

Clinical Policy: Spinal Cord, Peripheral Nerve, and Percutaneous Electrical Nerve Stimulation

Reference Number: LA.CP.MP.117

Date of Last Revision: 5/22

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 uses fine needles as electrodes, which are placed in the soft tissues or muscles at dermatomal levels consistent with pain or pathology 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.

The dorsal column stimulator (DCS), or spinal column stimulator (SCS) is a device that allows for electrical stimulation of the dorsal aspect of the spinal cord nerves in an effort to relieve pain in patients with a variety of chronic pain disorders. In most cases, neuropathic pain responds poorly to standard pharmacological and surgical therapies and can last indefinitely with increasing severity over time. It may result in severe disability. Stimulation in this area interferes with the conduction of pain impulses through adjacent sensory pathways and may stimulate endorphins. The technique does not alter the underlying pathological process. However, in selective patients with persistent and intractable pain of nerve origin, approximately 50 percent of patients will have pain relief, thereby decreasing the need for analgesic medication and at times obviating the need for further surgical procedures.

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

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

Policy/Criteria

- I. It is the policy of Louisiana Healthcare Connections that there is insufficient evidence to support the efficacy of peripheral nerve stimulation *or* peripheral nerve field stimulation for any indication.
- II. It is the policy of Louisiana Healthcare Connections that percutaneous electrical nerve stimulation (PENS) is **medically necessary** when meeting all the following:
 - A. Diagnosis of diabetic neuropathy or neuropathic pain;

- B. Failed to adequately respond to a trial of at least three conventional treatments, unless contraindicated, and any of the following:
 - 1. Anticonvulsants (e.g., pregabalin);
 - 2. Antidepressants (e.g., amitriptyline, and duloxetine);
 - 3. Opioids (e.g., morphine sulphate and tramadol);
 - 4. Other pharmacological agents (e.g., capsaicin and isosorbide dinitrate spray);
- C. Request is for up to four weeks of PENS.

III. It is the policy of Louisiana Healthcare Connections that spinal cord stimulation (SCS) is **medically necessary** for the following indications:

- A. *A trial of SCS for failed back surgery syndrome* when all the following criteria are met:
 - 1. Prior lumbar surgery;
 - 2. Neuropathic pain lasting ≥ 6 months, is refractory and interferes with activities of daily living (ADLs);
 - 3. Not a candidate for additional surgery;
 - 4. Failure of ≥ 6 months of conventional multidisciplinary medical therapy including all of the following:
 - a. Chiropractic, physical therapy or prescribed home exercise program;
 - b. NSAIDs (non-steroidal anti-inflammatory drugs) unless contraindicated or not tolerated;
 - c. Activity modification;
 - 5. Has demonstrated cognitive ability to manage stimulator;
 - 6. Psychological evaluation and clearance by a qualified mental health professional reveals no evidence of an inadequately controlled mental health problem;
 - 7. No untreated, existing drug or alcohol dependency for a minimum of 60 days prior to request, as confirmed by lab testing.

- B. *A trial of SCS for complex regional pain syndrome (CRPS)* when all the following criteria are met:
 - 1. Pain is being managed by a pain management specialist with experience treating CRPS and pain/burning has persisted for > 6 months;
 - 2. Has ≥ 2 of the following symptoms limited to one extremity only:
 - a. Allodynia (pain sensation in response to a typically non-painful stimulus) or hyperalgesia;
 - b. Swelling/tenderness;
 - c. Cyanotic/red/pale digit/extremity;
 - d. Increased sweating;
 - e. Alteration of temperature;
 - f. Persistent loss of motion;
 - g. Trophic skin changes;
 - h. Flexion contractures;
 - 3. Pain is chronic, refractory, and interferes with ADLs;
 - 4. Failure of ≥ 6 months of conventional multidisciplinary therapy including all of the following:
 - a. Physical therapy or occupational therapy;
 - b. Anticonvulsant or antidepressant medication;

- c. Sympathetic block;
 5. Has demonstrated cognitive ability to manage stimulator;
 6. Psychological evaluation and clearance by a qualified mental health professional reveals no evidence of an inadequately controlled mental health problem;
 7. No untreated, existing drug or alcohol dependency for a minimum of 60 days prior to request, as confirmed by lab testing.
- C. *A trial of SCS for chronic ischemic leg pain due to peripheral vascular disease* when all of the following criteria are met:
1. Chronic, ischemic leg pain due to peripheral vascular disease and one of the following:
 - a. Not a candidate for revascularization;
 - b. Revascularization has failed to relieve painful symptoms and the pain has not responded to medical management;
 2. Pain lasting ≥ 6 months, is refractory and interferes with ADLs;
 3. Has demonstrated cognitive ability to manage stimulator;
 4. Psychological evaluation and clearance by a qualified mental health professional reveals no evidence of an inadequately controlled mental health problem;
 5. No untreated, existing drug or alcohol dependency for a minimum of 60 days prior to request, as confirmed by lab testing.
- D. *A trial of SCS for the following indications* has **limited evidence** to prove effectiveness of treatment and consideration will be made on a case by case basis. Medical necessity will be considered in members/enrollees based on the following information:
1. Chronic, intractable pain due to one of the following:
 - a. Lumbosacral adhesive arachnoiditis secondary to multiple myelographies or lumbar surgeries that has not responded to medical management, including physical therapy (the presence of arachnoiditis is usually documented by the presence of high levels of proteins in the cerebro spinal fluid and/or by myelography or magnetic resonance imaging);
 - b. Nerve root injuries, post-surgical or post traumatic (e.g., avulsion);
 - c. Phantom limb syndrome that has not responded to medical management;
 - d. Post-herpetic neuralgia;
 - e. Plexopathy;
 - f. Polyneuropathy;
 - g. Intercostal neuralgia that did not respond to medical management and nerve blocks;
 - h. Cauda equina injury/syndrome;
 - i. Incomplete spinal cord injury;
 - j. Diabetic neuropathy;
 - k. Failed neck surgery syndrome (FNSS);
 - l. Chronic back pain;
 2. Pain lasting ≥ 6 months, is refractory and interferes with ADLs;
 3. Failure of ≥ 6 months of conventional multidisciplinary medical therapy;
 4. Has demonstrated cognitive ability to manage stimulator;

5. Psychological evaluation and clearance by a qualified mental health professional reveals no evidence of an inadequately controlled mental health problem;
 6. No untreated, existing drug or alcohol dependency for a minimum of 60 days prior to request, as confirmed by lab testing.
- E. *A trial of SCS for refractory chronic stable angina pectoris* has **limited evidence** to prove effectiveness of treatment and consideration will be made on a case by case basis. It should be reserved only for carefully selected members/enrollees, if any. Medical necessity will be considered in members/enrollees based on the following information:
1. Continued angina after percutaneous coronary intervention or coronary artery bypass graft;
 2. Not a candidate for further revascularization;
 3. Angina is NYHA (New York Heart Association) III (less than ordinary physical activity causes symptoms) or IV (symptoms present at rest);
 4. Reversible ischemia documented at least by a symptom-limited treadmill exercise test;
 5. Has had optimal pharmacotherapy for at least one month that includes the maximal tolerated dose of at least 2 of the following:
 - a. Long-acting nitrates;
 - b. Beta-adrenergic blockers;
 - c. Calcium channel antagonists;
 6. Pain is chronic, refractory, and interferes with ADLs;
 7. Has demonstrated cognitive ability to manage stimulator;
 8. Psychological evaluation and clearance by a qualified mental health professional reveals no evidence of an inadequately controlled mental health problem;
 9. No untreated, existing drug or alcohol dependency for a minimum of 60 days prior to request, as confirmed by lab testing.
- F. *Permanent placement of a SCS* is **medically necessary** following a trial of spinal cord stimulation for an indication listed above when all of the following criteria are met:
1. Disease specific criteria for spinal cord stimulation are met;
 2. Documented trial of ≥ 3 days;
 3. Documented pain reduction of $> 50\%$ from the trial associated with functional improvement;
 4. The same device used for the trial is used for permanent placement.

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.¹⁹ They cited wide variations in experimental design, research protocol, and heterogeneity of study population as limitations preventing a meta-analysis.¹⁹ Xu et al. stated that PNS had level I and Level II evidence supporting its efficacy for migraine/chronic headache.¹⁹ 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.²⁰ 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.”²⁶ Hayes notes that there is insufficient evidence to evaluate the efficacy of peripheral nerve stimulation for back pain, or chronic neck pain.¹⁸

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.²⁷ 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.²⁸ Study limitations included industry ties amongst investigators and small sample sizes.²⁸ There were too few high-quality studies to support the safety or efficacy of PNFS for other indications.

Percutaneous electrical nerve stimulation (PENS)

The American Academy of Neurology’s 2011 guideline on treatment of painful diabetic neuropathy gives a B-grade recommendation for PENS as a treatment modality. They note one class I trial comparing PENS to sham treatment, yielding a 42% reduction in pain according to the visual analog scale.²² The National Institute for Clinical Health and Care Excellence (NICE) also recommends 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.²⁵

Spinal cord stimulation

Spinal cord stimulation (SCS) is currently used to treat a wide variety of inoperable and intractable chronic pain syndromes, including failed back surgery syndrome and CRPS. In patients with failed conservative and surgical treatment of lower-limb ischemia, SCS increases skin blood flow, decreases pain, and improves quality of life. Four studies used inferential statistics and found pain reduction to be significant. At least 50% pain reduction at follow-up was found in 78%, 80%, and 85% of patients in the three studies that reported this data. Follow-up ranged from 6 to 35 months.

According to recent systematic reviews, the most favorable results have been observed in patients with peripheral vascular disease, complex regional pain syndrome, and peripheral neuropathy (e.g., diabetic or causalgic origin). Of interest, the pain relief achieved with SCS in patients with complex regional pain syndrome is possible without vasodilation. The vasodilation found with SCS is attributed to an inhibitory effect on sympathetically maintained vasoconstriction. Diabetic patients with peripheral arterial occlusive disease who present with intractable pain have also been successfully treated with SCS, except those who have severe autonomic neuropathy. Recently, SCS has been successfully used to treat intractable angina pectoris and chronic mesenteric ischemia.

Spinal cord stimulation is proposed as a late or last resort treatment for chronic pain due to stable angina pectoris. Although most of the research reviewed used subjective outcome measures and

some studies lacked prospective design, adequate sample size, and control groups, SCS was shown to alleviate pain and reduce myocardial ischemia in many of the study patients for whom pain relief was previously unobtainable. SCS has also been shown to reduce service utilization in aggregate among recipients. Side effects, while not infrequent, are rarely serious and can usually be resolved by the realignment or replacement of the device. Evidence indicates that the analgesic effect of SCS in angina does not mask the warning pain of myocardial infarction. Patients who have been treated with SCS have not been shown to be at increased risk for morbidity or mortality compared with their peers. Although a minority of patients receiving a trial of SCS ultimately experience prolonged pain relief, the significance of the alleviation of pain and suffering among those who do cannot be underestimated. Therefore, spinal cord stimulation for chronic stable angina pectoris secondary to demonstrable myocardial ischemia in patients who are refractory to treatment should be considered.

Slangen et al (2014) performed a multicenter randomized clinical trial in 36 painful diabetic peripheral neuropathy (PDPN) patients with severe lower limb pain not responding to conventional therapy. The authors concluded treatment success was shown in 59% of patients with PDPN who were treated with SCS over a 6-month period, although this treatment is not without risks. Two year outcomes of the same study reported clinically significant improvements in pain and sleep in 53% of patients. Additionally, a randomized controlled trial of 60 patients, conducted by de Vos and colleagues, found that pain due to PDPN was significantly reduced from baseline at 6 months, and quality of life was improved.

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 and may not support medical necessity. 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
63650	Percutaneous implantation of neurostimulator electrode array, epidural
63655	Laminectomy for implantation of neurostimulator electrodes, plate/paddle, epidural
63685	Incision and subcutaneous placement of spinal neurostimulator pulse generator or receiver, direct or inductive coupling
95970	Electronic analysis of implanted neurostimulator pulse generator/transmitter (eg, 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

CPT® Codes	Description
	brain, cranial nerve, spinal cord, peripheral nerve, or sacral nerve, neurostimulator pulse generator/transmitter, without programming
95971	Electronic analysis of implanted neurostimulator pulse generator/transmitter (eg, 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 (eg, sacral nerve) neurostimulator pulse generator/transmitter programming by physician or other qualified health care professional
95972	Electronic analysis of implanted neurostimulator pulse generator/transmitter (eg, 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 (eg, sacral nerve) neurostimulator pulse generator/transmitter programming by physician or other qualified health care professional

HCPCS Codes	Description
L8679	Implantable neurostimulator, pulse generator, any type
L8680	Implantable neurostimulator electrode, each
L8681	Patient programmer (external) for use with implantable programmable neurostimulator pulse generator, replacement only
L8682	Implantable neurostimulator radiofrequency receiver
L8683	Radiofrequency transmitter (external) for use with implantable neurostimulator radiofrequency receiver
L8685	Implantable neurostimulator pulse generator, single array, rechargeable includes extension
L8686	Implantable neurostimulator pulse generator, single array, nonrechargeable, includes extension
L8687	Implantable neurostimulator pulse generator, dual array, rechargeable, includes extension
L8688	Implantable neurostimulator pulse generator, dual array, nonrechargeable, includes extension

ICD-10-CM Diagnosis Codes that Support Coverage Criteria

ICD-10-CM Code	Description
B02.29	Other postherpetic nervous system involvement
E10.40	Type 1 diabetes mellitus with diabetic neuropathy, unspecified
E10.41	Type 1 diabetes mellitus with diabetic mononeuropathy
E10.42	Type 1 diabetes mellitus with diabetic polyneuropathy

ICD-10-CM Code	Description
E10.43	Type 1 diabetes mellitus with diabetic autonomic (poly) neuropathy
E10.49	Type 1 diabetes mellitus with other diabetic neurological complication
E11.40	Type 2 diabetes mellitus with diabetic neuropathy, unspecified
E11.41	Type 2 diabetes mellitus with diabetic mononeuropathy
E11.42	Type 2 diabetes mellitus with diabetic polyneuropathy
E11.43	Type 2 diabetes mellitus with diabetic autonomic (poly) neuropathy
E11.49	Type 2 diabetes mellitus with other diabetic neurological complication
G03.1	Chronic meningitis
G09	Sequelae of inflammatory diseases of central nervous system
G54.0-G54.9	Nerve root and plexus disorders
G56.40-G56.42	Causalgia of upper limb
G56.80-G56.82	Other specified mononeuropathies of upper limb
G56.90-G56.93	Unspecified mononeuropathies of upper limb
G57.70-G57.73	Causalgia of lower limb
G57.80-G57.93	Other specified mononeuropathies of lower limb
G90.50-G90.59	Complex regional pain syndrome I (CRPSI)
I20.1	Angina pectoris with documented spasm
I70.221-I70.229	Atherosclerosis of native arteries of extremities with rest pain
I73.9	Peripheral vascular disease, unspecified
M54.10	Radiculopathy, site unspecified
M54.12	Radiculopathy, cervical region
M54.13	Radiculopathy, cervicothoracic region
M54.14	Radiculopathy, thoracic region
M54.15	Radiculopathy, thoracolumbar region
M54.16	Radiculopathy, lumbar region
M54.17	Radiculopathy, lumbosacral region
M54.30-M54.32	Sciatica
M79.2	Neuralgia and neuritis, unspecified
M96.1	Postlaminectomy syndrome, not elsewhere classified
R20.3	Hyperesthesia
S14.2XX*	Injury of nerve root of cervical spine
S24.2XX*	Injury of nerve root of thoracic spine
S34.21X*	Injury of nerve root of lumbar spine
S34.22X*	Injury of nerve root of sacral spine
S34.3XX*	Injury of cauda equine
T87.9	Unspecified complications of amputation stump

*Add 7th digit A-S

Reviews, Revisions, and Approvals	Revision Date	Approval Date
Converted corporate to local policy.	08/15/2020	
Revised I.A.6&7, B.6&7, C.4&5, D.5&6, and E.8&9, to strengthen criteria for psychological evaluation and drug abuse.	5/2021	3/26/22

Reviews, Revisions, and Approvals	Revision Date	Approval Date
Edited contraindications: Replaced “non-hepatic malignancy...” with malignancy with high risk of recurrence or death...”; added GFR restriction, added HIV infection with detectable viral load, added stroke, acute coronary syndrome, or MI; added acute renal failure...; added septic. Added “and may support medical necessity” to Coding Implications section	5/22	8/13/22

References

1. Abdi S. Complex regional pain syndrome in adults: Pathogenesis, clinical manifestations, and diagnosis. UpToDate. www.uptodate.com. Published July 13, 2020. Accessed January 25, 2022.
2. Abdi S. Complex regional pain syndrome in adults: Treatment, prognosis, and prevention. UpToDate. www.uptodate.com. Published January 21, 2022. Accessed January 25, 2022.
3. American Association of Neurological Surgeons. Spinal Cord Stimulation. <https://www.aans.org/en/Patients/Neurosurgical-Conditions-and-Treatments/Spinal-Cord-Stimulation>. Accessed January 25, 2022.
4. American Society of Anesthesiologists Task Force on Chronic Pain Management; American Society of Regional Anesthesia and Pain Medicine. Practice guidelines for chronic pain management: an updated report by the American Society of Anesthesiologists Task Force on Chronic Pain Management and the American Society of Regional Anesthesia and Pain Medicine. *Anesthesiology*. 2010;112(4):810-833. doi:10.1097/ALN.0b013e3181c43103
5. Cho JH, Lee JH, Song KS, et al. Treatment Outcomes for Patients with Failed Back Surgery. *Pain Physician*. 2017;20(1):E29-E43.
6. de Jongste MJ, Hautvast RW, Hillege HL, Lie KI. Efficacy of spinal cord stimulation as adjuvant therapy for intractable angina pectoris: a prospective, randomized clinical study. Working Group on Neurocardiology. *J Am Coll Cardiol*. 1994;23(7):1592-1597. doi:10.1016/0735-1097(94)90661-0
7. de Vos CC, Meier K, Zaalberg PB, et al. Spinal cord stimulation in patients with painful diabetic neuropathy: a multicentre randomized clinical trial. *Pain*. 2014;155(11):2426-2431. doi:10.1016/j.pain.2014.08.031
8. Hayes Medical Technology Directory. Electrical Spinal Cord Stimulation for the Treatment of Intractable Angina Pectoris. Hayesinc.com October 2014. Annual review September 13, 2017. Archived November 22, 2019.
9. Health technology assessment: Spinal cord stimulation for relief of neuropathic pain. Hayes. www.hayesinc.com. Published December 21, 2018 (annual review April 26, 2021). Accessed January 25, 2022.
10. McKenzie-Brown AM, Pritzlaff SG. Spinal cord stimulation: Placement and management. UpToDate. www.uptodate.com. Published January 11, 2022. Accessed January 25, 2022.
11. Petrakis IE, Sciacca V. Does autonomic neuropathy influence spinal cord stimulation therapy success in diabetic patients with critical lower limb ischemia? *Surg Neurol*. 2000;53(2):182-189. doi:10.1016/s0090-3019(99)00182-2
12. Simmons M, Laham RJ. New therapies for angina pectoris. UpToDate. www.uptodate.com. Published September 28, 2020. Accessed January 25, 2022.

13. Slangen R, Schaper NC, Faber CG, et al. Spinal cord stimulation and pain relief in painful diabetic peripheral neuropathy: a prospective two-center randomized controlled trial. *Diabetes Care*. 2014;37(11):3016-3024. doi:10.2337/dc14-0684
14. Tsigaridas N, Naka K, Tsapogas P, Pelechas E, Damigos D. Spinal cord stimulation in refractory angina. A systematic review of randomized controlled trials. *Acta Cardiol*. 2015;70(2):233-243. doi:10.1080/ac.70.2.3073516
15. Ubbink DT, Vermeulen H. Spinal cord stimulation for non-reconstructable chronic critical leg ischaemia. *Cochrane Database Syst Rev*. 2003;(3):CD004001. doi:10.1002/14651858.CD004001
16. van Beek M, Slangen R, Schaper NC, et al. Sustained Treatment Effect of Spinal Cord Stimulation in Painful Diabetic Peripheral Neuropathy: 24-Month Follow-up of a Prospective Two-Center Randomized Controlled Trial. *Diabetes Care*. 2015;38(9):e132-e134. doi:10.2337/dc15-0740
17. Garcia K, Wray JK, Kumar S. Spinal Cord Stimulation. StatPearls. <https://www.ncbi.nlm.nih.gov/books/NBK553154/>. Published April 7, 2021. Accessed January 25, 2022.
18. Evidence analysis research brief: Peripheral nerve stimulation for treatment of chronic pain. Hayes. www.hayesinc.com. Published September 8, 2021. Accessed January 25, 2022.
19. Xu J, Sun Z, Wu J, et al. Peripheral nerve stimulation in pain management: a systematic review. *Pain Phys*. 2021;24:E131-E152.
20. Dodick DW, Silberstein SD, Reed KL, et al. Safety and efficacy of peripheral nerve stimulation of the occipital nerves for the management of chronic migraine: Long-term results from a randomized, multi-center, double-blinded, controlled study. *Cephalalgia*. 2015;35(4):344-358. doi:10.1177/0333102414543331
21. Chou, R. Subacute and chronic low back pain: Nonpharmacologic and pharmacologic treatment. UpToDate. www.uptodate.com. Updated November 11, 2021. Accessed January 13, 2022.
22. Bril V, England J, Franklin GM, et al. Evidence-based guideline: Treatment of painful diabetic neuropathy: report of the American Academy of Neurology, the American Association of Neuromuscular and Electrodiagnostic Medicine, and the American Academy of Physical Medicine and Rehabilitation [published correction appears in *Neurology*. 2011 Aug 9;77(6):603. Dosage error in article text]. *Neurology*. 2011;76(20):1758-1765. doi:10.1212/WNL.0b013e3182166ebe
23. Feldman E. Management of diabetic neuropathy. UpToDate. www.uptodate.com. Updated January 11, 2022. Accessed January 13, 2022.
24. Warner NS, Schaefer KK, Eldrige JS, et al. Peripheral Nerve Stimulation and Clinical Outcomes: A Retrospective Case Series. *Pain Pract*. 2021;21(4):411-418. doi:10.1111/papr.12968
25. National Institute for Care and Health Excellence. Percutaneous electrical nerve stimulation for refractory neuropathic pain. <https://www.nice.org.uk/guidance/ipg450>. Published March 27, 2013. Accessed January 14, 2022.
26. Deer TR, Esposito MF, McRoberts WP, et al. A Systematic Literature Review of Peripheral Nerve Stimulation Therapies for the Treatment of Pain. *Pain Med*. 2020;21(8):1590-1603. doi:10.1093/pm/pnaa030

27. Hayes Medical Technology Directory. Peripheral nerve field stimulation for treatment of chronic low back pain. www.hayesinc.com. Published April 22, 2021. Accessed January 14, 2022.
28. Rigoard P, Ounajim A, Goudman L, et al. The Added Value of Subcutaneous Peripheral Nerve Field Stimulation Combined with SCS, as Salvage Therapy, for Refractory Low Back Pain Component in Persistent Spinal Pain Syndrome Implanted Patients: A Randomized Controlled Study (CUMPNS Study) Based on 3D-Mapping Composite Pain Assessment. *J Clin Med*. 2021;10(21):5094. Published 2021 Oct 29. doi:10.3390/jcm10215094
29. Grider JS, Manchikanti L, Carayannopoulos A, et al. Effectiveness of Spinal Cord Stimulation in Chronic Spinal Pain: A Systematic Review. *Pain Physician*. 2016;19(1):E33-E54.
30. United States Food & Drug Administration. Senza Spinal Cord Stimulation System – P130022/S039. <https://www.fda.gov/medical-devices/recently-approved-devices/senza-spinal-cord-stimulation-system-p130022s039>. Published August 17, 2021. Accessed January 26, 2022.

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. LHCC 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.

The purpose of this clinical policy is to provide a guide to medical necessity, which is a component of the guidelines used to assist in making coverage decisions and administering benefits. It does not constitute a contract or guarantee regarding payment or results. Coverage decisions and the administration of benefits are subject to all terms, conditions, exclusions and limitations of the coverage documents (e.g., evidence of coverage, certificate of coverage, policy, contract of insurance, etc.), as well as to state and federal requirements and applicable LHCC administrative policies and procedures.

This clinical policy is effective as of the date determined by LHCC. 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. LHCC 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. This clinical policy is not intended to recommend treatment for members. Members should consult with their treating physician in connection with diagnosis and treatment decisions.

Providers referred to in this clinical policy are independent contractors who exercise independent judgment and over whom LHCC has no control or right of control. Providers are not agents or employees of LHCC.

This clinical policy is the property of LHCC. Unauthorized copying, use, and distribution of this clinical policy or any information contained herein are strictly prohibited. Providers, members and their representatives are bound to the terms and conditions expressed herein through the terms of their contracts. Where no such contract exists, providers, members and their representatives agree to be bound by such terms and conditions by providing services to members and/or submitting claims for payment for such services.

©2020 Louisiana Healthcare Connections. All rights reserved. All materials are exclusively owned by Louisiana Healthcare Connections and are protected by United States copyright law and international copyright law. No part of this publication may be reproduced, copied, modified, distributed, displayed, stored in a retrieval system, transmitted in any form or by any means, or otherwise published without the prior written permission of Louisiana Healthcare Connections. You may not alter or remove any trademark, copyright or other notice contained herein. Louisiana Healthcare Connections is a registered trademark exclusively owned by Louisiana Healthcare Connections.