

Poster 152: Arthroscopic Bankart Repair Following a Second Dislocation Results in Increased Failure Rates Compared to Immediate Repair After Following a Traumatic First Time Dislocation

Nicholas Drain MD, Ajinkya Rai, Aaron Zheng, Noel Carlos, Bryson Lesniak MD, Albert Lin MD, **Michael Fox MD**

University of Pittsburgh Medical Center¹ UPMC Center for Sports Medicine²

Objectives: Many surgeons will consider nonoperative treatment following a 1st time dislocation and will consider operative management if a second instability event occurs particularly for the in season athlete. The objective of this study was to compare rates of recurrent dislocation and post-surgical outcomes in patients undergoing arthroscopic bankart repair for anterior shoulder instability immediately following a 1st time traumatic anterior dislocation versus patients who sustained a 2nd dislocation event following initial conservative management. We hypothesized that patients sustaining a 2nd anterior shoulder dislocation would be more at risk for recurrent dislocations after arthroscopic repair and secondarily, would have worse objective and subjective outcomes.

Methods: This was a retrospective chart review identifying all patients undergoing primary arthroscopic surgical stabilization for anterior shoulder instability between 2013-2019 at a single academic institution. Demographics, clinical history, physical exam, imaging, operative details, and postoperative course was reviewed. Patients were eligible for inclusion if they underwent arthroscopic Bankart repair without remplissage sustained one or two dislocation events and were clinically followed for a minimum of 12 months postoperatively. Exclusion criteria included posterior instability, multidirectional instability, and previous stabilization surgery. Primary outcome was documentation of recurrent shoulder dislocation during the postoperative period. Secondary clinical outcome measures were assessed including need for revision surgery, need for manipulation under anesthesia (MUA), range of motion, strength, Subjective Shoulder Value (SSV), Visual Analog Scale (VAS), PROMIS mental and physical health, American Shoulder and Elbow Surgeons Shoulder Score (ASES), and Brophy shoulder activity scores.

Results: A series of 89 patients (mean age 21.3 years \pm 7.3 years) met criteria for inclusion. 72 shoulders underwent surgical stabilization after a single shoulder dislocation event and 17 underwent surgery after sustaining two documented shoulder dislocations. No significant difference in demographic and radiographic characteristics, including presence of bony Bankart and off-track Hill Sachs lesions, was present between the groups. The rate of recurrent dislocation was significantly higher in the multiple dislocation group compared to single dislocations (31% vs 12%, $p=0.048$). There was a trend toward increased rate of revision stabilization in the 2nd dislocation group which did not reach statistical significance (22% vs 58%, $p=0.167$). No significant difference was present in the need for revision surgery, need for MUA, conversion to Latarjet procedure, range of motion, supraspinatus strength, VAS, PROMIS, ASES, and Brophy scores between the groups.

Conclusions: Immediate surgical stabilization following a 1st time dislocation significantly diminishes the risk of recurrent dislocation in comparison to those who undergo surgery following two dislocation events. These findings suggest that patients who return to activities after a primary anterior shoulder dislocation and undergo surgical stabilization following just one additional event are at increased risk of failure following surgery. Furthermore, patients who have sustained even one additional dislocation from the primary event may benefit from more aggressive approaches may be necessary including arthroscopic approaches with augmentation or open approaches. Despite differences in recurrence rates, both groups achieved excellent subjective functional outcomes at a minimum of 12 months after surgery.

Outcome	Single dislocation	Second dislocation	p-value
Recurrent dislocation	10/72 (16%)	7/17 (41%)	0.048
Revision surgery	16/72 (22%)	10/17 (58%)	0.167
Revision Bankart Repair	10/72 (16%)	4/17 (24%)	0.332
Latarjet Conversion	3	2	0.377
Need for MUA	1	1	0.467
VAS score	1.3	1.9	0.282
PROMIS mental/physical score	16.4/16.8	17.1/16.8	0.483/0.977
ASES score	86.85	87.78	0.881
Brophy score	13.7	11.2	0.649
Abbreviations: deg-degrees; VAS-visual analog score; ASES-American Shoulder and Elbow Surgeons Shoulder Score; MUA-manipulation under anesthesia; Significance set at p<0.05			