

Anterior Glenoid Labral Tear Complexity does not Correlate with Number of Dislocation Events nor Time from Injury to Surgery in Patients Receiving Arthroscopic Repair

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INTRODUCTION: This study aims to evaluate if glenoid labral tear size is related to demographics, injury patterns, and surgical procedures/timing in patients undergoing primary arthroscopic labral repair for traumatic anterior instability. It further aims to determine if outcomes and recurrence rates differ based on tear size. We hypothesize that patients with multiple instability events will more likely have larger (complex) tears, as well as additional concomitant pathology/procedures at the time of surgery, and will have poorer patients reported outcomes.

METHODS: This retrospective chart review included patients with traumatic anterior shoulder instability who underwent primary arthroscopic labral repair between 2012 and 2020. Patients with atraumatic multidirectional instability, or prior shoulder surgeries were excluded. Variables analyzed included age, sex, BMI, contact sports participation, number of dislocations (<1, 1, 2, >2), labral tear size, time from injury to surgery, and concomitant procedures. "Complex" labral tears involved additional posterior and/or superior tearing of the labrum. A control group of "simple" (3-6 o'clock) anterior tears was used. ASES, SANE, VAS-pain, satisfaction, recurrence, and return to work were outcomes metrics used. Significance levels of 0.05 were established with Bonferroni correction at <0.002.

RESULTS: 157 simple and 52 complex patients met inclusion criteria (mean age: 27 years; range: 14-71 years). Simple more frequently reported a history of dislocation event (versus subluxations or pain only) compared to complex (86% vs. 63%; $p < 0.001$). However, the proportion of patients in the simple compared to complex reporting 1 dislocation event (19% vs. 16%, respectively; $p = 0.547$), 2 dislocation events (11% vs. 13%, respectively; $p = 0.605$), or >2 dislocations (54% vs. 40%, respectively; $p = 0.086$) did not differ. Time from first injury to surgery did not differ between groups (simple: 45 ± 67 months, complex: 29 ± 57 months; $p = 0.017$). There was no difference between groups in sex, contact sport participation, BMI, age, or association of concomitant procedures. There were no differences in SANE, ASES, VAS pain, revision rates, satisfaction, return to work, and persistent instability symptoms at final follow-up.

DISCUSSION AND CONCLUSION:

Complex labral tears were not correlated with the number of preoperative instability events, time to surgery, or previously cited factors like contact sports or BMI in patients arthroscopically treated for anterior shoulder instability. At minimum 3-year follow-up, patient reported outcomes and recurrence were no different between the simple anterior versus complex labral tear groups.