

Clinical presentation and outcomes of 270 and 360-degree labral tears

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Background

- Glenoid labral tears are common in the athletic population and are associated with instability and pain
- Tears larger than 180 are rare with patients presenting with anterior, posterior, or combined tears
- There is limited data describing the clinical presentation of patients with larger tears especially, 270- and 360-degree glenoid labral tears

Objective

Purpose

- Determine clinical presentation and outcomes among patients with small (less than 180 degrees), medium (180-270 degree) and large (270-360 degree) glenoid labral tears

Hypothesis

- We hypothesized that patients with larger labral tears present due to contact injuries and have worse short-term clinical outcomes when compared with smaller labral tears

Materials and methods

- **Retrospective comparative study** of consecutive patients presenting with labral tears from the year 2018-2022 and underwent surgical management
- **9-month minimum follow-up**

Three cohorts:

- *Small* (Less than 180 degrees)
- *Medium* (180-270 degrees)
- *Large* (270-360 degrees)

Materials and methods

Preoperative data collection:

- Demographics
- Clinical presentation (i.e. anterior instability, posterior, hand dominance etc.)
- Outcomes
- Range of motion in FF, ER, IR
- PROs including VAS, SSV, ASES
- Univariate statistical analysis

Results

Table 1. Clinical presentation

Characteristics	Large (n=44)	Medium (n=43)	Small (n=101)	P value L-M-S ¹
Age (years)	25.85+/-9.17	25.06+/-9.66	27.31+/-10.61	0.69
Sex (M: F)	36:8b	39:4b	59:42a	<0.001
BMI (kg/m ²)	27.51+/-3.95	26.37+/-4.01	26.58+/-5.62	0.19
Hand dominance				
Right	86.00%	95.30%	85.00%	0.48
Left	9.30%	4.70%	11.00%	
Ambidextrous	4.70%	0.00%	4.00%	
Dominant side injury	36.40% ^b	65.10% ^a	61.40% ^a	0.02
History of instability	45.50%	39.50%	25.70%	0.10
Contact sport	50.00% ^b	52.40% ^b	25.70% ^a	0.003

- **194 patients with surgically repaired labral tears**
- Mean follow-up 9.9 months
- Smaller and medium-sized labral tears are more likely to occur on the **dominant side** (p=0.02)
- Patients with larger labral more likely to present with **anterior instability**, while patients with smaller labral tears presented with posterior instability (p=0.003)

Results

PROs:

- No difference in postoperative VAS, SSV, or ASES ($p > 0.05$)

Range of Motion:

- Similar postoperative ROM in FF, ER, IR, strength between cohorts

Table 2. Clinical findings and imaging

Characteristics	Large (n=44)	Medium (n=43)	Small (n=101)	P value S-M-L ¹
Presence of Hill Sachs	22.70% ^{a, b}	37.20% ^b	17.80% ^a	0.04
Glenoid bone loss	2.50%	2.40%	4.00%	1.00
(+) Apprehension test	56.80%	57.10%	33.70%	0.04
Instability				
Anterior	59.10% ^b	57.10% ^b	31.70% ^a	0.003
Posterior	27.30% ^b	38.10% ^{a, b}	56.50% ^a	
Both	13.60% ^a	4.80% ^a	11.80% ^a	
Presentation				
Subluxation	31.80% ^b	33.30% ^b	13.90% ^a	0.02
Dislocation	25.00% ^a	26.20% ^a	18.80% ^a	
Both	7.90% ^a	9.50% ^a	9.10% ^a	
Pain	34.10% ^b	31.00% ^b	59.40% ^a	

Limitations

- Retrospective study design
- Only surgically managed patients were included
- Single institution
- Future Directions:
 - Larger cohorts with long-term follow-up

Conclusion

Clinical suspicion should be high for large glenoid labral tears in patients presenting with signs of anterior instability, positive apprehension on physical exam and those participating in contact sports.

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