

**Introduction:** The purpose is to determine the prevalence and severity of radiographic risk factors on shoulder MR-arthrogram in patients with arthroscopically confirmed posterior labral tear and symptomatic posterior shoulder instability compared to an age-matched cohort without posterior instability who received shoulder arthroscopy for a distal clavicle excision.

**Methods:** Patients presenting at an academic institution over a 5-year period with symptomatic posterior shoulder instability that had arthroscopically confirmed repair of a posterior labral tear (66 patients) were compared with an age-matched control group of patients without posterior instability (56 patients) who had a shoulder arthroscopy for a distal clavicle excision. All patients received a shoulder MRA preoperatively and we excluded patients who had prior surgery and collagen disorders. Glenoid version, posterior humeral head subluxation, glenoid dysplasia, and linear and capsular area measurements were evaluated between the two groups. Interobserver reliability for continuous and categorical variables was performed for all measurements.

**Results:** Multivariable logistic regression revealed that the presence of glenoid dysplasia, posterior humeral head subluxation, and increased axial posterior capsular cross-sectional area were significant risk factors for posterior labral tears and symptomatic shoulder instability in comparison to the control group. Glenoid version was found to be a statistically significant risk factor with univariate analysis for posterior shoulder instability but not with multivariate logistic regression. Interobserver reliability was good to excellent for all measurements but poor for total capsular area.

**Conclusion:** The presence of glenoid dysplasia, posterior humeral head subluxation and increased posterior capsular area are independent radiographic risk factors in patients with posterior labral tears who develop symptomatic posterior shoulder instability. Identification of the critical radiographic variables on MRA assists in the accurate diagnosis and management of clinically significant posterior shoulder instability.

### **Arthroscopic Partial Rotator Cuff Repair in the Management of Massive Rotator Cuff Tears: Long-term Follow-up**

**SS-06**

April 14, 9:25 AM

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**Introduction:** Surgical options for the patient with a massive rotator cuff tear remain limited. Short term reports have shown reasonable early results but long-term results remain lacking Presented here is the first report of all-arthroscopic partial rotator cuff repair in the treatment of massive, unrepairable rotator cuff tears with long-term follow-up.

**Methods:** Eighty patients with large or massive rotator cuff tears were evaluated. All patients were Thomazeau class 2 to 3 for atrophy, and Goutallier class 2 to 4 for fatty infiltration. All patients had primary closure attempted; if solid closure without tension could not be obtained by

primary repair, partial rotator cuff repair with acromioplasty, preserving the coracoacromial ligament, was performed. All patients were reexamined, with UCLA, SST, and ASES scores obtained, and follow-up radiographs and MRI scans were obtained and compared to preoperative studies. MRI scans were obtained at a mean of 44 months postoperative Survivorship data was obtained, with the endpoint of reoperation and/or conversion to shoulder arthroplasty.

**Results:** Sixty five patients had repair of the infraspinatus only, with 15 patients combined infraspinatus and subscapularis. Follow-up was a minimal 36 months (average 50.7 months). While initial good or excellent results were obtained in 88% of cases final follow-up showed decreases in all outcome scores. Pain scores showed the most significant decrease, with functional scores showing less improvement. MRI scanning at final follow-up showed progression of atrophy and tear size despite partial repair in 78% of cases. Despite diminished outcomes with time, survivorship was 91% at follow-up.

**Conclusion:** Good early results can be obtained with partial rotator cuff repair, but these results tend to diminish with long-term follow-up. This technique represents a reasonable, low-morbidity salvage option for the patient with a rotator cuff tear that is not primarily repairable.

### **Triple-Loaded Single-Row versus Suture-Bridge Double-Row Rotator Cuff Tendon Repair with Platelet Rich Plasma Fibrin Membrane: A Randomized Control Trial**

**SS-07**

April 14, 9:30 AM

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**Introduction:** to compare the structural healing and clinical outcomes of triple-loaded single-row to suture-bridging double-row repairs of full thickness rotator cuff tears both augmented with platelet rich plasma fibrin membrane (PRPFM).

**Methods:** A prospective, randomized, consecutive series of full-thickness rotator cuff tears under 3cm in AP length were treated with either a triple-loaded single-row (20) or suture-bridging double-row (20) repair augmented with PRPFM. Randomization took place by opening a sealed envelope in the operating room after confirming the patient's eligibility. The primary outcome measure was cuff integrity determined by MRIs obtained 12 months postop interpreted by radiologists blinded to the study. Cho criteria were used to assess tears. Secondary outcome measures were American Shoulder and Elbow Surgeons, Rowe, Simple Shoulder Test, Constant, and Single Assessment Numeric Evaluation scores. An a priori power analysis was used to determine group size

**Results:** MRI and outcome scores were obtained in 40 patients (mean clinical follow-up 27 months and mean MRI interval 12.6 months). 3 of 20 single-row repairs (15%) and 3 of 20 double-row repairs (15%) had tears at follow up MRI. The single-row group had retears in 1 single tendon repair and 2 double tendon repairs. All 3 tears failed at the original attachment site (Cho type 1). In