



Brain, Spinal Cord, and Peripheral Nerve Stimulators

LOB(s): <input checked="" type="checkbox"/> Commercial <input checked="" type="checkbox"/> Medicare <input checked="" type="checkbox"/> Medicaid	State(s): <input checked="" type="checkbox"/> Idaho <input checked="" type="checkbox"/> Montana <input checked="" type="checkbox"/> Oregon <input checked="" type="checkbox"/> Washington <input type="checkbox"/> Other: <input checked="" type="checkbox"/> Oregon
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Enterprise Policy

PacificSource is committed to assessing and applying current regulatory standards, widely-used treatment guidelines, and evidenced-based clinical literature when developing clinical criteria for coverage determination. Each policy contains a list of sources (references) that serves as the summary of evidence used in the development and adoption of the criteria. The evidence was considered to ensure the criteria provide clinical benefits that promote patient safety and/or access to appropriate care. Each clinical policy is reviewed, updated as needed, and readopted, at least annually, to reflect changes in regulation, new evidence, and advancements in healthcare.

Clinical Guidelines are written when necessary to provide guidance to providers and members in order to outline and clarify coverage criteria in accordance with the terms of the Member's policy. This Clinical Guideline only applies to PacificSource Health Plans, PacificSource Community Health Plans, and PacificSource Community Solutions in Idaho, Montana, Oregon, and Washington. Because of the changing nature of medicine, this list is subject to revision and update without notice. This document is designed for informational purposes only and is not an authorization or contract. Coverage determinations are made on a case-by-case basis and subject to the terms, conditions, limitations, and exclusions of the Member's policy. Member policies differ in benefits and to the extent a conflict exists between the Clinical Guideline and the Member's policy, the Member's policy language shall control. Clinical Guidelines do not constitute medical advice nor guarantee coverage.

Background

Implantable neurostimulation devices are utilized to provide neurostimulation to manage chronic pain and non-pain neurologic indications, as follows:

- **Spinal Cord Stimulators** (dorsal column and dorsal root ganglion stimulators) - Implantable device which delivers electrical stimulation to spinal targets to help manage chronic pain. **See criteria outlined in Carelon Interventional Pain Management Guideline for Commercial and Medicare.**
- **Deep Brain Stimulation** - A neurosurgical procedure in which electrodes are implanted in targeted brain regions and connected to a subcutaneous pulse generator to deliver programmable electrical stimulation to manage specific neurologic symptoms.
- **Peripheral Nerve Stimulators** (also known as Peripheral Nerve Field Stimulation) - Implantable neuromodulation devices which deliver targeted electrical stimulation directly to specific peripheral nerves outside of the spinal canal to manage severe, refractory neuropathic pain. Unlike spinal cord stimulators, which modulate pain signaling at the level of dorsal columns or dorsal root ganglia within the spinal canal, peripheral nerve stimulators acts locally at the level of the affected nerve and is typically implemented using a temporary trial followed by permanent implantation when clinically beneficial.

Criteria

Commercial

Prior authorization is required.

I. Implanted Spinal Cord Stimulators (including dorsal column and dorsal root ganglion)

- A. PacificSource considers Implanted Spinal Cord Stimulators, Revisions, and needed Replacements to be medically necessary when the criteria outlined in Carelon Interventional Pain Management Guideline is met.

II. Deep Brain Stimulation

- A. PacificSource considers deep brain stimulation medically necessary when MCG criteria: Neurosurgery or Procedure GRG: SG-NS (ISC GRG) is met.

Note: See *Epilepsy Treatment policy* for Deep Brain Stimulation to treat epilepsy

III. Implanted Peripheral Nerve Stimulator

- A. PacificSource considers Sacral Nerve Stimulation medically necessary when MCG criteria: Implanted Electrical Stimulator ACG: A-0645 (AC) is met
- B. PacificSource considers Implanted Peripheral Nerve Stimulators to be medically necessary in a two-phase implementation when **ALL** of the following criteria is met:
 1. For Temporary (Trial) Implanted Peripheral Nerve Stimulator:
 - a. Member is 18 years of age or older
 - b. Member has chronic (generally greater than 3 months), severe, functionally limiting, localized peripheral neuropathic pain that is anatomically consistent with a specific peripheral nerve distribution (e.g., post-traumatic or post-surgical nerve pain (including post-amputation or stump-related pain) and documented by appropriate clinical evaluation
 - c. Failed pharmacotherapy management over a six-month period documented by use of **three (3)** from the following categories:
 - Topical Treatments (e.g., capsaicin and lidocaine)
 - Opioids
 - Antidepressants
 - Anti-epileptic (anticonvulsant) drugs
 - d. Evaluation and clearance by a mental health provider which revealed no evidence of a behavioral health diagnosis or diagnoses that are not adequately managed (e.g., alcohol or drug dependence, depression, psychosis)
 2. PacificSource considers Permanent Peripheral Nerve Stimulator to be medically necessary when **ALL** of the following criteria is met:
 - a. The member has met **ALL** the above trial criteria
 - b. The Peripheral Nerve Stimulator trial period was at least 24 hours long with a documented reduction in pain by at least 50%

c. Absent of any contraindications listed in Section C

C. Contraindications for Temporary **AND** Permanent Peripheral Nerve Stimulator, include but not limited to the following:

1. Uncontrolled or progressive neurological conditions that would pose a safety risk or interfere with appropriate device use
2. Presence of an implanted cardiac or electrical device that is incompatible with the peripheral nerve stimulation system, where device interaction cannot be safely mitigated
3. History of coagulopathy, severe thrombocytopenia and/or currently on anticoagulant or antiplatelet therapy

IV. Revision

PacificSource may consider revision(s) of all, or parts of, an existing Peripheral Nerve Stimulator medically necessary after the device has been placed, to allow for proper functioning of the device.

V. Replacement

PacificSource considers replacement of all, or parts of, an existing Peripheral Nerve Stimulator medically necessary when **ALL** of the following is met:

- A. Device is malfunctioning
- B. Device cannot be repaired
- C. Device is no longer under warranty

Medicaid

PacificSource Community Solutions (PCS) follows the general coverage, limitations, and exclusions outlined in OARs 410-141-3820, 410-141-3825, and 410-120-1200. Relevant coverage guidance, including but not limited to Guideline Notes 129, 192, 236, 237, and Excluded Services Guideline E2 of the Health Evidence Review Commission (HERC) Prioritized List of Health Services; as well as any applicable Oregon Administrative Rules (OARs) may be used to determine coverage of brain, spinal cord, and peripheral nerve stimulators.

PacificSource Community Solutions (PCS) follows the Early and Periodic Screening, Diagnostic, and Treatment (EPSDT) coverage requirements in OAR 410-151-0000 through 410-151-0003 for EPSDT beneficiaries. Relevant coverage guidance, including but not limited to Guideline Notes 129, 192, 236, 237, and Excluded Services Guideline E2 may be used to assist in informing a determination of medical necessity and medical appropriateness during the individual case review. A case-by-case review for EPSDT Medical Necessity and EPSDT Medical Appropriateness as defined in OAR 410-151-0001 is required prior to denying. Refer to the Early and Periodic Screening, Diagnostic, and Treatment (EPSDT) policy for details.

Medicare

PacificSource Medicare follows National Coverage Determination (NCD) 160.7 for Electrical Nerve Stimulators.

PacificSource Medicare follows National Coverage Determination (NCD) 160.7 and Local Coverage Determination (LCD) L34328 for peripheral nerve stimulation.

PacificSource Medicare follows National Coverage Determination (NCD) 160.24 for Deep Brain Stimulation for Essential Tremor and Parkinson's Disease.

Experimental/Investigational/Unproven

PacificSource considers peripheral nerve stimulation experimental, investigational, or unproven for all other indications.

PacificSource considers the restorative neurostimulation system (e.g., ReActiv8) to be experimental, investigational, or unproven.

PacificSource considers peripheral subcutaneous field stimulation (e.g., Sprint PNS System) to be experimental, investigational, or unproven.

Note: PacificSource Community Solutions (PCS) and PacificSource Medicare require items listed on this policy's E/I/U list, to be reviewed by medical necessity review guidelines. Please see related policy, "Clinical Criteria Used in UM Decisions" to review criteria hierarchy and "Medical Necessity Reviews" for determination of coverage and medical necessity guidelines.

Coding Information

The following list of codes are for informational purposes only and may not be all-inclusive. Deleted codes and codes which are not effective at the time the service is rendered may not be eligible for reimbursement.

- 61863 Twist drill, burr hole, craniotomy, or craniectomy with stereotactic implantation of neurostimulator electrode array in subcortical site (e.g., thalamus, globus pallidus, subthalamic nucleus, periventricular, periaqueductal gray), without use of intraoperative microelectrode recording; first array
- 61864 Twist drill, burr hole, craniotomy, or craniectomy with stereotactic implantation of neurostimulator electrode array in subcortical site (e.g., thalamus, globus pallidus, subthalamic nucleus, periventricular, periaqueductal gray), without use of intraoperative microelectrode recording; each additional array (List separately in addition to primary procedure)
- 61867 Twist drill, burr hole, craniotomy, or craniectomy with stereotactic implantation of neurostimulator electrode array in subcortical site (e.g., thalamus, globus pallidus, subthalamic nucleus, periventricular, periaqueductal gray), with use of intraoperative microelectrode recording, first array
- 61868 Twist drill, burr hole, craniotomy, or craniectomy with stereotactic implantation of neurostimulator electrode array in subcortical site (e.g., thalamus, Globus pallidum, subthalamus nucleus, periventricular, periaqueductal gray), with use of intraoperative microelectrode recording; each additional array (List separately in addition to primary procedure)
- 61880 Revision or removal of intracranial neurostimulator electrodes
- 61885 Insertion or replacement of cranial neurostimulator pulse generator or receiver, direct or inductive coupling; with connection to a single electrode array

- 61886 Insertion or replacement of cranial neurostimulator pulse generator or receiver, direct or inductive coupling; with connection to 2 or more electrode arrays
- 61888 Revision or removal of cranial neurostimulator pulse generator or receiver
- 64553 Percutaneous implantation of neurostimulator electrode array; cranial nerve
- 64555 Percutaneous implantation of neurostimulator electrode array; peripheral nerve (excludes sacral nerve)
- 64561 Percutaneous implantation of neurostimulator electrode array; sacral nerve (transforaminal placement) including image guidance, if performed
- 64575 Open implantation of neurostimulator electrode array; peripheral nerve (excludes sacral nerve)
- 64581 Open implantation of neurostimulator electrode array; sacral nerve (transforaminal placement)
- 64585 Revision or removal of peripheral neurostimulator electrode array
- 64590 Insertion or replacement of peripheral, sacral, or gastric neurostimulator pulse generator or receiver, requiring pocket creation and connection between electrode array and pulse generator or receiver
- 64595 Revision or removal of peripheral, sacral, or gastric neurostimulator pulse generator or receiver, with detachable connection to electrode array
- 64999 Unlisted procedure, nervous system
- 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
- L8684 Radiofrequency transmitter (external) for use with implantable sacral root neurostimulator receiver for bowel and bladder management, replacement
- 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
- L8689 External recharging system for battery (internal) for use with implantable neurostimulator, replacement only
- L8695 External recharging system for battery (external) for use with implantable neurostimulator, replacement only

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Definitions

Essential tremors - A chronic neurological movement disorder characterized by bilateral action and postural tremor, most commonly affecting the hands and forearms, and occurring without other neurological signs such as rigidity or bradykinesia.

Fluoroscopy - Real-time X-ray imaging used to guide diagnostic or interventional procedures.

Neuropathic pain - Pain resulting from damage or dysfunction of the somatosensory nervous system.

Nociceptive pain - Pain resulting from actual or threatened tissue injury that activates peripheral pain receptors (nociceptors).

Paresthesia - An abnormal sensation, such as numbness, tingling, burning, or pins-and-needles, occurring with or without identifiable stimulus.

Visceral pain - Pain arising from or involving the internal organs, often described as deep, poorly localized discomfort.

Visual Analogue Scale (VAS) - A standardized tool used to measure pain intensity by having a patient rate pain along a continuous scale from no pain to worst imaginable pain.

Related Policies

Bariatric Surgery

Clinical Criteria Used in UM Decisions

Clinical Resources Used for Medical Necessity Determinations When No Other UM Clinical Criteria or Guideline Exists

Early and Periodic Screening, Diagnostic, and Treatment (EPSDT)

Epilepsy Surgery

Gastric Pacing and Gastric Electrical Stimulation (GES) for Gastroparesis

New and Emerging Technologies – Coverage Status

Sleep Disorder Treatment

Thalamotomy

Transcranial Magnetic Stimulation

References

Albanese, A., Asmus, F., Bhatia, K. P., Elia, A. E., Elibol, B., Filippini, G., Gasser, T., Krauss, J. K., Nardocci, N., Newton, A., & Valls-Solé, J. (2011). EFNS guidelines on diagnosis and treatment of primary dystonias. *European journal of neurology*, 18(1), 5–18. <https://doi.org/10.1111/j.1468-1331.2010.03042.x>

Carelon. Current Musculoskeletal Guidelines: Interventional Pain Management. <https://guidelines.carelonmedicalbenefitsmanagement.com/current-musculoskeletal-guidelines/>

Centers for Medicare & Medicaid Services (CMS). National Coverage Determination: Deep Brain Stimulation for Essential Tremor and Parkinson's Disease (NCD 160.24).

<https://www.cms.gov/medicare-coverage-database/view/ncd.aspx?ncdid=279&ncdver=1&keyword=deep%20brain&keywordType=starts&areald=s18&docType=NCA,CAL,NCD,MEDCAC,TA,MCD,6,3,5,1,F,P&contractOption=all&sortBy=relevance&bc=1>

Centers for Medicare & Medicaid Services (CMS). National Coverage Determination: Electrical Nerve Stimulators (NCD 106.7) <http://www.cms.gov/medicare-coverage-database/details/ncd-details.aspx?NCDId=240&ncdver=1&DocID=160.7&SearchType=Advanced&bc=IAAABAAAAAA&>

Deer, T. R., Lamer, T. J., Pope, J. E., Falowski, S. M., Provenzano, D. A., Slavin, K. V., ... Mekhail, N. (2017). The Neurostimulation Appropriateness Consensus Committee (NACC) safety guidelines for the reduction of severe neurological injury. *Neuromodulation: Technology at the Neural Interface*, 20(1), 15–30. <https://doi.org/10.1111/ner.12564>

Deer, T. R., Pope, J. E., Lamer, T. J., Grider, J. S., Provenzano, D., Lubenow, T. R., FitzGerald, J. J., Hunter, C., Falowski, S., Sayed, D., Baranidharan, G., Patel, N. K., Davis, T., Green, A., Pajuelo, A., Epstein, L. J., Harned, M., Liem, L., Christo, P. J., Chakravarthy, K., ... Mekhail, N. (2019). The Neurostimulation Appropriateness Consensus Committee on Best Practices for Dorsal Root Ganglion Stimulation. *Neuromodulation: journal of the International Neuromodulation Society*, 22(1), 1–35. <https://doi.org/10.1111/ner.12845>

Deer, T. R., Russo, M., Grider, J. S., Sayed, D., Lamer, T. J., Dickerson, D. M., ... Levy, R. M. (2024). Recommendations for spinal cord stimulation long-term outcome optimization and salvage therapy: A Neurostimulation Appropriateness Consensus Committee (NACC) publication. *Neuromodulation*. <https://doi.org/10.1016/j.neurom.2024.04.006>

Duarte, R. V., Nevitt, S., Copley, S., Maden, M., de Vos, C. C., Taylor, R. S., & Eldabe, S. (2022). Systematic Review and Network Meta-analysis of Neurostimulation for Painful Diabetic Neuropathy. *Diabetes care*, 45(10), 2466–2475. <https://doi.org/10.2337/dc22-0932>

Feldman, E. (August 30, 2022). Management of Diabetic Neuropathy. UpToDate.

Gaurav Gupta, M. D. (October 24, 2022). Spinal cord stimulation. Background, Indications, Contraindications. Retrieved April 4, 2023, from <https://emedicine.medscape.com/article/1980819-overview#a4>

Helm, S., Shirsat, N., Calodney, A., Abd-Elsayed, A., Kloth, D., Soin, A., Shah, S., & Trescot, A. (2021). Peripheral Nerve Stimulation for Chronic Pain: A Systematic Review of Effectiveness and Safety. *Pain and therapy*, 10(2), 985–1002. <https://pubmed.ncbi.nlm.nih.gov/34478120/>

Huygen, F., Kallewaard, J. W., Nijhuis, H., Liem, L., Vesper, J., Fahey, M. E., Blomme, B., Morgalla, M. H., Deer, T. R., & Capobianco, R. A. (2020). Effectiveness and Safety of Dorsal Root Ganglion Stimulation for the Treatment of Chronic Pain: A Pooled Analysis. *Neuromodulation: journal of the International Neuromodulation Society*, 23(2), 213–221.

Kalia, L. V., & Lang, A. E. (2015). Parkinson's disease. *Lancet (London, England)*, 386(9996), 896–912.

Kim, H. J., & Jeon, B. (2021). Arching deep brain stimulation in dystonia types. *Journal of neural transmission* (Vienna, Austria : 1996), 128(4), 539–547.

Kramer, J., Liem, L., Russo, M., Smet, I., Van Buyten, J. P., & Huygen, F. (2015). Lack of body positional effects on paresthesias when stimulating the dorsal root ganglion (DRG) in the treatment of chronic pain. *Neuromodulation: journal of the International Neuromodulation Society*, 18(1), 50–57.

Latif, U., Moghim, R., Valimahomed, A., Lam, C. M., Abd-Elsayed, A., Gulati, A., ... Deer, T. R. (2025). Consensus guidelines for the use of peripheral nerve stimulation in the treatment of chronic pain and neurological diseases: A NEURON project from the American Society of Pain and Neuroscience. *Journal of Pain Research*, 18, 5949–5990. <https://doi.org/10.2147/JPR.S537222>

Levy, R. M., Mekhail, N., Kramer, J., Poree, L., Amirdelfan, K., Grigsby, E., Staats, P., Burton, A. W., Burgher, A. H., Scowcroft, J., Golovac, S., Kapural, L., Paicius, R., Pope, J., Samuel, S., McRoberts, W. P., Schaufele, M., Kent, A. R., Raza, A., & Deer, T. R. (2020). Therapy Habituation at 12 Months: Spinal Cord Stimulation Versus Dorsal Root Ganglion Stimulation for Complex Regional Pain Syndrome Type I and II. *The journal of pain*, 21(3-4), 399–408. <https://doi.org/10.1016/j.jpain.2019.08.005>

Madineni, R. A., Smith, C. M., Clark, S. W., Boorman, D. W., Wu, C., Wang, D., Harrop, J. S., & Sharan, A. D. (2018). Effect of Preoperative Opioid Dosage on Postoperative Period After Thoracic Spinal Cord Stimulator Surgery. *Pain medicine* (Malden, Mass.), 19(4), 693–698. <https://doi.org/10.1093/pm/pnx250>

Manchikanti, L., Sanapati, M. R., Soin, A., Kaye, A. D., Kaye, A. M., Solanki, D. R., ... Hirsch, J. A. (2024). Comprehensive evidence-based guidelines for implantable peripheral nerve stimulation in the management of chronic pain. *Pain Physician*, 27(Suppl), S115–S191. <https://www.painphysicianjournal.com/current/pdf?article=NzkwNw%3D%3D&journal=165>

MCG. Implanted Electrical Stimulator, Spinal Cord, A-0243 (AC).

MCG. Neurosurgery or Procedure GRG: SG-NS (ISC-GRG)

Moro, E., Schüpbach, M., Wächter, T., Allert, N., Eleopra, R., Honey, C. R., Rueda, M., Schiess, M. C., Shimo, Y., Valkovic, P., Whone, A., & Stoevelaar, H. (2016). Referring Parkinson's disease patients for deep brain stimulation: a RAND/UCLA appropriateness study. *Journal of neurology*, 263(1), 112–119.

National Institute for Health and Care Excellence (NICE). (March 2013). Percutaneous electrical nerve stimulation for refractory neuropathic pain (HealthTech guidance HTG308). <https://www.nice.org.uk/guidance/htg308>

Nazzaro, J. M., Lyons, K. E., & Pahwa, R. (2013). Deep brain stimulation for essential tremor. *Handbook of clinical neurology*, 116, 155–166.

North, R. B., Calodney, A., Bolash, R., Slavin, K. V., Creamer, M., Rauck, R., Vahedifar, P., Fox, I., Özaktay, C., Panchal, S., & Vanquathem, N. (2020). Redefining Spinal Cord Stimulation "Trials": A Randomized Controlled Trial Using Single-Stage Wireless Permanent Implantable Devices. *Neuromodulation: journal of the International Neuromodulation Society*, 23(1), 96–101. <https://doi.org/10.1111/ner.12970>

Oregon Health Authority. Oregon Administrative Rules (OARs). Health Systems: Medical Assistance Programs – Chapter 410

<https://secure.sos.state.or.us/oard/displayChapterRules.action?selectedChapter=87>

Oregon Health Plan. The Health Evidence Review Commission (HERC) Prioritized List of Health Services <https://www.oregon.gov/oha/HSD/OHP/Pages/Prioritized-List.aspx>

Rock, A. K., Truong, H., Park, Y. L., & Pilitsis, J. G. (2019). Spinal Cord Stimulation. *Neurosurgery clinics of North America*, 30(2), 169–194. <https://doi.org/10.1016/j.nec.2018.12.003>

Sayed, D., Foster, J., Nairizi, A., Sills, S., & Miller, A. (2020). 10 kHz High-Frequency Spinal Cord Stimulation for Chronic Thoracic Pain: A Multicenter Case Series and a Guide for Optimal Anatomic Lead Placement. *Pain physician*, 23(4), E369–E376. <https://pubmed.ncbi.nlm.nih.gov/32709183/>

symplr Evidence Analysis (formerly Hayes Knowledge Center). (May 30, 2025). Health Technology Assessment: Percutaneous Peripheral Nerve Stimulation for Treatment of Chronic Pain. <https://evidence.hayesinc.com/report/hta.pns5224>

symplr Evidence Analysis (formerly Hayes Knowledge Center). (March 27, 2023). Health Technology Assessment: Spinal Cord Stimulation for Relief of Neuropathic Pain. <https://evidence.hayesinc.com/report/ar.584scspain>

symplr Evidence Analysis (formerly Hayes Knowledge Center). (December 31, 2023). Health Technology Assessment: Dorsal Root Ganglion Stimulation For the Treatment of Complex Regional Pain Syndrome. Available at: <https://evidence.hayesinc.com/report/htb.drgcrps4164>

Torre-Amione, G., Alo, K., Estep, J. D., Valderrabano, M., Khalil, N., Farazi, T. G., Rosenberg, S. P., Ness, L., & Gill, J. (2014). Spinal cord stimulation is safe and feasible in patients with advanced heart failure: early clinical experience. *European journal of heart failure*, 16(7), 788–795. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6321984/>

Westrup, A. M., & Conner, A. K. (2021). Percutaneous Thoracic Spinal Cord Stimulator Placement. *Cureus*, 13(3), e13916. <https://doi.org/10.7759/cureus.13916>

Whiting, B. B., Whiting, A. C., & Whiting, D. M. (2018). Thalamic Deep Brain Stimulation. *Progress in neurological surgery*, 33, 198–206.

Appendix

Policy Number:

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Policy type: Enterprise

Author(s):

Depts: Health Services

Applicable regulation(s): 42 CFR § 422.101(b-c); Oregon Administrative Rules 410-141-3820, 410-141-3825, 410-151-0001, 410-151-0002, 410-151-0003, 410-120-1200

OPs Approval: 4/2026