

Long-term Results of Arthroscopic Rotator Cuff Repair (SS-07)

We have been performing arthroscopic rotator cuff repair since 1991. Short-term results have been previously presented and have been encouraging. Presented here are long-term results (minimum of 8 years postoperative) in a consecutive series of 64 patients who underwent 64 arthroscopic rotator cuff repairs. Three patients had died and 6 could not be located, leaving 55 patients who were reevaluated. We were able to personally interview and examine 48 patients; 7 patients were interviewed by telephone. The average age of these patients was 68 years. The repair technique used in these patients was predominantly our older technique utilizing No. 1 PDS and push-in anchors. Most of the tears were nonretracted crescent shaped tears and were repaired directly end to bone. We have traditionally evaluated our patients using the Modified UCLA (MUCLA) scoring system (45 points maximum). This group of patients was also evaluated using this scoring system. Eight year postoperative American Shoulder and Elbow Society and Constant scores were also determined for this group. For MUCLA scoring, we were able to compare the preoperative scores with the results of our previously published evaluation at 2-3 years and our current evaluation at 8 years. The average preoperative MUCLA score was 17, the 2-3 year score was 41, and the 8 year score was also 41. Excellent results were achieved in 68% at 2-3 years and in 75% at 8 years. Good results were obtained in 25% at 2-3 years and 10% at 8 years. Fair results were obtained in 2% of both 2-3 year and 8 year follow-up groups. Poor results were recorded in 5% at 2-3 years and 13% at 8 years. American Shoulder and Elbow Society Scores at 8 years were as follows: 90.8 average overall score (range 40-100), Average pain score was 0.9. Average ADL score was 27.3. Average strength score was 4.8 (abduction) and 4.9 (IR and ER). Constant Scores at 8 years were as follows: 91.3 average overall score (range 68-100). Average pain score was 13. Average total ADL score was 18.8. Average ROM score was 36.1. Average strength score was 12.3. Average strength score when compared to the unaffected side (operated side score \times 25/unaffected side score) was 22.4. We used this comparison value to determine the overall average score. Overall, the results of arthroscopic rotator cuff repair are very good and have shown to be durable at 8 year follow-up. These results compare well to the long-term results of open repairs. It must be noted, however, that these are the results of the repair of only the smaller tears that were undertaken at the time. Currently we are using stronger sutures with higher pull-out strength anchors and are

repairing much larger tears. The short-term results of these repairs are also good but their long-term durability must still be determined.

Joseph C. Tauro, M.D.

Fatty Infiltration and Atrophy of the Rotator Cuff Do Not Improve Following Rotator Cuff Repair (SS-08)

There has been controversy as to whether rotator cuff repair (RCR) can improve the fatty infiltration (FI) and muscle atrophy (MA) often seen in large rotator cuff tears. This study compares FI and MA seen on pre- and postoperative MRIs as part of a prospective outcome study of rotator cuff repair. Methods: The clinical outcome of 39 patients (mean 62yo, minimum follow-up 1yr) following RCR was determined with ASES and Constant scores. FI was graded on a 5 point scale and MA on a 4 point scale on pre and postoperative MRIs. Results: Pain, function, ASES and Constant scores all significantly improved following RCR ($P < .05$). FI and MA positively correlated with tear size ($P < .0001$, $r = 0.712$). Those with greater degrees of supraspinatus FI were more likely to retear ($P < .001$, $r = 0.745$). ASES and Constant scores, and strength measurements, all inversely correlated with FI and MA ($P < .03$). Strength in FF and ER was affected more by infraspinatus FI than similar levels of the supraspinatus. Pain relief was independent of the severity of FA/MA. Only one patient improved from moderate to mild MA. In 18 MA/FI were unchanged and in 21 MA and/or FI was actually worse. Conclusion FI and MA significantly affect the functional outcome following RCR even though pain is relieved. Neither FI nor MA appear to reverse following surgery, even with a successful outcome, and in moderate to severe cases may actually worsen. Patients' expectations should not include reversal of muscle degeneration once present.

Evan Flatow, M.D., Julie Bishop, M.D., Ian Lo, M.D., James Gladstone, M.D.

Complications of Arthroscopic Rotator Cuff Repairs (SS-09)

Arthroscopic techniques for treatment of shoulder problems especially rotator cuff tears has continued to gain popularity over the past ten years. Complications following shoulder arthroscopy have ranged from 5.3% to 9.5%, however, this number accounts for all types of shoulder arthroscopic surgeries. There has not been much written regarding the complications following arthroscopic rotator cuff repairs. Studies have demonstrated the results with arthroscopic rotator cuff repairs