Clinical Practice Guideline: **Midfoot Osteotomy**

Date of Implementation: **June 18, 2015**

Product: **Specialty**

GUIDELINES

American Specialty Health – Specialty (ASH) considers services consisting of CPT Codes 28304 and 28305 to be medically necessary for midfoot deformity **upon meeting the following criteria:**

1. When supported by **1 or more of the following diagnoses**:

ICD-10 Code	Description
A52.16	Charcot's arthropathy (tabetic)
E08.610	Diabetes mellitus due to underlying condition with diabetic neuropathic arthropathy
E09.610	Drug or chemical induced diabetes mellitus with diabetic neuropathic arthropathy
E10.610	Type I diabetes mellitus with diabetic neuropathic arthropathy
E11.610	Type II diabetes mellitus with diabetic neuropathic arthropathy
E13.610	Other specified diabetes mellitus with diabetic neuropathic arthropathy
M14.671 - M14.679, M14.69	Charcot's joint; ankle and foot, and multiple sites
M21.6X1 - M21.6X9	Other acquired deformities of foot
M21.371 - M21.379	Foot drop
Q66.00 – Q66.02	Congenital talipes equinovarus
Q66.211 – Q66.219	Congenital metatarsus primus varus
Q66.10 – Q66.12, Q66.30 – Q66.32	Congenital talipes calcaneovarus and other congenital varus deformities of feet
Q66.70 – Q66.72	Congenital pes cavus
Q66.89	Other specified congenital deformities of feet
Q66.90 – Q66.92	Congenital deformity of feet, unspecified

CPG 234 Revision 10 - S
Midfoot Osteotomy
Revised – April 20, 2023
To CQT for review 03/13/2023
CQT reviewed and approved 03/13/2023
To QIC for review and approval 04/04/2023
QIC reviewed and approved 04/04/2023
To QOC for review and approval 04/20/2023
QOC reviewed and approved 04/20/2023

2. Failure of **at least 1 of the following** non-operative treatments
    - Orthotics/bracing
    - Activity modification
3. Persistent pain and dysfunction

CPT CODES AND DESCRIPTIONS

CPT Code	Description
28304	Osteotomy, tarsal bones, other than calcaneus or talus
28305	Osteotomy, tarsal bones, other than calcaneus or talus; with autograft (includes obtaining graft) (e.g., Fowler type)

BACKGROUND

Midfoot conditions are common foot deformities presenting to foot and ankle surgeons. Conservative treatment which may include orthotics or activity modifications is the first line of care for these deformities. Surgical treatment may be recommended if conservative treatment fails to restore function and relieve pain.

CPT codes 28304 and 28305 are designated for tarsal osteotomy procedures targeting rigid deformities of the foot. CPT code 28305 is reported when a bone graft is necessary. For this procedure, the physician debrides the intended graft recipient site of the tarsal bone, and a bone graft from the iliac crest or other site is shaped and placed between the prepared surfaces. Staples, screws, or wires may be used to secure the bone graft.

Corrective osteotomies about the midfoot are indicated for angular and rotational deformities. Appropriate positioning of the osseous segments following midfoot osteotomy is challenging because of influential forces around the hindfoot/ankle and the forefoot that must be considered. Initially, midfoot osteotomies were reserved for the correction of the severe rigid pes cavus foot. Currently, surgeons have used angular, rotational, and translational deformity corrections that can be achieved through the midfoot, expanding the indications for an osteotomy through this region of the foot. In addition, midfoot osteotomies often avoid the extensive soft tissue exposure required for multiple joint arthrodesis procedures because osteotomies can be performed through minimum or percutaneous incisions. Typical indications for a midfoot osteotomy are rigid pes cavus, talipes equinus-varus, rigid metatarsus adductus, malunions associated with midfoot or rearfoot arthrodesis, and Charcot neuro-osteoarthropathy midfoot deformities (Stapleton et al., 2008).

The goal of a corrective midfoot osteotomy is to re-establish a plantigrade foot during stance, which implies that the first metatarsal head, fifth metatarsal head, and calcaneus are

on the same plane during stance. Sagittal plane deformities in the pes cavus foot are a frequent indication for a midfoot osteotomy. The osteotomy is designed with a dorsally based wedge to dorsiflex the forefoot and decrease the arch height. At times, a wedge osteotomy has to be taken from the navicular-cuneiform joint extending into the cuboid to obtain adequate correction. Anterior equinus of the forefoot can be corrected with a midfoot dorsally based wedge osteotomy (Stapleton et al., 2008).

Zhou et al. (2014) reported good results from performing midfoot osteotomy combined with adjacent joint-sparing internal fixation to treat rigid pes cavus deformity. This study measured the outcome of patients (*N*=17, mean age =16.8 years) after treatment by midfoot osteotomy combined with adjacent joint sparing internal fixation with three cannulated screws between the Lisfranc line and Cyma line. The appearance and weight-bearing function were significantly improved in all patients. At a final follow-up, the mean American Orthopedic Foot and Ankle Society (AOFAS) score was 75.8/100 points. For the treatment of rigid pes cavus deformity, extra-articular midfoot osteotomy combined with adjacent joint sparing internal fixation is effective and safe. The results of this study suggest that midfoot osteotomy combined with adjacent joint sparing fixation is effective with low rates of arthritic degeneration and joint stiffness in the adjacent joints and little reduction of ankle and foot flexibility.

The Akron dome osteotomy was developed in the early 1970's as a salvage surgical option to manage rigid cavus deformity of the foot. Weiner et al. (2008) carried out a retrospective review of surgical cases (*N*=89 patients, 139 feet) who were followed at least two years after an Akron dome osteomy operative procedure. A satisfactory result (i.e., pain free with at least 75% plantigrade foot in contact with the floor without abnormal symptomatic pressure areas, free of any significant deformity requiring surgical management) was obtained in 106 (76%) and unsatisfactory result in 33 feet (24%). Because the surgery is located at the apex of the deformity in frontal, lateral, and plantar planes at the confluence of the longitudinal and transverse arches, multiplanar surgical correction was obtained in all cases at the time of the initial surgery. The study concluded that the Akron dome midfoot osteotomy is a valuable salvage procedure in the management of the rigid cavus deformity in children.

Tarsal osteotomies are quite technically complex procedures and are rarely performed. Soft tissue around the ankle and foot should be intact without excessive swelling or ulceration. Soft tissue complications are usually associated with severe deformities, vascular insufficiency, or previously traumatized tissues (Stapleton et al., 2008; Myerson et al., 2020).

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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