Clinical Practice Guideline: **Tarsal Tunnel Decompression**

Date of Implementation: **November 19, 2015**

Product: **Specialty**

GUIDELINES

American Specialty Health – Specialty (ASH) considers services consisting of CPT Codes 28035 and 64704 to be medically necessary for tarsal tunnel decompression or Baxter's nerve release **upon meeting ALL of the following criteria:**

1. Clinical diagnosis of tarsal tunnel syndrome (ICD-10 codes G57.50 - G57.53) and/or Baxter's Neuritis (e.g., Mononeuropathy, unspecified (ICD-10 code G58.9); Neuralgia and neuritis, unspecified (ICD-10 code M79.2)), as indicated by **1 or more of the following**:
    - Persistent pain, sensory loss, or paresthesia in distribution of the affected nerve, its calcaneal branch, or medial or lateral plantar nerve (i.e., bottom of foot with sparing of heel)
    - Positive Tinel sign over area
    - Weakness affecting plantar flexion, or toe flexion, or inversion
    - Positive Nerve Conduction Velocity (NCV) testing
2. Failure of **at least 3 of the following** non-operative treatments:
    - Aspiration of ganglion
    - Corticosteroid injections
    - Immobilization
    - Non-steroidal anti-inflammatory medications (NSAIDs)
    - Orthotics or accommodative shoes
    - Physical therapy
    - Rest and change in activities
    - Weight loss, if appropriate
3. MRI or ultrasound confirms internal or external compression of posterior tibial nerve within tarsal tunnel or first branch of lateral plantar nerve, as indicated **by 1 or more of the following**:
    - Congenital hindfoot deformity
    - Ganglion
    - Hypertrophic flexor retinaculum
    - Lipoma
    - Osseous prominences
    - Postoperative scarring
    - Posttraumatic neural fibrosis
4. No significant compromise of blood supply to distal lower extremity

Billing for CPT codes 28035 or 64704 is not allowed at the same time. Practitioners need to select the individual code that is most appropriate for the procedure.

Exclusions

Nerve decompression procedures billed using CPT codes 64722 and 64726 will be denied as non-covered for these specific diagnoses.

CPT Codes and Descriptions

CPT Code	CPT Code Description
28035	Release, tarsal tunnel (posterior tibial nerve decompression)
64704	Neuroplasty; nerve of hand or foot

BACKGROUND

Tarsal Tunnel Syndrome

Tarsal tunnel syndrome is an entrapment neuropathy of the posterior tibial nerve or its branches within its fibro-osseous tunnel beneath the flexor retinaculum on the medial side of the ankle. It is a rare condition which is regularly underdiagnosed leading to a range of symptoms affecting the plantar aspect of the foot.

Causes of tarsal tunnel syndrome can be classified into either intrinsic (e.g., osteophytes, hypertrophic retinaculum, tendinopathy, enlarged veins, ganglia, lipoma, tumor, neuroma), extrinsic (e.g., direct trauma, constrictive footwear, hind foot varus or valgus, post-operative scarring) or combinations of the two.

Plain X-rays of the ankle are useful in demonstrating structural abnormalities such as hind foot varus/valgus, tarsal coalitions, osteophytes, or evidence of previous trauma. However, magnetic resonance imaging is more sensitive and is highly accurate when investigating space-occupying lesions. Diagnostic ultrasound is also useful for detection of ganglia, varicose veins, lipomas, tenosynovitis, and talocalcaneal coalition. Tinel's sign is often present, demonstrated by an electrical-like sensation that radiates along the nerve and its innervated territory when the nerve is percussed. A suspected nerve entrapment syndrome can be confirmed by conventional nerve conduction studies and electromyography, which permits the differentiation of nerve entrapments from other pathologies. However, false negative electrophysiological tests are not uncommon and therefore do not rule out the diagnosis (Ahmad et al., 2012).

Conservative care is the first line of treatment for peripheral nerve entrapment syndromes. Surgical treatment should be reserved only for cases where symptoms pain and dysfunction persist despite conservative measures. Surgery serves to free the nerve from the mechanisms of entrapment (i.e., compression, stretching, or friction). Mobilization of the nerve can be obtained by eliminating compressive factors. Neuroplasty is a surgical procedure to release a compressed nerve in the foot. Surrounding tissues are dissected from the nerve freeing it from scar tissue or adhesions.

Mullick et al. (2008) carried out a study to determine the appropriate surgical approach for tibial nerve decompression. The authors tested the hypotheses that the previously published results were poor due to failure to recognize that the tarsal tunnel is analogous to the forearm, not the carpal tunnel, and that postoperative ankle immobilization contributes to poor results by permitting fibrosis of the tibial nerve branches in a sample of 77 patients with tarsal tunnel syndrome. The surgical approach included a neurolysis of the tibial nerve in the tarsal tunnel and the medial, lateral plantar, calcaneal nerves in their own tunnels. Postoperatively, immediate weight bearing, and ambulation were permitted in a bulky cotton dressing. The mean follow-up after surgery was 3.6 years. Utilizing a numerical grading scale, there was a statistically significant improvement at the $P<0.001$ level for sensory and for motor impairment. The authors concluded that decompression of four medial ankle tunnels and immediate postoperative mobilization of the tibial nerve through ambulation is necessary, resulting in a high level of success for patients with tarsal tunnels syndrome.

Other studies have concluded the best indication to perform surgery is the presence of a space occupying lesion as this variable had produced the most predictable outcome (Ahmad et al., 2012). Based on empirical evidence, Gould (2011) reports that when the space-occupying lesion is discrete and anatomic damage to the nerve does not appear grossly, the anticipation should be for full relief and recovery. However, when there is obvious damage to the nerve from a fracture or osteotomy, the nerve recovers in a variable manner. When the diagnosis is made without good objective data and the source of compression is not clear, the outcomes are not favorable.

Baxter's Nerve Entrapment

The first branch of the lateral plantar nerve (Baxter's Nerve) transverses laterally and passes anterior to the medial calcaneal tuberosity (often the site of a heel spur) to innervate the abductor digiti quinti muscle. The Baxter's nerve is often entrapped at the abductor hallucis muscle requiring surgical release.

Decompression of the first branch of the lateral plantar nerve can be done along with partial plantar fascia release in patients with recalcitrant plantar fasciitis if suspicion of entrapment of the calcaneal branches of the tibial nerve exists (Easley et al., 2011; Mesmar et al., 2010).

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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