Clinical Practice Guideline: **Gastrocnemius Recession (e.g., Strayer Procedure)**

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

Product: **Specialty**

GUIDELINES

American Specialty Health – Specialty (ASH) considers services consisting of CPT Code 27687 to be medically necessary for treatment of severe gastroc tightness **upon meeting ALL of the following criteria:**

1. Patients with severe tightness in gastroc (ICD-10 codes M67.00 – M67.02) **AND** have failed **AT LEAST 1** of the following non-operative treatments:
   - Physical therapy
   - Stretching and mobility exercise program; and/or
   - Bracing
2. Diagnosis/evidence of deformity (gastroc equinus contracture [ICD-10 codes M67.00 – M67.02]), which could be due to cerebral palsy, club foot, plantar fascia issues, metatarsalgia, pes planus, neurological condition)
3. Foot pain results in dysfunction
4. Evidence of the inability to passively dorsiflex past neutral position with knee extended

CPT CODES AND DESCRIPTIONS

CPT® Code	CPT® Code Description
27687	Gastrocnemius recession (e.g., Strayer procedure)

BACKGROUND

Gastrocnemius equinus contractures may be associated with foot and ankle pathology. The resulting calf tightness can prevent the ankle from bending up fully, making it difficult to walk with the heel on the floor. Over time this can cause problems such as pain and deformity. Equinus contracture may contribute to many foot problems, including heel pain, Achilles tendon pain, flatfoot deformity, and toe pain. Equinus contracture is also associated with spasticity in individuals with neurological impairment.

The triceps surae muscle is a combination of the two strong plantar flexors of the ankle: the gastrocnemius and the soleus muscles. The gastrocnemius originates on the posterior femoral condyles, while the soleus originates on the posterior aspect of the tibia, fibula, and interosseous membrane. Both muscles insert into the calcaneal tuberosity via the Achilles tendon and can contribute to an equinus contracture. An equinus contracture is a limitation in ankle dorsiflexion not caused by intrinsic bony ankle pathology. A

gastrocnemius equinus contracture is generally characterized by the inability to bring the ankle joint past a neutral position (right angle to the lower leg) with the knee straight. An isolated gastrocnemius contracture is measured and differentiated from a gastrocnemius/soleus contracture using the Silfverskiold test (Anderson et al., 2014). Normal ankle joint dorsiflexion reaches 10-20 degrees, proximal to neutral, with the knee extended and designates an absence of ankle equinus; generally, this is the consensus minimal amount of ankle dorsiflexion required for normal ambulation. Restricted ankle dorsiflexion reaches neutral or less (i.e., in the plantarflexed direction), which can potentially alter gait and lead to foot and ankle dysfunction and designates a presence of ankle equinus.

The gastrocnemius equinus contracture may be due to increased tone or spasticity of the triceps surae muscles, shortening of some or all of the muscles, joint contracture, or bony deformity. Spasticity, weakness and subsequent shortening of the muscle group can occur secondary to neuromuscular disorders, such as cerebral palsy. It is critical to determine the origin of the equinus contracture as the treatment is dependent on the origin.

Conservative care measures for the treatment of gastrocnemius equinus contracture may include stretching and bracing. When conservative measures are clinically ineffective, surgical release of the posterior contracture is indicated.

Several surgical procedures have been recommended to resolve contracture of the gastrocnemius or gastroc-soleus complex including both endoscopic and open gastrocnemius recession, as well as, both percutaneous and open Achilles tendon lengthening. The selection of Achilles tendon lengthening, or gastrocnemius recession procedure is based upon the outcome of the clinical evaluation. The surgical procedure within the scope of this clinical practice guideline is the gastrocnemius recession (e.g., Strayer procedure).

Gastrocnemius recession is a surgical lengthening of the gastrocnemius muscles. A gastrocnemius recession is indicated for patients who have a severe equinus contracture in their gastrocnemius muscle, resulting in functional deficits, and have failed non-operative management.

Gastrocnemius contracture produces increased strain in the plantar fascia. Current evidence suggests that limited ankle dorsiflexion is an etiologic factor for plantar fasciitis. This limitation can arise from either an isolated contracture of the gastrocnemius or from a contracture of the gastrocnemius-soleus complex. Patel et al. (2011) carried out a study to determine the proportion of patients (*N*=254) with plantar fasciitis that have an associated isolated gastrocnemius contracture. Patel concluded that limited ankle dorsiflexion is commonly associated with plantar fasciitis as more than half of the patients had evidence of an isolated gastrocnemius contracture. Gastrocnemius lengthening is an important

component of correcting all stages of arch collapse. In the beginning phase of arch collapse, gastrocnemius stretching exercises, night splinting, and other therapeutic modalities are the foundation of treatment. If conservative measures fail, surgical lengthening of the gastrocnemius muscle proves to be successful at alleviating the pain and pathology of Achilles tendinosis, plantar fasciitis, and metatarsalgia (Anderson et al., 2014).

The treatment of equinus alone has shown to be effective for foot conditions without affecting the pathology within the foot, Maskill et al. (2010) examined the effect of an isolated gastrocnemius recession on 29 patients (34 feet) that failed six months of conservative therapy. The three categories of patients (plantar fasciitis, midfoot pain, and arch pain) had pre- and post-operative visual analog scale (VAS) score as follows: plantar fasciitis 8.1 to 1.9, midfoot pain 7.5 to 2.2, and arch pain 9.3 to 3.3. These large VAS changes were the result of gastrocnemius recession alone.

Gastrocnemius recession has a low incidence of associated morbidity (Rush et al., 2006). Notably, the patient may have complications that relate to surgery in general. These include the risks associated with anesthesia, infection, damage to nerves and blood vessels, and bleeding or blood clots. Additionally, after a gastrocnemius release, some patients may experience nerve injury that results in irritation or numbness over the outside of the heel. This is usually temporary. Some patients may notice a difference in the appearance of one calf compared to the other and temporary calf weakness.

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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