

# Superior Labrum Anterior-to-Posterior (SLAP) Repair is Associated with Increased Rate of Subsequent Rotator Cuff Diagnoses and Revision Surgery: A Propensity-Matched Comparison

Authors: Sterling DeShazo<sup>1</sup>, Laura Linscheid<sup>2</sup>, Sabrina Pescatore<sup>1</sup>, Jeremy Somerson<sup>2</sup>

University of Texas Medical Branch<sup>1</sup>, Department of Orthopaedic Surgery and Rehabilitation<sup>2</sup>

**Introduction:** Surgical management of Superior Labrum Anterior-to-Posterior (SLAP) tears remains controversial. Current management utilizes two well established procedures: biceps tenodesis (BT) and SLAP repair. The purpose of this study is to evaluate the complications associated with arthroscopic SLAP repair versus an open or arthroscopic biceps tenodesis to further elucidate optimal surgical management.

## Methods:

Three cohorts with SLAP lesions (ICD10:S43.43) were evaluated for this study. Cohort A was defined as patients that had undergone arthroscopic SLAP repair (CPT:29807). Cohort B was identified as patients that had undergone arthroscopic biceps tenodesis (CPT:29828). Cohort C was patients that had undergone open tenodesis of the biceps (CPT:23430). Cohorts were propensity matched for type 2 diabetes, nicotine dependence, alcohol related disorders, and BMI. Cohorts were similarly propensity matched for demographic factors such as age at event, ethnicity, race, and sex.

Data was gathered from HCOs from May 15th, 2003, to May 15th, 2023. The outcomes evaluated were: disruption of surgical wound, deep vein thrombosis, mononeuropathy of upper limb, shoulder contusion, humeral fracture, sepsis, deceased, acute post-op pain, revision, shoulder stiffness, and rotator cuff strain. All outcomes were evaluated within 1 year post procedure.

**Results:** A total of 11,081 arthroscopic SLAP repairs, 9,960 arthroscopic biceps tenodesis, and 9,420 open biceps tenodesis were matched. Compared to arthroscopic biceps tenodesis, patients that underwent arthroscopic SLAP repair were 1.8 times more likely for revision (2.9% vs 1.6%,  $p < 0.0001$ ). Compared to open biceps tenodesis, patients that underwent SLAP repair were 1.4 times more likely for revision (3.1% vs 2.3%,  $p = 0.0126$ ) and 1.6 times more likely to have a subsequent rotator cuff strain diagnosis (5.1% vs 3.2%,  $p = 0.0002$ ). Compared to SLAP repair, patients that underwent arthroscopic biceps tenodesis exhibited 1.3 times more instances of acute postoperative pain (5.2% vs 4.0%,  $p = 0.0112$ ). Similarly, open Biceps Tenodesis exhibited 1.8 times more instances of acute postoperative pain (6.9% vs 3.8%,  $p < 0.0001$ ) and 1.3 times more shoulder stiffness (11.8% vs 9.0%,  $p < 0.0001$ ).

**Conclusion:** In the last 20 years (2003 to 2023), patients that had SLAP repair were associated with higher risk of revision surgery and subsequent rotator cuff strain diagnosis. Conversely, patients that underwent Biceps Tenodesis were associated with higher rates of acute postoperative pain and shoulder stiffness.

**Significance/Clinical Relevance:** Patients that undergo SLAP repair as opposed biceps tenodesis were more likely to have revision surgery as well as subsequent rotator cuff strain diagnosis. Further research should investigate which procedure is more efficacious for repair of SLAP tears.

