**02-20000-41**

**Original Effective Date: 01/15/13**

**Reviewed: 06/25/26**

**Revised: 07/15/26**

# Subject: Surgical Treatment of Occipital Neuralgia and Headache

**THIS MEDICAL COVERAGE GUIDELINE IS NOT AN AUTHORIZATION, CERTIFICATION, EXPLANATION OF BENEFITS, OR A GUARANTEE OF PAYMENT, NOR DOES IT SUBSTITUTE FOR OR CONSTITUTE MEDICAL ADVICE. ALL MEDICAL DECISIONS ARE SOLELY THE RESPONSIBILITY OF THE PATIENT AND PHYSICIAN. BENEFITS ARE DETERMINED BY THE GROUP CONTRACT, MEMBER BENEFIT BOOKLET, AND/OR INDIVIDUAL SUBSCRIBER CERTIFICATE IN EFFECT AT THE TIME SERVICES WERE RENDERED. THIS MEDICAL COVERAGE GUIDELINE APPLIES TO ALL LINES OF BUSINESS UNLESS OTHERWISE NOTED IN THE PROGRAM EXCEPTIONS SECTION.**


| | | | | | |
|---|---|---|---|---|---|
| Position Statement | Billing/Coding | Reimbursement | Program Exceptions | Definitions | Related Guidelines |
| Other | References | Updates | | | |


## DESCRIPTION:

**Occipital neuralgia** is a distinct type of headache described as piercing, throbbing, or jabbing chronic pain, in the distribution of the greater or lesser occipital nerves. It is characterized by pain in the cervical and posterior areas of the head, and may or may not radiate to the sides of the head, or into the facial and frontal areas. Typically, the pain of occipital neuralgia begins in the neck and then spreads upwards. Some individuals may also experience pain in the scalp, forehead, or behind the eyes. The pain is caused by irritation or injury to the nerves, e.g., trauma, inflammation, gout, diabetes, vasculitis and localized infections. In many cases, however, no cause can be found.

Treatments for occipital neuralgia range from rest, heat, massage, exercise, antidepressants, nerve blocks, neurectomy, cervical rhizotomy, surgical release of the occipital nerve within the trapezius to neurolysis of the great occipital nerve with or without section of the inferior oblique muscle. However, the effectiveness of many of the invasive procedures has not been firmly established.

Migraine is a common headache disorder with a prevalence in the United States of approximately 18% in women and 6% in men. **Migraine without aura** is a recurrent headache disorder manifesting in attacks that last 4 to 72 hours. Typical characteristics of the headache are unilateral location, pulsating quality, moderate or severe intensity, aggravation by routine physical activity, and association with nausea and/or photophobia and phonophobia. **Migraine with aura** is a recurrent headache disorder manifesting in attacks of reversible focal neurologic symptoms that usually develop gradually over 5 to 20 minutes and last for less than 60 minutes. Headache with the features of migraine without aura usually follows the aura symptoms.

A variety of medications are used to treat acute migraine episodes. These include medications that are taken at the outset of an attack to abort the attack, and medications to treat the pain and other symptoms of migraines once they are established. Another proposed treatment of migraine headaches is surgical deactivation of trigger sites. The procedure was developed by plastic surgeon Dr. Bahman Guyuron, following observations that some patients who had cosmetic forehead lifts often reported improvement or elimination of migraine symptoms post-surgery. The procedure is based on the theory that migraine headaches arise due to inflammation of trigeminal nerve branches in the head and neck caused by irritation of the surrounding musculature, bony foramen, and perhaps fascia bands.

**Tension headache** is the most common type of headache in adults. These headaches are commonly referred to as stress headaches. A tension headache may appear periodically ("episodic," less than 15 days per month) or daily ("chronic," more than 15 days per month). An episodic tension headache may be described as a mild to moderate constant band-like pain, tightness, or pressure around the forehead or back of the head and neck.

**Cluster headache** refers to a type of headache that recurs over a period of time. People who have cluster headaches experience an episode one to three times per day during a period of time (the cluster period), which may last from two weeks to three months. People who suffer from cluster headaches get them at the same time each year, such as the spring or fall. A cluster headache typically awakens a person from sleep one to two hours after going to bed. These nocturnal attacks can be more severe than the daytime attacks. Cluster headaches can be more intense than a migraine attack. The headaches may disappear completely (go into "remission") for months or years, only to recur.

**Cervicogenic headache (CGH)** is a relatively common and still controversial form of headache caused by disease or dysfunction of structures in the cervical spine (e.g., congenital anomalies of the cranio-vertebral junction such as basilar invagination, and atlanto-axial dislocation; injury of the ligaments, muscles, or joints of the neck). It can be triggered by vascular or scar tissue compression of the C2 root and ganglion as well as irritation of other upper cervical nerve roots (e.g., C3, C4). In patients with CGH, attacks or chronic fluctuating periods of neck/head pain may be provoked and/or worsened by sustained neck movements or stimulation of ipsilateral tender points. There are no diagnostic imaging techniques of the cervical spine and associated structures that can determine the exact source of pain.

**Summary and Analysis of Evidence:** Three RCTs have evaluated surgical deactivation of headache trigger sites [Guyuron et al (2005); Guyuron et al (2009); Omranifard et al (2016)]. One RCT was double-blind and sham-controlled and the other 2 did not use a sham control or blinded patients. All 3 reported statistically significantly better outcomes at 12 months in patients who received decompression surgery for migraine headache than the control intervention. However, the trials were subject to methodologic limitations (eg, variability in surgical procedures, the potential use of cointerventions, issues related to patient selection, outcome validation and measurement). In addition, in 2 trials patients were unblinded and findings subject to the placebo effect. Furthermore, all 3 were single-center and 2 were conducted by the same research group headed by the inventor of the procedure. Additional multicenter and sham controlled randomized studies are needed. The American Headache Society (2013) approved a list of 5 items that provide low value in headache medicine. This list was produced as part of the American Board of Internal Medicine Foundation's Choosing Wisely initiative. One of the 5 recommendations was: "Don't recommend surgical deactivation of migraine trigger points outside of a clinical trial." The 2013 document stated that the value of this procedure is still a research question and that large, multicenter randomized controlled trials with long-term follow-up are needed to provide accurate information on its benefits and harms. An UpToDate review "Cluster headache: Treatment and prognosis" (May, 2025) states, "Historically, a number of destructive surgical procedures have been used to treat chronic cluster headache. Procedures aimed at the sensory trigeminal nerve have targeted the trigeminal ganglion, supraorbital nerve, infraorbital nerve, and trigeminal root. Newer procedures have targeted the occipital nerves. Procedures directed at autonomic pathways have targeted the greater superficial petrosal nerve, nervus intermedius, and sphenopalatine ganglion. Surgical methods included radiofrequency thermocoagulation, glycerol ganglio-rhizolysis, alcohol injection, cocaine injection, gamma knife radiosurgery, and nerve sectioning. However, these treatments should be considered only with great caution because reliable long-term observational data are scarce and because complications have included trigeminal neuralgia, anesthesia dolorosa, hypesthesia, meningitis, and cerebrospinal fluid leak." Another UpToDate review "Cervicogenic headache" (Watson, 2025) states, "Evidence of efficacy for surgery for cervicogenic headache is limited to small retrospective studies. Surgical decompression and microsurgical neurolysis of the C2 spinal nerve were reported in one series of 31 patients who met clinical criteria for cervicogenic headache, including headache relief from diagnostic block of the C2 spinal nerve. Treatment was associated with complete pain relief in 14 patients (45 percent) and "adequate improvement" in 16 (52 percent). Intensification of pain and anesthesia dolorosa are potential adverse outcomes that must be considered when contemplating the use of surgical interventions." A review titled "Occipital neuralgia" (UpToDate; Garza, 2025) states, "Occipital nerve surgical decompression may benefit selected patients. In a small series of 11 patients with medically refractory occipital neuralgia,

decompression at the level of the semispinalis capitis and trapezial tunnel was associated with pain resolution in three, significant pain relief in six, and no pain improvement in two patients over a mean follow-up period of approximately 12 months. In another series of patients with occipital neuralgia, pain resolved in 6 of 11 patients at six months following surgical decompression; one patient failed to get relief. However, surgical decompression is not a routine therapeutic measure and should be reserved for use in a tertiary care center with expertise in peripheral nerve neurosurgery." Ortiz et al (2021) described the preoperative and postoperative medication use among patients undergoing trigger site deactivation. One-hundred sixty patients undergoing trigger site deactivation surgery between September 2012 and November 2017 were prospectively enrolled. Information on medication use, including type, dose, and frequency of use, was collected. Follow-up surveys were sent to all patients 12 months postoperatively. One-hundred twenty-nine patients met the inclusion criteria. At the time of screening, 96% of patients described taking prescription medication for their headache pain. The type of medication varied among patients but included preventative in 55%, abortive in 52%, rescue in 54%, and antiemetic in 18%. Thirty-one percent of patients reported using opioid medication for their headache pain. At 12 months postoperatively, 68% of patients reported decreased prescription medication use. Patients reported a 67% decrease in the number of days they took medication. Twenty-three percent stopped medications altogether. Fifty percent of patients reported that their migraine medication helped them more compared with preoperatively. The authors concluded "trigger site deactivation surgery has been associated with improvements in headache symptoms. We now show that it is also associated with a significant decrease in medication use." Limitations of this analysis included that it lacked a comparison group of individuals who did not undergo headache surgery, and 25% of study participants did not respond to the post-surgery follow-up survey.

## POSITION STATEMENT:

Surgical release, decompression, destruction or excision of cranial nerves, or manipulation, resection or repositioning of any muscle, soft tissue, or blood vessels is considered **experimental or investigational** for treatment of occipital neuralgia and all types of headache.

These interventions include, but are not limited to:

- Neurectomy
- Nerve root decompression/microdecompression
- Ganglionectomy
- Transposition/transection/avulsion/manipulation/respoitioning/resection of nerve, muscle or soft tissue
- Vascular ligation of superficial extracranial arteries
- Neuroplasty
- Rhizotomy

There is insufficient clinical evidence in the peer-reviewed literature to support the safety and effectiveness of these procedures.

## BILLING/CODING INFORMATION:

### CPT Coding:

There is no specific CPT code for this procedure but it may be reported using one of the following:

| | |
|---|---|
| 64716 | Neuroplasty and/or transposition; cranial nerve (specify) |
| 64722 | Decompression; unspecified nerve(s); specify |
| 64732 | Transection or avulsion of; supraorbital nerve |
| 64734 | Transection or avulsion of; infraorbital nerve |

| | |
|---|---|
| 64771 | Transection or avulsion of other cranial nerve, extradural |

## REIMBURSEMENT INFORMATION:

None applicable.

## PROGRAM EXCEPTIONS:

**Federal Employee Program (FEP):** Follow FEP guidelines.

**State Account Organization (SAO):** Follow SAO guidelines.

**Medicare Advantage:** No National Coverage Determination (NCD) and/or Local Coverage Determination (LCD) were found at the time of the last guideline reviewed date.

If this Medical Coverage Guideline contains a step therapy requirement, in compliance with Florida law 627.42393, members or providers may request a step therapy protocol exemption to this requirement if based on medical necessity. The process for requesting a protocol exemption can be found at Coverage Protocol Exemption Request

## DEFINITIONS:

None applicable.

## RELATED GUIDELINES:

**09-E0400, Oxygen**

**02-61000-06, Occipital Nerve Stimulation**

**02-61000-24, Deep Brain Stimulation and Responsive Neurostimulation**

## OTHER:

None applicable.

## REFERENCES:


1. Abd-Elsayed A, et al. Radiofrequency Ablation of Pericranial Nerves for Treating Headache Conditions: A Promising Option for Patients. Ochsner J. 2018 Spring;18(1):59-62.
2. American Academy of Neurological Surgeons (AANS). Occipital Neuralgia. February 2013. Accessed 09/04/13 at http://www.aans.org/Patient%20Information/Conditions%20and%20Treatments.aspx.
3. American Headache Society. American Headache Society Urges Caution in Using Any Surgical Intervention in Migraine Treatment (2012).
4. American Headache Society. (2019). The American Headache Society position statement on integrating new migraine treatments into clinical practice. Headache: The Journal of Head and Face Pain, 59(1), 1-18.
5. Assina R, Sarris CE, Mammis A. The history of craniotomy for headache treatment. Neurosurg Focus. 2014 Apr;36(4):E9.
6. Baldelli I, Mangialardi ML, Salgarello M, Raposio E. Peripheral Occipital Nerve Decompression Surgery in Migraine Headache. Plast Reconstr Surg Glob Open. 2020 Oct 14;8(10):e3019. doi: 10.1097/GOX.0000000000003019.

7. Blue Cross Blue Shield Association Evidence Positioning System®. 7.01.135 - Surgical Deactivation of Headache Trigger Sites, 03/26.
8. Bogduk N, Govind J. Cervicogenic headache: an assessment of the evidence on clinical diagnosis, invasive tests, and treatment. Lancet Neurol 2009; 8: 959–68.
9. Chepla KJ, et al. Clinical outcomes following supraorbital foraminotomy for treatment of frontal migraine headache. Plast Reconstr Surg. 2012 April; 129(4): 656e–662e.
10. Choi I, Jeon SR. Neuralgias of the Head: Occipital Neuralgia. J Korean Med Sci. 2016 Apr;31(4):479-88. doi: 10.3346/jkms.2016.31.4.479. Epub 2016 Mar 9.
11. ClinicalTrials.gov. Identifier NCT02351544: Prospective, Multi-Center Evaluation of the Efficacy of Peripheral Trigger Decompression Surgery for Migraine Headaches. Ohio State University, April 2018.
12. Diener HC, Bingel U. Surgical treatment for migraine: Time to fight against the knife. Cephalalgia. 2015 May;35(6):465-8.
13. Dirnberger F, Becker K. Surgical treatment of migraine headaches by corrugator muscle resection. Plast Reconstr Surg 2004; 114(3):652-7; discussion 58-9.
14. Ducic I, Hartmann EC, Larson EE. Indications and Outcomes for Surgical Treatment of Patients with Chronic Migraine Headaches Caused by Occipital Neuralgia. Plastic and Reconstructive Surgery • May 2009.
15. Guyuron B, Kriegler JS, Davis J, Amini SB. Comprehensive surgical treatment of migraine headaches. Plast Reconstr Surg. 2005 Jan;115(1):1-9.
16. Guyuron B, Reed D, Kriegler JS, Davis J, Pashmini N, Amini S. A placebo-controlled surgical trial of the treatment of migraine headaches. Plast Reconstr Surg. 2009 Aug;124(2):461-468. doi: 10.1097/PRS.0b013e3181adcf6a.
17. Hagan RR, Fallucco MA, Janis JE. Supraorbital Rim Syndrome: Definition, Surgical Treatment, and Outcomes for Frontal Headache. Plast Reconstr Surg Glob Open. 2016 Jul 12;4(7): e795.
18. Hong J, Roberts DW. The surgical treatment of headache. Headache. 2014 Mar;54(3):409-29.
19. InterQual® Clinical Evidence Summary: Headache (2013)
20. Janis JE, Barker JC, Javadi C, Ducic I, Hagan R, Guyuron B. A review of current evidence in the surgical treatment of migraine headaches. Plast Reconstr Surg. 2014 Oct;134(4 Suppl 2):131S-41S.
21. Jung SJ, et al. A Case of Occipital Neuralgia in the Greater and Lesser Occipital Nerves Treated with Neurectomy by Using Transcranial Doppler Sonography: Technical Aspects. Korean J Pain 2011 March; Vol. 24, No. 1: 48-52.
22. Li F, Ma Y, Zou J, Li Y, Wang B, Huang H, Wang Q, Li L. Micro-surgical decompression for greater occipital neuralgia. Turk Neurosurg. 2012;22(4):427-9.
23. Liu MT, Armijo BS, Guyuron B. A comparison of outcome of surgical treatment of migraine headaches using a constellation of symptoms versus botulinum toxin type A to identify the trigger sites. Plastic and reconstructive surgery 129.2 (2012): 413.
24. Loder E, Weizenbaum E, Frishberg B, et al. Choosing wisely in headache medicine: the American Headache Society's list of five things physicians and patients should question. Headache. Nov-Dec 2013;53(10):1651-1659.
25. Lucia Mangialardi M, Baldelli I, Salgarello M, Raposio E. Decompression Surgery for Frontal Migraine Headache. Plast Reconstr Surg Glob Open. 2020 Oct 15;8(10): e3084. doi: 10.1097/GOX.0000000000003084.
26. MBA, JD. Five-Year Outcome of Surgical Treatment of Migraine Headaches. Plastic and Reconstructive Surgery (2011).

27. National Institute of Neurological Disorders and Stroke (NINDS). National Institutes of Health (NIH). Occipital Neuralgia. Updated December 14, 2009. Accessed 11/01/13 at http://www.ninds.nih.gov/disorders/occipitalneuralgia/occipitalneuralgia.htm.

28. Omranifard M, Abdali H, Ardakani MR, Talebianfar M. A comparison of outcome of medical and surgical treatment of migraine headache: In 1 year follow-up. Adv Biomed Res. 2016 Jul 29; 5:121. doi: 10.4103/2277-9175.186994.

29. Ortiz R, Gfrerer L, Panzenbeck P, Hansdorfer MA, Austen WG Jr. Trigger Site Deactivation Surgery for Headaches is Associated with Decreased Postoperative Medication Use. Plast Reconstr Surg Glob Open. 2021 Jun 15;9(6):e3634. doi: 10.1097/GOX.0000000000003634.

30. Page P. Cervicogenic headaches: An evidence-led approach to clinical management. Int J Sports Phys Ther. 2011;6(3):254-66.

31. Park, Seung Won et al. The Effect of Radiofrequency Neurotomy of Lower Cervical Medial Branches on Cervicogenic Headache. Journal of Korean Neurosurgical Society 50.6 (2011): 507-511.

32. Peric A, Rasic D, Grgurevic U. Surgical Treatment of Rhinogenic Contact Point Headache: An Experience from a Tertiary Care Hospital. Int Arch Otorhinolaryngol. 2016 Apr;20(2):166-71.

33. Pietramaggiori G, Scherer S. Minimally Invasive Nerve- and Muscle-Sparing Surgical Decompression for Occipital Neuralgia. Plast Reconstr Surg. 2023 Jan 1;151(1):169-177. doi: 10.1097/PRS.0000000000009777. Epub 2022 Oct 18.

34. Racicki S, Gerwin S, Diclaudio S, Reinmann S, Donaldson M. Conservative physical therapy management for the treatment of cervicogenic headache: a systematic review. J Man Manip Ther. 2013 May;21(2):113-24.

35. Raposio G, Raposio E. Surgical therapy of occipital (Arnold) neuralgia: A case series. Ann Med Surg (Lond). 2022 Aug 6; 80:104237. doi: 10.1016/j.amsu.2022.104237.

36. Robinson IS, Salibian AA, Alfonso AR, Lin LJ, Janis JE, Chiu ES. Surgical Management of Occipital Neuralgia: A Systematic Review of the Literature. Ann Plast Surg. 2021 Mar 1;86(3S Suppl 2): S322-S331. doi: 10.1097/SAP.0000000000002766.

37. Sanniec K, Borsting E, Amirlak B. Decompression-Avulsion of the Auriculotemporal Nerve for Treatment of Migraines and Chronic Headaches. Plast Reconstr Surg Glob Open. 2016 Apr 13;4(4):e678.

38. Son BC. Decompression of the Greater Occipital Nerve for Occipital Neuralgia and Chronic Occipital Headache Caused by Entrapment of the Greater Occipital Nerve. J Neurol Surg A Cent Eur Neurosurg. 2022 Sep;83(5):461-470. doi: 10.1055/s-0041-1739228. Epub 2022 Jan 6. PMID: 34991172.

39. Son BC, Choi JG. Hemifacial Pain and Hemisensory Disturbance Referred from Occipital Neuralgia Caused by Pathological Vascular Contact of the Greater Occipital Nerve. Case Rep Neurol Med. 2017; 2017:3827369.

40. UpToDate. Cervicogenic headache. 2025. Accessed at uptodate.com.

41. UpToDate. Chronic daily headache: Associated syndromes, evaluation, and management. 2025. Accessed at uptodate.com

42. UpToDate. Cluster headache: Treatment and prognosis. 2025. Accessed at uptodate.com.

43. UpToDate. Occipital neuralgia. 2025. Accessed at uptodate.com.

44. UpToDate. Tension-type headache in adults: Acute treatment. 2025. Accessed at uptodate.com.

45. Vollesen AL, et al. Migraine and cluster headache - the common link. J Headache Pain. 2018 Sep 21;19(1):89. doi: 10.1186/s10194-018-0909-4.

46. WedMD. Tension headaches. Accessed at http://www.webmd.com/migraines-headaches/guide/tension-headaches on 10/26/12.

47. WebMD. Cluster headaches. Accessed at http://www.webmd.com/migraines-headaches/guide/cluster-headaches on 10/26/12.

48. Wei DY, Jensen RH. Therapeutic Approaches for the Management of Trigeminal Autonomic Cephalalgias. Neurotherapeutics. 2018 Apr;15(2):346-360. doi: 10.1007/s13311-018-0618-3.

## COMMITTEE APPROVAL:

This Medical Coverage Guideline (MCG) was approved by the Florida Blue Medical Policy and Coverage Committee on 06/25/26.

## GUIDELINE UPDATE INFORMATION:

| | |
|---|---|
| 01/15/13 | New Medical Coverage Guideline. |
| 12/15/13 | Scheduled review. Position statement maintained. Updated references. |
| 10/15/14 | Scheduled review. Position statement maintained. Revised CPT coding. Updated references. |
| 10/15/15 | Scheduled review. Position statement maintained. Updated references. |
| 11/15/16 | Scheduled review. Revised Description section. Position statement maintained. Updated references. |
| 11/15/17 | Scheduled review. Position statement maintained. Updated references. |
| 11/15/18 | Scheduled review. Maintained position statement and updated references. |
| 10/15/19 | Scheduled review. Maintained position statement and updated references. |
| 06/15/21 | Scheduled review. Maintained position statement and updated references. |
| 07/15/23 | Scheduled review. Maintained position statement and updated references. |
| 07/15/24 | Scheduled review. Revised description and maintained position statement. Updated references. |
| 07/15/25 | Scheduled review. Revised description, maintained position statement and updated references. |
| 07/15/26 | Annual review: Position statement maintained and references updated. |