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Title:

Comparison of SLAP Repair and Bicep Tenodesis for SLAP Tears: A Trends and Outcome Analysis

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Disclosures:

Matthew Best has the following disclosures:

Other/educational support from Arthrex

Other/educational support from Smith and nephew

Other/educational support from Stryker

Dr. Srikumaran has the following disclosures:

AAOS: Board or committee member Arthrex, Inc: Other financial or material support Conventus: Paid consultant; Paid presenter or speaker DePuy, A Johnson

& Johnson Company: Other financial or material support Fx Shoulder: Paid consultant; Paid presenter or speaker Orthofix, Inc.: Paid consultant Quantum

OPS: Stock or stock Options ROM3: Stock or stock Options Smith & Nephew:

Other financial or material support; Stryker: Other financial or material support;

Thieme: Publishing royalties, financial or material support; Tigon Medical: Stock or stock Options; Wright Medical Technology, Inc.: Other financial or material support



Background

- The management of superior labral anterior to posterior (SLAP) tears typically consists of either repair or biceps tenodesis (BT) depending on age, function, and tear morphology.
- While repair is more frequently recommended in younger patients, patients older than 40 are often treated with BT.



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Purpose

- The purpose of this study is to determine whether there has been a recent change in utilization of these procedures over the past decade with respect to patient age as well as compare reoperation rates between the two procedures.



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Methods

- The Pearldiver database was queried to identify BT and SLAP repairs indicated for SLAP tears performed from 2010-2019.
- The primary outcome was utilization rate, stratified by age (18-25, 25-34, 35-44, 45-54, >55).
- The utilization rate was defined as the number of cases for a procedure divided by the total number surgical cases for SLAP tear for any given year.



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Methods

- Trends were reported in terms of compounded annual growth rates (CAGR).
- A secondary outcome included a comparison of 2-year shoulder reoperation rates.
- Outcome analysis was conducted using univariate/multivariable analysis.



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Results

- SLAP repair was the most common surgical modality for SLAP tear.
- BT performed for SLAP tear had a significantly increased utilization rate from 2010 to 2019 regardless of age; whereas SLAP repair had a significantly decreased utilization rate regardless of age.



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Results

Table 1. Trends in Utilization of BT and SLAP Repair for SLAP tear, 2010 to 2019

	Total	BT		SLAP Repair	
	N	N	%	N	%
Total	131,221	39,001	29.72%	92,220	70.28%
2010	15,544	2,326	14.96%	13,218	85.04%
2011	14,858	2,548	17.15%	12,310	82.85%
2012	14,632	3,094	21.15%	11,538	78.85%
2013	14,867	3,808	25.61%	11,059	74.39%
2014	14,335	4,214	29.40%	10,121	70.60%
2015	13,259	4,213	31.77%	9,046	68.23%
2016	11,185	4,073	36.41%	7,112	63.59%
2017	10,623	4,378	41.21%	6,245	58.79%
2018	10,108	4,552	45.03%	5,556	54.97%
2019	11,810	5,795	49.07%	6,015	50.93%
CAGR	-	-	14.11%	-	-5.54%
P-value	-	<0.001	-	<0.001	-

BT: Biceps Tenodesis; CAGR: Compound Annual Growth Rate; Significance level = 0.05 (bolded)



Results

- SLAP repair was more commonly performed in younger patients compared to BT. BT had a much higher increase in utilization in younger patients, whereas SLAP repair had a much lower decrease in utilization in older patients.
- Following multivariable analysis, patients that underwent SLAP repair had significantly higher odds (OR: 1.453; 95% CI: 1.26-1.68; $p < 0.001$) of requiring an arthroscopic reoperation within 2-years when compared to those that underwent BT.



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Results

Table 2. Univariate Analysis of BT and SLAP Repair: 2-year Reoperations Outcomes

	Total	BT		SLAP Repair		P-value
	N	N	%	N	%	N
Arthroscopic Reoperation	995	590	1.56%	405	2.57%	<0.001
Open Reoperation	128	91	0.24%	37	0.23%	0.896
Biceps Tenodesis	90	0	0.00%	90	0.57%	-

BT: Biceps Tenodesis; Significance level = 0.05 (bolded)



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Conclusion

- Although SLAP repair is still more commonly used to treat SLAP tears than BT, especially for younger patients, the incidence of BT is increasing while that of SLAP repair is decreasing. BT may be associated with lower rates of shoulder reoperation for problematic SLAP tears.



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