

Paper #10

Failure Rates in Contact versus Non-Contact Athletes following Arthroscopic Bankart Repair

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Summary:

Modified arthroscopic Bankart repair utilizing =3 suture anchors returns contact and non-contact athletes with soft tissue Bankart and anterior instability to sports with excellent functional outcomes, low recurrence rates and ROM at average 9-year follow-up.

Abstract:

Introduction

Arthroscopic Bankart repair has become the surgical procedure of choice in the United States over Latarjet often for anterior shoulder instability. High recurrence rates in contact athletes lead many to proceed with an open or alternative procedure. Our purpose was to compare failure rates and functional outcomes of arthroscopic modified Bankart repair (inferior capsular shift) in contact and non-contact athletes. We hypothesized that contact and non-contact athletes would exhibit excellent functional outcomes with low recurrence rates.

Methods

A cohort of 61 patients underwent arthroscopic modified Bankart repair (inferior capsular shift) with = 3 suture anchors by a single surgeon (1999-2017) for soft tissue Bankart. Contact 28 athletes (6 women; 24.1±9.1 years of age); non-contact 33 athletes (7 women; 37.0±9.4 years of age). Inclusion criteria were complete anterior inferior labral detachment, and =2 years follow up. Exclusion criteria included multidirectional instability, engaging Hill Sachs lesion or glenoid bone loss >30%. A modified 3-portal technique utilizing the outside-in method was employed. A conservative rehabilitation program was followed with return to sport no sooner than 3 months in non-contact, 4-5 months in contact and 9 months in throwing athletes. Functional outcomes were measured using Constant Scores, American Shoulder and Elbow Surgeons Score, Western Ontario Shoulder Instability Index, Melbourne Instability Shoulder Scale, and Rowe. Forward elevation, external rotation at side and 90° abduction and internal rotation range of motion (ROM) were measured. Independent samples t-tests were used to assess differences in outcomes between contact and non-contact athletes (Bonferroni correction: $p < 0.006$).

Results

Follow up was 8.2±2.9 years (range 3-14) in contact athletes and 9.4±4.1 years (range 3-19) in non-contact athletes ($p = 0.065$). Contact athletes were significantly younger than non-contact athletes ($p < 0.0001$). An average of 4.1±1.9 and 3.5±1.1 suture anchors were used in contact and non-contact groups, respectively ($p = 0.348$). There were no significant differences in functional scores (all $p > 0.236$) or shoulder range of motion (all $p > 0.078$) between groups. Overall recurrence rate was 4.9% (3/61). Two contact athletes (2/27; 7.4%) and one non-contact athlete (1/33; 3.0%) experienced a traumatic recurrent instability event requiring revision surgery ($p = 0.439$). One contact athlete reinjured his shoulder after returning to baseball 3.5 months postoperatively the surgeon's advice. Another contact

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athlete required revision surgery 2.5 years postoperatively during an incident while playing basketball. The non-contact athlete required revision surgery 5 years postoperatively after reinjuring his shoulder during a sailing accident. These patients underwent arthroscopic revision Bankart repair with an additional 3-4 plication sutures by the same surgeon and returned to pre-injury sports including baseball, hockey, basketball, golf and tennis without recurrence of instability at 5.5, 3.5, and 6.5 years following revision surgery, respectively.

Conclusions

Modified arthroscopic Bankart repair utilizing =3 suture anchors returns contact and non-contact athletes to sports with excellent functional outcomes, low recurrence rates, and full ROM. While loss of ROM is a concern, particularly in overhead athletes, ROM was successfully restored in all patients, most notably in external rotation at 90° abduction. We recommend modified arthroscopic Bankart repair as the primary procedure in all athletes with anterior instability excluding those with high Beighton scores rather than a Latarjet.