

## Outcomes of Primary Biceps Sub-pectoral Tenodesis in an Active Population: A prospective Evaluation of 101 Patients

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**Objectives:** SLAP tears and tendonitis disorders of the long head of the biceps tendon (LHBT) remain a challenge to treat in an active population. The purpose of this study is to prospectively compare the surgical outcomes of a primary biceps tenodesis for SLAP tears and biceps tenosynovitis in a young active population.

**Methods:** Over a 6-year period, 125 patients with mean age of 42.6 (range, 26.3 to 56.5) with a diagnosis of LHBT were prospectively evaluated. Inclusion criteria included patients with a clinical diagnosis of a type II SLAP or anterior shoulder pain who failed conservative management and underwent a diagnostic shoulder arthroscopy. Patients were excluded for full-thickness rotator cuff tears, AC joint pathology, and labral pathology outside of the SLAP lesion. Patients with an arthroscopically confirmed labral tear or biceps tendonopathy underwent a mini-open subpectoral tenodesis with interference screw and were independently evaluated with patient reported outcome measurements (SANE, WORC), and a biceps position examination. Statistical analysis was via Student's t-test and significance set at  $p < .05$ .

**Results:** 101 of 125 patients (81%) completed the study requirements at a mean of 2.75 years (range 1.5 to 5.7 years). 50 Patients were diagnosed with SLAP II tears (40%) and 75 patients with biceps tendonitis (60%), 28 (22%) underwent a rotator cuff debridement for a concomitant low-grade partial rotator cuff tear and LHBT instability. There was a clinically and statistical improvement in patient outcomes scores: (WORC=54%, SANE=58) improved to (WORC=89%, SANE=89.5,  $p < 0.01$ ). 82% of patients returned to work and full activity at a mean of 4.1 months. The biceps muscle measured relative to the antecubital fossa of operative (mean 3.20 cm) versus non-operative (3.11 cm) was not clinically different ( $p = 0.57$ ), except in the 3 that failed tenodesis fixation. There was an 8% complication rate: 3 patients sustained failure of the LHBT tenodesis requiring revision; 2 superficial infections treated with antibiotics; and 3 transient musculoskeletal neuromyopathies.

**Conclusion:** A primary biceps tenodesis for pathology of the LHBT provides a clinical and statistically significant improvement in shoulder outcomes with a reliable and efficient return to previous activity level and low risk for surgical complications. However, additional work is necessary to define optimal primary treatment of LHB disorders.

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