

## Medical Coverage Policy | Suture Button Suspensionplasty Fixation System for Thumb Carpometacarpal Osteoarthritis



**EFFECTIVE DATE:** 05|01|2024

**POLICY LAST REVIEWED:** 01|03|2024

### OVERVIEW

In the thumb, the most common site for arthritis to develop is in the joint at the base of the thumb, also known as the carpometacarpal (CMC) joint. Pain and functional limitations associated with symptomatic thumb CMC joint osteoarthritis, especially when pinching or gripping objects, can significantly interfere with quality of life. Surgery is indicated when conservative measures fail to provide sufficient relief and functional improvement. There is currently no consensus on the optimal surgical approach, but the most frequently used procedure is trapeziectomy with ligament reconstruction and tendon interposition (LRTI). Trapeziectomy using suture button suspensionplasty (SBS) is proposed as a less invasive alternative to trapeziectomy with LRTI.

### MEDICAL CRITERIA

Not applicable

### PRIOR AUTHORIZATION

Not applicable

### POLICY STATEMENT

#### Medicare Advantage Plans

The use of suture button suspensionplasty fixation system for thumb carpometacarpal osteoarthritis not covered as the evidence is insufficient to determine the effects of the technology on health outcomes.

#### Commercial Products

The use of suspensionplasty fixation system for thumb carpometacarpal osteoarthritis not medically necessary as the evidence is insufficient to determine the effects of the technology on health outcomes.

### COVERAGE

Benefits may vary between groups and contracts. Please refer to the appropriate Benefit Booklet, Evidence of Coverage or Subscriber Agreement for applicable not medically necessary/not covered benefits/coverage.

### BACKGROUND

In the thumb, the most common site for arthritis to develop is in the joint at the base of the thumb, also known as the carpometacarpal (CMC) joint. The incidence of CMC joint osteoarthritis is estimated to be 5% to 33% among adults in their 50s and 60s and rises with age. It is more common in postmenopausal women. Pain and functional limitations, especially when pinching or gripping objects, can significantly interfere with quality of life.

First-line treatment of CMC joint osteoarthritis includes non-surgical measures such as activity modifications, rest, hand orthosis, anti-inflammatory medications, physical therapy, and corticosteroid injections. Surgery is indicated when conservative treatment fails to provide sufficient relief and functional improvement. Although thumb CMC joint osteoarthritis is often staged using radiological classification systems (e.g., the Eaton-Littler classification), the severity of symptoms does not necessarily correspond to radiographic findings; therefore a decision to proceed to surgery is based on symptoms and degree of disability.

Multiple surgical techniques to treat thumb CMC osteoarthritis have been developed but there is currently no consensus on the optimal approach. The most common surgical technique is removal of the trapezium bone at the base of the thumb (trapeziectomy). Trapeziectomy can be performed alone but is most commonly performed in conjunction with reconstruction of the ligament that holds the bones between the thumb and

index finger together, and filling the space left behind by the removed trapezium with tendon harvested from the forearm to support the thumb. This procedure is known as trapeziectomy with ligament reconstruction and tendon interposition (LRTI). Either the flexor carpi radialis (FCR) tendon or abductor pollicis longus (APL) tendon is used in this procedure.

Trapeziectomy using suture button suspensionplasty is proposed as a less invasive alternative to trapeziectomy with LRTI. Instead of using tendon to support the thumb, the procedure suspends the first metacarpal to the second using a strong suture material (fiberwire) passed through both bones. A button on each of the metacarpals is attached to either end of the suture to secure the bones in the correct position.

In 2014, the CMC Mini TightRope System (Arthrex, Inc) was FDA cleared through the 510K process. Clearance was based on a determination that the device is substantially equivalent to the predicate device Arthrex Implant System (Mini TightRope). The CMC Mini TightRope system is indicated for CMC joint arthroplasty as an adjunct in the suspension of the thumb metacarpal by providing stabilization at the base of the first and second metacarpal when the trapezium has been excised due to osteoarthritis.

## **CODING**

### **Medicare Advantage Plans and Commercial Products**

There is not a specific code(s) for this service. Claims must be filed with the following unlisted code(s):

**26989** Unlisted procedure hands, or fingers

## **RELATED POLICIES**

Unlisted Procedures

## **PUBLISHED**

Provider Update, March 2024

## **REFERENCES**

1. Wininger AE, Orozco EI, Han A, et al. Systematic Comparison of Ligament Reconstruction With Tendon Interposition and Suture-Button Suspensionplasty for Trapeziometacarpal Osteoarthritis. *Hand (N Y)*. Mar 10 2022; 15589447211043217. PMID 35272518
2. Kolasinski SL, Neogi T, Hochberg MC, et al. 2019 American College of Rheumatology/Arthritis Foundation Guideline for the Management of Osteoarthritis of the Hand, Hip, and Knee. *Arthritis Care Res (Hoboken)*. Feb 2020; 72(2): 149-162. PMID 31908149
3. Shah ND, Yuksel S, Sasson DC, et al. A 15-Year Review of Clinical Practice Patterns and Evidence-Based Medicine in Carpometacarpal Joint Arthroplasty. *Hand (N Y)*. Mar 2023; 18(2\_suppl): 65S-73S. PMID 34969303
4. Wajon A, Vinycomb T, Carr E, et al. Surgery for thumb (trapeziometacarpal joint) osteoarthritis. *Cochrane Database Syst Rev*. Feb 23 2015; 2015(2): CD004631. PMID 25702783
5. Challoumas D, Murray E, Ng N, et al. A Meta-analysis of Surgical Interventions for Base of Thumb Arthritis. *J Wrist Surg*. Dec 2022; 11(6): 550-560. PMID 36504527
6. Food & Drug Administration. 2014. Arthrex CMC Mini Tightrope. 510K Summary of Safety and Effectiveness. [https://www.accessdata.fda.gov/cdrh\\_docs/pdf14/K140328.pdf](https://www.accessdata.fda.gov/cdrh_docs/pdf14/K140328.pdf). Accessed October 4, 2023.
7. Morais B, Botelho T, Marques N, et al. Trapeziectomy with suture-button suspensionplasty versus ligament reconstruction and tendon interposition: a randomized controlled trial. *Hand Surg Rehabil*. Feb 2022; 41(1): 59-64. PMID 34728434
8. Shinya Y, Ikeguchi R, Noguchi T, et al. Radiographic Evaluation after Arthroscopic Partial Trapeziectomy with Suture-button Suspensionplasty for Thumb Carpometacarpal Arthritis. *Plast Reconstr Surg Glob Open*. May 2023; 11(5): e4983. PMID 37180981
9. Franchignoni F, Vercelli S, Giordano A, et al. Minimal clinically important difference of the disabilities of the arm, shoulder and hand outcome measure (DASH) and its shortened version (QuickDASH). *J Orthop Sports Phys Ther*. Jan 2014; 44(1): 30-9. PMID 24175606

10. Shonuga O, Nicholson K, Abboudi J, et al. Thumb-Basal Joint Arthroplasty Outcomes and Metacarpal Subsidence: A Prospective Cohort Analysis of Trapeziectomy With Suture Button Suspensionplasty Versus Ligament Reconstruction With Tendon Interposition. *Hand (N Y)*. Jan 2023; 18(1): 98-104. PMID 33789518
11. Walter N, Duncan E, Roskosky M, et al. Suture Button Suspensionplasty in the Treatment of Carpometacarpal Arthritis: A Retrospective Analysis of One Surgeon's Experience Over 9 Years. *J Hand Surg Glob Online*. Jan 2020; 2(1): 25-30. PMID 35415470
12. Yao J, Cheah AE. Mean 5-Year Follow-up for Suture Button Suspensionplasty in the Treatment of Thumb Carpometacarpal Joint Osteoarthritis. *J Hand Surg Am*. Jul 2017; 42(7): 569.e1-569.e11. PMID 28412189
13. Yao J, Song Y. Suture-button suspensionplasty for thumb carpometacarpal arthritis: a minimum 2-year follow-up. *J Hand Surg Am*. Jun 2013; 38(6): 1161-5. PMID 23647637
14. Özçelik İB, Uğurlar M, Sarı A. Arthroscopic Hemitrapeziectomy and Suture Button Suspensionplasty in the Treatment of First Carpometacarpal Joint Eaton-Littler Stage 2-3 Arthrosis. *J Wrist Surg*. Apr 2019; 8(2): 132-138. PMID 30941253
15. Tanaka H, Muraoka K, Tanaka Y, et al. Suspension arthroplasty using the palmaris longus tendon with a suture button for thumb trapeziometacarpal arthritis: a retrospective observational study. *J Orthop Sci*. Jul 2023; 28(4): 795-801. PMID 35690542
16. Maeda A, Ikeguchi R, Noguchi T, et al. Clinical Results of Arthroscopic Partial Trapeziectomy With Suture-Button Suspensionplasty for Thumb Carpometacarpal Arthritis. *Hand (N Y)*. Jul 2023; 18(5): 740-745. PMID 35156403
17. Landes G, Gaspar MP, Goljan P, et al. Arthroscopic Trapeziectomy With Suture Button Suspensionplasty: A Retrospective Review of 153 Cases. *Hand (N Y)*. Jun 2016; 11(2): 232-7. PMID 27390569
18. Avant KR, Nydick JA, White BD, et al. Basal joint osteoarthritis of the thumb: comparison of suture button versus abductor pollicis longus suspensionplasty. *Hand (N Y)*. Mar 2015; 10(1): 80-4. PMID 25767424

[CLICK THE ENVELOPE ICON BELOW TO SUBMIT COMMENTS](#)

This medical policy is made available to you for informational purposes only. It is not a guarantee of payment or a substitute for your medical judgment in the treatment of your patients. Benefits and eligibility are determined by the member's subscriber agreement or member certificate and/or the employer agreement, and those documents will supersede the provisions of this medical policy. For information on member-specific benefits, call the provider call center. If you provide services to a member which are determined to not be medically necessary (or in some cases medically necessary services which are non-covered benefits), you may not charge the member for the services unless you have informed the member and they have agreed in writing in advance to continue with the treatment at their own expense. Please refer to your participation agreement(s) for the applicable provisions. This policy is current at the time of publication; however, medical practices, technology, and knowledge are constantly changing. BCBSRI reserves the right to review and revise this policy for any reason and at any time, with or without notice. Blue Cross & Blue Shield of Rhode Island is an independent licensee of the Blue Cross and Blue Shield Association.

