02-61000-06

Original Effective Date: 02/15/10

Reviewed: 01/24/19 Revised: 02/15/19

Subject: Occipital Nerve Stimulation

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	<u>Definitions</u>	Related Guidelines
<u>Other</u>	References	<u>Updates</u>			

DESCRIPTION:

Occipital nerve stimulation (ONS) delivers a small electrical charge to the occipital nerve in an attempt to prevent migraines and other headaches in individuals who have not responded to medications. The device consists of a subcutaneously implanted pulse generator (in the chest wall or abdomen) attached to extension leads that are tunneled to join electrodes placed across one or both occipital nerves at the base of the skull. Continuous or intermittent stimulation may be used.

There are 4 types of headache: vascular, muscle contraction (tension), traction, and inflammatory.

Primary (not the result of another condition) chronic headache is defined as headache occurring more than 15 days of the month for at least 3 months.

Migraine is the most common type of vascular headache. Migraine headaches are usually characterized by severe pain on one or both sides of the head, an upset stomach, and, at times, disturbed vision. Migraine headaches may last a day or more and can strike as often as several times a week or as rarely as once every few years.

Hemicrania continua, also a vascular headache, causes moderate pain with occasional severe pain on only one side of the head. At least one of the following symptoms must also occur: conjunctival injection and/or lacrimation, nasal congestion and/or rhinorrhea, or ptosis and/or miosis. Headache occurs daily and is continuous with no pain-free periods

Cluster headache is a vascular headache that occurs in cyclical patterns or clusters of severe or very severe unilateral orbital or supraorbital and/or temporal pain. The headache is accompanied by at least one of the following autonomic symptoms: ptosis (drooping eyelid), conjunctival injection, lacrimation, rhinorrhea, and, less commonly, facial blushing, swelling, or sweating. Bouts of one headache every other day to 8 attacks per day may last from weeks to months, usually followed by remission periods when the headache attacks stop completely. During remission, no headaches occur for months, and sometimes even years. The intense pain is caused by the dilation of blood vessels, which creates pressure on the trigeminal nerve.

For individuals who have migraine headaches refractory to preventive medical management who receive occipital nerve stimulation, the evidence includes randomized controlled trials (RCTs), systematic reviews of RCTs, and observational studies. For individuals who have non-migraine headaches (eg, hemicrania continua, cluster headaches) who receive occipital nerve stimulation, the evidence includes case series. The evidence is insufficient to determine the effects of the technology on health outcomes.

POSITION STATEMENT:

The use of occipital nerve stimulation devices is considered **experimental or investigational** for all indications. There is insufficient clinical peer reviewed literature demonstrating the safety, efficacy, and the effects of occipital nerve stimulation on long-term health outcomes.

BILLING/CODING INFORMATION:

There is no specific CPT code for occipital nerve stimulation. The following codes may be used to describe occipital nerve stimulation.

CPT Coding:

0400=	
61885	Insertion or replacement of cranial neurostimulator pulse generator or receiver,
	direct or inductive coupling; with connection to a single electrode array
61886	with connection to 2 or more electrode arrays
64553	Percutaneous implantation of neurostimulator electrode array; cranial nerve
64568	Incision for implantation of cranial nerve (eg, vagus nerve) neurostimulator electrode array and pulse generator
64569	Revision or replacement of cranial nerve (eg, vagus nerve) neurostimulator
	electrode array, including connection to existing pulse generator
64570	Removal of cranial nerve (eg, vagus nerve) neurostimulator electrode array and pulse generator

REIMBURSEMENT INFORMATION:

Refer to sections entitled **POSITION STATEMENT**.

PROGRAM EXCEPTIONS:

Federal Employee Program (FEP): Follow FEP guidelines.

State Account Organization (SAO): Follow SAO guidelines.

Medicare Advantage products:

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

DEFINITIONS:

No guideline specific definitions apply.

RELATED GUIDELINES:

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

Vagus Nerve Stimulation, 02-61000-22

OTHER

None.

REFERENCES:

- AHRQ National Guideline Clearinghouse. Guideline Summary NGC-8263. Diagnosis and treatment of headache. Institute for Clinical Systems Improvement (ICSI). Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2011 Jan. 84 p.
- 2. American Academy of Physical Medicine and Rehabilitation. Knowledge NOW: Cervicogenic Headache. © 2011 Knowledge NOW. American Academy of Physical Medicine and Rehabilitation.
- 3. Blue Cross Blue Shield Association Medical Policy Reference Manual. Policy 7.01.125, Occipital Nerve Stimulation (April 2018).
- 4. Burns et al. Treatment of intractable chronic cluster headache by occipital nerve stimulation in 14 patients. Neurology. 2009 Jan 27;72 (4):341-5.
- 5. Burns et al. Treatment of medically intractable cluster headache by occipital nerve stimulation: long-term follow-up of eight patients. Lancet. 2007; 369: 1099-1106.
- Centers for Medicare and Medicaid Services (CMS) Manual System, Pub. 100-3, Manual Section 160.7.1. National Coverage Determination (NCD) for Assessing Patient's Suitability for ELECTRICAL NERVE STIMULATION Therapy, (06/19/06). Accessed 01/04/12.
- 7. Chen YF, et al. Occipital nerve stimulation for chronic migraine--a systematic review and meta-analysis. PLoS One. 2015 Mar 20;10(3):e0116786.
- 8. Choi I, Jeon SR. Neuralgias of the Head: Occipital Neuralgia. J Korean Med Sci. 2016 Apr;31(4):479-88.
- 9. ClinicalTrials.gov. Bion® for Occipital Nerve Stimulation. NCT00205829. Last updated 10/28/08.
- 10. ClinicalTrials.gov. Occipital Nerve Stimulation for the Treatment of Chronic Migraine Headache (ONSTIM). NCT00200109. Last updated 08/26/10.
- 11. ClinicalTrials.gov. Occipital Nerve Stimulation in Medically Intractable Chronic Cluster Headache (ICON). NCT01151631. Last updated 07/11/11 (Accessed 01/02/13).
- 12. ClinicalTrials.gov. Greater Occipital Nerve Block for Migraine Prophylaxis. NCT00915473. Last updated: September 13, 2012.
- 13. Deshpande KK, Wininger KL. Case Report: Feasibility of Combined Epicranial Temporal and Occipital Neurostimulation: Treatment of a Challenging Case of Headache. Pain Physician 2011; 14:37-44.
- 14. Falowski S, Wang D, Sabesan A, Sharan A. Occipital nerve stimulator systems: Review of complications and surgical techniques (2010). Department of Neurosurgery Faculty Papers. Paper 6. http://jdc.jefferson.edu/neurosurgeryfp/6.

- 15. Gaul C, Diener HC, Müller OM. Cluster headache—clinical features and therapeutic options. Dtsch Arztebl Int 2011; 108(33): 543–9.
- 16. Hayek SM, Jasper JF, Deer TR, Narouze SN. Occipital Neurostimulation-Induced Muscle Spasms: Implications for Lead Placement. Pain Physician 2009; 12:867-876.
- 17. Interqual® 2010 Clinical Evidence Summary: Headache. Copyright ©2010 McKesson Corporation.
- 18. Intergual® 2011 Clinical Evidence Summary: Headache. Copyright ©2011 McKesson Corporation.
- 19. InterQual® 2012 Clinical Evidence Summary: Headache. Copyright ©2012 McKesson Corporation.
- 20. Interventional Procedures Consultation: Occipital Nerve Stimulation for Intractable Headache. July 28, 2008. Last updated 03/30/10. Copyright © 2010 National Institute for Health and Clinical Excellence.
- 21. Interventional Procedures Overview: Occipital Nerve Stimulation for Intractable Headache. July 28, 2008. Last updated 03/30/10. Copyright © 2010 National Institute for Health and Clinical Excellence.
- 22. Jasper JF, Hayek SM. Implanted Occipital Nerve Stimulators. Systematic Review. Pain Physician. 2008 Mar-Apr; 11 (2):187-200. (Accessed 12/29/11).
- 23. Jenkins B, Tepper SJ. Neurostimulation for Primary Headache Disorders, Part 1: Pathophysiology and Anatomy, History of Neuromodulation in Headache Treatment, and Review of Peripheral Neuromodulation in Primary Headaches. Headache 2011;51:1254-1266.
- 24. Johnstone CSH Occipital nerve stimulation for the treatment of occipital neuralgia eight case studies. Neuromodulation. 2006; 9:41-47.
- 25. Kapural L, Mekhail N, Hayek SM, Stanton-Hicks M, Malak O. Occipital nerve electrical stimulation via the midline approach and subcutaneous surgical leads for treatment of severe occipital neuralgia: a pilot study. Anesth Analg. 2005 Jul; 101 (1):171-4.
- Kwak S, Chang MC. Management of refractory chronic migraine using ultrasound-guided pulsed radiofrequency of greater occipital nerve: Two case reports. Medicine (Baltimore). 2018 Nov;97(45):e13127.
- 27. Lambru G, Matharu MS. Occipital nerve stimulation in primary headache syndromes. Ther Adv Neurol Disord. 2012 January; 5(1): 57–67.
- 28. Magis D, Gérard P, Schoenen J. Invasive occipital nerve stimulation for refractory chronic cluster headache: what evolution at long-term? Strengths and weaknesses of the method. J Headache Pain. 2016;17:8. doi: 10.1186/s10194-016-0598-9. Epub 2016 Feb 16.
- 29. Mousavi SA, Mirbod SM, Khorvash F. Comparison between efficacy of imipramine and transcutaneous electrical nerve stimulation in the prophylaxis of chronic tension-type headache: a randomized controlled clinical trial. J Res Med Sci. 2011 July; 16(7): 923–927.
- 30. National Institute for Health and Clinical Excellence (NICE). Occipital nerve stimulation for intractable headache. Interventional Procedures Consultation. London, UK: NICE; July 2008.
- 31. National Institute for Health and Care Excellence (NICE). Interventional procedures guidance: Occipital nerve stimulation for intractable chronic migraine [IPG452]. London, UK: NICE; April 2013.
- 32. Schwedt et al. Occipital nerve stimulation for chronic headache long-term safety and efficacy. Cephalalgia. 2007; 26:1025-1027.
- 33. Serra G, Marchioretto F. Occipital Nerve Stimulation for Chronic Migraine: A Randomized Trial. Pain Physician 2012; 15:245-253.
- 34. Slavin et al. Peripheral neurostimulation for treatment of intractable occipital neuralgia. Neurosurgery. 2006 Jan;58(1):112-9.

- 35. Strand NH, Trentman TL, Vargas BB, Dodick DW. Occipital Nerve Stimulation with the Bion® Microstimulator for the Treatment of Medically Refractory Chronic Cluster Headache. Pain Physician 2011; 14:435-440.
- 36. Sweet JA, Mitchell LS, Narouze S, et al. Occipital nerve stimulation for the treatment of patients with medically refractory occipital neuralgia: Congress of Neurological Surgeons Systematic Review and Evidence-Based Guideline. Neurosurgery. Sep 2015;77(3):332-341. PMID 26125672.

COMMITTEE APPROVAL:

This Medical Coverage Guideline (MCG) was approved by the Florida Blue Medical Policy & Coverage Committee on 01/24/19.

GUIDELINE UPDATE INFORMATION:

02/15/10	New Medical Coverage Guideline.
02/15/11	Scheduled review; position statement unchanged. Revised description section; added CPT codes 61885, 61886, and 64553; updated references.
01/01/12	Annual HCPCS coding update. Revised 64553, 64555, 64575, 95970 and 95971 descriptors.
02/15/12	Scheduled review; position statement unchanged. Revised description section and updated references.
02/15/13	Scheduled review. Position statement maintained. Revised description and updated references.
01/01/14	Annual HCPCS update. Added L8679. Program Exceptions section updated.
11/01/15	Revision: ICD-9 Codes deleted.
02/15/19	Scheduled review. Position statement maintained. Revised description, CPT coding, HCPCS coding, and related guidelines. Updated references.