Clinical Practice Guideline: **Bone Grafts (Autograph/Allograft) for Foot and Ankle Conditions**

Date of Implementation: **May 18, 2017**

Product: **Specialty**

GUIDELINES

American Specialty Health – Specialty (ASH) considers bone graft procedures to be medically necessary in the treatment of foot and ankle conditions when **one (1) or more** of the following criteria have been met:

- Recalcitrant nonunion or deformity with chronic pain
- When required to bridge major bone defects or fill cavities created by tumor removal, cysts, infection, non-union or malunion of bone or injury

Codes for obtaining autogenous bone grafts should be reported separately unless the code descriptor references the harvesting of the graft (e.g., includes obtaining graft).

Surgery performed solely for the purpose of improving the appearance or size of the foot or ankle carries risks without medical benefit and is therefore not allowed.

See the *Treatment of Open Foot (Calcaneal, Tarsal, Talus, Metatarsal, and Phalangeal) Fractures (CPG 222 – S)* clinical practice guideline for information on bone graft for open foot fractures with nonunion.

See the *Midfoot Osteotomy (CPG 234 – S)* clinical practice guideline for information on bone graft for information on tarsal osteotomy with autograft.

See the *Metatarsal or Tarsal Nonunion/Malunion Repair (CPG 245 – S)* clinical practice guideline for information on bone graft for metatarsal/tarsal fracture with nonunion.

See the *Ankle/Foot Bone Cyst or Benign Tumor Excision (CPG 219 – S)* clinical practice guideline for information on bone graft for ankle or foot bone cyst or benign tumor excision.

See the *Management of Hallux Valgus (Bunions) (CPG 187 – S)* clinical practice guideline for information on bone graft for hallux valgus.

CPT® Codes and Descriptions

CPT® Code	CPT® Code Description
20900	Bone graft, any donor area; minor or small (e.g., dowel or button)
20902	Bone graft, any donor area; major or large
28102	Excision or curettage of bone cyst or benign tumor, talus or calcaneus; with iliac or other autograft (includes obtaining graft)
28103	Excision or curettage of bone cyst or benign tumor, talus or calcaneus; with allograft
28106	Excision or curettage of bone cyst or benign tumor, tarsal or metatarsal, except talus or calcaneus; with iliac or other autograft (includes obtaining graft)
28107	Excision or curettage of bone cyst or benign tumor, tarsal or metatarsal, except talus or calcaneus; with allograft
28305	Osteotomy, tarsal bones, other than calcaneus or talus; with autograft (includes obtaining graft) (e.g., Fowler type)
28307	Osteotomy, with or without lengthening, shortening or angular correction, metatarsal; first metatarsal with autograft (other than first toe)
28322	Repair, nonunion or malunion; metatarsal, with or without bone graft (includes obtaining graft)

BACKGROUND

Bone graft is a commonly used reconstructive procedure for the foot and ankle. Bone graft material is an implanted material, used alone or in a combination of other materials, that promotes bone healing by promoting osteogenic, osteoconductive, or osteoinductive activity at a local site. Autograft and allograft procedures are described within the scope of this clinical practice guideline.

Autograft from the cortical and cancellous bone of the iliac crest has historically been considered the gold standard for bone graft. The usual site for the autograft harvest is the posterior iliac crest. Complications that may arise from autograft of the iliac crest range from bone graft pain at the graft site (most common) to less frequent complications including nerve injury, hematoma, infection, and fracture at the donor site. The proximal part if the tibia, distal end of the radius, distal aspect of the tibia, and greater trochanter are

alternative donor sites that are used for bone grafting in the ipsilateral extremity. When autograft material is of an insufficient volume, of poor quality, or cannot be used for any other reason, then another type of material must be used for the bone graft (Myeroff & Archdeacon, 2011).

Allograft is obtained from the cadaveric bone and/or tissue from a bone bank and may be used alone or in combination with another material. Allograft advantages include unlimited sources, decreased surgical time, and lack of donor site morbidity. Osteochondral allograft is used to reconstruct lesions of the talar dome and block cortical allograft for interposition wedge grafting. Allograft bone, particularly demineralized bone marrow, provides both osteoinductive and osteoconductive properties necessary for successful bone healing. Synthetic materials, which typically consist of combinations of calcium sulfate/hydroxyapatite or calcium phosphate, may also be conducive of osteoconduction when used in conjunction with allograft material. Synthetic materials supply resorbable osteoconductive scaffolding and may be most applicable for cancellous bone impaction and compression as seen in the calcaneus or the distal tibial metaphysis. Even when used alone, allograft must be processed to decrease the likelihood of disease transmission and immunogenic response (Roberts & Rosenbaum, 2012).

Surgeon preference, patient case history, and relevant clinical evidence dictate the source of material to be harvested or supplied for the bone graft. Consideration should be given to the risks and benefits as well as cost, volume required, and the effect on the patient postoperative status.

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.

References

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