

Long-Term Outcomes after Arthroscopic Bankart Repair for On-Track Lesions at Mean 10 Year Follow-Up

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INTRODUCTION: Anterior shoulder instability is one of the most prevalent orthopedic conditions, estimated to occur in 2-8% of the general population. (1) Given the high rates of recurrent anterior shoulder instability after non-operative management, arthroscopic Bankart repair (ABR) has become the cornerstone of surgical stabilization for anterior shoulder instability. However, recent literature has indicated that ABR may be insufficient surgical management for all anterior shoulder instability patients, especially in patients with high-risk off-track Hill-Sachs lesions (HSL) or significant glenoid bone loss. (2,3) While augmentation procedures such as remplissage or Latarjet have become standard treatment for these high-risk osseous defects, there remains ongoing debate regarding optimal management of on-track HSLs in the setting of anterior shoulder instability. Current literature evaluating long-term clinical outcomes following isolated ABR for anterior shoulder instability suggests recurrence rates up to 37%. (4) However, the available evidence includes patients with off-track HSLs and significant glenoid bone loss, and further has limited evaluation of long-term patient-reported outcomes (PROs) following isolated ABR. Therefore, the purpose of this study was to evaluate long-term clinical outcomes and PROs following isolated ABR for on-track HSLs. The hypothesis was that there would be high rates of recurrent instability following isolated ABR for on-track HSLs, and recurrent instability would be associated with inferior PROs at final follow-up.

METHODS: A retrospective review was conducted on patients undergoing isolated ABR for anterior shoulder instability between 2007-2018. Exclusion criteria included age <14 or >40 years, glenoid bone loss >25%, off-track HSL, concomitant rotator cuff tears, and revision procedures. All patients were contacted to obtain minimum 7-year PROs, including Western Ontario Shoulder Index (WOSI), pain Visual Analog Scale (pVAS), Subjective Shoulder Value (SSV) scores, recurrent anterior shoulder instability events, and subsequent shoulder surgery. Rates of achieving Patient Acceptable Symptom State (PASS) for WOSI and pVAS were evaluated. PRO variables were compared between “recurrent anterior shoulder instability” and “no recurrent anterior shoulder instability” groups using Student t tests and chi-square tests as appropriate. Significance was set to p<0.05.

RESULTS SECTION: Long-term outcomes were obtained from 56 patients (mean age: 22 years, range: 14-40 years) at mean follow-up of 10.7 years (range: 7.0-17.2 years). Fourteen (25%) patients sustained at least one recurrent anterior shoulder instability event, and 11 (19.6%) patients underwent subsequent surgery over the follow-up period (Table 1). Younger age was significantly associated with sustaining recurrent anterior shoulder instability (17 vs 24 years old; p=0.002). Nearly 70% of patients achieved the PASS for WOSI and 53.6% of patients achieved the PASS for pVAS at final follow-up. Recurrent anterior shoulder instability was associated with decreased likelihood of achieving the PASS for both WOSI (35.7% vs 81.0%; p=0.001) and pVAS (28.6% vs 61.9%; p=0.030).

DISCUSSION: Recurrent anterior shoulder instability rates were high following isolated ABR for on-track HSLs and were associated with inferior PROs at mean 10-year follow-up. The rate of recurrent instability identified in the current study aligns with previous estimates reported in the literature, and the inferior long-term PROs associated with recurrent instability highlight an important need for improved identification of on-track HSLs that may be high-risk for recurrent instability. (5) Recent literature evaluating the distance to dislocation of on-track HSLs and HSL morphologic features as risk factors for recurrent instability following isolated ABR show promise in improving stratification of on-track HSLs, as the present study demonstrates isolated ABR may be insufficient in the treatment of all on-track HSLs. (6,7)

SIGNIFICANCE/CLINICAL RELEVANCE: The high recurrent anterior shoulder instability rate following isolated ABR for on-track HSLs, as well as the inferior long-term PROs associated with recurrent instability, suggest there remains a clinical need for improved stratification of on-track HSLs to identify patients who may benefit from additional procedures to improve recurrence rates in addition to subjective outcomes.

REFERENCES: (1) Keeling et al, Ann Jt 2023; (2) Schwihla et al, JSES 2023; (3) Stefanik et al, JSES 2024; (4) Aboalata et al, AJSM 2017; (5) Do et al, AJSM 2025; (6) Li et al, JBJS 2021; (7) Cong et al, AJSM 2024

Variable:	Isolated ABR (n = 56)
<i>Demographic and Surgical Characteristics</i>	
Age (years), mean (SD)	21.9 (7.5)
Sex (female), n (%)	19 (33.9)
Contact Athlete, n (%)	36 (64.3)
Overhead Athlete, n (%)	21 (37.5)
>1 Pre-op instability episode, n (%)	33 (58.9)
% Glenoid bone loss, mean (SD)	5.0 (7.8)
% Near-Track Lesion, n (%)	12 (21.4)
Distance to dislocation (mm), mean (SD)	14.9 (5.9)
<i>Outcome Measures</i>	
Follow-Up Length (months), mean (SD)	128.1 (31.6)
Recurrent Instability, n (%)	14 (25.0)
Subsequent Surgery, n (%)	11 (19.6)
Post-Operative WOSI, mean (SD)	403.9 (412.0)
% PASS for WOSI, n (%)	39 (69.9)
Post-Operative pVAS, mean (SD)	2.1 (2.4)
% PASS for pVAS, n (%)	30 (53.6)
Post-Operative SSV, mean (SD)	77.3 (20.0)
ABR = arthroscopic Bankart repair; WOSI = Western Ontario Shoulder Index; pVAS = pain Visual Analog Scale; SSV = Subjective Shoulder Value	

Table 1. Demographics, Surgical Characteristics, and Outcome Measures for Patients Undergoing Isolated Arthroscopic Bankart Repair for On-Track Hill Sachs Lesions