

## Poster #33

### Research Study

Title: “Evaluating the Effects of Biceps Tenodesis in Conjunction with ORIF for Proximal Humerus Fractures”

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**Introduction and Objective.** Proximal humeral fractures (PHF) comprise of 5% of all adult fractures and are increasingly more common in osteoporotic bone in the elderly. Although controversial, biceps tenodesis (BT) can be used during ORIF to avoid late biceps-related symptoms. However, outcomes of ORIF with BT has not been well studied. This study evaluated the postoperative outcome of patient’s undergoing ORIF for PHF with concomitant BT.

**Methods.** Following IRB approval, all patients undergoing ORIF for a proximal humerus fracture at a single level-one trauma center were retrospectively reviewed. 71 patients met our inclusion and exclusion criteria and were divided into 2 groups: 41 with ORIF, and 30 with ORIF and BT. Demographic and operative data were compared across groups using chi-squared tests and t-tests. All outcomes were evaluated at the following post-operative time points: two weeks post-operative (time-point 1), four weeks post-operative (time-point 2), twelve weeks post-operative (time-point 3), six months post-operative (time-point 4), and the last recorded time point within the EMR (time-point final).

**Results.** There were no statistically significant differences in demographics between the ORIF and ORIF with BT groups. The ORIF with BT group had more complex fracture morphology evidenced by significantly greater Neer classification. In between group comparisons at each time point demonstrated forward flexion to be significantly greater in the ORIF with BT group at time points 3 and final. All other outcomes did not show a statistically significant difference. No differences in revisions, complications, injections post-op, or length of surgery were seen between the groups. There were significant improvements in PROMIS physical functioning, PROMIS pain, VAS, and ROM, over time in both groups. For all outcomes, PROMIS scores, VAS and ROM, the group effect was not statistically significant in the between group tests of a repeated measure ANOVA concluding the groups did not differ significantly on these measures.

**Conclusions-Implications.** While few statistical differences were found between the two groups, the fact that the ORIF with BT group showed similar outcomes to the ORIF group with a more complex fracture morphology, suggests that complex PHF might have benefit when performing ORIF with BT. However, determining whether to use BT or not, one should take into account patient characteristics and physician expert opinion.