Return to Sport after Arthroscopic Repair of Anterior Humeral Avulsion of the Glenohumeral Ligament Lesions: A Systematic Review

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DISCLOSURE

Disclosures:

The authors have no relevant disclosures.

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PURPOSE

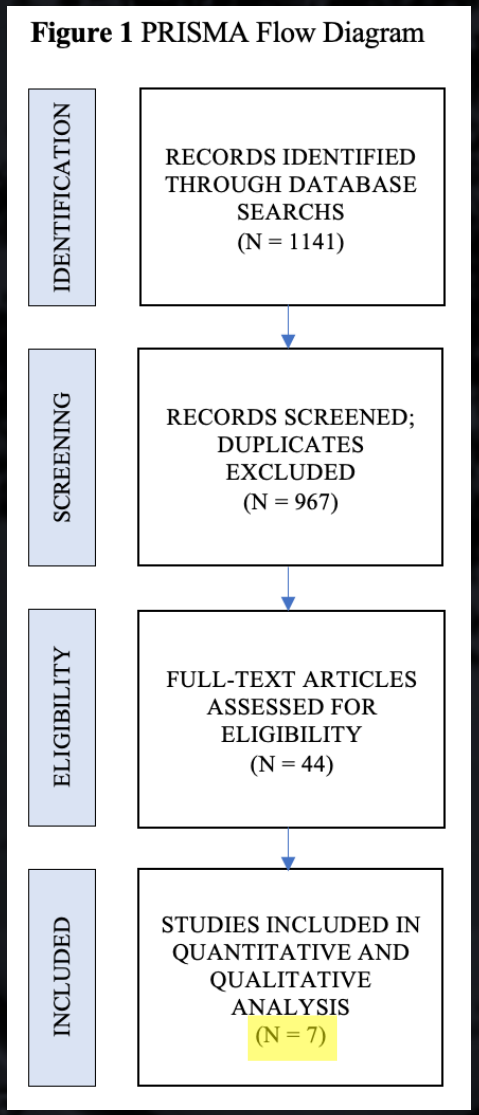
Background

- Humeral avulsion of the glenohumeral ligament (HAGL) lesions disproportionately affect athletes and are likely underdiagnosed[1,2,3,4]
- Anterior band implicated in 93% of inferior glenohumeral ligament lesions[5] yet much of existing literature pools anterior and posterior lesions

Purpose: Characterize return to sport (RTS) after anterior HAGL repair

METHODS

- Search: PubMed (MEDLINE), Scopus, and Cochrane CENTRAL prior to 13 April 2022
- Inclusion criteria:
  - Arthroscopic or open HAGL repair
  - One year of follow up
  - Anterior, axillary pouch or central, or both anterior and posterior lesions
  - RTS or military duty



RESULTS

- 46 athletes / 59 total patients
- Male: 60.4% (n = 32/53)
- Average age: 23.7 years (SD = 3.4)
- Arthroscopic versus open: 66.1% (n = 39/59)

RESULTS

Return to Sport (RTS)

- RTS rate: 93.5% (SD = 13.4%)
- RTS at prior level: 80.0% (SD = 22.1%)
- Average time: 5.7 months (SD = 0.67, n = 18)

Study	Athletes with HAGL (n)	Competitive/Performance athletes with HAGL (n)	Contact/Collision athletes with HAGL (n)	Sports	RTS, % (n)	RTS at previous or higher level, % (n)
Davey (2022)	14	14	14	Rugby (9), Gaelic Football (5)	100% (14)	86% (12)
Flury (2016)	5	2	1	Football (1), Martial Arts (1)	100% (5)	100% (5)
Kon (2005)	3	NR	1	Motocross (1), Baseball (1), Judo (1)	100% (3)	100% (3)
Patzkowski (2019)	9	9	NR	Rugby (7), Military Obstacle Course (6), Boxing/Combat training (4), Basketball (4)*	67% (6)	NR
Rhee (2007)	2	2	1	Professional Hockey (1), Professional Volleyball (1)	100% (2)	NR
Schmiddem (2019)	9	9	5	Australian Rules Football (5), Basketball (1), Rodeo (1)	100% (9)	44% (4)
Taljanovic (2011)	4	4	0	Volleyball (4)	100% (4)	100% (4)

RESULTS

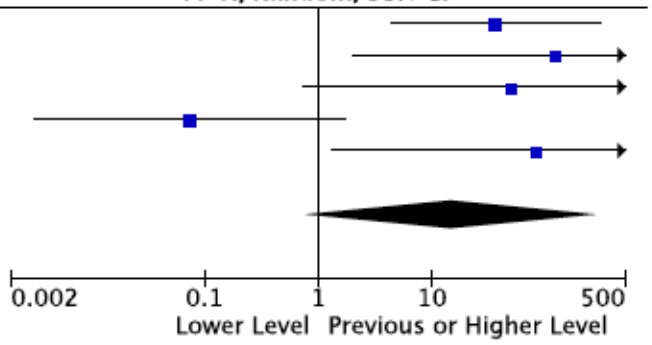
Return to Sport (RTS)

- Odds of RTS at previous level:
  - OR = 14.8 (p = .07)
  - Variable between studies (p = .004)
- Rates of concomitant procedures or pathology were not associated with variation or higher RTS rates

Study or Subgroup	Previous or Higher Level Events	Total	Lower Level Events	Total	Weight	Odds Ratio M-H, Random, 95% CI
Davey (2022)	12	14	2	14	24.5%	36.00 [4.33, 299.02]
Flury (2016)	5	5	0	5	18.2%	121.00 [2.02, 7259.18]
Kon (2005)	3	3	0	3	17.9%	49.00 [0.74, 3236.99]
Schmiddem (2019)	4	9	5	5	21.3%	0.07 [0.00, 1.74]
Taljanovic (2011)	4	4	0	4	18.1%	81.00 [1.30, 5046.33]
Total (95% CI)		**35**		**31**	**100.0%**	14.77 [0.77, 282.50]
Total events	28		7			

Heterogeneity: $Tau^2 = 8.08$; $Chi^2 = 15.13$, df = 4 (P = 0.004); $I^2 = 74\%$

Test for overall effect: Z = 1.79 (P = 0.07)



RESULTS

Patient-Reported Outcomes

- Pain VAS: average 1.6 (SD = 2.6, n = 15)
- Rowe score: average 87.5 (SD = 4.9, n = 46)
- SSV: average 86.0 (SD = 2.0, n = 21)
- Constant score: 82.2 (SD = 5.1, n = 12)
- Satisfaction or "good/excellent" ratings: 78.6% (n = 28)

RESULTS

Adverse Events

- 18.5% of patients (n = 10/54)
- Subjective instability most common (n = 8/10)
- Others: apprehension (n = 4/10), recurrent instability events (n = 3/10), subluxation (n = 1/10)

	Adverse Events, % (n)	Adverse Events Description	Reoperations, % (n)	Reoperation Procedures
Davey (2022)	47% (7)	Apprehension (4), Subluxation (1), Recurrent instability (2)	13% (2)	Revision with open Latarjet (1), biceps tenodesis (1)
Flury (2016)	33% (2)	AEs unrelated to shoulder, unspecified (2)	0% (0)	0
Patzkowski (2019)	11% (1)	Recurrent instability (1)	11% (1)	Arthroscopic revision (1)
Rhee (2007)	0% (0)	0	0% (0)	0
Schmiddem (2019)	0% (0)	0	0% (0)	0

CONCLUSIONS

- RTS rates after anterior HAGL repair are high and comparable to other forms of operative management for anterior shoulder instability
- Most patients can expect to RTS at their previous level of play; however, there is heterogeneity among these studies
- Risk of subjective recurrent instability and reoperation not insignificant

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