Clinical Practice Guideline: **Open Treatment of Tarsal, Talotarsal, Tarsometatarsal or Metatarsophalangeal Joint Dislocations**

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GUIDELINES

American Specialty Health – Specialty (ASH) considers procedures consisting of CPT Codes 28615 and 28645 to be medically necessary for the treatment of tarsal, talotarsal, tarsometatarsal or metatarsophalangeal dislocations (ICD-10 codes S93.121A - S93.129S, S93.304A – S93.306S, S93.314A – S93.316S, S93.324A - S93.326S, S93.334A – S93.336S) **upon meeting at least 1 of the following criteria**:

1. Closed reduction is not feasible or cannot be maintained
2. Intra-articular fracture
3. Significant joint displacement
4. Procedure is part of a multi-step repair of open fracture
5. Malunion, nonunion, or deformity present
6. Rupture of Lisfranc ligament with positive "fleck sign" on radiograph or confirmation on MRI (CPT Code 28615 only)

CPT CODES AND DESCRIPTIONS

CPT Code	Description
28555	Open treatment of tarsal bone dislocation, includes internal fixation, when performed
28585	Open treatment of talotarsal joint dislocation, includes internal fixation, when performed
28615	Open treatment of tarsometatarsal joint dislocation, includes internal fixation, when performed
28645	Open treatment of metatarsophalangeal joint dislocation, includes internal fixation, when performed

Refer to *Treatment of Open Foot (Calcaneal, Tarsal, Talus, Metatarsal, and Phalangeal) Fractures (CPG 222 - S)* clinical policy guideline for the treatment of simultaneous fracture-dislocations.

BACKGROUND

CPT codes 28555, 28585, 28615 and 28645 describe open procedures, which include internal fixation (screws, plates, or wires), for the treatment of tarsal, talotarsal, tarsometatarsal or metatarsophalangeal joint dislocations, respectively.

Tarsometatarsal (Lisfranc) Dislocations

Injuries to the tarsometatarsal joint complex, also known as the Lisfranc joint, are relatively uncommon. These injuries, especially when overlooked, may result in considerable long-term disability as the result of posttraumatic arthritis. A high level of suspicion, recognition of the clinical signs of injury, and appropriate radiographic studies are needed for correct diagnosis.

Surgery for a Lisfranc injury is indicated when there is significant displacement of the midfoot joints with instability. Most commonly this displacement is identified on x-ray, however, CT and MRI scans can also be helpful in diagnosis. The goal of surgery is to realign and stabilize the joints. Some injuries may require a patient to have an arthrodesis procedure, which encourages the bones to grow together in the areas of damaged cartilage. The treatment options reported in clinical literature vary from closed reductions in simple dislocations to open reduction and temporary screw fixation, screw fixation combined with external fixation, and primary arthrodesis in severe Lisfranc dislocations. When surgery is indicated, closed reduction with percutaneous screw fixation should be attempted. However, if closed reduction is questionable, open reduction should be performed. Screw fixation remains the traditional fixation technique (Watson et al., 2010). Mulier et al. (2010) reports that the foot and ankle surgeon must be able to distinguish between Lisfranc fracture dislocations and primarily ligamentous Lisfranc joint dislocations as the course of treatment for these two types of injuries are different. Closed reduction is not sufficient to achieve reduction in the majority of Lisfranc fracture dislocations due to interposed soft tissue and small bony fragments from fractures of the base of the metatarsals. However, correct anatomical reduction can be achieved with open reduction and internal fixation for these cases. Primary arthrodesis may be considered as a primary treatment option for patients with purely ligamentous Lisfranc joint dislocations. The outcomes will be significantly poorer if operative treatment is delayed for more than 6 months.

Stavlas et al. (2010) carried out a systematic review of the literature in order to evaluate the role of reduction and internal fixation in the management of Lisfranc joint fracture–dislocations. The analysis included data for the management of 257 patients. The authors found that injuries of the first three metatarsal rays were treated by closed reduction and internal fixation with screws in 16.3% of the patients, open reduction and internal fixation with screws in 66.5%, and open reduction and internal fixation with Kirschner wires (K-wires) in 17.1% of the patients. The preferred method for the stabilization of the fourth and fifth metatarsal rays was K-wires. Screw-related complications were common and were reported in 16.1% of the cases. The mean AOFAS midfoot score was 78.1 points. Post-traumatic radiographic arthritis was reported in 49.6% of the patients, but only in 7.8% of them it was severe enough to warrant an arthrodesis. The authors concluded that open reduction and internal fixation of the first three metatarsal rays with screws is a reliable method for the management of Lisfranc injuries. This can be complemented by K-wires application in the fourth and fifth metatarsal rays if needed.

Current tarsometatarsal research focuses on the management of the medial three tarsometatarsal joints with only scarce literature discussing the fourth and fifth tarsometatarsal joints. At present, the surgical management of the fourth and fifth tarsometatarsal injuries can mainly be classified as open reduction and internal fixation (ORIF), tarsometatarsal arthrodesis and arthroplasty, each of which has specific indications, contraindications, and advantages. Therefore, the surgical management should be individualized. Xiao et al. (2013) reviewed the anatomical characteristics of the injuries, the diagnosis, and the individualized treatment of the injuries of the fourth and fifth tarsometatarsal joints by open reduction and internal fixation, arthrodesis, and arthroplasty. The authors concluded that open reduction and internal fixation is the recommended option for acute injuries, while arthrodesis can be used in cases of malunion of the fourth and fifth tarsometatarsal joints with gross pain or arthritic changes and obvious structural deformity. Arthroplasty was found to be an effective salvage operation mainly used in high-demand patients with severe tarsometatarsal arthritis.

Contraindications for Lisfranc surgery include soft tissue swelling, severe peripheral vascular disease or fracture due to nerve dysfunction, which can be seen with diabetics (Charcot foot).

Metatarsophalangeal Joint Dislocations

Although metatarsophalangeal (MTP) joints of the foot are small, they are very stable, and dislocations occur only very rarely. However, if left untreated or not properly managed, a dislocation in this area can have a detrimental effect on the ability of the patient to bear weight and walk. The current literature describing these cases are mainly limited to case reports (Lo et al., 2013; Turkmensoy et al., 2015; Tosun et al. 2008; Chafik et al., 2011; Kamath et al., 2005). These case studies concluded that open reduction treatment is effective for metatarsophalangeal joint dislocations that are irreducible due to soft tissue impingement.

Tarsal Joint Dislocations

There are circumstances which may require surgical management in the treatment of tarsal or talotarsal joint dislocation. For example, nonoperative management of displaced intra-articular fractures of the calcaneus can lead to malunion, which affects ankle and subtalar joint function and may require surgical treatment (Stapleton et al., 2009).

According to Nanchahal et al. (2009), managing open talar injuries successfully is a clear challenge but surgery is essential for wound excision, stabilization and cover. Acute management should include orthopedic and plastic surgeon assessment, debridement and provisional stabilization. With regard to joint dislocations (ankle or subtalar), these are to be reduced at primary surgery (Nanchahal et al., 2009). A combination of internal and external fixation techniques is often necessary in severe foot and ankle deformities secondary to leg length discrepancies (Thakral and Conway, 2011).

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 the *Managing Medical Emergencies (CPG 159 – S)* clinical practice guideline for information.

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