

Corporate Medical Policy

Occipital Nerve Stimulation

File Name: occipital_nerve_stimulation
Origination: 8/2010
Last Review: 5/2022

Description of Procedure or Service

Occipital nerve stimulation (ONS) delivers a small electrical charge to the occipital nerve in an attempt to prevent migraines and other headaches in patients 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 four 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 consecutive months. An estimated 45 million Americans experience chronic headaches. For at least half of these people, the problem is severe and sometimes disabling.

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. One- year prevalence of migraine ranges from 6%–15% in adult men and from 14%–35% in adult women. 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. Drug therapy for migraine is often combined with biofeedback and relaxation training. Sumatriptan and other triptans are commonly used for relief of symptoms. Drugs used to prevent migraine include amitriptyline, propranolol and other β -blockers, topiramate and other antiepileptic drugs, and verapamil.

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. Hemicrania continua occurs mainly in women, and its true prevalence is not known. Indomethacin usually provides rapid relief of symptoms. Other non-steroidal anti-inflammatory drugs (NSAIDs), including ibuprofen, celecoxib, and naproxen, can provide some relief from symptoms. Amitriptyline and other tricyclic antidepressants are effective in some patients.

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. The pattern varies from one person to another, but most people have one or two cluster periods a year. 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. While this process is the immediate cause of the pain, the etiology is not fully understood. It is more

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common in men than in women. One-year prevalence is estimated to be 0 to 1 in 1000. Management of cluster headache consists of abortive and preventive treatment. Abortive treatments include subcutaneous injection of sumatriptan, topical anesthetics sprayed into the nasal cavity, and strong coffee. Some patients respond to rapidly inhaled pure oxygen. A variety of other pharmacologic and behavioral methods of aborting and preventing attacks have been reported with wide variation in patient response.

Implanted peripheral nerve stimulators have been used to treat refractory pain for many years, but have only recently been proposed to manage craniofacial pain. Occipital, supraorbital, and infraorbital stimulation have been reported in the literature.

To date, the U.S. Food and Drug Administration (FDA) had not cleared any occipital nerve stimulation (ONS) device for treatment of headache. The Synergy™ IPG (implantable pulse generator) device from Medtronic received marketing clearance in 1999 for management of chronic, intractable pain of the trunk or limbs, and off-label use for headache is described in the literature. The Genesis™ neuromodulation system (St. Jude Medical) is approved by the FDA for spinal cord stimulation and the Eon™ stimulator has received CE mark approval in Europe for the treatment of chronic migraines.

Related Policies:

Spinal Cord and Dorsal Root Ganglion Stimulation

Vagus Nerve Stimulation

Percutaneous Electrical Nerve Stimulation (PENS) or Neuromodulation Therapy

*****Note: This Medical Policy is complex and technical. For questions concerning the technical language and/or specific clinical indications for its use, please consult your physician.**

Policy

Occipital Nerve Stimulation is considered investigational for all applications. BCBSNC does not cover investigational services or procedures.

Benefits Application

This medical policy relates only to the services or supplies described herein. Please refer to the Member's Benefit Booklet for availability of benefits. Member's benefits may vary according to benefit design; therefore member benefit language should be reviewed before applying the terms of this medical policy.

When Occipital Nerve Stimulation is covered

Not applicable.

When Occipital Nerve Stimulation is not covered

Occipital nerve stimulation is considered investigational for all indications.

Policy Guidelines

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. Relevant outcomes are symptoms, functional outcomes, quality of life, and treatment-related morbidity. Systematic reviews identified five sham-controlled randomized trials. Findings from pooled analyses of these RCTs were mixed. For example, compared to placebo, response rates to occipital nerve stimulation did not differ significantly but did reduce the number of days with prolonged moderate-to-severe headache. Occipital nerve stimulation

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was also associated with a substantial number of minor and serious adverse events. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who have non-migraine headaches (e.g., hemicrania continua, cluster headaches) who receive occipital nerve stimulation, the evidence includes case series. Relevant outcomes are symptoms, functional outcomes, quality of life, and treatment-related morbidity. Many of the case series had small sample sizes; series with over 25 patients were available only for treatment of cluster headache. Although the case series tended to find that a substantial number of patients improved after occipital nerve stimulation, these studies lacked blinding and comparison groups. RCTs are needed to compare outcomes between occipital nerve stimulation and comparators (e.g., to control for a potential placebo effect). The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

Billing/Coding/Physician Documentation Information

This policy may apply to the following codes. Inclusion of a code in this section does not guarantee that it will be reimbursed. For further information on reimbursement guidelines, please see Administrative Policies on the Blue Cross Blue Shield of North Carolina web site at www.bcbsnc.com. They are listed in the Category Search on the Medical Policy search page.

Applicable codes: There is no specific CPT code for occipital nerve stimulation.

The following codes may be submitted for this service: 61885, 61886, 61888, 64553, 64555, 64575, 64585, 64590, 64595, 64999, L8679, L8680, L8681, L8682, L8683, L8684, L8685, L8686, L8687, L8688, and L8689

ICD-10 Diagnosis Codes that are subject to medical necessity review: G43.B09, G43.001, G43.009, G43.011, G43.019, G43.101, G43.109, G43.111, G43.119, G43.401, G43.409, G43.411, G43.419, G43.501, G43.509, G43.511, G43.519, G43.601, G43.609, G43.611, G43.619, G43.701, G43.709, G43.711, G43.719, G43.801, G43.809, G43.811, G43.819, G43.821, G43.829, G43.831, G43.839, G43.901, G43.909, G43.911, G43.919, G43.A0, G43.A1, G43.B0, G43.B1, G43.C0, G43.C1, G43.D0, G43.D1, G44.1, G44.201, G44.209, G44.211, G44.219, G44.221, G44.229, N94.3, N95.1, R51

BCBSNC may request medical records for determination of medical necessity. When medical records are requested, letters of support and/or explanation are often useful, but are not sufficient documentation unless all specific information needed to make a medical necessity determination is included.

Scientific Background and Reference Sources

BCBSA Medical Policy Reference Manual [Electronic Version]. 7.01.125, 2/11/2010

Senior Medical Director – 6/2010

Medical Director – 4/2011

BCBSA Medical Policy Reference Manual [Electronic Version]. 7.01.125,2 /10/2011

Specialty Matched Consultant Advisory Panel – 5/2011

BCBSA Medical Policy Reference Manual [Electronic Version]. 7.01.125, 11/10/2011

Specialty Matched Consultant Advisory Panel – 5/2012

BCBSA Medical Policy Reference Manual [Electronic Version]. 7.01.125, 11/8/2012

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Specialty Matched Consultant Advisory Panel – 5/2013

BCBSA Medical Policy Reference Manual [Electronic Version]. 7.01.125, 11/14/2013

Specialty Matched Consultant Advisory Panel – 5/2014

BCBSA Medical Policy Reference Manual [Electronic Version]. 7.01.125, 11/13/2014

Specialty Matched Consultant Advisory Panel – 5/2015

BCBSA Medical Policy Reference Manual [Electronic Version]. 7.01.125, 4/14/2016

Specialty Matched Consultant Advisory Panel – 5/2016

BCBSA Medical Policy Reference Manual [Electronic Version]. 7.01.125, 4/13/2017

Specialty Matched Consultant Advisory Panel – 5/2017

BCBSA Medical Policy Reference Manual [Electronic Version]. 7.01.125, 4/12/2018

Specialty Matched Consultant Advisory Panel – 5/2018

BCBSA Medical Policy Reference Manual [Electronic Version]. 7.01.125, 4/8/2019

Specialty Matched Consultant Advisory Panel – 5/2019

BCBSA Medical Policy Reference Manual [Electronic Version]. 7.01.125, 4/16/2020

Specialty Matched Consultant Advisory Panel – 5/2020

BCBSA Medical Policy Reference Manual [Electronic Version]. 7.01.125, 4/8/2021

Specialty Matched Consultant Advisory Panel – 5/2021

Specialty Matched Consultant Advisory Panel – 5/2022

Policy Implementation/Update Information

- 8/3/10 New policy. Occipital nerve stimulation is considered investigational for all indications. Reviewed by Senior Medical Director 7/6/2010. Notice given 8/3/2010. Effective date 11/9/2010. (btw)
- 11/9/10 Removed CPT 64555 from “Coding/Billing” section. It does not seem to apply to this policy. Added “*Diagnosis codes that are subject to medical necessity review:*” to the “Billing/Coding” section. (btw)
- 7/1/11 Specialty Matched Consultant Advisory Panel review 5/30/2011. No change to policy intent. Removed deleted CPT code 64573 from the “Billing/Coding” section. Added CPT codes 61888, 64555, 64585, 64590, and 64595. References added. (btw)
- 2/7/12 Reference added. (btw)
- 5/29/12 Specialty Matched Consultant Advisory Panel review 5/16/2012. No change to policy intent. (btw)

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- 1/15/13 Description section updated. No change to policy intent. Reference added. (btw)
- 7/1/13 Specialty Matched Consultant Advisory Panel review 5/15/2013. No change to policy intent. ICD-10 diagnosis codes added to Billing/Coding section. (btw)
- 9/10/13 ICD-10 diagnosis code corrected from “G13.901” to “G43.901”. (btw)
- 11/12/13 Added the following ICD10 codes to the Billing/Coding section; G43.821, G43.829, G43.831, G43.839, G43.B0, G43.C0, and G43.C1. Removed the following codes; G43.A09, G43.A19, G43.B09, G43.B19, G43.C09, G43.C19, G43.D01, G43.D09, G43.D11, and G43.D19. (btw)
- 12/31/13 Added the following codes to the Billing/Coding section: L8679, L8680, L8681, L8682, L8683, L8684, L8685, L8686, L8687, L8688, and L8689. (btw)
- 1/28/14 Reference added. (btw)
- 6/10/14 Specialty Matched Consultant Advisory Panel review 5/27/2014. No change to policy. (btw)
- 1/27/15 Reference added. (sk)
- 7/1/15 Specialty Matched Consultant Advisory Panel review 5/27/2015. (sk)
- 7/1/16 Reference added. Policy Guidelines updated. Specialty Matched Consultant Advisory Panel review 5/26/2016. (sk)
- 6/30/17 Reference added. Policy Guidelines updated. Specialty Matched Consultant Advisory Panel review 5/31/2017. (sk)
- 6/29/18 Reference added. Policy Guidelines updated. Specialty Matched Consultant Advisory Panel review 5/23/2018. (sk)
- 6/11/19 Reference added. Policy Guidelines updated. Specialty Matched Consultant Advisory Panel review 5/15/2019. (sk)
- 6/9/20 Reference added. Specialty Matched Consultant Advisory Panel review 5/20/2020. (bb)
- 6/1/21 Reference added. Related policy added. Specialty Matched Consultant Advisory Panel review 5/19/2021. (sk)
- 6/14/22 Specialty Matched Consultant Advisory Panel review 5/18/2022. (sk)

Medical policy is not an authorization, certification, explanation of benefits or a contract. Benefits and eligibility are determined before medical guidelines and payment guidelines are applied. Benefits are determined by the group contract and subscriber certificate that is in effect at the time services are rendered. This document is solely provided for informational purposes only and is based on research of current medical literature and review of common medical practices in the treatment and diagnosis of disease. Medical practices and knowledge are constantly changing and BCBSNC reserves the right to review and revise its medical policies periodically.