Clinical Policy: Peripheral and Percutaneous Electrical Nerve Stimulation

Reference Number: WA.CP.MP.117
Last Review Date: 12/25
Effective Date: 5/1/26

Coding Implications
Revision Log

See Important Reminder at the end of this policy for important regulatory and legal information.

Description

Peripheral nerve stimulation (PNS) is intended to decrease chronic and acute pain by stimulating peripheral nerves with leads placed adjacent or parallel to the affected nerve.[18] PNS can be used in a trial of pain relief effectiveness, or for permanent placement. In peripheral nerve field stimulation (PNFS), leads are placed in the region in which the pain is felt, stimulating smaller peripheral nerves and nerve endings.[18] PNFS is useful when one nerve does not clearly service the painful area.

Percutaneous electrical nerve stimulation (PENS) uses fine needles as electrodes, which are placed in the soft tissues or muscles at dermatomal levels consistent with pain or local pathology. It is similar to transcutaneous electrical nerve stimulation but bypasses the local skin resistance and delivers electrical current closer to the affected tissues.

Note: For other types of peripheral nerve stimulation, please refer to:

- CP.MP.40 Gastric Electrical Stimulation
- CP.MP.137 Fecal Incontinence Treatments
- CP.MP.133 Posterior Tibial Nerve Stimulation for Voiding Dysfunction
- CP.MP.12 Vagus Nerve Stimulation
- CP.MP.203 Diaphragmatic/Phrenic Nerve Stimulation

Policy/Criteria

I. It is the policy of Coordinated Care of Washington, Inc., and Coordinated Care Corporation, that there is insufficient evidence to support the efficacy of percutaneous electrical nerve stimulation, peripheral nerve stimulation *or* peripheral nerve field stimulation for any indication.

II. It is the policy of Coordinated Care of Washington, Inc., and Coordinated Care Corporation, that there is insufficient evidence to support the efficacy of percutaneous electrical nerve field stimulation (PENFS) for any indication, including irritable bowel syndrome (IBS).

III. It is the policy of health plans affiliated with Centene Corporation that there is insufficient evidence to support the efficacy of dorsal root ganglion (DRG) stimulation.

Background

Peripheral nerve stimulation (PNS)

Evidence supporting peripheral nerve stimulation (PNS) is limited. According to a systematic review by Xu et al., there is a lack of high-quality randomized control trials to recommend PNS for most pain management indications.[2] They cited wide variations in experimental design, research protocol, and heterogeneity of study population as limitations preventing a meta-analysis.[17] Xu et al. stated that PNS had level I and Level II evidence supporting its efficacy for migraine/chronic headache.[2] However, the large multicenter randomized clinical trial (RCT) included in the systematic review, conducted by Dodick et al. studying the effect of PNS for migraine headache, also noted adverse events among 70% of the study sample, with 48% of the patients with adverse events requiring hospitalization or further surgical intervention to treat the complication.[3] An additional systematic literature review noted moderate to strong evidence for peripheral nerves stimulation, but surveyed the literature as a whole for an array of pain indications, noting that further research could help "further refine appropriate populations and pain diagnoses."[4] Hayes notes that there is insufficient evidence to evaluate the efficacy of peripheral nerve stimulation for back pain, or chronic neck pain.[1]

Peripheral nerve field stimulation (PNFS)

Hayes notes two available RCTs addressing PNFS for chronic low back pain, stating they were of low quality due to inability to blind patients and/or researchers, low sample sizes, and short follow-up periods.[5] An additional RCT evaluated subcutaneous PNFS combined with spinal cord stimulation (SCS) for refractory low back pain, concluding that PNFS significantly decreased pain compared to SCS alone.[6] Study limitations included industry ties amongst investigators and small sample sizes.[6] There were too few high-quality studies to support the safety or efficacy of PNFS for other indications.

Percutaneous electrical nerve stimulation (PENS)

In 2013 the National Institute for Clinical Health and Care Excellence (NICE) published guidance for PENS for refractory neuropathic pain, noting evidence of short-term efficacy and no significant safety concerns. NICE guidelines cite evidence from two RCTs with 64 and 50 patients, respectively, demonstrating significant reduction in pain and favorable safety profiles.[7] Although studies are promising, evidence and guidance supporting the efficacy of PENS remain limited.

Percutaneous electrical nerve field stimulation (PENFS)

PENFS is a variation of PENS that targets a general area of pain as opposed to a specific nerve. PENFS is emerging as a promising noninvasive auricular neurostimulation therapy to treat disorders of gut-brain interaction (DGBI) with study populations including children and adolescents.[8,9,10] Although study findings are promising, additional studies are needed before PENFS can be routinely recommended for children and adolescents with functional abdominal pain (FAP).[10]

The IB-Stim (NeurAxis Inc.) is a PENFS designed to relieve functional abdominal pain and is cleared by the U.S. Food and Drug Administration (FDA) for the treatment of abdominal pain in adolescents with irritable bowel syndrome (IBS). According to a Hayes review, clinical studies suggest no or unclear support for the use of IB-Stim in the treatment of IBS in adolescents, and

there are no professional guidelines that currently offer recommendations for PENFS in this population. In the Hayes review, only one fair quality trial was identified, and IB-Stim was not compared to other active treatments and did not report clear benefits in patient outcomes compared to sham past three to four weeks of study follow up.[8]

Dorsal Root Ganglion (DRG) Stimulation
Hayes notes that currently there is insufficient evidence to determine the effectiveness and safety of DRG stimulation for adults with CRPS. According to Hayes, there is limited evidence suggesting that DRG stimulation for CRPS may result in successful outcomes for pain, quality of life, and mood, but conclusions could not be made due to the limited quantity of evidence, individual study limitations such as small sample sizes, and limited follow up. Additional high quality comparative studies are recommended to evaluate the benefits and risks of DRG stimulation for CRPS.[12]

Coding Implications
This clinical policy references Current Procedural Terminology (CPT®). CPT® is a registered trademark of the American Medical Association. All CPT codes and descriptions are copyrighted 2020, American Medical Association. All rights reserved. CPT codes and CPT descriptions are from the current manuals and those included herein are not intended to be all-inclusive and are included for informational purposes only. Codes referenced in this clinical policy are for informational purposes only. Inclusion or exclusion of any codes does not guarantee coverage. Providers should reference the most up-to-date sources of professional coding guidance prior to the submission of claims for reimbursement of covered services.

CPT® Codes	Description
64555	Percutaneous implantation of neurostimulator electrode array; peripheral nerve
64575	Open implantation of neurostimulator electrode array; peripheral nerve (excludes sacral nerve)
64590*	Insertion or replacement of peripheral or gastric neurostimulator pulse generator or receiver, direct or inductive coupling
64595*	Revision or removal of peripheral or gastric neurostimulator pulse generator or receiver
64596	Insertion or replacement of percutaneous electrode array, peripheral nerve, with integrated neurostimulator, including imaging guidance, when performed; initial electrode array
64597	Insertion or replacement of percutaneous electrode array, peripheral nerve, with integrated neurostimulator, including imaging guidance, when performed; each additional electrode array
64999	Unlisted procedure, nervous system
95970	Electronic analysis of implanted neurostimulator pulse generator/transmitter (e.g., contact group[s], interleaving, amplitude, pulse width, frequency [Hz], on/off cycling, burst, magnet mode, dose lockout, patient selectable parameters, responsive neurostimulation, detection algorithms, closed loop parameters, and passive parameters) by physician or other qualified health care professional; with brain,

CPT® Codes	Description
	cranial nerve, spinal cord, peripheral nerve, or sacral nerve, neurostimulator pulse generator/transmitter, without programming
95971	Electronic analysis of implanted neurostimulator pulse generator/transmitter (e.g., contact group[s], interleaving, amplitude, pulse width, frequency [Hz], on/off cycling, burst, magnet mode, dose lockout, patient selectable parameters, responsive neurostimulation, detection algorithms, closed loop parameters, and passive parameters) by physician or other qualified health care professional; with simple spinal cord or peripheral nerve (e.g., sacral nerve) neurostimulator pulse generator/transmitter programming by physician or other qualified health care professional
95972	Electronic analysis of implanted neurostimulator pulse generator/transmitter (e.g., contact group[s], interleaving, amplitude, pulse width, frequency [Hz], on/off cycling, burst, magnet mode, dose lockout, patient selectable parameters, responsive neurostimulation, detection algorithms, closed loop parameters, and passive parameters) by physician or other qualified health care professional; with complex spinal cord or peripheral nerve (e.g., sacral nerve) neurostimulator pulse generator/transmitter programming by physician or other qualified health care professional

*For gastric electrical stimulation, refer to CP.MP.40 Gastric Electrical Stimulation

Reviews, Revisions, and Approvals	Date	Approval Date
Policy split from CP.MP.63 Pain Management Procedures. Added chronic lower limb ischemia indication in I. C per Cochrane review of effectiveness. I.D. Case by case indications: Added indications in I.D. per American Association of Neurological Surgeons 2008 information on SCS, and 2010 American Society of Anesthesiologists guidelines; added diabetic neuropathy indication. Added requirement for reversible ischemia documented by treadmill exercise test per inclusion criteria in study by de Jongste. Added ICD-1 codes for diabetic neuropathy.	07/16	07/16
Took out requirement for more than 1 failed back surgery or failed back surgery at more than 1 level in failed back surgery syndrome (FBSS) indication (I.A.), as this was not supported by literature. Specified that pain in FBSS should be neuropathic. Added hyperalgesia as a symptom of CRPS. Coding updated.	07/17	07/17
Took out requirement for more than 1 failed back surgery or failed back surgery at more than 1 level in failed back surgery syndrome (FBSS) indication (I.A.), as this was not supported by literature. Specified that pain in FBSS should be neuropathic. Added hyperalgesia as a symptom of CRPS. Coding updated.	07/17	07/17
References reviewed and updated.	05/18	05/18
Added Failed Neck Surgery Syndrome to indications under limited evidence criteria (I.D.1.k). Reviewed by specialist.	09/18	09/18
References reviewed and updated. Codes updated	03/19	03/19
Policy archived for TurningPoint.	09/19	09/19
Renumbered CP.MP.117 to WA.CP.MP.117. Removed references to Spinal Cord Stimulation. Renamed Peripheral and Percutaneous Electrical Nerve Stimulation	10/22	11/22
Annual review. Added section II.D. to correspond to CP.MP.117. Coding reviewed and updated. References reviewed and updated. Updated description and background with no clinical significance.	02/24	02/24
Annual review. Added section III and IV. Coding reviewed and descriptions updated as needed. Added codes 64596, 64597, 64598. References reviewed and updated.	12/24	12/24
Annual review. Added percutaneous electrical nerve stimulation (PENS) to Criteria I. for insufficient evidence to support efficacy. Removed medically necessary criteria II. for PENS. Background updated to align with criteria updates. Coding and descriptions reviewed. References reviewed and updated. Reviewed by internal specialist and external specialist.	11/25	12/25

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Important Reminder

This clinical policy has been developed by appropriately experienced and licensed health care professionals based on a review and consideration of currently available generally accepted standards of medical practice; peer-reviewed medical literature; government agency/program approval status; evidence-based guidelines and positions of leading national health professional organizations; views of physicians practicing in relevant clinical areas affected by this clinical policy; and other available clinical information. The Health Plan makes no representations and accepts no liability with respect to the content of any external information used or relied upon in developing this clinical policy. This clinical policy is consistent with standards of medical practice current at the time that this clinical policy was approved. "Health Plan" means a health plan that has adopted this clinical policy and that is operated or administered, in whole or in part, by Centene Management Company, LLC, or any of such health plan's affiliates, as applicable.

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This clinical policy is effective as of the date determined by the Health Plan. The date of posting may not be the effective date of this clinical policy. This clinical policy may be subject to applicable legal and regulatory requirements relating to provider notification. If there is a discrepancy between the effective date of this clinical policy and any applicable legal or regulatory requirement, the requirements of law and regulation shall govern. The Health Plan retains the right to change, amend or withdraw this clinical policy, and additional clinical policies may be developed and adopted as needed, at any time.

This clinical policy does not constitute medical advice, medical treatment or medical care. It is not intended to dictate to providers how to practice medicine. Providers are expected to exercise professional medical judgment in providing the most appropriate care, and are solely responsible for the medical advice and treatment of members/enrollees. This clinical policy is not intended to recommend treatment for members/enrollees. Members/enrollees should consult with their treating physician in connection with diagnosis and treatment decisions.

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Note: For Medicaid members/enrollees, when state Medicaid coverage provisions conflict with the coverage provisions in this clinical policy, state Medicaid coverage provisions take precedence. Please refer to the state Medicaid manual for any coverage provisions pertaining to this clinical policy.