



CIGNA MEDICAL COVERAGE POLICY

The following Coverage Policy applies to all plans administered by CIGNA Companies including plans administered by Great-West Healthcare, which is now a part of CIGNA.

**Subject Local Injection Therapy and
Neurosurgery for Cervicogenic
Headache and Occipital
Neuralgia**

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Hyperlink to Related Coverage Policies

- Chiropractic Care
- Electrical Stimulators
- Minimally Invasive Treatment of Back Pain
- OnabotulinumtoxinA (Botox® A)
- Physical Therapy

INSTRUCTIONS FOR USE

Coverage Policies are intended to provide guidance in interpreting certain **standard** CIGNA HealthCare benefit plans. Please note, the terms of a customer's particular benefit plan document [Group Service Agreement (GSA), Evidence of Coverage, Certificate of Coverage, Summary Plan Description (SPD) or similar plan document] may differ significantly from the standard benefit plans upon which these Coverage Policies are based. For example, a customer's benefit plan document may contain a specific exclusion related to a topic addressed in a Coverage Policy. In the event of a conflict, a customer's benefit plan document **always supercedes** the information in the Coverage Policies. In the absence of a controlling federal or state coverage mandate, benefits are ultimately determined by the terms of the applicable benefit plan document. Coverage determinations in each specific instance require consideration of 1) the terms of the applicable benefit plan document in effect on the date of service; 2) any applicable laws/regulations; 3) any relevant collateral source materials including Coverage Policies and; 4) the specific facts of the particular situation. Coverage Policies relate exclusively to the administration of health benefit plans. Coverage Policies are not recommendations for treatment and should never be used as treatment guidelines. Proprietary information of CIGNA. Copyright ©2011 CIGNA

Coverage Policy

CIGNA does not cover ANY of the following local injection therapies or neurosurgeries for the treatment of cervicogenic headache or occipital neuralgia because these interventions are considered experimental, investigational or unproven (this list may not be all-inclusive):

- botulinum toxin type A*
- cervical microdecompression surgery (Jho Procedure)
- discectomy and spinal fusion
- electrical stimulation of occipital nerve
- ganglionectomy
- nerve root decompression
- neurectomy
- occipital nerve neurolysis
- radiofrequency denervation of cervical facet joints
- radiofrequency ablation of the planum nuchale
- rhizotomy

***For additional information on the use of botulinum toxin type A, refer to the Coverage Policy OnabotulinumtoxinA (Botox® A)**

General Background

Cervicogenic headache and occipital neuralgia are syndromes whose diagnosis and treatment have been reported as controversial in the medical literature due to lack of expert consensus regarding their etiology and treatment. The terminology refers to specific types of headache thought to arise from impingement or entrapment of the occipital nerves and/or the upper spinal vertebrae. Compression and injury of the occipital nerves within the muscles of the neck and compression of the second and third cervical nerve roots are generally thought to be responsible for the symptoms, including unilateral and occasionally bilateral head, neck and arm pain. The convergence of the afferents of the upper three cervical spinal nerves is thought to be responsible for this head pain that arises from the neck. Generally accepted causes of head pain originating in the neck include: developmental abnormalities, tumors, ankylosing spondylitis, rheumatoid arthritis, and osteomyelitis. Controversial causes include: cervical disc herniations, degenerative disc disease, and whiplash injuries (Zhaou, 2008; Evans, 2004; Biondi, 2001; Vincent, et al., 1998; Bogduk, 2001).

The International Headache Society (IHS), through expert consensus, created a headache classification system designed to provide a uniform nomenclature for diagnosis of individual headache. The IHS criteria are regarded as the gold standard for diagnosis of all types of headaches. Headache and facial pain are classified by the IHS into primary, secondary, and other etiologies. Primary headaches are without obvious causative factors and include migraine, tension and cluster headaches. The secondary headaches include headaches attributed to disorders of the head and neck (i.e., cervicogenic headache) and cranial neuralgias (i.e., occipital neuralgia). The IHS notes that tumors, fractures, infections and rheumatoid arthritis of the upper cervical spine have not been validated formally as causes of headache but are accepted. Cervical spondylosis and osteochondritis are not accepted valid causes (Taylor, 2004; IHS, 2004).

Cervicogenic Headache

The clinical features of cervicogenic headache may mimic those associated with primary headache disorders (e.g., tension-type headache, migraine, or hemicrania continua), making it difficult to distinguish among headache types. Cervicogenic headache is characterized by continuous, unilateral head pain radiating from the occipital areas to the frontal area, with associated neck pain and ipsilateral shoulder or arm pain. The headache is moderate in intensity with a non-throbbing character. It is described as a dull, boring, dragging pain that can fluctuate in intensity. The duration of headache may range from a few hours to several days and, in some cases, several weeks. The pain is exacerbated by neck movements and is usually caused by neck trauma. Associated symptoms, such as nausea, photophobia, phonophobia, dizziness, blurred vision, and dysphagia, may be present but are generally not pronounced (Kwiatkowski, 2009; Biondi, 2005; Martelletti, 2004; Peters, 2004).

The IHS considers the diagnostic criteria for cervicogenic headache as follows (IHS, 2004):

- pain referred from a source in the neck and perceived in one or more regions of the head and/or face
- clinical, laboratory and/or imaging evidence of a disorder or lesion within the cervical spine or soft tissues of the neck, known to be, or generally accepted as, a valid cause of headache
- evidence that the pain can be attributed to the neck disorder or lesion, based on either clinical signs that implicate a source of pain in the neck or abolition of headache following diagnostic nerve block
- pain resolving within three months after successful treatment of causative disorder or lesion

Occipital Neuralgia

Occipital neuralgia is one type of cervicogenic headache described as pain in the distribution of the greater and lesser occipital nerves, associated with posterior scalp dysesthesia or hyperalgesia. The pain is described as a lancinating, sharp, throbbing, electric shock-like pain. Two broad categories of individuals with occipital neuralgia are those with structural pathologic changes and those without an apparent cause. Proposed causes include myofascial tightening, trauma of C2 nerve root (whiplash injury), prior skull or suboccipital surgery, other type of nerve entrapment, idiopathic causes, hypertrophied atlantoepistropheic (C1-2) ligament, sustained neck muscle contractions, and spondylosis of the cervical facet joints. Most patients with occipital neuropathy do not have discernible lesions. Occipital neuralgia may occur as an intermittent or a continuous headache. In continuous occipital neuralgia, the headaches may be further classified as acute or chronic. In general, there are no neurologic deficits from occipital neuralgia. However, the pain may result in significant limitations in activities of daily living. The diagnosis of occipital neuralgia is generally made clinically on the basis of history and

physical examination. Imaging may help confirm the diagnosis when there is an anatomic cause. Diagnostic local anesthetic nerve blocks may be required for a definitive diagnosis to be obtained; these blocks are done with or without the addition of corticosteroid. The relief of pain after a diagnostic local anesthetic block of the greater and lesser occipital nerves is generally confirmatory of the diagnosis of occipital neuralgia (Singla, 2008).

The IHS considers the diagnostic criteria for occipital neuralgia as follows (IHS, 2004):

- paroxysmal, stabbing pain, with or without persistent aching between paroxysms, in the distribution(s) of the greater, lesser and/or third occipital nerves
- tenderness over the affected nerve
- pain eased temporarily by local anesthetic block of the nerve

Treatments

Numerous treatments for cervicogenic headache and occipital neuralgia have been proposed, with varying levels of success. The consensus on standard treatment does not exist, because of the variability in patient selection and clinical outcomes. Pharmacological treatment with oral analgesics, anti-inflammatory medications, tricyclic antidepressants, and anticonvulsant medications have been used alone or in combination with other treatment modalities. Other methods suggested are: the use of a cervical collar during the acute phase; physical therapy with stretching and strengthening exercises; postural training; relaxation exercises; transcutaneous nerve stimulation (TENS); and manual therapy, including spinal manipulation and spinal mobilization (Bogduk, et al., 2009; Singla, 2008; Biondi, 2005, 2001; Martelletti, et al., 2004).

Pharmacological and alternative treatment modalities are not effective for some individuals, and therefore other methods have been proposed, such as local injections of anesthetics and/or steroids and epidural steroid injections. Botulinum Toxin Type A (Botox[®] A) has been investigated as a treatment of occipital neuralgia and cervicogenic headaches (Kapural, et al., 2007; Freund, et al., 2000). Radiofrequency ablation of the planum nuchale, rhizotomy, ganglionectomy, nerve root decompression, cervical microdecompression surgery (Jho Procedure), discectomy and spinal fusion, electrical stimulation of the occipital nerve, occipital nerve neurolysis, radiofrequency denervation of cervical facet joints, and neurectomy have also been investigated in the treatment of cervicogenic headache and occipital neuralgia (Ducic, et al., 2009; Lee, et al., 2007; Haspeslagh, et al., 2006; ECRI, 2006; Gille, et al., 2004; Wang, et al., 2002; ; Biondi, 2001; Freund, et al., 2000; Jansen, 2000; Reale, et al., 2000; Sjaastad, et al., 2000; van Suijlekom, et al., 2000; Pikus, et al., 1996; Anthony, 1992; Bovim, et al., 1992b; Koch, et al., 1992).

In a review of medical textbooks, commonly used treatments for pain relief from cervicogenic headache and occipital neuralgia include the use of local injected anesthetics, with or without the addition of corticosteroid preparation, to block the affected nerve(s). It is noted that these injections can be used as therapeutic treatment measures for pain relief, although the duration of pain relief varies from hours to months. However, the scientific evidence regarding injection therapy or percutaneous nerve block for occipital neuralgia and cervicogenic headache has been limited (Singla, 2008; Zhaou, 2008; Peters, 2004; Chavin, 2003).

Literature Review

Local Injection Therapy: There is a lack of well-designed, randomized control studies in the peer-reviewed literature relating to Botox A therapy as an effective treatment for cervicogenic headache or occipital neuralgia. The limited evidence comes primarily from small retrospective case series studies. Long term outcomes have not been reported in the studies. Further controlled studies are required to assess the efficacy of this approach in a large series of patients with cervicogenic headache or occipital neuralgia (Kapural et al., 2007; Martelletti, et al., 2004; Freund, et al., 2000; Hobson, et al., 1997).

For information on the coverage of Botox A for the treatment of occipital neuralgia or cervicogenic headache, please refer to the CIGNA HealthCare Coverage Position, OnabotulinumtoxinA (Botox[®] A).

Neurosurgery: A number of different surgical procedures have been investigated for the treatment of occipital neuralgia and cervicogenic headache. Several small retrospective case series studies have reported positive effects of various surgical treatments. However, there were recurrences of pain and varying levels of pain relief and duration. No specific characteristics could be identified that were predictive of a positive outcome or sustained response to treatment.

In a retrospective study (n=10), Gille et al. (2004) evaluated a new surgical treatment for greater occipital neuralgia consisting of neurolysis of the greater occipital nerve and section of the inferior oblique muscle. All of the patients had pain exacerbated by flexion of the cervical spine. Mean follow-up was 37 months. The results of the treatment were assessed based on: degree of pain on a visual analog scale (VAS) before surgery, at three months, and at last follow-up; consumption of analgesics before surgery and at follow-up; and the degree of patient satisfaction at follow-up. Anatomic anomalies (i.e., hypertrophy of the venous plexus around C2, nerve penetration of the inferior oblique muscle, and degenerative C1–C2 osteoarthritis) were found in three patients. The mean VAS score was 80/100 before surgery and 20/100 at last follow-up. The majority of the patients were satisfied or very satisfied with the operation. Patients reported a decrease in analgesic consumption.

Kapoor et al. (2003) conducted a retrospective study of 17 patients with occipital neuralgia who underwent intradural rhizotomies after experiencing positive results from computed tomography (CT) fluoroscopy-guided C2 or C3 nerve root blocks. Immediately after surgery, all patients had complete pain relief. Patients were followed for a mean of 20 months. At follow-up, 11 patients (64.7%) had complete relief of symptoms; two (11.8%) had partial relief, and four (23.5%) had no relief. Of the nine patients who had undergone previous surgery, four reported complete relief (44.4%); four patients (44.4%) reported no relief, and one reported partial relief. Eight out of 16 (50%) reported more activity and function after surgery; however, 25% felt they were either unchanged or less functional than before surgery. There was a trend toward better response to rhizotomy in patients without prior head or neck surgery. The study was limited by its size and lack of control group.

Jansen (2000) reported the results of three different surgical treatments in 102 patients with cervicogenic headache that had been nonresponsive to physical or drug therapy. A group of 38 patients were treated with C2 ganglionectomy, and 64 patients with demonstrable spinal structural abnormalities were treated with dorsal or ventral spinal decompression and fusion. Complete relief of pain was reported by 80% of the entire group, and 60–80% relief was experienced by approximately 15% of patients; 6% of patients experienced no relief of pain. Mean duration of pain relief varied: five months for dorsal decompression, 14 months for ventral decompression and 44 months for C2 ganglionectomy.

Pikus et al. (1996) performed a total of 39 microsurgical decompression procedures of the C2 root and ganglion in 35 patients who met diagnostic criteria for cervicogenic headache. Long-term, pain-free outcome (assessed after a mean of 21 months) was achieved by 33% of patients. Another 46% of patients reported adequate relief, while 21% had recurrence of pain at an average of 18 months after surgery. No specific prognostic characteristics were discernible from the analysis performed on the patient population.

Bovim et al. (1992b) investigated the immediate and long-term results of surgical release of the greater occipital nerve within the trapezius for treatment of patients who previously had relief of the symptoms of cervicogenic headache with nerve blockade. Of 50 patients responding to a questionnaire sent to 58 patients, 46% reported immediate relief, and 36% reported some immediate improvement. However, after a mean follow-up of 14.5 months, only 56% of patients felt that the procedure had been beneficial. The authors recommended further investigation into the efficacy of alternative procedures.

Other Treatment Modalities: A variety of other therapeutic modalities have been studied for the treatment of occipital neuralgia and cervicogenic headache that do not respond to pharmacological and/or physical therapy (e.g., electrical stimulation of the occipital nerve, radiofrequency ablation of the planum nuchale, radiofrequency ablation of the cervical facet joints, radiofrequency cervical zygapophyseal joint neurotomy). Larger studies with longer periods of follow-up are needed to confirm the benefits reported in the available studies.

In a retrospective study, Lee et al. (2007) studied the clinical efficacy of radiofrequency cervical zygapophyseal joint neurotomy in patients with cervicogenic headache. A total of thirty patients suffering from chronic cervicogenic headaches for longer than six months and showing a pain relief by greater than 50% from diagnostic/prognostic blocks were included in the study. These patients were treated with radiofrequency neurotomy of the cervical zygapophyseal joints and were subsequently assessed at one week, one month, six months, and at 12 months following the treatment. The results of this study showed that radiofrequency neurotomy of the cervical zygapophysial joints significantly reduced the headache severity in 22 patients (73.3%) at 12 months after the treatment. The limitations of this study include the lack of a control group and small sample size.

Slavin et al. (2006) analyzed records of 14 patients with intractable occipital neuralgia treated with peripheral nerve stimulation. All of the patients in the study were diagnosed with chronic, intractable occipital neuralgia. Overall, 23 occipital nerves were stimulated in 14 patients. Seventeen trials in 10 patients were considered successful, and those patients had permanent internalization of the stimulator. At the time of the last follow-up examination (mean 22 months), seven patients with implanted peripheral nerve stimulation had adequate pain control. Two patients had their systems explanted because of loss of stimulation effect or significant improvement of pain, and one patient had part of their hardware removed because of infection. The authors stated this study had a large variation between patients in regard to the etiology of their occipital neuralgia; therefore, they were unable to find any correlation between etiology of occipital neuralgia and the outcome of stimulation.

Weiner et al. (1999) studied bilateral or unilateral percutaneous peripheral nerve electrical stimulation in 13 patients with medically refractory occipital neuralgia. In seven patients ablative therapies such as cryotherapy or C2 rhizotomy had also failed. The authors reported that this procedure provided 50% or greater relief of pain for all for up to five years (mean 2.4 years). Nine patients reported > 75% pain relief. In one patient symptoms of occipital neuralgia resolved completely and the device was explanted. The method of pain measurement was not reported and the study did not assess quality of life. A limitation of this study is the small number of study participants.

In a randomized controlled study, Haspeslagh et al. (2006) compared the efficacy of a radiofrequency treatment with treatment by local injection of the greater occipital nerve in patients with cervicogenic headache (n=30). Fifteen patients received a sequence of radiofrequency treatments (cervical facet joint denervation, followed by cervical dorsal root ganglion lesions when necessary), and the other 15 patients underwent local injections with steroid and anesthetic at the greater occipital nerve, followed by TENS when necessary. Visual analogue scores for pain, global perceived effects scores, quality of life scores were assessed at 8, 16, 24 and 48 weeks. Patients also kept a headache diary. There were no statistically significant differences between the two treatment groups at any time point in the trial. The authors reported that they did not find evidence that radiofrequency treatment of cervical facet joints and dorsal root ganglion is an effective treatment for patients fulfilling the clinical criteria of cervicogenic headache. The authors reported that many patients in clinical practice are treated with neurotomies despite the lack of evidence for positive outcomes.

In a randomized, double-blind, placebo-controlled study, Stovner et al. (2004) studied radiofrequency denervation of facet joints C2 through C6 in cervicogenic headache (n=12). The patients had some improvement three months after treatment, but there were no marked differences between the two groups, concluding that the procedure is probably not beneficial for cervicogenic headaches.

Professional Societies/Organizations

The American Association of Neurological Surgeons (AANS) states, "Often, occipital neuralgia symptoms will improve or disappear with heat, rest, physical therapy including massage, anti-inflammatory medications, and muscle relaxants. Oral anticonvulsant medications such as carbamazepine and gabapentin may also help alleviate pain. Percutaneous nerve blocks may not only be helpful in diagnosing occipital neuralgia, but can also help alleviate pain. Nerve blocks involve either the occipital nerves or in some patients, the C2 and/or C3 ganglion nerves. It is important to keep in mind that repeat blocks using steroids may cause serious adverse effects." Surgical intervention (i.e., microvascular decompression, occipital nerve stimulation) may be considered when the pain is chronic, severe and does not respond to conservative treatment" (AANS, 2006).

Summary

The available evidence from the small number of studies published in the peer-reviewed literature is insufficient to conclude that either local injection therapy or surgery is an effective treatment for occipital neuralgia or cervicogenic headache. The limited data suggest that some patients may obtain a short-term benefit from the use of local injections or surgery, along with a reduction in pain; however, the long-term efficacy remains unknown.

Coding/Billing Information

Note: This list of codes may not be all-inclusive.

Experimental/Investigational/Unproved/Not Covered when used to report local injection therapy and/or neurosurgery for the treatment of cervicogenic headache or occipital neuralgia:

CPT* Codes	Description
62881	Injection/infusion of neurolytic substance (eg, alcohol, phenol, iced saline solutions), with or without other therapeutic substance; epidural, cervical or thoracic
63020	Laminotomy (hemilaminectomy), with decompression of nerve root(s), including partial facetectomy, foraminotomy and/or excision of herniated intervertebral disk; one interspace, cervical
63035	Laminotomy (hemilaminectomy), with decompression of nerve root(s), including partial facetectomy, foraminotomy and/or excision of herniated intervertebral disk; each additional interspace, cervical or lumbar (List separately in addition to code for primary procedure)
63040	Laminotomy (hemilaminectomy), with decompression of nerve root(s), including partial facetectomy, foraminotomy and/or excision of herniated intervertebral disk, reexploration, single interspace; cervical
63043	Laminotomy (hemilaminectomy), with decompression of nerve root(s), including partial facetectomy, foraminotomy and/or excision of herniated intervertebral disk, reexploration, single interspace; each additional cervical interspace (List separately in addition to code for primary procedure)
63048	Laminectomy, facetectomy and foraminotomy (unilateral or bilateral with decompression of spinal cord, cauda equina and/or nerve root(s), (eg, spinal or lateral recess stenosis)), single vertebral segment; each additional segment, cervical, thoracic, or lumbar (List separately in addition to code for primary procedure)
63075	Discectomy, anterior, with decompression of spinal cord and/or nerve root(s), including osteophytectomy; cervical, single interspace
63076	Discectomy, anterior, with decompression of spinal cord and/or nerve root(s), including osteophytectomy; cervical, each additional interspace (List separately in addition to code for primary procedure)
63185	Laminectomy with rhizotomy; one or two segments
63190	Laminectomy with rhizotomy; more than two segments
64550	Application of surface (transcutaneous) neurostimulator
64553	Percutaneous implantation of neurostimulator electrodes; cranial nerve
64555	Percutaneous implantation of neurostimulator electrodes, peripheral nerve (excludes sacral nerve)
64568	Incision for implantation of cranial nerve (e.g. vagus nerve) neurostimulator electrode array and pulse generator
64569	Revision or replacement of cranial nerve (e.g. vagus nerve) neurostimulator electrode array, including connection to existing pulse generator
64570	Removal of cranial nerve (e.g. vagus nerve) neurostimulator electrode array and pulse generator
64575	Incision for implantation of neurostimulator electrodes; peripheral nerve (excludes sacral nerve)
64585	Revision or removal of peripheral neurostimulator electrodes
64590	Insertion or replacement of peripheral or gastric neurostimulator pulse generator or receiver, direct or inductive coupling
64595	Revision or removal of peripheral or gastric neurostimulator pulse generator or receiver
64613	Chemodenervation of muscle(s); neck muscle(s) (eg, for spasmodic torticollis, spasmodic dysphonia)
64626	Destruction by neurolytic agent, paravertebral facet joint nerve; cervical or thoracic, single level
64640	Destruction by neurolytic agent; other peripheral nerve or branch
64716	Neuroplasty and/or transposition; cranial nerve (specify)

64722	Decompression, unspecified nerve(s), specify
64744	Transection or avulsion of; greater occipital nerve.
64999 [†]	Unlisted procedure, nervous system

†Note: Experimental, Investigational, Unproven and Not Covered when used to report ganglionectomy or neurectomy of the occipital nerve.

HCPCS Codes	Description
E0720	Transcutaneous electrical nerve stimulation (TENS) device, 2 lead, localized stimulation
J0585	Injection, onabotulinumtoxinA, 1 unit
L8680	Implantable neurostimulator electrode, each
L8683	Radiofrequency transmitter (external) for use with implantable neurostimulator radiofrequency receiver
L8685	Implantable neurostimulator pulse generator, single array, rechargeable, includes extension
L8686	Implantable neurostimulator pulse generator, single array, nonrechargeable, includes extension

ICD-9-CM Diagnosis Codes	Description
307.81	Cervicogenic headache
723.8	Occipital neuralgia

***Current Procedural Terminology (CPT®) © 2010 American Medical Association: Chicago, IL.**

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Policy History

Pre-Merger Organizations	Last Review Date	Policy Number	Title
CIGNA HealthCare	4/15/2008	0063	Local Injection Therapy and Neurosurgery for Cervicogenic Headache and Occipital Neuralgia

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