

1 **Clinical Practice Guideline: Midfoot Osteotomy**

2
3 **Date of Implementation: June 18, 2015**

4
5 **Product: Specialty**

6
7
8 **GUIDELINES**

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

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

ICD-10 Code	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 1 diabetes mellitus with diabetic neuropathic arthropathy
E11.610	Type 2 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

- 1 2. Failure of **at least 1 of the following** non-operative treatments
- 2 • Orthotics/bracing
- 3 • Activity modification
- 4 3. Persistent pain and dysfunction
- 5

CPT® Code	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)

6

7 **BACKGROUND**

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

12

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

18

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

32

33 The goal of a corrective midfoot osteotomy is to re-establish a plantigrade foot during
 34 stance, which implies that the first metatarsal head, fifth metatarsal head, and calcaneus are
 35 on the same plane during stance. Sagittal plane deformities in the pes cavus foot are a

1 frequent indication for a midfoot osteotomy. The osteotomy is designed with a dorsally
2 based wedge to dorsiflex the forefoot and decrease the arch height. At times, a wedge
3 osteotomy has to be taken from the navicular-cuneiform joint extending into the cuboid to
4 obtain adequate correction. Anterior equinus of the forefoot can be corrected with a
5 midfoot dorsally based wedge osteotomy (Stapleton et al., 2008).

6
7 Zhou et al. (2014) reported good results from performing midfoot osteotomy combined
8 with adjacent joint-sparing internal fixation to treat rigid pes cavus deformity. This study
9 measured the outcome of patients ($N=17$, mean age =16.8 years) after treatment by midfoot
10 osteotomy combined with adjacent joint sparing internal fixation with three cannulated
11 screws between the Lisfranc line and Cyma line. The appearance and weight-bearing
12 function were significantly improved in all patients. At a final follow-up, the mean
13 American Orthopedic Foot and Ankle Society (AOFAS) score was 75.8/100 points. For
14 the treatment of rigid pes cavus deformity, extra-articular midfoot osteotomy combined
15 with adjacent joint sparing internal fixation is effective and safe. The results of this study
16 suggest that midfoot osteotomy combined with adjacent joint sparing fixation is effective
17 with low rates of arthritic degeneration and joint stiffness in the adjacent joints and little
18 reduction of ankle and foot flexibility.

19
20 The Akron dome osteotomy was developed in the early 1970's as a salvage surgical option
21 to manage rigid cavus deformity of the foot. Weiner et al. (2008) carried out a retrospective
22 review of surgical cases ($N=89$ patients, 139 feet) who were followed at least two years
23 after an Akron dome osteotomy operative procedure. A satisfactory result (i.e., pain free with
24 at least 75% plantigrade foot in contact with the floor without abnormal symptomatic
25 pressure areas, free of any significant deformity requiring surgical management) was
26 obtained in 106 (76%) and unsatisfactory result in 33 feet (24%). Because the surgery is
27 located at the apex of the deformity in frontal, lateral, and plantar planes at the confluence
28 of the longitudinal and transverse arches, multiplanar surgical correction was obtained in
29 all cases at the time of the initial surgery. The study concluded that the Akron dome midfoot
30 osteotomy is a valuable salvage procedure in the management of the rigid cavus deformity
31 in children.

32
33 Tarsal osteotomies are quite technically complex procedures and are rarely performed. Soft
34 tissue around the ankle and foot should be intact without excessive swelling or ulceration.
35 Soft tissue complications are usually associated with severe deformities, vascular
36 insufficiency, or previously traumatized tissues (Stapleton et al., 2008; Myerson et al.,
37 2020).

38 39 **PRACTITIONER SCOPE AND TRAINING**

40 Practitioners should practice only in the areas in which they are competent based on their
41 education, training, and experience. Levels of education, experience, and proficiency may
42 vary among individual practitioners. It is ethically and legally incumbent on a practitioner

1 to determine where they have the knowledge and skills necessary to perform such services
2 and whether the services are within their scope of practice.

3
4 It is best practice for the practitioner to appropriately render services to a member only if
5 they are trained, equally skilled, and adequately competent to deliver a service compared
6 to others trained to perform the same procedure. If the service would be most competently
7 delivered by another health care practitioner who has more skill and training, it would be
8 best practice to refer the member to the more expert practitioner.

9
10 Best practice can be defined as a clinical, scientific, or professional technique, method, or
11 process that is typically evidence-based and consensus driven and is recognized by a
12 majority of professionals in a particular field as more effective at delivering a particular
13 outcome than any other practice (Joint Commission International Accreditation Standards
14 for Hospitals, 2020).

15
16 Depending on the practitioner’s scope of practice, training, and experience, a member’s
17 condition and/or symptoms during examination or the course of treatment may indicate the
18 need for referral to another practitioner or even emergency care. In such cases it is prudent
19 for the practitioner to refer the member for appropriate co-management (e.g., to their
20 primary care physician) or if immediate emergency care is warranted, to contact 911 as
21 appropriate. See the *Managing Medical Emergencies (CPG 159 – S)* clinical practice
22 guideline for information.

23 24 **References**

25 American College of Foot and Ankle Surgeons (ACFAS) Cosmetic Surgery Position
26 Statement (2020). Retrieved on January 18, 2024 from:
27 <https://www.acfas.org/policypositionstatements/>

28
29 American Medical Association. (current year). Current Procedural Terminology (CPT)
30 Current year (rev. ed.). Chicago: AMA

31
32 American Medical Association. (current year). ICD-10-CM. American Medical
33 Association

34
35 Elgeidi, A., & Abulsaad, M. (2014). Combined double tarsal wedge osteotomy and
36 transverse osteotomy for correction of resistant clubfoot deformity (the "bean-
37 shaped" foot). *Journal of Children's Orthopedics*, 8(5), 399-404. doi: 10.1007/s11832-
38 014-0613-0

39
40 Groner, T. W., & DiDomenico, L. A. (2005). Midfoot osteotomies for the cavus foot.
41 *Clinics in Podiatric Medicine and Surgery*, 22(2), 247-264, vi. doi:
42 10.1016/j.cpm.2004.10.001

- 1 Joint Commission International. (2020). Joint Commission International Accreditation
2 Standards for Hospitals (7th ed.): Joint Commission Resources
3
- 4 Myerson, M. S., & Myerson, C. L. (2020). Managing the Complex Cavus Foot Deformity.
5 *Foot and ankle clinics*, 25(2), 305–317. <https://doi.org/10.1016/j.fcl.2020.02.006>
6
- 7 Stapleton, J. J., DiDomenico, L. A., & Zgonis, T. (2008). Corrective midfoot osteotomies.
8 *Clinics in Podiatric Medicine and Surgery*, 25(4), 681-690, ix. doi:
9 10.1016/j.cpm.2008.05.004
10
- 11 Turner, N. S. (2020). Pes Cavus Treatment & Management. *Drugs & Diseases*. Retrieved
12 on January 18, 2024 from: [http://emedicine.medscape.com/article/1236538-](http://emedicine.medscape.com/article/1236538-treatment#a1128)
13 [treatment#a1128](http://emedicine.medscape.com/article/1236538-treatment#a1128)
14
- 15 Weiner, D. S., Jones, K., Jonah, D., & Dicintio, M. S. (2013). Management of the rigid
16 cavus foot in children and adolescents. *Foot and Ankle Clinics*, 18(4), 727-741. doi:
17 10.1016/j.fcl.2013.08.007
18
- 19 Weiner, D. S., Morscher, M., Junko, J. T., Jacoby, J., & Weiner, B. (2008). The Akron
20 dome midfoot osteotomy as a salvage procedure for the treatment of rigid pes cavus: a
21 retrospective review. *J Pediatr Orthop*, 28(1), 68-80. doi:
22 10.1097/bpo.0b013e31815a5fba
23
- 24 Zhou, Y., Zhou, B., Liu, J., Tan, X., Tao, X., Chen, W., & Tang, K. (2014). A prospective
25 study of midfoot osteotomy combined with adjacent joint sparing internal fixation in
26 treatment of rigid pes cavus deformity. *J Orthop Surg Res*, 9, 44