Outcomes of Revision Posterior Shoulder Capsulolabral Repair in Adolescents

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INTRODUCTION:
Posterior arthroscopic capsulolabral repair has been shown to be successful in the athletic population. Adolescents provide a unique set of challenges to the surgeon due to their young age and potential length of time remaining in competitive athletics. Small studies have identified risk factors for failure, but there a paucity of literature evaluating adolescent specifically. The purpose of this study was to determine failure rates of adolescents who underwent arthroscopic posterior capsulolabral repair and to compare clinical outcomes and return to play between adolescents who required revision versus those who did not. It was hypothesized that adolescent athletes who require revision arthroscopic posterior unidirectional capsulolabral repair will have poorer outcomes and return to play and will undergo revision surgery at a higher rate than adults.

METHODS: A total of 718 patients who underwent posterior shoulder stabilization between 2000-19 with a minimum of 2-year follow up were reviewed. Patients <11 years and >19 years of age and those with multidirectional instability were excluded. Revision surgery was defined as repeat arthroscopic posterior capsular repair. The ability to return to play, clinical outcomes scores (American Shoulder and Elbow Surgeons scoring system (ASES), and Visual Analog Scale (VAS)), and patient reported perception of range of motion, strength, and whether the surgery was worthwhile were recorded. Comparisons were made using the Chi-square or the Mann-Whitney *U* tests with P <0.05.

RESULTS: A total of 184 patients met inclusion criteria, with an average follow up of 6.1 years. Nineteen patients required revision surgery, for an overall revision rate of 10.3%. At final follow up, patients who underwent revision surgery returned to sport less frequently (86.7% vs. 68.4%, p=0.04) and less likely to return to their pre-surgery level of play (Table 1). Non-revision patient had higher ASES score, as well as greater strength and range of motion. However, both groups had similar pain scores and reported that surgical repair was worthwhile (93.2% vs. 89.5%, p=0.55).

DISCUSSION AND CONCLUSION: Adolescent patients underwent revision posterior capsulolabral repair at a slightly higher rate (10.3%) when compared with athletes of all ages. Patients requiring revision had poorer outcomes scores when compared to those who did not undergo revision surgery but were able to return to sport at a high level and had a high level of satisfaction. Adolescent athletes return to play at high levels following arthroscopic posterior capsulolabral repair with a low rate of revision; however, those that require revision have poorer outcomes but high satisfaction.

Table 1. Comparison of postoperative outcomes between non-revision and revision posterior shoulder arthroscopic capsulolabral repair

	Non-revision	Revision	P value
Return to Play (%)	86.7	68.4	**.04**
Same level	63.6	31.6	**.03**
Lesser level	23.0	42.1	
Did not return	13.3	26.3	
Surgery worthwhile	92.1%	89.5%	.55
ASES	87.1	73.7	**.04**
VAS	1.7	3.1	.09
ROM (%)			**.01**
Full	54.8	42.1	
Satisfactory	39.6	31.5	
Limited	4.8	21.0	
Poor	0.61	5.3	
Strength (%)			**.005**
Normal	55.5	37.5	
Slightly decreased	37.8	56.3	
Markedly decreased	6.7	15.8	
None	0.0	5.3	

Abbreviations: Range of motion (ROM), p value <0.05 (bold)