45 patient) in group 1 and 31.1% (14 of 45 patient) in group 2 (odds ratio, 0.93 [95% confidence interval, 0.38 to 2.3]);  $p = 0.87$ ).

**Conclusion:** Functional outcomes and healing rate did not significantly differ between groups with or without the SSN decompression treated with ARCR for massive rotator cuff tears.

### Epidemiology of Ulnar Collateral Ligament Reconstruction in Major and Minor League Baseball Pitchers: Comprehensive Report of 1,313 Cases

**SS-52**

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**Introduction:** The purpose of this work was to provide an epidemiologic report on every UCL reconstruction ever