Outcome of Arthroscopic Bankart Repair in the Adolescent and Pediatric Population: High Rates of Failure

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BACKGROUND

- Shoulder instability is a common pathology seen in adolescent athletes who play collision sports
- There is some evidence to suggest a higher incidence of repeat instability after surgical intervention in this cohort

METHODS

- Retrospective cohort study over a 4 year period (2012 – 2016) of adolescent patients who underwent arthroscopic shoulder stabilization for anterior shoulder instability
- All patients had less than 25% glenoid bone loss and at least 12 months of follow-up
- Magnetic resonance imaging (MRI) was analyzed for Hill-Sachs lesions and glenoid bone loss by use of the on-track / off-track method
- Complications and recurrent dislocation / subluxation calculated
- Statistical analysis was performed to assess the relationship between recurrence and type of sports played at time of initial injury or following surgery, presence of radiographic and intraoperative findings, and procedure performed

RESULTS

- 36 patients with a mean age of 16.03 ± 1.67 years underwent arthroscopic Bankart repair
- Five patients also underwent a remplissage.
- **Seven patients (25.0%) developed repeat instability following surgery at an average 20.67 months postoperatively (range 5-51 months).**
- No single sport was associated with a statistically significant increased risk of re-dislocation
- Football was the most common sport in both the stable and re-dislocated groups.
- **Patients with private insurance were less likely to suffer a re-dislocation than with public insurance (p = 0.03).**
- **Patients who re-dislocated had a higher frequency of an engaging Hill-Sachs lesion on MRI (89%) compared to those who did not re-dislocate (52%) (p=0.048).**

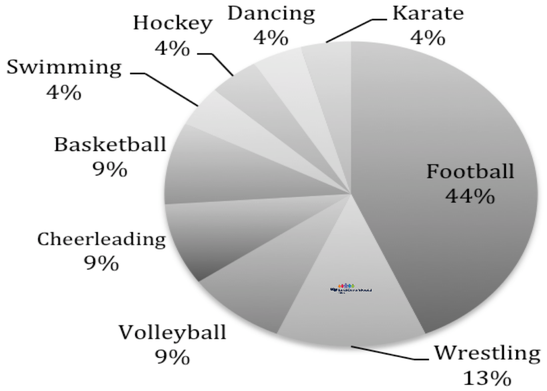

Figure 1

	Did not re-dislocate (n=27)		Re-dislocated Subjects (n=9)		p-value
	n	Frequency [%]	n	Frequency [%]	
Sports Related	18	66.67	6	66.67	1.000
Right Shoulder	20	74.07	6	66.67	0.686
History of Multiple Dislocations	24	88.89	9	100.00	0.558
Private Insurance	10	37.04	0	0.00	0.039*

	Did not re-dislocate (n=27)		Re-dislocated Subjects (n=9)		p-value
	n	Frequency [%]	n	Frequency [%]	
Bony Bankart	7	25.93	3	33.33	0.686
MR Hill-Sachs	14	51.85	8	88.89	0.048*
Off Track Glenoid	5	18.52	1	11.11	1.000
Bankart	20	74.07	6	66.67	0.686
MR Tendinosis	14	51.85	4	44.44	1.000
MR SLAP	7	25.93	1	11.11	0.648
MR Posterior Labral	2	7.41	1	11.11	1.000

DISCUSSION / CONCLUSIONS

- **The principal finding of this study is the 25% rate of repeat instability following surgery.**
- Part of the reason for the higher failure rate in this population may be due to a greater number of dislocations prior to intervention
- **Another important finding in this study is that patients who re-dislocated had a higher frequency of an engaging Hill-Sachs lesion on MRI (89%) compared to those who did not re-dislocate (52%) (p=0.048)**
- This may indicate that we should have a lower threshold for performing a remplissage in this population.
- **None of the patients who re-dislocated in this study had private insurance, while 37.04% of patients who did not re-dislocate did have private insurance**
- Limited access to physical therapy in this population could certainly be a contributing factor in the higher incidence of recurrent instability among adolescents
- Further study is needed to assess preoperative risk factors associated with recurrent instability following arthroscopic stabilization with Bankart repair

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