Anthem

Clinical UM Guideline

Subject: Electrical Nerve Stimulation, Transcutaneous, Percutaneous
Guideline #: CG-DME-04
Status: Reviewed
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Description

This document addresses transcutaneous electrical nerve stimulation (TENS) and percutaneous electrical nerve stimulation (PENS). Electrical stimulation is a method used to treat pain through electrodes placed on or just beneath the skin that send small electrical impulses to underlying sensory nerve fibers to modify pain perception. It is theorized that electrical stimulation of the nerve fibers, applied near the segment of the spinal cord, blocks pain signals from reaching the brain. Electrical stimulation is also theorized to reduce inflammation and swelling, and to relax muscle fibers by releasing endorphins in the brain, which act like analgesics. The use of acupuncture with electrical stimulation is *not* addressed in this document.

Note: Transcutaneous electrical modulation pain reprocessing ([TEMPR], e.g. Scrambler Therapy) using multichannel TENS devices are addressed by DME.00011 Electrical Stimulation as a Treatment for Pain and Related Conditions: Surface and Percutaneous Devices.

Note: Please see the following related document(s) for additional information:

- CG-ANC-03 Acupuncture
- CG-DME-03 Neuromuscular Stimulation in the Treatment of Muscle Atrophy
- CG-SURG-09 Temporomandibular Disorders

Clinical Indications

Medically Necessary:

A. TENS and PENS units are considered **medically necessary** when prescribed as a treatment for pain for those who have not responded to other modalities, in the following situations:
   1. Pain related to musculoskeletal conditions; **or**
   2. Pain associated with active or post trauma injury.

B. A TENS garment, when prescribed, is considered **medically necessary** when:
   1. There is a large area or many sites to be stimulated such that use of conventional electrodes, adhesive tapes and lead wires is not feasible; **or**
   2. The areas or sites to be stimulated are inaccessible with the use of conventional electrodes, adhesive tapes and lead wires; **or**
   3. There is a documented medical condition such as skin problems that preclude the application of conventional electrodes, adhesive tapes and lead wires.

Not Medically Necessary:

Use of TENS and PENS is considered **not medically necessary** when the above criteria are not met and for all other indications.

Coding

The following codes for treatments and procedures applicable to this document are included below for informational purposes. Inclusion or exclusion of a procedure, diagnosis or device code(s) does not constitute or imply member coverage or provider reimbursement policy. Please refer to the member's contract benefits in effect at the time of service to determine coverage or non-coverage of these services as it applies to an individual member.

When services may be Medically Necessary when criteria are met:

HCPCS	
A4595	Electrical stimulator supplies, 2 lead, per month (e.g., TENS, NMES)
A4630	Replacement batteries, medically necessary, transcutaneous electrical stimulator, owned by patient
E0720	Transcutaneous electrical nerve stimulation (TENS) device, two lead, localized stimulation
E0730	Transcutaneous electrical nerve stimulation (TENS) device, four or more leads, for multiple nerve stimulation
E0731	Form-fitting conductive garment for delivery of TENS or NMES (with conductive fibers separated from the patient's skin by layers of fabric) [when specified for TENS]

ICD-10 Diagnosis	
	All diagnoses

When services are Not Medically Necessary:
For the procedure codes listed above when criteria are not met or for all other indications.

Discussion/General Information

TENS uses a battery-operated device that applies electrical stimulation at the site of pain by wired electrodes that are taped to the surface of the skin. TENS can also be delivered through the use of a form-fitting conductive garment (for example, a garment with conductive fibers that are separated from the individual's skin by layers of fabric). This garment is applied when a condition exists that precludes conventional TENS electrode placement. TENS has been used to relieve pain related to musculoskeletal conditions, or pain associated with active or post-trauma injury.

PENS is similar in concept to TENS, but differs in that needle electrodes are implanted just beneath the skin instead of being taped to

the surface of the skin. It is important to distinguish PENS from *acupuncture with electrical stimulation.* In electrical acupuncture, needle electrodes are also inserted just below the skin, but they are not necessarily inserted at the site of pain, but placed according to acupuncture meridians, a concept of Chinese medicine.

There are many published reports regarding the use of TENS and PENS for various types of conditions such as low back pain (LBP), myofascial and arthritic pain, sympathetically mediated pain, neurogenic pain, visceral pain, diabetic neuropathy and postsurgical pain. While randomized controlled trials (RCTs) have focused on both TENS and PENS, many of the currently available studies have methodological flaws that limit interpretation, including inadequate blinding, lack of reporting of drop outs, lack of reporting of stimulation variables, and lack of proper outcome measures (Johnson, 2015b). However, it is recognized that both TENS and PENS are widely accepted in the physician community as a treatment of a variety of etiologies of pain.

The American Society of Anesthesiologists (ASA) and American Society of Regional Anesthesia and Pain Medicine (ASRA) support the use of TENS in their revised guideline recommending that “TENS should be used as a multimodal approach to pain management for patients with chronic back pain and may be used for other pain conditions (e.g. neck and phantom limb pain)” (ASA/ASRA, 2010).

Current published studies of PENS for neuropathic pain (Raphael, 2011), overactive bladder (Casal-Beloy, 2021; de Abreu, 2021; Pierre, 2021) and TENS for gastric dysmotility with slow transit constipation (Yik, 2011), have shown limited success, but require larger studies to demonstrate clinical efficacy.

Several trials, systematic reviews and meta-analyses have been published evaluating the use of TENS in a variety of pain-types, injuries and disorders including, but not limited to, type 2 diabetes (Lu, 2023), inguinal hernia repair (Parselenes, 2021), migraine headache (Domingues, 2021; Hokenek, 2021; Tao, 2018) spinal cord injury (Harvey, 2016), rotator cuff injuries (Desmeules, 2016; Mahure, 2017; Page, 2016), soft tissues injuries of the elbow (Dion, 2016), knee osteoarthritis (Chen, 2016; Cherian, 2016; Reichenbach, 2022; Wu 2022), xerostomia (Sivaramakrishnan, 2017), postoperative gastrointestinal recovery (Penfold, 2018) sickle cell disease (Pal, 2020), pelvic pain (Cottrell, 2019), urinary retention (Coolen, 2021) peripheral neuropathy (Ogle, 2020) and phantom stump pain (Johnson, 2015a); results revealed weak or inconclusive support for the use of TENS for these indications. Support for the use of TENS was found in systematic reviews conducted on its application in the treatment of temporomandibular disorders (Fertout, 2019), in-office and post hysteroscopy (De Silva, 2020; Ghamry, 2020) chronic back pain (Jauregui, 2016), dysmenorrhea (Arik, 2022; Guy, 2023), total knee arthroplasty (Li, 2017; Yue, 2018; Zhu, 2017), multiple sclerosis (Sawant, 2015), post cardiothoracic surgery (Cardinali, 2021) and limb spasticity (Mahmood, 2019; Mills, 2016).

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Index

History

Status	Date	Action
Reviewed	05/11/2023	Medical Policy & Technology Assessment Committee (MPTAC) review. Updated Discussion/General Information and References sections.
Reviewed	05/12/2022	MPTAC review. Updated Discussion/General Information and References sections.

Revised	05/13/2021	MPTAC review. Clarified MN statements by removing 'FDA approved' language. Updated Discussion/General Information and References sections. Reformatted Coding section.
Reviewed	05/14/2020	MPTAC review. Updated Description, Discussion/General Information and References sections.
Reviewed	06/06/2019	MPTAC review. Updated Description, Discussion/General Information and References sections.
Revised	07/26/2018	MPTAC review. The document header wording updated from "Current Effective Date" to "Publish Date." Updated Discussion/General Information and References sections.
Revised	08/03/2017	MPTAC review. Added a NMN section. Updated Discussion/General Information and References sections.
Reviewed	08/04/2016	MPTAC review. Updated Discussion/General Information and References. Removed ICD-9 codes from Coding section.
Revised	08/06/2015	MPTAC review. Revised formatting in criteria. Updated Discussion/General Information and References.
Reviewed	08/14/2014	MPTAC review. Updated Discussion/General Information and References.
Reviewed	08/08/2013	MPTAC review. Updated References.
Reviewed	08/03/2012	MPTAC review. Discussion/General Information and References updated.
Reviewed	08/18/2011	MPTAC review. Coding and References updated.
Reviewed	08/19/2010	MPTAC review. Discussion and References updated.
Reviewed	08/27/2009	MPTAC review. References updated.
Reviewed	08/28/2008	MPTAC review. References updated.
Reviewed	08/23/2007	MPTAC review. References updated.
	01/01/2007	Updated coding section with 01/01/2007 CPT/HCPCS changes.
Revised	09/14/2006	MPTAC review. Revision included addressing TENS garment. References updated.
	11/22/2005	Added reference for Centers for Medicare and Medicaid Services (CMS) – National Coverage Determination (NCD).
Revised	09/22/2005	MPTAC review. Revisions based on Pre-merger Anthem and Pre-merger WellPoint Harmonization

Pre-Merger Organizations	Last Review Date	Document Number	Title
Anthem, Inc.		None	
Anthem BCBS		None	
WellPoint Health Networks, Inc.	04/28/2005	5.10.01	Electrical Nerve Stimulation, Transcutaneous, Percutaneous

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