Overhead Athletes Have Comparable Clinical Features and Postoperative Outcomes Compared with Non-Overhead Athletes after First-Time Anterior Shoulder Instability Events

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Objective

- Compared to contact and collision athletes, overhead athletes with glenohumeral superior capsulolabral pathology (SLAP lesions) have been shown to have lower rates of return to sport and pre-injury level of play, as well as higher complication and revision rates[1-7]
- Little data describing outcomes of overhead and non-overhead (contact or collision) athletes after shoulder stabilization surgery after first-time anterior instability event
- **Hypothesis: overhead athletes would have inferior clinical outcomes and higher revision rates compared to non-overhead athletes**

Methods

- Surgically managed first time anterior shoulder instability patients from a single institution between 2013-2020
- Exclusion criteria: prior stabilization, multidirectional and recurrent instability
- Overhead sports were defined as those that require lifting above one's head and those that utilize a throwing arc of motion
- Labral tear location was determined using the clock method

Results

- Non-overhead athletes more likely to have preoperative dislocation on initial presentation
- No difference
  - labral tear size
  - incidence of concomitant posterior or superior labrum tear

Table 1. Baseline characteristics of the non-overhead and overhead athletes.

Variable	Non-overhead athlete (n=178)	Overhead athlete (n=78)	*P*
Male, n (%)	128 (71.9)	55 (70.5)	0.88
BMI, median (IQR)	25.1 (22.8-27.9)	24.4 (21.7-27.4)	0.31
Dominant Hand, n (%)	82 (57.8)	29 (45.3)	0.13
Injury			**<0.001**
Dislocation, n (%)	87 (48.9)	28 (35.9)	
Subluxation, n (%)	90 (50.6)	50 (64.1)	
Bony Bankart, n (%)	31 (17.4)	7 (9.0)	0.09
Hill-Sachs, n (%)	129 (72.5)	49 (62.8)	0.14
Rotator Cuff Tear, n (%)	18 (10.1)	6 (7.7)	0.65
SLAP Tear, n (%)	48 (27.0)	22 (28.2)	0.88
Labral Tear Size, median (IQR)	3.0 (2.0-5.0)	3.0 (2.0-4.0)	0.40

Results

- Overhead athletes more likely to undergo arthroscopic surgery
- No difference
  - preoperative or postoperative range of motion or strength
  - total anchors used
  - revision rate

Table 2. Treatment characteristics of non-overhead and overhead athletes.

Variable	Non-overhead athlete (n=178)	Overhead athlete (n=78)	*P*
Surgery, n (%)			**<0.001**
Arthroscopic	136 (76.4)	76 (97.4)	
Open	33 (18.5)	1 (1.3)	
Latarjet	9 (5.1)	1 (1.3)	
Remplissage	20 (11.2)	8 (10.2)	0.83
Anterior Labral Repair, n (%)	155 (87.0)	73 (93.6)	0.19
Anterior Anchors, median (IQR)	3.5 (3-4)	4 (3-4)	0.20
Posterior Labral Repair, n (%)	52 (29.4)	22 (28.2)	0.85
Posterior Anchors, median (IQR)	0 (0-1)	0 (0-1)	0.60
Revision, n (%)	30 (16.8)	10 (12.8)	0.46

Conclusion

- Overhead and non-overhead athletes have similar clinical presentation with no difference in injury characteristics or postoperative revision rate
- Surgeons should expect similar clinical presentations and respect the severity of anterior shoulder instability in both populations
- Further analysis comparing postoperative patient reported outcomes underway

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