Clinical Practice Guideline: **Amputation of Distal Lower Extremities**

Date of Implementation: **July 16, 2015**

Product: **Specialty**

GUIDELINES

American Specialty Health – Specialty (ASH) considers services consisting of CPT Code 28800, 28805, 28810, 28820 and/or 28825 to be medically necessary for amputation upon meeting the following criteria:

Indications **(at least one** of the following):

1. Treatment of foot ulcer or severe infection, gangrene, or osteomyelitis and **ALL of the following**:
   a. Nonoperative therapy has been tried and failed or is not appropriate
   b. Alternative operative approach **cannot be used because of one or more of the following**:
      - More distal amputation has failed or is not feasible
      - Debridement has failed or is not appropriate
      - Revascularization has failed
      - Inoperable vascular disease
      - Neuropathy
2. Severe trauma
3. Malignancy
4. Severe burn (e.g., fourth degree)
5. Severe frostbite
6. Severe deformity with dysfunction, including tumor causing dysfunction (ONLY CPT Code 28825)

Alternatives, as medically necessary, include: debridement with possible use of skin grafts, free or pedicle flaps; continued medical management; lower extremity angioplasty, endovascular revascularization, or vascular bypass and reconstruction procedure; toe or distal amputation; panmetatarsal head resection; or ray amputations. More proximal amputation may also be an option, with the goal being to preserve as much of the involved limb as possible.

CPT CODES AND DESCRIPTIONS

CPT® Code	CPT® Code Description
28800	Amputation; foot; midtarsal (e.g., Chopart type procedure)

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Amputation of Distal Lower Extremities
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CPT® Code	CPT® Code Description
28805	Amputation, foot; transmetatarsal
28810	Amputation, metatarsal, with toe, single
28820	Amputation, toe; metatarsophalangeal joint
28825	Amputation, toe; interphalangeal joint

BACKGROUND

Numerous clinical pathways can lead to lower extremity amputation. These include vascular disease, infection, wounds/ulcers, trauma, malignancy, and congenital defects. However, the principles to achieve a successful amputation outcome (appropriate preoperative preparation, multidisciplinary team coordination, and solid surgical technique) apply to all. Organized rehabilitation and properly selected prostheses are integral components of amputee care. Amputation is usually performed as a planned surgical procedure for an unsalvageable section(s) of the involved extremity, as opposed to an emergency procedure (Ng & Berlet, 2010).

The purpose of an amputation is to remove nonviable tissue to facilitate the healing process of the remaining structures. The location and structures surgically removed will depend on the patient's history, examination, and diagnostic test results. The lower extremity amputations included within this clinical practice guideline include amputation of: a portion of a toe at the level of an interphalangeal joint (28825); a toe at the metatarsophalangeal joint (28820); a metatarsal bone and its attached toe (28810); and the foot across the transmetatarsal region (28805).

Foot ulcers are the most common medical complications of patients with diabetes. Diabetic foot ulcers are caused by multiple factors that include arterial insufficiency and neuropathy which predispose the diabetic patient to injury and ulcer formation (Singer et al., 2017). Untreated or failing to respond to treatment, these ulcers can lead to amputation. Effective steps to reduce the likelihood of amputation among diabetics include screening and referral to a foot care clinic in the event high risk indicators (e.g., a diabetic ulcer) are identified. (Hunt, 2009). With adequate control of diabetes mellitus and appropriate foot care, many of the estimated 29.1 million diabetics in the US can lead active lifestyles. However, complications such as lower-extremity ulcerations and infections do occur, especially among those with poorly controlled serum glucose levels. When conservative measures have failed to resolve these conditions, a lower-extremity amputation may be an option. A complete preoperative workup includes assessment of comorbidities, ambulatory status and healing potential, and the use of modern diagnostics for appropriate amputation level. (Pino et al., 2011).

A significant number of diabetic foot amputations are performed in the United States. However, advances in surgical techniques in revascularization, diagnostics and antimicrobial efficacy have relegated amputation to a last treatment consideration in appropriately selected patients (Setacci et al., 2012). Active revascularization plays a crucial role in healing diabetic foot ulceration. Non-surgical, minimally invasive, revascularization options for these types of ulcerations have become a prominent tool to prevent amputation (Reekers & Lammer, 2012). Susceptibility to infection, arterial insufficiency, and neuropathy are significant contributing factors with recalcitrant diabetic foot ulcers (Neville & Sidawy, 2012). As a result, diabetics have a 15% ulceration rate with 20% leading to amputation. This translates to an annual amputation rate of 4.1 per 1,000 and a 40-fold increase in risk among diabetics, with a second amputation in 60% within 5 years. According to Neville & Sidawy (2012), lower extremity revascularization is instrumental to healing these types of ulcers and preventing amputation.

Awad et al. (2006) evaluated the impact of diabetic vs. non-diabetic patients in the treatment of critical lower limb ischemia. 44 (39%) of the 113 patients treated had diabetes. Treatment options included percutaneous angioplasty, arterial reconstruction, primary major amputation, and conservative therapy. He found that an aggressive multidisciplinary approach to critical limb ischemia led to similar amputation-free survival, limb salvage, and major amputation rates for both diabetic and non-diabetic patients. He concluded the presence of diabetes should not deter practitioners from using revascularization by means of angioplasty or surgical reconstruction.

Diabetic foot ulcers (DFUs) with infection and ischemia can lead to amputation without quick and adequate treatment. Chiu et al. (2011) investigated the impact of the diabetic foot ulcer treatment program (DFUTP) on outcomes of patients with infected DFUs. The DFUTP uses immediate debridement within 12 hours along with flap coverage and/or revascularization. Among the 736 patients in this study, 350 were randomly assigned to the DFUTP group and 386 to the control (non-DFUTP) group. The DFUTP group demonstrated a lower amputation rate than the non-DFUTP group ($p=0.001$). In addition, hospitalized patients (stage D) in the DFUTP group required fewer days' hospitalization than the control group. The study concluded the DFUTP can reduce the amputation rate among infected DFUs.

Transmetatarsal amputation is a relatively common operation that is performed to protect limb viability. While used for trench foot initially, transmetatarsal amputation now has broad application in both orthopedic and vascular surgery by treating forefoot infections, necrosis, gangrene, and diabetic neuropathy, which commonly develop ulcerations. Bernard and Heute first described this type of amputation in 1855, but it was McKittrick in 1949 who used this procedure in lieu of more proximal amputations in patients with the above diagnoses (McKittrick et al., 1949). This procedure also preserves the maximum amount of midfoot distal to the ankle joint. This provides a larger surface area for weight-

bearing and mobility, thus maintaining optimal limb functionality compared to more proximal amputations.

Contraindications to the lower extremity amputations described in this guideline include lymphangitis and tracking proximal infection (e.g., cellulitis) (Lakshmanan et al., 2021).

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)* policy for information.

References

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