

No Influence of Biceps Sheath Fluid on Patient-Reported Outcome in Individuals with Symptomatic Isolated Supraspinatus Tendon Tears

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Faculty Disclosure Information

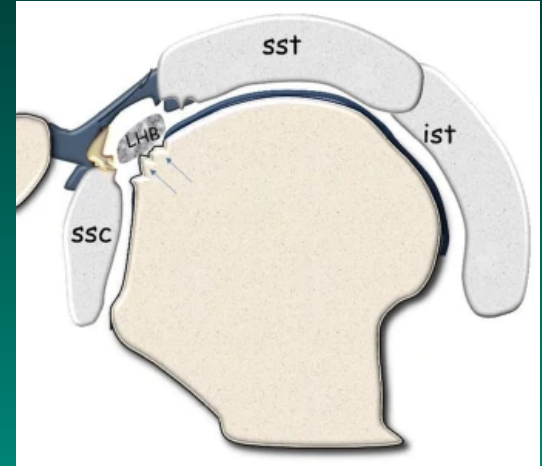
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Purpose

- **Identify factors associated with biceps sheath fluid and their impact on PROs in individuals with isolated supraspinatus tendon tears**

Biceps sheath fluid

- Often found in patients with rotator cuff tears
- Prevalence : 47-72%
- Supraspinatus tear may cause LHB instability
- Amount of fluid was correlated with ROM in patients with calcific tendinopathy, cuff tear, or biceps tendinitis



Association with function or symptoms?

Subject Recruitment

106 individuals (mean age, 60.2 ± 9.9 years)

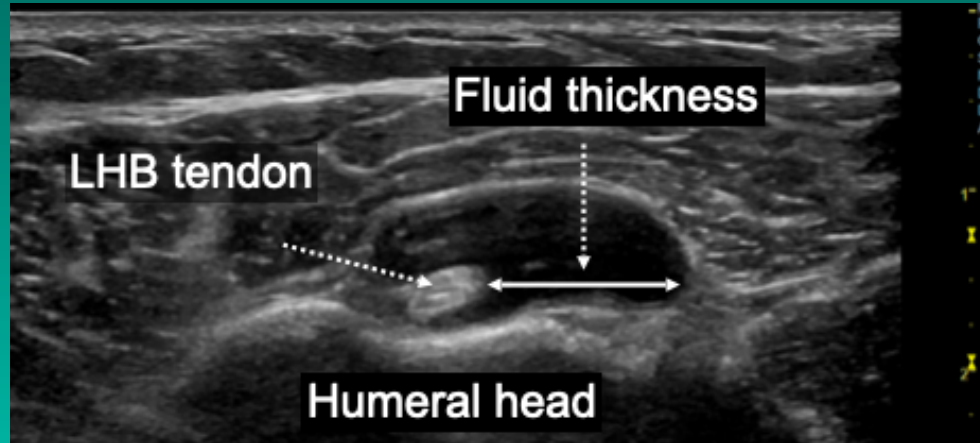
- Symptomatic isolated supraspinatus tendon tear ($> 50\%$ partial- or full-thickness)
- 12-week exercise therapy

Mattar, et al. JSES 2022

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Evaluation of Biceps fluid

- Ultrasound at baseline & 1 year after initiation of exercise therapy
- >2 mm thickness of biceps fluid : positive



Outcome Parameters

- Patient & injury characteristics
 - with vs without fluid at baseline
- WORC scores at 1 year
 - with vs without fluid both at baseline & 1 year

Statistics (Significance $p < 0.05$)

- Univariable analysis: Chi-square, Independent-t, or Mann-Whitney U test
- Multivariable analysis: Variables $p < 0.10$ in univariable analysis

Patient & Injury Characteristics

Variable	Fluid at baseline (n=35)	No fluid at baseline (n=71)	P Value
Age, years	65.1 ± 8.5	57.8 ± 9.8	<0.001
Males	23 (65.7%)	33 (46.5%)	0.062
Height, cm	173.2 ± 10.2	169.8 ± 10.9	0.122
BMI, kg/m ²	29.2 ± 5.1	28.5 ± 5.0	0.591
Hand dominant side	25 (71.4%)	37 (52.1%)	0.058
Full thickness tear	25 (71.4%)	43 (60.6%)	0.273
Tear size, mm (n=99)	12.9 ± 5.8 (n=31)	11.0 ± 5.5 (n=68)	0.111
Current or previous smoker	13 (37.1%)	25 (35.2%)	0.845
Current worker	19 (54.3%)	48 (67.6%)	0.181
Injury onset	16 (45.7%)	28 (39.4%)	0.537
<3 months symptom duration	17 (48.6%)	25 (35.2%)	0.186
WORC score at baseline	64.1 ± 20.4	57.8 ± 21.6	0.177

Multivariable Analysis for Biceps Fluid

Variable	B	OR	95% CI	P Value
Age, year	0.088	1.092	1.037-1.149	<0.001
Sex (male)	0.827	2.287	0.933-5.603	0.070

Only age was associated with biceps fluid

WORC Score at 1 year

	Fluid both at baseline & 1 year (n = 13)	No fluid both at baseline & 1 year (n = 49)	P Value
WORC score at 1 year	89.0 ± 13.2	87.9 ± 16.4	0.505

Biceps sheath fluid showed no impact on WORC scores

Discussion

Biceps fluid at baseline

- Related factors: older age
- No effect on WORC score at baseline

Persistent fluid

- No effect on WORC scores at 1 year
→ Fluid can be left untreated

Conclusions

- **Biceps sheath fluid in isolated supraspinatus tear was not associated with patient reported symptoms or function**
- **Biceps sheath fluid may not be an important finding to consider when determining treatment**

References

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