

## Paper #19

# Does The Deformity After Rotator Cuff Repair Remodel?

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### Summary:

Most of deformities after rotator cuff repair such as "dog-ear" or "bird-beak" remodel over time and do not affect the radiologic outcome of repair after 6 months of follow up.

### Abstract:

#### Introduction:

The deformities after rotator cuff repair such as "dog-ear" or "bird-beak" has been known occur quite often especially in suture-bridge technique. The remodeling potential for such deformities has not been published. The purpose of our study was to evaluate the outcome of such deformities with MRI after rotator cuff repair in suture-bridge technique.

#### Methods:

From July 2011 to February 2012, a consecutive series of 100 shoulders repaired with the suture-bridge technique was included in this study. Postoperative MRI was obtained within a week of surgery (time-0 MRI) and about 6 months after surgery (follow-up MRI).

Deformity was defined as marginal detachment of rotator cuff after repair, in which the suture limbs from the anchors compressed the rotator cuff inappropriately.

The sample population was divided into two groups based on the presence of deformity in the time-0 MRI ; group A (No-deformity group) and group B (Deformity group).

Changes of deformity were evaluated by changes of tendon heights. The height of tendon was measured from the highest point of most protruded portion of repaired tendon to the cortex. The heights were measured in the time-0 MRI and compared with same cut in the follow up MRI for each group. Number of re-tears was noted in both groups and number of remodeling was analyzed in group B.

#### Results:

46 were included as group A, and 54 as group B. The initial average height of repaired tendon in the time-0 MRI was  $7.52 \pm 1.67$  mm in group A,  $9.21 \pm 2.01$  mm in group B ( $p < 0.05$ ). In the follow up MRI, the average height was decreased to  $6.47 \pm 1.26$  mm,  $6.58 \pm 1.47$  mm respectively ( $p = 0.594$ ). The average difference in height in group A was  $1.04 \pm 1.64$  mm, in group B  $2.53 \pm 1.83$  mm, which correspond to 9.87% and 26.8% of initial height, respectively ( $p < 0.05$ ). Number of remodeling cases was 40 of 54 (74.1%) in group B. (Fig.1.) A re-tear rate was 6.5% (3 shoulders) in group A and 5.6% (3 shoulders) in group B ( $p = 0.800$ ).

#### Discussion/Conclusions

Our results show that most of these deformities remodel over time and do not affect the radiologic outcome of repair after 6 months of follow up. The mean height decreased ranged approximately, 10-25%.