ISAKOS

International Society of Arthroscopy, Knee Surgery and Orthopaedic Sports Medicine

11th Biennial ISAKOS Congress • June 4-8, 2017 • Shanghai, China

Paper #256

Outcomes Following Surgical Treatment for Rotator Cuff Tears with Adhesive Capsulitis are Equivalent to Surgical Treatment for Rotator Cuff Tears Alone: A Systematic Review

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Summary:
One stage surgical treatment of rotator cuff tears with preoperative adhesive capsulitis has comparable results to surgical treatment of rotator cuff tears without adhesive capsulitis.

Abstract:
Introduction:
Rotator cuff tears with concomitant adhesive capsulitis is a challenging clinical scenario. Addressing preoperative adhesive capsulitis prior to rotator cuff repair is sometimes advocated but whether this approach improves outcomes is controversial. Some authors have reported satisfactory outcomes after one-stage treatment of rotator cuff repair and simultaneous manipulation under anesthesia, with and without capsular release. In this systematic review, we compare range of motion and functional outcomes of combined surgical treatment of RCT and adhesive capsulitis versus the treatment of isolated RCT without shoulder stiffness.
Methods:
Following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guideline, we searched the databases including MEDLINE, EMBASE, Cochrane Library, and Scopus using the keywords of “shoulder stiffness” and/or “adhesive capsulitis” and/or “frozen shoulder” with “rotator cuff tear”. We included studies that only met all 3 following criteria: 1) compared the two arms of isolated RCT versus RCT with concomitant adhesive capsulitis, 2) received no physical therapy prior to surgery, and 3) available reported data of pre and postoperative range of motion and functional outcomes at 3, 6, and at least 12 months after surgery.

Results:
Four level III studies met the inclusion criteria. The nonstiff group (isolated RCT) underwent rotator cuff repair (RCR) with/without acromioplasty in all studies while stiff groups (RCT with concomitant adhesive capsulitis) underwent RCR, acromioplasty, manipulation under anesthesia with/without capsular release. There were significant differences in preoperative ROM (forward flexion, external rotation at side, and internal rotation at 90° abduction) between stiff and non-stiff groups. 3 studies revealed that at 3 months follow up there were no significant differences in ROM (forward flexion, external rotation at side, and internal rotation at 90° abduction) between stiff and non-stiff groups [1-3]. In one study there was no significant differences in forward flexion between stiff and non-stiff groups at 3 months and no significant differences in external rotation at side and internal rotation at 90° abduction at 6 months follow up [4]. At final follow-up, there were no statistical differences in all ROM between the 2 groups. There was no significant difference between the 2 groups when comparing pre and post-operative outcome scores including visual analogue scale pain, Constant score, modified American Shoulder and Elbow Surgeon, and UCLA scores. All scores improved at the final follow-up in both stiff and nonstiff groups. Retear after one year was reported in two studies showing higher rates in the nonstiff group. No complications needing reoperation was reported in any of the studies.
Conclusions:
Concomitantly treating rotator cuff tears and adhesive capsulitis in one stage has comparable results to the

treatment of rotator cuff tears in patients without preoperative stiffness. A physical therapy regimen prior to surgical intervention may not be necessary.

References:
1. McGrath JP. JSES 2015 2. Cho NS. AJSM 2008 3. Ho WP. Arthroscopy 2013
4. Oh JH .Arthroscopy 2008