

Accelerated Rehabilitation After Rotator Cuff Repair: Does Double Row Repair Lower The Risk For Re-Tear?

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Summary:

Double row repair lead to a stronger tendon-to-bone construct, resulting in a significant lower re-tear rate, allowing for accelerated rehabilitation protocol in high risk patients for stiffness

Abstract:

Introduction: Shoulder stiffness is the second most frequent complication affecting patients underwent rotator cuff repair. Even though it's transient feature, it is substantial comorbidity and to the failure of surgical treatment, it is responsible for a substantial comorbidity and for surgical failure. It especially occurs in patients with one or more predisposing factors. In recent times it has been proposed an accelerated rehabilitation protocol to overcome the risk for stiffness development. It consists of starting closed-chain, passive overhead range of motion exercises and passive external rotation exercises (for those without subscapularis repairs) during the first 6 weeks. One trouble of the accelerated protocol is an higher risk for the tendon-to-bone failure, leading to re-tear, and consequently to surgical failure. Thus, the use of this special protocol has been restricted only for those patients with high risk for stiffness development. We advanced the hypothesis that the repair technique (single or double row) could affect the risk for post-operative re-tear rate.

Methods: We compared two groups of patients undergoing rotator cuff repair and accelerated postoperative rehabilitation, one group treated with single row repair (SR group) and the other with double row (DR group). We evaluated the outcomes in terms of re-tear rate. From a total of 78 eligible patients, 60 (30 per groups) were enrolled in our prospective randomized clinical trials. Inclusion criteria were (1) night pain; (2) absence of shoulder instability; (3) no fractures of the glenoid and of the greater and smaller tuberosity; (4) failure of a 6-month period of conservative measures (NSAIDs, intrarticular injection of corticosteroids and physiotherapy); (5) strength loss. To assess the re-tear rate, patients underwent to shoulder MRI at the sixth post-operative month. Clinical evaluation was based on Constant-Murley and UCLA shoulder score.

Results: In the overall cohort, a significative improvement was recorded from the preoperative to the postoperative time. Preoperative UCLA mean values were 12 (4-23) for SR group and 13 (5-26) for DR group; at the final follow-up UCLA mean values were 31 (8-35) for SR group and 33 (11-38) for DR group, without significative intergroup differences. Re-tear occurred in 8 patients out of 30 in SR group and in 3 patients in DR group ($p < 0.005$). Our results demonstrated as double row repair lead to a stronger tendon-to-bone construct, resulting in a significant lower re-tear rate

Discussion and Conclusion: We are aware that clinical advantages of the double row repair are still troublesome compared to the single row, considering the cost benefits ratio. For this reason we suggest to restrict the use of this repair technique only for patients at high risk of shoulder stiffness development and consequently necessitating

ISAKOS

**International Society of Arthroscopy, Knee Surgery and
Orthopaedic Sports Medicine**

9th Biennial ISAKOS Congress • May 12-16, 2013 • Toronto, Canada

Paper #26

accelerated rehabilitation.