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Restoration of the Rotator Cuff Footprint After Arthroscopic Single Row Repair (SS-01) *Don A. Buford, M.D.*

Introduction: The purpose of this study was to evaluate whether or not the rotator cuff footprint is restored after single row, triple loaded suture anchor repair. The hypothesis was that the rotator cuff footprint is restored when the tendon heals, even with a single row of suture anchors placed medially in the footprint. A secondary purpose was to evaluate when the rotator cuff footprint is restored after surgery.

Methods: This was a prospective study of 100 consecutive arthroscopic rotator cuff repairs done by a single surgeon. The rotator cuff tears were of varying sizes. All tears were repaired arthroscopically with the same triple loaded suture anchor. Tears were repaired with 1 to 3 anchors and margin convergence sutures as deemed necessary by the surgeon. Patients were evaluated by shoulder ultrasound at 6 weeks, 3 months, and 6 months after surgery. UCLA scores were obtained preoperatively and at the same postoperative intervals as the shoulder ultrasound examinations. For statistical analysis, patients were separated into 3 groups based on the anterior to posterior size of the cuff tear determined arthroscopically (<2cm, 2-4 cm, >4cm).

Results: There were 48 rotator cuff tears measuring less than 2 cm and the healing rate, as determined by restoration of the footprint on ultrasound evaluation, was 92%. Footprint restoration was visible at the 3 month ultrasound examination in 80% of the patients. There were 41 rotator cuff tears measuring 2cm to 4cm and 88% of them had footprint restoration by 6 months postoperatively. Of the patients with footprint restoration, only 51% had footprint restoration at 3 months. There were 11 rotator cuff tears greater than 4cm and 70% of them had footprint restoration by 6 months postoperatively. Of the patients with footprint restoration, only 18% had footprint restoration at 3 months.

Conclusion: Arthroscopic single row rotator cuff repair with triple loaded suture anchors can lead to a high

rate of tendon healing. The lateral aspect of the rotator cuff footprint does appear to be restored by the end of the healing process, as visualized dynamically by shoulder ultrasound.

Early Structural and Functional Outcomes for Arthroscopic Double Row Transosseous Equivalent Rotator Cuff Repair (SS-02) *Erik A. Schnaser, M.D., Jacob Bosley, M.D., Bruno Toussaint, M.D., Reuben Gobezie, M.D.*

Introduction: Several investigators have studied the clinical outcomes after arthroscopic repair and have reported that the short-term clinical outcomes are comparable. However, the influence of the repair technique on the failure rates and functional outcomes after open or arthroscopic rotator cuff repair remains controversial. Several studies have evaluated biomechanical strength, contact area, and failure modes of single-row suture anchor, double-row suture anchor, as well as transosseous repairs and their ability to restore native the native rotator cuff. We present here our data from 155 consecutive patients who underwent double-row transosseous equivalent (suture bridge technique) rotator cuff repairs.

Methods: Between June 2006 and October 2007, 225 patients underwent the arthroscopic double-row transosseous equivalent repair of a torn rotator cuff at two surgical centers. One hundred and fifty-five of these patients were available for follow up at an average of 15 months postoperatively. At this evaluation, patients had either an MRI or CT arthrogram of the operative shoulder. The Constant scores, pain ranking (0-15 scale), forward flexion and strength were also collected at the follow up examination. Failure rates were determined based on analysis of the radiographic outcomes.

Results: During this period 155 patients were clinically and radiologically evaluated at a mean of 15 months (5.5-26.1). 54% male 46% female at an average age of 57.73 years (18-80). 47, 89, 19 patients had Patte type I, II, III lesions (respectively). Mean preoperative Constant Score improved from 44.21 (23-66) to 80.41