Shoulder Biceps Tenodesis/Tenotomy - Single Service

Clinical Guidelines for Medical Necessity Review

Version: 1
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Important Notices

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Guideline Information:

Specialty Area: Diseases & Disorders of the Musculoskeletal System
Guideline Name: Shoulder Biceps Tenodesis/Tenotomy (Single Service)

Literature review current through: 5/28/2024
Document last updated: 5/28/2024
Type: [**X**] Adult (18+ yo) | [_] Pediatric (0-17yo)

Table of Contents

Medical Necessity Criteria

Service: Shoulder Biceps Tenodesis/Tenotomy

General Guidelines

- **Units, Frequency, & Duration:** None.
- **Criteria for Subsequent Requests:** None.
- **Recommended Clinical Approach:** Biceps tenodesis may be indicated for patients with biceps tendon pathology and persisting symptoms for over three months. The appropriate procedure may be performed open or arthroscopically, depending on the patient's functional requirements, age, and the surgeon's discretion.[1] There is no consensus regarding choosing tenodesis for proximal biceps tendon pathology with or without rotator cuff tear.[1-3]
- **Exclusions:** None.

Medical Necessity Criteria

Indications

➔ **Shoulder biceps tenodesis/tenotomy** is appropriate if **ALL** of the following are **TRUE**[2,4-5]:

- ◆ The patient has **2 or more** of the following positive exam findings :
  - Anterior slide test; **OR**
  - Biceps load test; **OR**
  - Clunk test; **OR**
  - Compression rotation test; **OR**
  - Biceps tendon tenderness in the bicipital groove;**OR**;
  - O'Brien's test; **OR**
  - Speed's test; **OR**
  - Uppercut test; **OR**
  - Yergason test; **AND**
- ◆ Significant pain and/or functional impairment that impacts activities of daily living; **AND**
- ◆ Failure of conservative management for greater than three months, including **ALL** of the following:
  - Oral steroids, anti-inflammatory medications, or analgesics; **AND**
  - Physical therapy; **AND**

- **ANY** of the following:
    - Corticosteroid injection if medically appropriate; **OR**
    - Corticosteroid injection is contraindicated; **AND**

◆ Advanced diagnostic imaging studies (e.g., MRI, CT) demonstrate biceps tendon pathology and correlate with the patient's symptoms and physical exam findings including **ANY** of the following:

- Biceps tendon subluxation/dislocation; **OR**
- Biceps tenosynovitis/tendinopathy/tearing; **OR**
- Superior labrum anterior and posterior (SLAP) tear; **OR**
- Hypertrophy of proximal biceps tendon.

Non-Indications

➔ **Shoulder Biceps Tenodesis/Tenotomy** is not appropriate if **ANY** of the following is **TRUE**[1-2,4]:

◆ Biceps tenotomy in an athlete or patient with high-activity demands.

Level of Care Criteria

Outpatient

Procedure Codes (CPT/HCPCS)

CPT/HCPCS Code	Code Description
S2300	Arthroscopy, shoulder, surgical
23430	Tenodesis of long head of biceps muscle
23440	Transplantation of biceps tendon
29828	Arthroscopy shoulder biceps tenodesis

Medical Evidence

Zhang et al. (2023) conducted a study aimed to determine the optimal surgical strategy for long head of the biceps tendon (LHBT) lesions by comparing tenotomy and tenodesis through a meta-analysis of randomized controlled trials (RCTs). Ten RCTs involving 787 cases were analyzed. Results showed that tenodesis led to significantly better outcomes regarding Constant scores, Simple Shoulder Test (SST) scores, and reduction in Popeye deformity and cramping pain compared to tenotomy. However, there were no significant differences between the two procedures regarding pain relief, American Shoulder and Elbow Surgeons (ASES) score, biceps strength, and shoulder range of motion. Subgroup analysis suggested that intracuff tenodesis might offer the best shoulder function, as measured by Constant scores. Both procedures provide satisfactory results. However, tenodesis appears superior in improving shoulder function and reducing certain complications associated with biceps tendon lesions.[6]

Ahmed et al. (2021) compare the effectiveness of tenotomy vs tenodesis for treating long head of the biceps tendon pathologies. Outcomes measured include shoulder functional improvement, postoperative pain, elbow flexion, forearm supination strengths, and complications. The authors reviewed RCTs with a minimum of 12 months follow-up. Tenodesis and tenotomy show similar improvement in the Constant-Murley score at 6 and 12 months postoperatively. However, tenotomy resulted in a significantly lower Constant-Murley score at two years compared to tenodesis. Tenotomy also had a higher risk ratio for developing Popeye's deformity. Based on current evidence, both techniques are recommended and have similar results concerning functional outcomes, pain levels, and strength indices.[7]

Frank et al. (2018) discuss the management of biceps tendon pathology. The long, inflamed head of the biceps tendon is managed surgically when symptomatic via procedures including tenotomy, tenodesis, and repair. Controversy exists on the most appropriate treatment and timing of such. A course of conservative treatment is recommended, if possible, before surgical treatment. Success rates gleaned from the literature regarding superior labrum from anterior to posterior (SLAP) are consistently high.[1]

References

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2. Virk MS, Cole BJ. Proximal biceps tendon and rotator cuff tears. Clin Sports Med. 2016 Jan;35(1):153-61. doi: 10.1016/j.csm.2015.08.010. PMID: 26614474.
3. Skendzel JG, Jacobson JA, Carpenter JE, et al. Long head of biceps brachii tendon evaluation: Accuracy of preoperative ultrasound. *AJR Am J Roentgenol*. 2011;197(4):942-8. doi: 10.2214/AJR.10.5012. PMID: 21940583.
4. Nho SJ, Strauss EJ, Lenart BA, et al. Long head of the biceps tendinopathy: Diagnosis and management. *J Am Acad Orthop Surg.* 2010;18(11):645-656. doi: 10.5435/00124635-201011000-00002. PMID: 21041799.
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6. Zhang C, Yang G, Li T, et al. Biceps tenodesis better improves the shoulder function compared with tenotomy for long head of the biceps tendon lesions: a meta-analysis of randomised controlled trials. *J Clin Med*. 2023 Feb 22;12(5):1754. doi: 10.3390/jcm12051754. PMID: 36902540; PMCID: PMC10003204.
7. Ahmed AF, Toubasi A, Mahmoud S, et al. Long head of biceps tenotomy versus tenodesis: A systematic review and meta-analysis of randomized controlled trials. *Shoulder Elbow*. 2021 Oct;13(6):583-591. doi: 10.1177/1758573220942923. PMID: 34804206; PMCID: PMC8600672.

Clinical Guideline Revision History/Information

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Review History	