

# Outcomes Following Arthroscopic Removal of A Posteromedial Osteophyte and Risk of Future Ulnar Collateral Ligament Reconstruction

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**INTRODUCTION:** Despite successful return to sport (RTS) outcomes after posteromedial osteophyte resection, one possible consequence of removing this osteophyte is increased stress on the ulnar collateral ligament (UCL), leading to a UCL injury. It is currently unknown how often overhead athletes who have an isolated posteromedial osteophyte resection progress to require UCL reconstruction (UCLR). Therefore, the purpose of this study was to report outcomes following arthroscopic resection of posteromedial osteophyte in overhead athletes and determine if baseball pitchers who underwent arthroscopic posteromedial osteophyte resection for posteromedial impingement went on to require UCL surgery.

**METHODS:** All patients who underwent elbow arthroscopy from 2010-2020 were reviewed. Patients were included if they underwent isolated arthroscopic posteromedial osteophyte resection without concomitant UCL surgery, were overhead athletes at the onset of posteromedial impingement symptoms and had no history of prior elbow surgery. Primary outcomes included RTS rate, complications, subsequent shoulder and elbow injury/surgery and several patient-reported outcome measures (Kerlan-Jobe Orthopaedic Clinic score, Timmerman-Andrews Elbow score, Conway-Jobe score).

**RESULTS:** Overall, 36 overhead athletes were evaluated at 5.1 years post-operatively, including 28 baseball pitchers, 3 baseball catchers, 3 softball players, 1 tennis player, and 1 volleyball player. 77% of overhead athletes RTS and had a mean KJOC score of 70, with 89% of athletes having either an excellent (73%) or good (16%) Conway-Jobe score at long-term follow-up. Subsequent UCLR was required in 18% (n=5) of baseball pitchers at a median of 13 months post-op. Three of the five UCLR were performed shortly after posteromedial osteophyte resection (6, 7, and 13 months post-op), while the other two UCLRs were performed at 6.2 and 7.5 years post-op.

**DISCUSSION AND CONCLUSION:** Following arthroscopic posteromedial osteophyte resection, 77% of athletes were able to RTS. Baseball pitchers who undergo arthroscopic posteromedial osteophyte resection have an 18% risk of subsequent UCLR.



Demographics	All Overhead Athletes (n=36)	Subset of Baseball Pitchers (n=28)
Age (years)	22.3 ± 7.9	22.5 ± 7.5
Sex (male)	33 (91.7%)	28 (100%)
BMI (kg/m <sup>2</sup> )	25.0 ± 3.3	25.0 ± 2.7
Laterality of Surgery	8L (22.2%) 28R (77.8%)	8L (28.6%) 20R (71.4%)
<b>Level of Competition</b>		
Recreational	3 (8.3%)	2 (7.1%)
High School	10 (27.8%)	6 (21.4%)
Collegiate	14 (38.9%)	13 (46.4%)
Professional	9 (25.0%)	7 (25.0%)
Pre-operative Elbow Flexion ROM (°)	136.0 ± 11.1	135.8 ± 11.6
Pre-Operative Elbow Extension ROM (°)	6.8 ± 9.6	6.5 ± 9.5

Post-Operative Outcomes	All Overhead Athletes (n=36)	Subset of Baseball Pitchers (n=28)
All Complications	2 (5.4%)	1 (3.6%)
Subsequent Upper Extremity Injury	13 (36.1%)	11 (39.3%)
Subsequent Elbow Injury	8 (22.2%)	6 (21.4%)
Subsequent Upper Extremity Surgery	9 (25.0%)	7 (25.0%)
Subsequent Elbow Surgery	7 (19.4%)	5 (17.9%)
Subsequent UCLR	5 (13.9%)	5 (17.9%)
RTS	27 out of 35 (77.1%)	21 out of 28 (75.0%)
RTSS	24 out of 35 (68.6%)	19 out of 28 (67.9%)
Return to Pitching	—	18 out of 28 (69.2%)
Elbow Flexion ROM (°)	139.6 ± 6.2	139.5 ± 6.7
Elbow Extension ROM (°)	2.9 ± 3.5	3.1 ± 3.7
<b>Patient-Reported Outcomes</b>	<b>Overhead Athletes (n=19)</b>	<b>Baseball Pitchers (n=15)</b>
KJOC score	69.9 ± 24.0	65.8 ± 24.9
Timmerman-Andrews score	163.7 ± 37.2	165.0 ± 38.3
Conway-Jobe score	Excellent: 14 (74%) Good: 3 (16%) Fair: 1 (5%) Poor: 1 (5%)	Excellent: 11 (73.3%) Good: 2 (13.3%) Fair: 1 (6.7%) Poor: 1 (6.7%)
Current Symptom Status	Completely resolved: 5 (26%) Improved: 12 (63%) No change: 1 (5%) Worsened: 1 (5%)	Completely resolved: 4 (26.7%) Improved: 9 (60%) No change: 1 (6.7%) Worsened: 1 (6.7%)
Satisfaction	74.5 ± 35.7	73.1 ± 36.6
Would Undergo Posteromedial Osteophyte Resection Again	14 (73.7%)	11 (73.3%)
Full Elbow ROM Currently	11 (57.9%)	9 (60.0%)