



Epilepsy Surgery

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 <input type="checkbox"/> Washington
--	---

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

Epilepsy is a brain disorder that causes recurring, unprovoked seizures. Epilepsy may occur as a result of a genetic disorder or an acquired brain injury, such as a trauma or stroke. During a seizure, sudden, temporary, bursts of electrical activity in the brain that change or disrupt the way messages are sent between brain cells occur resulting in involuntary changes in body movement or function, sensation, behavior, or awareness and can cause loss of consciousness.

Epilepsy is one of the most common neurological disorders in the United States and has a prevalence of approximately 3 million adults. Management generally involves antiepileptic drugs, but for some patients, seizures are uncontrolled by medical therapy. For patients with focal seizure disorders, more invasive interventions might be warranted. Laser interstitial thermal therapy (LITT) and Responsive Neurostimulation (RNS) are potentially alternative treatment options.

Laser interstitial thermal therapy is indicated for use to necrotize or coagulate soft tissue through interstitial irradiation or thermal therapy under magnetic resonance imaging (MRI) guidance. Laser interstitial thermal therapy can be used for medically refractory epileptic seizures as an alternative to open brain surgery.

Responsive Neurostimulation (RNS) is for the treatment of drug-resistant refractory focal Epilepsy. The RNS System uses a neurostimulator that is seated in the skull and connected to lead wires with

electrodes that are implanted in the brain to monitor and respond to brain activity to attempt to prevent seizures at the source of the seizure.

Criteria

Commercial

Prior authorization is required

I. Laser Interstitial Thermal Therapy

PacificSource considers Laser Interstitial Thermal Therapy to be medically necessary when **ALL** of the following criteria is met:

- A. Diagnosis of lesional Mesial Temporal Lobe Epilepsy (MTLE)
- B. Documented seizure activity refractory to at least two (2) anti-epileptic drugs for three (3) months
- C. Member is **NOT** a candidate for resective epileptic surgery
- D. Member does not have either of the following contraindications:
 - 1. An implanted device that contraindicates MRI
 - 2. Progressive brain lesions and/or tumors not associated with epilepsy

II. Insertion of Responsive Neurostimulation (RNS)

PacificSource considers Responsive Neurostimulation (RNS) to be medically necessary when **ALL** of the following criteria is met:

- A. Member is 18 years of age or older
- B. Diagnosis of focal epilepsy
- C. Member experiences 3 or more seizures per month within prior 3 months
- D. Refractory to 2 or more antiepileptic medications
- E. Diagnostic testing found no more than two localized epileptogenic foci
- F. Individual is not a candidate for focal resection epilepsy surgery
- G. Individual is not a candidate for Vagus nerve stimulation

III. Revision or Replacement of Responsive Neurostimulation (RNS)

PacificSource considers revision or replacement of an implanted Responsive Neurostimulator (RNS) to be medically necessary when the insertion criteria above is met.

Medicaid

PacificSource Community Solutions (PCS) follows Guideline notes 14 and 221 of the Oregon Health Plan (OHP) OHP Prioritized list of Health Services for treatment of refractory epilepsy.

Medicare

PacificSource Medicare follows CMS guidelines and criteria. In the absence of CMS guidelines and criteria, PacificSource Medicare will follow internal policy for determination of coverage and medical necessity.

Experimental/Investigational/Unproven

PacificSource considers Laser Interstitial Thermal Therapy to be experimental, investigational, or unproven for any neurological indication not listed above and including, but not limited to the following:

- Treatment of primary or metastatic brain tumors
- Radiation necrosis of the brain

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.

- 61736 Laser interstitial thermal therapy (LITT) of lesion, intracranial, including burr hole(s), with magnetic resonance imaging guidance, when performed; single trajectory for 1 simple lesion
- 61737 Laser interstitial thermal therapy (LITT) of lesion, intracranial, including burr hole(s), with magnetic resonance imaging guidance, when performed; multiple trajectories for multiple or complex lesion(s)
- 61850 Twist drill or burr hole(s) for implantation of neurostimulator electrodes, cortical
- 61860 Craniectomy or craniotomy for implantation of neurostimulator electrodes, cerebral, cortical
- 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
- 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
- 61889 Insertion of skull-mounted cranial neurostimulator pulse generator or receiver, including craniectomy or craniotomy, when performed, with direct or inductive coupling, with connection to depth and/or cortical strip electrode array(s)
- 61891 Revision or replacement of skull-mounted cranial neurostimulator pulse generator or receiver with connection to depth and/or cortical strip electrode array(s)
- 61892 Removal of skull-mounted cranial neurostimulator pulse generator or receiver with cranioplasty, when performed
- 64999 Unlisted procedure, nervous system
- C1767 Generator, neurostimulator (implantable), nonrechargeable:
- 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 Radiofrequency transmitter (external) for use with implantable neurostimulator radiofrequency receiver
- 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

CPT® codes, descriptions and materials are copyrighted by the American Medical Association (AMA).

HCPCS® codes, descriptions and materials are copyrighted by Centers for Medicare and Medicaid Services (CMS).

Definitions

Epilepsy - a neurological disorder marked by sudden recurrent episodes of sensory disturbance, loss of consciousness, or convulsions, associated with abnormal electrical activity in the brain

Focal Epilepsy - Seizures that begin in one area of the brain and area of origin may be identifiable by the provider

Mesial temporal lobe epilepsy (MTLE) - a seizure disorder in which the individual has lesions (abnormal tissue) involving the medial or internal structures of the temporal lobe of the brain

References

- Cascino, G. (2022, November 11). *Surgical treatment of epilepsy in adults*. UpToDate. https://www.uptodate.com/contents/surgical-treatment-of-epilepsy-in-adults?search=Laser+Interstitial+Thermal+Therapy&source=search_result&selectedTitle=1~150&usage_type=default&display_rank=1
- Barnett, G. H., Voigt, J. D., & Alhuwalia, M. S. (2016). A Systematic Review and Meta-Analysis of Studies Examining the Use of Brain Laser Interstitial Thermal Therapy versus Craniotomy for the Treatment of High-Grade Tumors in or near Areas of Eloquence: An Examination of the Extent of Resection and Major Complication Rates Associated with Each Type of Surgery. *Stereotactic and functional neurosurgery*, 94(3), 164–173. <https://doi.org/10.1159/000446247>
- Epilepsy Foundation of America. (2019, April 23). Epilepsy Foundation, what is responsive Neurostimulation? <https://www.epilepsy.com/article/2019/4/what-responsive-neurostimulation>
- Epilepsy Foundation. (2020). FDA approves Responsive Neurostimulation therapy by NeuroPace. Epilepsy Foundation of America. <https://www.epilepsy.com/release/2014/3/fda-approves-responsive-neurostimulation-therapy-neuropace>
- Epilepsy Foundation. (2017, May 31). *Neurostimulation in the Treatment of Epilepsy*. <https://www.epilepsy.com/article/2017/5/neurostimulation-treatment-epilepsy>
- Hartshorn, A., Jobst, B. (2018) Responsive brain stimulation in epilepsy. *Therapeutic Advances in Chronic Disease*. *US National Library of Medicine*. 9(7): 135-142. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6009082/>
- Hayes Knowledge Center. (2023, January 20). Health Technology Assessment: Laser Interstitial Thermal Therapy for Refractory Temporal Lobe Epilepsy <https://evidence.hayesinc.com/report/dir.visualase3020>
- Hayes Knowledge Center. (2023, August 30). Evolving Evidence Review. NeuroPace RNS System (NeuroPace Inc.) for Treatment of Drug-Resistant Epilepsy. <https://evidence.hayesinc.com/report/eer.neuropace4823>
- LaRiviere, M. J., & Gross, R. E. (2016). Stereotactic Laser Ablation for Medically Intractable Epilepsy: The Next Generation of Minimally Invasive Epilepsy Surgery. *Frontiers in surgery*, 3, 64. <https://doi.org/10.3389/fsurg.2016.00064>
- Leggett, L.E., Coward, S., Sevick, L.K., Zhang, D., Mackean, G., Lornzetti, D., Clement, F. (January 27, 2016). Laser interstitial thermal therapy for treating intracranial lesions and epilepsy: a health technology assessment and policy analysis, The Health Technology Assessment Unit University of Calgary. <http://www.crd.york.ac.uk/crdweb/Showrecord.asp?LinkFrom=OAI&ID=32016000764>
- McCracken, D. J., Willie, J. T., Fernald, B. A., Saindane, A. M., Drane, D. L., Barrow, D. L., & Gross, R. E. (2016). Magnetic Resonance Thermometry-Guided Stereotactic Laser Ablation of Cavernous Malformations in Drug-Resistant Epilepsy: Imaging and Clinical Results. *Operative neurosurgery (Hagerstown, Md.)*, 12(1), 39–48. <https://doi.org/10.1227/NEU.0000000000001033>
- NEUROPACE, Neurosurgery Codes (2019, January 1). NeuroPace, Inc. https://www.neuropace.com/wp-content/uploads/2019/01/NPM_NeuroSurgery-Coding2019_R3_V1-CS.pdf

Patel, P., Patel, N. V., & Danish, S. F. (2016). Intracranial MR-guided laser-induced thermal therapy: single-center experience with the Visualase thermal therapy system. *Journal of neurosurgery*, 125(4), 853–860. <https://doi.org/10.3171/2015.7.JNS15244>

Pruitt, R., Gamble, A., Black, K., Schulder, M., & Mehta, A. D. (2017). Complication avoidance in laser interstitial thermal therapy: lessons learned. *Journal of neurosurgery*, 126(4), 1238–1245. <https://doi.org/10.3171/2016.3.JNS152147>

School of Medicine Neurological Surgery, University of Pittsburgh (2020). Responsive Neurostimulation. *Neurological Surgery*. <https://www.neurosurgery.pitt.edu/centers/epilepsy/responsive-neurostimulation>

Sirven, J., & Shafer, P. (n.d.). *Drug-resistant seizures*. Epilepsy Foundation. <https://www.epilepsy.com/what-is-epilepsy/seizure-types/drug-resistant-seizures>

Sirven, JI (2023) Evaluation and management of drug-resistant epilepsy. *UpToDate*. Retrieved July 3, 2023, from <https://www.uptodate.com/contents/evaluation-and-management-of-drug-resistant-epilepsy>

Skarpaas, T., Jarosiewicz, B., Morrell, M.J. (2019) Brain-responsive Neurostimulation for Epilepsy (RNS® System) *National Library of Medicine* Jul;153:68-70. <https://pubmed.ncbi.nlm.nih.gov/30850259/>

U.S. Food and Drug Administration, Visualase Thermal therapy System, 510 (k) Premarket Notification <https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfpmn/pmn.cfm?ID=K081656>

Vogelbaum, M., Brown, P., Messersmith, H., Brastianos, P., Burri, S., Cahall, D., et al. Treatment for Brain Metastases: ASO-SNO-ASTRO Guideline. *Journal of Clinical Oncology* 40, no 5. (February 10, 2022) 492-516. <https://doi.org/10.1200/JCO.21.02314>

Waseem, H., Vivas, A. C., & Vale, F. L. (2017). MRI-guided laser interstitial thermal therapy for treatment of medically refractory non-lesional mesial temporal lobe epilepsy: Outcomes, complications, and current limitations: A review. *Journal of clinical neuroscience: official journal of the Neurosurgical Society of Australasia*, 38, 1–7. <https://doi.org/10.1016/j.jocn.2016.12.002>

Washington State Health Care Authority, Health Technology Reviews, 2020. <https://www.hca.wa.gov/about-hca/health-technology-assessment/health-technology-reviews>

Appendix

Policy Number:

Effective: 2/1/2021

Next review: 8/1/2024

Policy type: Enterprise

Author(s):

Depts: Health Services

Applicable regulation(s): (OAR) 410-120-1320, 410-141-3820 to 3830

Commercial Ops: 2/2024

Government Ops: 2/2024