In vivo comparison of changes in glenohumeral translation after arthroscopic capsulolabral reconstructions

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Results: In patients with anteroinferior/posteroinferior capsulolabral labral repairs, the mean preoperative glenohumeral translation was 30.04mm in the operative shoulder and 23.18mm for the uninvolved side (P= 0.013). At 3 and 6 months postoperatively, mean translation was significantly decreased in the operative shoulder compared with preoperative values (P=0.0007, P<0.0001) (Figure 2). A significant decrease was found between the uninvolved side and the operative shoulder at 3 months and 6 months postoperative (P=0.044, P=0.002). Shoulder Index of the American Shoulder and Elbow Society was 64.6 preoperatively, 84.6 (P=0.011) at 3 months and 91.1 (P=0.0001) at 6 months. Mean external rotation in abduction (90°) decreased from 98.8° preoperatively to 84.4° at 3 months postoperatively (P=0.014). By the 6 months follow-up, no significant difference existed when compared to preoperative values (92.6°, P=0.333). External rotation in adduction (0°) at 3 and 6 months postoperative showed no significant differences when compared to preoperative values (P=0.54, P=0.87).

Discussion: To our knowledge, this is first in vivo study evaluating glenohumeral translation before and after arthroscopic capsulolabral reconstructions. Arthroscopic superior capsulolabral reconstructions successfully restored anteroposterior translation by three months and six months postoperatively. While ASES scores were significantly increased, postoperative range of motion was decreased but did not reach statistical significance. In contrast, our current arthroscopic capsulolabral techniques for treating recurrent anterior or posterior instability did not restore normal anteroposterior translation by three or six months postoperatively, despite abduction and external rotation being restored by six months.