Clinical Practice Guideline: **Foot Arthrodesis**

Date of Implementation: **May 21, 2015**

Product: **Specialty**

GUIDELINES

A. American Specialty Health – Specialty (ASH) considers services consisting of **CPT Code 28715, 28725**, to be medically necessary for the treatment of foot pain or to correct foot deformity according to the following criteria:
   1. Indications of at **least 1** or more of the following:
      - Severe arthritis
      - Instability or deformity that cannot be controlled with nonsurgical approaches
      - Other conditions, such as severe flatfoot, Charcot foot, abnormal connections between bones (Tarsal coalition), excessively high arches and joint instability due to neuromuscular disease, can also warrant treatment with fusion

      AND
   2. Failure of non-operative treatment (must have tried 3 or more of the following):
      - Physical therapy
      - Medications
      - Injections
      - Bracing
      - Orthotics
      - Activity modification

B. ASH considers services consisting of **CPT Code 28730** to be medically necessary for the treatment of foot pain or to correct foot deformity according to the following criteria:
   1. **Must meet ALL of the following** indications:
      - Pain
      - Severe arthritis or Charcot foot or Lisfranc dislocation
      - Persistent gait dysfunction
   2. Failure of non-operative treatment (must have tried 3 or more of the following):
      - Physical therapy
      - Medications
      - Injections
      - Bracing
      - Orthotics
      - Activity modification

C. ASH considers services consisting of **CPT Code 28735** to be medically necessary for the treatment of foot pain or to correct foot deformity according to the following criteria:
   1. Indications: **One or more of the following**:
      - Severe arthritis or joint damage with deformity (flat foot/pes planus)
      - Lisfranc dislocation, AND/OR
      - Charcot foot AND
   2. Failure of non-operative treatment (must have tried 3 or more of the following):
      - Physical therapy
      - Medications
      - Injections
      - Bracing
      - Orthotics
      - Activity modification

D. ASH considers services consisting of **CPT Code 28737** to be medically necessary for the treatment of foot pain or to correct foot deformity according to the following criteria:
   1. Must meet **ALL** of the following indications:
      - Pain
      - Severe arthritis or joint damage with deformity (flat foot/pes planus or Charcot foot or Lisfranc dislocation
      - Persistent gait dysfunction

      AND
   2. Failure of non-operative treatment (must have tried 3 or more of the following):
      - Physical therapy
      - Medications
      - Injections
      - Bracing
      - Orthotics
      - Activity modification

E. ASH considers services consisting of **CPT Code 28740** to be medically necessary for the treatment of foot pain or to correct foot deformity according to the following criteria:
   1. **Must meet ALL of the following** indications:
      - Pain
      - Severe arthritis or Charcot foot or Lisfranc dislocation
      - Persistent gait dysfunction
   2. Failure of non-operative treatment (must have tried 3 or more of the following):
      - Physical therapy
      - Medications

- Injections
- Bracing
- Orthotics
- Activity modification

F. ASH considers services consisting of **CPT Code 28750** to be medically necessary for the treatment of foot pain or to correct foot deformity according to the following criteria:
   1. **Must meet ALL of the following** indications:
      - Severe pain and dysfunction
      - Severe joint damage associated with hallux rigidus and other arthropathies with any of the following diagnosis codes:
        - Post-traumatic or secondary osteoarthritis of the ankle and foot (great toe arthritis with bone spurring) (M19.171 - M19.179, M19.271 - M19.279)
        - Hallux rigidus (M20.20 - M20.22), severe hallux abductus valgus
        - Failed bunionectomy
        - Infection of the metatarsophalangeal joint (MTP)
        - Unstable MTP
        - Neurologic foot due to –multiple sclerosis or –cerebral palsy or other neurologic condition

          AND
   2. Failure of non-operative treatment (must have tried 3 or more of the following):
      - Physical therapy
      - Medications
      - Injections
      - Bracing
      - Orthotics
      - Activity modification

G. ASH considers services consisting of **CPT Code 28755** to be medically necessary for the treatment of foot pain or to correct foot deformity according to the following criteria:
   1. **Must meet ALL of the following** indications:
      - Severe pain and dysfunction,
      - One or more of the following:
        - Severe arthritis
        - Poorly healed fracture
        - Hallux hammer toe
        - Severe hallux abductus valgus
        - Failed bunionectomy
        - Infection of interphalangeal joint (IPJ)
        - Unstable IPJ

- Neurologic foot due to –multiple sclerosis or cerebral palsy or other neurologic condition

AND

2. Failure of non-operative treatment (must have tried 3 or more of the following):
   - Physical therapy
   - Medications
   - Injections
   - Bracing
   - Orthotics
   - Activity modification

H. ASH considers services consisting of **CPT Code 28760** to be medically necessary for the treatment of foot pain or to correct foot deformity according to the following criteria:

1. Must meet ALL of the following indications:
   - Severe pain and dysfunction
   - One or more of the following conditions:
     - Claw deformity of first ray without degenerative change from the MTP joint
     - Anterior local foot cavus deformity
     - Plantarflexion of first metatarsal with hammer toe (flexible deformity)
     - Neurologic foot due to multiple sclerosis or cerebral palsy or other neurologic condition

AND

2. Failure of non-operative treatment (must have tried 3 or more of the following):
   - Physical therapy
   - Medications
   - Injections
   - Bracing
   - Orthotics
   - Activity modification

CPT CODES AND DESCRIPTIONS

CPT Code	Description
28715	Arthrodesis; triple
28725	Arthrodesis; subtalar
28730	Arthrodesis, midtarsal or tarsometatarsal, multiple or transverse

CPT Code	Description
28735	Arthrodesis, midtarsal or tarsometatarsal, multiple or transverse; with osteotomy (e.g., flatfoot correction)
28737	Arthrodesis, with tendon lengthening and advancement, midtarsal, tarsal navicular-cuneiform (e.g., Miller type procedure)
28740	Arthrodesis, midtarsal or tarsometatarsal, single joint
28750	Arthrodesis, great toe; metatarsophalangeal joint
28755	Arthrodesis, great toe; interphalangeal joint
28760	Arthrodesis, with extensor hallucis longus transfer to first metatarsal neck, great toe, interphalangeal joint (e.g., Jones type procedure)

BACKGROUND

Foot deformity may result from a wide range of conditions including post-traumatic, degenerative, infectious, rheumatologic, diabetic, neurological, and congenital disorders. The patient may seek evaluation for symptoms including pain, limited gait, difficulty with footwear, and skin breakdown that may potentially result in limb-threatening infection. Sometimes the feet have such extensive soft-tissue compromise or infection that foot salvage is impossible. Thus, deformity correction and foot salvage are often preferred over amputation and the subsequent use of prosthetic leg and associated body image issues.

Surgical intervention is considered an option for the treatment of foot deformity when all non-surgical measures (i.e., physical therapy, medications, orthotics, change of footwear, bracing, etc.) fail to provide adequate relief of pain. Foot deformity can be surgically corrected with a variety of procedures, such as osteotomy or arthrodesis. Osteotomy can be performed as an acute correction or gradually with external fixation and distraction osteogenesis techniques. Arthrodesis is the surgical fixation of a joint by a procedure designed to accomplish fusion of the joint surfaces by promoting the proliferation of bone cells. Arthrodesis is usually recommended for symptomatic arthritis, neuroarthropathy, chronic dislocation, and in some cases of joint ankylosis with associated pain. If these conditions are not present, it may be preferable to forego arthrodesis to salvage hindfoot motion to maintain as normal a gait pattern as possible and minimize the potential for progressive degenerative changes in joints adjacent to an arthrodesis (Beaman, 2006). The triple foot arthrodesis consists of fusion of the talonavicular, calcaneocuboid, and subtalar joints, aiming to achieve a stable, painless, and plantigrade foot. It is a technically demanding procedure with a prolonged recovery period (Soucacos et al., 2012).

Lesser toe deformities occur frequently and are erroneously considered a minor problem. However, the associated pain and deformity may have a significant impact on a patient's quality of life. The lesser toes are important for pressure distribution and foot balance. Initially, the deformity may be flexible, but as it progresses, it may become more rigid. Hammertoes and clawtoes are the most common of the lesser toe deformities. The etiology of hammertoes and clawtoes include intrinsic muscle imbalance, neuromuscular conditions including diabetes and lumbar disease, overcrowding in the shoe's toebox, hallux valgus, excessively long metatarsals, posttraumatic sequela, congenital deformity, and inflammatory arthropathies. Waizy et al. (2014) reports that stabilization of the toe with adequate alignment is achieved by arthrodesis of the affected joint. In general, digital fusion of the fixed lesser toe pathology shows a high subjective satisfaction rate among patients, although the rate of pseudarthrosis in attempted proximal interphalangeal joint or distal interphalangeal joint arthrodesis is quite high.

Arthrodesis of the naviculocuneiform (NC) joints is not a common procedure, as it is perceived by many to be less reliable or less predictable than arthrodesis of proximal or distal joints in the medial column. There is a subset of patients with planovalgus feet, cavovarus feet, and degenerative arthritis who also have an apex of deformity at the NC joints in whom fusion is indicated. Ajis et al. (2014) evaluated the surgical technique, fusion rates, and deformity correction data for NC fusion in planovalgus feet (*N*=28). The authors found NC fusion to be a safe and predictable procedure for any of its indications. For patients with symptomatic and flexible planovalgus feet, NC fusion resulted in deformity correction in multiple planes and good symptomatic relief.

The Lisfranc joints make up the bony structural support of the transverse arch in the midfoot and account for approximately 0.2% of all fractures. In order to preserve normal foot biomechanics and function, early recognition and treatment of this injury are paramount. Controversy exists regarding the optimal treatment of patients with Lisfranc injuries, particularly when the instability is entirely ligamentous. Sheibani-Rad et al. (2012) performed a systematic review of the literature to compare the two most common procedures for Lisfranc fractures: primary arthrodesis and open reduction and internal fixation (ORIF). At 1-year follow-up (*N*=193), the mean American Orthopaedic Foot and Ankle Society score of ORIF patients was 72.5 and of arthrodesis patients was 88.0. Fisher's exact test revealed no significant effect of treatment group on the percentage on patients who had an anatomic reduction (*P*=.319). The authors concluded that both primary arthrodesis and ORIF procedures yield satisfactory and equivalent results. However, a slight advantage may exist in performing a primary arthrodesis for Lisfranc joint injuries in terms of clinical outcomes.

PRACTITIONER SCOPE AND TRAINING

Practitioners should practice only in the areas in which they are competent based on their education, training and experience. Levels of education, experience, and proficiency may

vary among individual practitioners. It is ethically and legally incumbent on a practitioner to determine where they have the knowledge and skills necessary to perform such services and whether the services are within their scope of practice.

It is best practice for the practitioner to appropriately render services to a member only if they are trained, equally skilled, and adequately competent to deliver a service compared to others trained to perform the same procedure. If the service would be most competently delivered by another health care practitioner who has more skill and training, it would be best practice to refer the member to the more expert practitioner.

Best practice can be defined as a clinical, scientific, or professional technique, method, or process that is typically evidence-based and consensus driven and is recognized by a majority of professionals in a particular field as more effective at delivering a particular outcome than any other practice (Joint Commission International Accreditation Standards for Hospitals, 2020).

Depending on the practitioner's scope of practice, training, and experience, a member's condition and/or symptoms during examination or the course of treatment may indicate the need for referral to another practitioner or even emergency care. In such cases it is prudent for the practitioner to refer the member for appropriate co-management (e.g., to their primary care physician) or if immediate emergency care is warranted, to contact 911 as appropriate. See *Managing Medical Emergencies (CPG 159 – S)* clinical practice guideline for information.

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