A comparison of forearm supination and elbow flexion strength in patients with long head of the biceps tenotomy or tenodesis.

The purpose of this study was to compare the forearm supination and elbow flexion strength of the upper extremity in patients who have had an arthroscopic long head of the biceps tendon (LHBT) release with patients who have had an LHBT tenodesis. Cybex isokinetic strength testing (Cybex Division of Lumex, Ronkonkoma, NY) was performed on 17 patients who underwent arthroscopic LHBT tenotomy, 19 patients who underwent arthroscopic LHBT tenodesis, and 31 age-, gender-, and body mass index-matched control subjects. Subjects were considered fully recovered from shoulder surgery, were released for unrestricted activities, and were at least 6 months after surgery before testing. Subjects were tested for forearm supination and elbow flexion strength of both arms by use of a Cybex II NORM isokinetic dynamometer at 60°/s and 120°/s. Testing was performed on injured and uninjured arms as well as dominant and nondominant arms in control subjects. Both forearm supination and elbow flexion strength values were recorded. Comparison between the involved and uninvolved upper extremities within each group by use of a paired t test showed a 7% increase in elbow flexion strength when the dominant and nondominant arms were compared at 60°/s. Neither the tenotomy nor tenodesis groups
exhibited elbow flexion strength differences at 120°/s (all P>= .147). Comparison between groups by use of 2 × 3 analysis of variance (speed × group) showed no statistical difference in either forearm supination or elbow flexion strength when we compared the tenotomy, tenodesis, and control groups. In asymptomatic patients who have had biceps tenotomy or tenodesis, no statistically significant forearm supination or elbow flexion strength differences existed in the involved extremity between the 2 study groups. Level III, case-control study.