Tarsometatarsal Arthrodesis - Single Service

Clinical Guidelines for Medical Necessity Review

Version: 1
Effective Date: April 19, 2024

Important Notices

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Guideline Information:

Specialty Area: Diseases & Disorders of the Musculoskeletal System
Guideline Name: Tarsometatarsal Arthrodesis (Single Service)

Literature review current through: 4/19/2024
Document last updated: 4/19/2024
Type: [**X**] Adult (18+ yo) | [**X**] Pediatric (0-17yo)

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Medical Necessity Criteria

Service: Tarsometatarsal Arthrodesis

General Guidelines

- **Units, Frequency, & Duration:** None
- **Criteria for Subsequent Requests:** None
- **Recommended Clinical Approach:** Tarsometatarsal (TMT) joint arthrodesis may be used to treat more severe and advanced hallux valgus deformities especially those with first TMT joint instability or arthritis.[1-3]
- **Exclusions:** None

Medical Necessity Criteria

Indications

➔ **Tarsometatarsal Arthrodesis** is considered appropriate if **ALL** of the following are **TRUE**:

- ◆ The patient has **ANY** of the following positive findings:
  - Bunion deformity with persistent pain and difficulty walking; **OR**
  - Hypermobility of the 1st TMT joint documented; **OR**
  - Painful TMT joint with tenderness on exam; **AND**
- ◆ The patient has failed to show significant improvement in pain or disability due to symptoms despite treatment for at least 3 months with **ALL** of the following[2-3]:
  - Shoe modifications; **AND**
  - Protective Cushions/Pads; **AND**
  - Orthotics; **AND**
  - Oral steroids, topical or oral anti-inflammatory medications, or oral analgesics; **AND**
  - **ANY** of the following:
    - Corticosteroid injection if medically appropriate**; OR**
    - Corticosteroid injection is contraindicated**; AND**
- ◆ Radiographic confirmation (must be weight-bearing radiographs of the foot) of **ANY** of the following:
  - Intermetatarsal (IM) angle greater than 16 degrees[3]; **OR**

- Advanced osteoarthritis of the tarsometatarsal (TMT) joint (e.g., joint space narrowing, osteophyte formation, subchondral cysts).

Non-Indications

➔ **Tarsometatarsal Arthrodesis** is not considered appropriate if **ANY** of the following is **TRUE**:

- The patient has not reached skeletal maturity; **OR**
- Inadequate blood supply that could prevent healing; **OR**
- The presence of active, untreated infection at the surgical site (may be necessary for a DM ulcer correction).

Level of Care Criteria

Outpatient

Procedure Codes (CPT/HCPCS)

CPT/HCPCS Code	Code Description
28297	Correction, hallux valgus (bunionectomy), with sesamoidectomy, when performed; with first metatarsal and medial cuneiform joint arthrodesis, any method
28735	Arthrodesis, midtarsal or tarsometatarsal, multiple or transverse; with osteotomy (eg, flatfoot correction)
28740	Arthrodesis, midtarsal or tarsometatarsal, single joint

Medical Evidence

Schwartz et al. (2024) conducted a two-part, randomized, double-blind, active-controlled trial. The study examined the efficacy, safety, and how liposomal bupivacaine (LB) works in the body when given through ultrasound-guided sciatic nerve block in the popliteal fossa during bunionectomy surgery. When administered through a sciatic nerve block in the popliteal fossa following a bunionectomy, LB 133 mg exhibited superior and enduring pain management compared to BUPI. The results are clinically significant as they were accompanied by simultaneous decreases in pain levels and opioid usage for up to 4 days post-surgery, with a notably higher proportion of participants abstaining from opioids. (ClinicalTrials.gov Identifier: NCT05157841).[4]

Ilfeld et al. (2021) performed a randomized controlled trial (RCT) to determine the impact of percutaneous peripheral nerve stimulation on postoperative pain levels and usage of opioids. Study participants included patients undergoing foot/ankle, knee, or shoulder surgeries. Each patient received percutaneous peripheral nerve stimulation preoperatively, followed by a single injection of long-acting local anesthetic along the same nerve. Postoperatively, patients were randomized into groups receiving active or sham stimulation for 14 days. The primary outcome measures were opioid consumption and pain scores within the first 7 postoperative days. Results showed that participants receiving active stimulation had significantly lower opioid consumption and pain scores compared to those receiving sham treatment. The authors concluded that percutaneous peripheral nerve stimulation effectively reduced pain and opioid requirements after ambulatory orthopedic surgery without systemic side effects.[5]

Stødle et al. (2020) conducted a RCT to evaluate primary arthrodesis of the first tarsometatarsal (TMT) joint in comparison to temporary bridge plating for managing unstable Lisfranc injuries. The study compared primary arthrodesis (PA) and temporary bridge plate (BP) treatments for Lisfranc injuries, 48 patients were followed for 2 years. PA involved fusing the medial 3 TMT joints, while BP involved placing a plate over the first TMT joint and fusing the second and third TMT joints. The main outcome measured was the American Orthopaedic Foot & Ankle Society (AOFAS) midfoot scale, with secondary measures including SF-36, VAS pain scores, and radiographic assessments. Results showed no significant difference in AOFAS scores between groups, but better alignment of the first metatarsal was noted in the BP group. Overall, favorable outcomes were noted for both treatments.[6]

References

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2. Thomas JL, Blitch EL, et al. Diagnosis and treatment of forefoot disorders. Section 1: Digital deformities. *J Foot Ankle Surg*. 2009 Mar-Apr;48(2):230-8. doi: 10.1053/j.jfas.2008.12.003. PMID: 19232978.
3. Shi, GG, Whalen JL, Turner NS, et al. Operative approach to adult hallux valgus deformity: Principles and techniques. *J Foot Ankle Surg*. 2009 Mar-Apr;48(2):230-8. doi: 10.1053/j.jfas.2008.12.003. PMID: 19232978.
4. Schwartz G, Gadsden JC, Gonzales J, et al. A phase 3 active-controlled trial of liposomal bupivacaine via sciatic nerve block in the popliteal fossa after bunionectomy. *J Clin Anesth*. 2024 Jun:94:111402. doi: 10.1016/j.jclinane.2024.111402. PMID: 38340677.
5. Ilfeld BM, Plunkett A, Vijjeswarapu AM, et al. Percutaneous peripheral nerve stimulation (neuromodulation) for postoperative pain: A randomized, sham-controlled pilot study. *Anesthesiology*. 2021 Jul 1;135(1):95-110. doi: 10.1097/ALN.0000000000003776. PMID: 33856424; PMCID: PMC8249357.
6. Stødle AH, Hvaal KH, Brøgger HM, et al. Temporary bridge plating vs primary arthrodesis of the first tarsometatarsal joint in Lisfranc injuries: Randomized controlled trial. *Foot Ankle Int*. 2020 Aug;41(8):901-910. doi: 10.1177/1071100720925815. PMID: 32501109; PMCID: PMC7406968.

Clinical Guideline Revision History/Information

Original Date: April 19, 2024	
Review History	