Keystone First
Family of Health Plans

Neuroablation for chronic foot pain

Clinical Policy ID: CCP.1370

Recent review date: 6/2025

Next review date: 10/2026

Policy contains: Achilles tendinosis; intermetatarsal nerve entrapment; plantar fasciitis; thermal ablation or chemo-ablation.

Keystone First VIP Choice has developed clinical policies to assist with making coverage determinations. Keystone First VIP Choice's clinical policies are based on guidelines from established industry sources, such as the Centers for Medicare & Medicaid Services (CMS), state regulatory agencies, the American Medical Association (AMA), medical specialty professional societies, and peer-reviewed professional literature. These clinical policies along with other sources, such as plan benefits and state and federal laws and regulatory requirements, including any state- or plan-specific definition of "medically necessary," and the specific facts of the particular situation are considered by Keystone First VIP Choice, on a case by case basis, when making coverage determinations. In the event of conflict between this clinical policy and plan benefits and/or state or federal laws and/or regulatory requirements, the plan benefits and/or state and federal laws and/or regulatory requirements shall control. Keystone First VIP Choice's clinical policies are for informational purposes only and not intended as medical advice or to direct treatment. Physicians and other health care providers are solely responsible for the treatment decisions for their patients. Keystone First VIP Choice's clinical policies are reflective of evidence-based medicine at the time of review. As medical science evolves, Keystone First VIP Choice will update its clinical policies as necessary. Keystone First VIP Choice's clinical policies are not guarantees of payment.

Coverage policy

Thermal ablation or chemoablation for chronic foot pain is investigational/not clinically proven and, therefore, not medically necessary.

Limitations

No limitations were identified during the writing of this policy.

Alternative covered services

Standard of care for each diagnosis (e.g., analgesia medications, physical therapy, orthoses, surgery).

Background

Foot pain is a common complaint and includes diverse neurogenic and musculoskeletal causes, which often present with similar symptoms. The specific anatomic location of the pain (the forefoot, midfoot, and hindfoot) can often guide diagnosis and treatment (American Orthopaedic Foot and Ankle Society, 2023).

The treatment algorithm for most chronically painful soft tissue conditions of the foot begins with conservative therapies (e.g., anti-inflammatory medications, off-loading, changes in footwear, orthoses, and self-care) and progresses to more invasive options. Prescribed options such as corticosteroid injections and physical therapy

may relieve pain and improve mobility. When conservative treatment fails, surgery (e.g., decompression, release, or resection) may be indicated (Agyekum, 2015). Percutaneous techniques, such as platelet-rich plasma, extracorporeal shock wave therapy, and neuroablation have emerged as potential treatment options for chronic foot pain (Smith, 2017).

Neuroablation is designed to destroy neural tissue. In current practice, the goal of neuroablation is to temporarily interrupt rather than permanently destroy the nerve impulse or pathway, thus preventing the pain signal from traveling to the brain (Association of Extremity Nerve Surgeons, 2014). Neuroablation can be administered during open surgery or percutaneously with ultrasound, computed tomography, or magnetic resonance imaging guidance. The most common neuroablative techniques apply extreme heat (radiofrequency), cold (cryotherapy), or chemicals (e.g., ethanol) to denervate tissue.

The advantages of neuroablative techniques over surgery are minimal invasiveness, low associated morbidity, and repeatability should the pain recur. However, these methods damage tissue in a relatively blind manner without absolute control and may not permanently resolve symptoms (Association of Extremity Nerve Surgeons, 2014).

Findings

Guidelines

Evidence-based recommendations are conflicting on the value neuroablation especially for patients with intermetatarsal nerve entrapment, as professional societies attempt to balance the lack of quality evidence with increasing interest in minimally invasive neuroablative approaches to treat chronic foot pain (American College of Foot and Ankle Surgeons [Thomas, 2009]; Association of Extremity Nerve Surgeons, 2014; National Institute for Health and Care Excellence, 2015; Schneider, 2018). At this time, neuroablation cannot be recommended as a primary treatment option for any etiology of chronic foot pain.

For Morton's neuroma, the American Academy of Orthopaedic Surgeons (2022) notes that chemical nerve ablation and radiofrequency ablation may achieve improvement in 70% to 80% of patients, but that current data on effectiveness are inconclusive.

Evidence review

The evidence base consists of mostly retrospective case series of short-term duration (six months or less) and few comparative studies by which to compare the effectiveness of neuroablative techniques to surgical procedures considered the current standard of care.

The limitations in the evidence are those inherent to non-comparative, non-randomized, retrospective, and insufficiently powered studies. The literature provides low quality evidence supporting the safety and efficacy of radiofrequency ablation, cryoablation, and chemoablation (alcohol) for treating intermetatarsal nerve entrapment (also referred to as Morton's neuroma) (Masala, 2018; Perini, 2016; Shah, 2019), plantar fasciitis (Cozzarelli, 2010; Kurtoglu, 2022; Landsman, 2013), and Achilles tendinosis (Wei, 2017). These procedures appear safe and efficacious in the short-term with durable results in some instances, but the optimal patient selection criteria or ablative protocol cannot be determined.

Systematic reviews expose the lack of high-quality evidence comparing the effectiveness of available treatment options, including neurolytic methods, for Morton's neuroma (Lu, 2021; Matthews, 2019; Santos, 2018; Thomson, 2020). More recently, Llombart's 2024 systematic review of eight studies (n = 237) found radiofrequency ablation achieved significant pain relief in 47.57% of participants (95% confidence interval 25.13% to 70.00%), particularly at temperatures ≥ 85°C and with fewer radiofrequency cycles (≤3). Complications were minimal (2.1%), and most resolved without significant interventions.

An incremental cost-utility analysis concluded that the most cost-effective approach to managing Morton's neuroma after conservative therapy has failed is beginning with the least expensive option (steroid injection) and proceeding only when necessary in a stepwise manner to more invasive and expensive treatments, such as ultrasound-guided alcohol ablation, and then surgery (Ross, 2022).

In 2019, we updated the references. No policy changes are necessary. The policy ID was changed from CP# 14.02.14 to CCP.1317.

In 2020, we updated the references. No policy changes are warranted.

In 2021, we updated the references. No policy changes are warranted.

In 2022, we updated the references with no policy changes warranted.

In 2023, we updated the references with no policy changes warranted.

In 2024, no new relevant publications were found and no policy changes were warranted.

In 2025, we updated the references with no policy changes warranted.

References

On April 10, 2025, we searched PubMed and the databases of the Cochrane Library, the U.K. National Health Services Centre for Reviews and Dissemination, the Agency for Healthcare Research and Quality, and the Centers for Medicare & Medicaid Services. Search terms were "Ablation technique" (MeSH), "Metatarsalgia" (MeSH), "Peripheral nerves" (MeSH), "neuroablation," "radiofrequency ablation," "cryoablation," "plantar," and "foot." We included the best available evidence according to established evidence hierarchies (typically systematic reviews, meta-analyses, and full economic analyses, where available) and professional guidelines based on such evidence and clinical expertise.

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Policy updates

3/2018: initial review date and clinical policy effective date: 5/2018

5/2019: Policy references updated. Policy ID changed.

6/2020: Policy references updated.

6/2021: Policy references updated.

6/2022: Policy references updated.

6/2023: Policy references updated.

6/2024: Policy references updated.

6/2025: Policy references updated.