**Summary:**
In patients with complete rotator cuff tears undergoing double-row repair using the knotless transosseous-equivalent technique, a 5-ml dose of leukocyte-poor PRP placed at the tendon-bone interface at the time of surgery can significantly reduce the postoperative retear rate.

**Data:**
Objective: The main purpose of our study was to assess whether the use of leukocyte-poor platelet-rich plasma (LP-PRP) as an adjuvant to ARCRR decreases the rate of retears compared to a control group. The secondary objective of our study was to analyze whether LP-PRP improves the patient-reported outcomes (PROMs). Methods: This was a double-blind randomized controlled trial at a single center. A consecutive series of 96 patients with rotator cuff tears < 3 cm were enrolled and randomly allocated to a control group (double-row suture-bridge ARCRR alone, n = 48) and a study group (double-row suture-bridge repair followed by one LP-PRP injections at the tendon repair site during surgery, n = 48). The visual analog scale (VAS) for pain, the American Shoulder and Elbow Surgeons (ASES) score, the Single Assessment Numeric Evaluation (SANE) and The Pittsburgh Sleep Quality Index were evaluated preoperatively and at 6 and 12 months follow up. An MRI examination was performed to evaluate tendon integrity at 6 months follow up according to the Sugaya classification. Both, patients and assessors were blinded to the intervention received during surgery. Results: The mean age was 56.1 (±2.98). Of the 96 patients, 90 had MRI performed at 6 months after surgery (94% radiological follow-up). The retear rate in PRP group was 15.2% (7/46) [95% CI 6%–28%] which was lower than that in the control group (34.1%, 15/44) [95% CI 20%–49%], P = .037. Therefore, the Risk Ratio of rupture in patients exposed to PRP was 0.44 (CI 95% 0.2–0.9; p = 0.037). Overall, the ASES, VAS, SANE and Pittsburgh scores showed statistical improvement after the operation (P < .01). There were no significant differences in functional scores between the groups at any of the postoperative follow-up times. Most of the patients exceeded the MCID for the ASES, SANE and VAS scores without significant differences between the groups. Conclusion: In patients with RCTs < 3 cm undergoing double-row suture-bridge repair, a 5-ml dose of LP-PRP placed at the tendon-bone interface at the time of surgery can significantly reduce the postoperative retear rate. However, the use of LP-PRP in terms of postoperative pain and patient reported outcomes failed to show clinically meaningful effects.

**Category:** Shoulder - Rotator Cuff

**A Slower Recovery Of Range Of Motion after Arthroscopic Supraspinatus Repair Is Associated With A Higher Healing Rate**

**Abstract ID # 22821**

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**Summary:**
Our study shows that the speed of recovery of passive ROM influences tendon healing after isolated arthroscopic SSN repair. Indeed, repairs that resulted in healing had lower AE and ER up to 3 months after surgery compared to those that did not heal. However, this difference did not affect the level of pain and/or shoulder function, which were similar.

**Data:**
**INTRODUCTION:** The purpose of this study was therefore to analyze the impact of the speed of recovery of ROM on tendon healing and functional outcome in patients undergoing an isolated arthroscopic supraspinatus (SSN) repair and the same postoperative rehabilitation protocol. We hypothesized that a faster ROM recovery would lead to a better functional outcome without compromising SSN repair healing. MATERIAL AND METHODS: This was a prospective monocentric study. All primary isolated arthroscopic SSN repairs for small to medium tears, without retraction (Patte 1), significant fatty infiltration (Goutallier <2) and associated glenohumeral osteoarthritis were eligible. Patients who did not complete all postoperative follow-ups were excluded. An experienced orthopedic surgeon performed all procedures using a standard double-row technique. All patients followed the same rehabilitation protocol postoperatively. It included the use of a sling and progressive passive overhead stretches and external rotation (ER) with the elbow at side during the first 6 weeks. An independent observer assessed all patients before and at 6 weeks, 3, and 6 months after surgery. Collected data at each follow-up included passive and active anterior elevation (EA) and ER as well as the visual analogue scale (VAS) for pain. In addition, the Constant score was obtained before and at 6 months after surgery. A single and experienced radiologist examined the healing of the repair by ultrasound at 6 months postoperatively. The integrity of the repair was classified into 5 categories according to Sugaya. Types 1 to 3 were considered as healed. RESULTS: 1323 consecutive patients between 2010 and 2020 were eligible. 169 were excluded according to the aforementioned criteria. Finally, 1154 arthroscopic SSN repairs were included. The healing rate was 87.3%. Table 1 presents the following results in detail. Preoperative characteristics of healed and non-healed repairs were similar in terms of passive and active ROM, VAS pain, and Constant score. Compared to the non-healed repairs, the healed ones were slightly younger (57.8±8.0 vs. 61.5±8.5 years; p<0.001) and had a lower passive AE and ER at 6 weeks and 3 months postoperatively. However, this difference faded by 6 months after surgery. There was no difference in Constant score and VAS pain between healed and non-healed repairs. In both cases, the SSN repair resulted in an improvement of the Constant score at 6 months postoperatively and a decrease in the VAS pain already from the 6th postoperative week. DISCUSSION: Our study shows that the speed of recovery of passive ROM influences tendon healing after isolated arthroscopic SSN repair. Indeed, repairs that resulted in healing had lower AE and ER up to 3 months after surgery compared to those that did not heal. However, this difference did not affect the level of pain and/or shoulder function, which were similar. These results illustrate the importance of the immediate postoperative rehabilitation phase on tendon healing and support the hypothesis that an initial period of rest without active mobilization or at least with protected mobilization increases the chances of tendon healing.

**Category:** Shoulder - Rotator Cuff

**All Arthroscopic Muscle Advancement Procedure for Massive Retracted Rotator Cuff Tears: Clinical and Radiological Outcome**

**Abstract ID # 23450**

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**Summary:**
Clinical and radiological outcomes following muscle advancement for massive posterosuperior rotator cuff tears.

**Data:**
Introduction Massive retracted posterosuperior cuff tears to the glenoid rim (with delamination) pose a challenge, they are associated with a high re- Tear rate. Primary repair of these tears is often complex due to inadequacy of stump length, peritendinous scarring and fibrosis, retraction, muscular fatty infiltration and poor tissue quality resulting in “irreparability”. These difficulties make primary repair a less-favourable option and promote other salvage procedures like superior capsular reconstruction and tendon transfers. A tension free repair is mandatory for a successful outcome. Rather than pulling the tendon under tension, we have employed an all arthroscopic technique of releasing the cuff muscles off the scapular body allowing advancement the whole muscle-tendon unit laterally to achieve a tension-free footprint repair. Clinical and radiological outcomes of all arthroscopic muscle slide and advancement is reported in this prospective study. Methods 61 consecutive patients (66 shoulders) with large to massive delaminated posterosuperior cuff tears were enrolled. 47 (77%) were males. Mean age was 57 years (SD – 6, range: 42-70). Nine (15%) were smokers. Mean BMI was 31.7 (SD – 6, range: 21.6, 50.9). 56% of the cuff tears were in the dominant hand, and 83% of the cuff tears were traumatic. These patients underwent an all-arthroscopic rotator cuff repair that included supraspinatus and infraspinatus subperiosteal dissection from their scapular bony fossae, lateral advancement of the tendon laminae, and tension-free double-layer Lasso Loop.