

Clinical Policy: Nerve Blocks and Neurolysis for Pain Management

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[Coding Implications](#)

[Revision Log](#)

See [Important Reminder](#) at the end of this policy for important regulatory and legal information.

Description

Nerve blocks are the temporary interruption of conduction of impulses in peripheral nerves or nerve trunks created by the injection of local anesthetic solutions. They can be used to identify the source of pain or to treat pain.

Note: For sacroiliac nerve block and radiofrequency neurotomy, please refer to LA.CP.MP.166 Sacroiliac Joint Interventions

Policy/Criteria

It is the policy of Louisiana Healthcare Connections that invasive pain management procedures performed by a physician are **medically necessary** when *the relevant criteria are met and the patient receives only one procedure per visit, with or without radiographic guidance.*

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I. Occipital Nerve Block

A. *An initial injection* of a local anesthetic for the diagnosis of suspected occipital neuralgia is **medically necessary** when all of the following are met:

1. Patient has unilateral or bilateral pain located in the distribution of the greater, lesser and/or third occipital nerves;
2. Pain has two of the following three characteristics:
 - a. Recurring in paroxysmal attacks lasting from a few seconds to minutes;
 - b. Severe intensity;
 - c. Shooting, stabbing, or sharp in quality;
3. Pain is associated with dysaesthesia and/or allodynia apparent during innocuous stimulation of the scalp and/or hair, and at least one of the following:
 - a. Tenderness over the affected nerve branches;
 - b. Trigger point at the emergence of the greater occipital nerve or in the distribution of C2.

- B.** *Therapeutic occipital nerve blocks* are **medically necessary** when all of the following are met:
1. There was temporary relief from the initial/previous injection;
 2. The member/enrollee has failed 3 months of conservative treatment including all of the following:
 - a. Heat, rest and/or physical therapy, including massage;
 - b. NSAIDS, unless contraindicated or not tolerated;
 - c. Oral anticonvulsant medications (e.g., carbamazepine, gabapentin, pregabalin) or tricyclic antidepressants;
 - d. Activity modification to address triggers;
 3. No more than 4 injections are to be given within 12 months (includes diagnostic injection).
- C.** *Occipital nerve block* for the diagnosis or treatment of other types of headaches, including migraine and cervicogenic headaches, is considered **not medically necessary** as effectiveness has not been established.

- II. Sympathetic Nerve Blocks** have limited evidence to prove effectiveness of treatment and consideration will be made on a case by case basis. The criteria below provide a basis for documenting patient-specific clinical information to help guide clinical decision making.
- i. *First or second sympathetic nerve block*:
 1. Diagnosis of *complex regional pain syndrome* (CRPS) (also called reflex sympathetic dystrophy) and all of the following:
 - a. Pain is being managed by a pain management specialist with experience treating CRPS;
 - b. The member/enrollee is in an active rehabilitation regimen;
 - c. Failed ≥ 3 weeks of conservative therapies such as activity modification, exercises, topical capsaicin cream, and oral medical management such as nonsteroidal anti-inflammatories, antidepressants, anticonvulsants and glucocorticoids;
 - d. Two or more of the following findings of the involved digit/extremity:
 - i. Hyperalgesia or allodynia (pain sensation in response to a typically non-painful stimulus);
 - ii. Evidence of edema and/or sweating changes and/or sweating asymmetry;
 - iii. Evidence of temperature asymmetry ($>1^{\circ}\text{C}$) and/or skin color changes and/or asymmetry;
 - iv. Evidence of decreased range of motion and/or motor dysfunction (weakness, tremor, dystonia) and/or trophic changes (hair, nail, skin).
 - ii. *Additional sympathetic nerve blocks for CRPS* may be considered medically necessary when all of the following are met:
 1. Nerve blocks are given at least a week apart;
 2. There was an immediate positive response to the first or second nerve block (e.g., improved temperature and decreased pain).

- iii. *Additional sympathetic nerve blocks* without documented benefit from the first or second are not medically necessary.
- iv. Sympathetic nerve blocks for any other indication, including ischemic limb pain, are not medically necessary as there is a lack of evidence to support effectiveness.

III. Celiac Plexus Nerve Block/Neurolysis

- A. *Celiac plexus nerve block/neurolysis* is medically necessary for either of the following indications:
 - 1. Chronic neuralgic pain secondary to pancreatic cancer, all of the following:
 - a. Diagnosis of pancreatic cancer with severe visceral abdominal/back pain;
 - b. Strong analgesics such as opioids are no longer effective or their side effects decrease quality of life;
 - c. No malignancy in an area of somatic innervation such as the peritoneum or diaphragm.
 - 2. Refractory pain due to chronic pancreatitis with non-dilated pancreatic duct.
- B. A repeat *celiac plexus nerve block* for refractory pain from chronic pancreatitis with non-dilated pancreatic duct is **medically necessary** when both of the following are met:
 - 1. At least three months have passed since previous injection;
 - 2. There was a clinical benefit from the initial celiac block.
- C. *Repeat celiac plexus nerve blocks or neurolysis*, for any indication other than those noted above, are not medically necessary as there is a lack of evidence to support effectiveness.

IV. Intercostal Nerve Block/Neurolysis

- A. *Intercostal nerve block/neurolysis* is **medically necessary** for chronic neuralgic pain secondary to an injured intercostal nerve as a result of a rib fracture, a thoracotomy incision or chronic pain due to post herpetic neuralgia, or other neuropathic process when all of the following are met:
 - 1. Suspected organic problem;
 - 2. Non-responsiveness to conservative modalities of treatment;
 - 3. Pain and disability of moderate to severe degree;
 - 4. No evidence of contraindications such as infection or pain of predominately psychogenic origin.

V. Genicular Nerve Blocks, Neurolysis and Genicular Nerve Radiofrequency Neurotomy

There is insufficient evidence to determine safety and effectiveness of *genicular nerve blocks, neurolysis and radiofrequency neurotomy of the articular nerve* are considered experimental/investigational because effectiveness has not been established. There is insufficient evidence to determine safety and effectiveness.

VI. Peripheral/Ganglion Nerve Blocks

Note: If administered as part of a surgery or other procedure, coding for peripheral/ganglion nerve blocks should follow proper coding practices and would not be subject to prior authorization or payment separately from the procedure.

- A. *Peripheral nerve blocks for diagnosis and treatment of malignant pain* are considered medically necessary as part of a comprehensive pain management program.
- B. Peripheral nerve blocks for diagnosis or treatment of post-herniorrhaphy pain are considered medically necessary when all of the following criteria are met:
 - 1. A first diagnostic peripheral nerve block when all of the following are met:
 - a. Diagnosis of post-herniorrhaphy neuralgia;
 - b. Groin pain has persisted for three months after surgical hernia repair;
 - c. Less invasive pain management methods such as NSAIDs and/or opiates have not relieved the pain;
 - d. Imaging studies have ruled out non-neuropathic causes of pain;
 - e. Documentation indicates that pain is not attributable to any other cause;
 - 2. Therapeutic peripheral nerve block(s) for treatment of post-herniorrhaphy pain when all of the following are met:
 - a. There was temporary relief from the initial/previous injection;
 - b. Injections are given at least a week apart.
- C. *Peripheral nerve blocks for prevention or treatment of headaches*, including, but not limited to: migraine headaches, treatment-refractory migraines in pregnancy, and short-lasting unilateral neuralgiform headaches, are considered not medically necessary as effectiveness has not been established.
- D. There is insufficient evidence in the published peer-reviewed literature to support the use of *peripheral nerve blocks for the treatment of trigeminal neuralgia*.
- E. There is insufficient evidence in the published peer-reviewed literature to support the use of *peripheral/ganglion nerve blocks or neurolysis* for any condition not indicated elsewhere in this policy, including chronic pain. There is ongoing research but insufficient evidence to establish efficacy.

VII. Intraosseous Radiofrequency Nerve Ablation of the Basivertebral Nerve

There is insufficient evidence to determine the safety and effectiveness of *intraosseous radiofrequency nerve ablation of the basivertebral nerve* (e.g. Intrasept® Intraosseous Nerve Ablation System.) for the treatment of chronic low back pain.

Background

Local Injections for Cervicogenic Headache and Occipital Neuralgia

Greater occipital nerve blocks have been advocated as a diagnostic test for cervicogenic headache and occipital neuralgia. The effectiveness of greater occipital nerve block in patients with primary headache syndromes is controversial.²⁵ The International Headache Society (IHS) defines occipital neuralgia as unilateral or bilateral paroxysmal, shooting or stabbing pain in the posterior part of the scalp, in the distribution of the greater, lesser or third occipital nerves, sometimes accompanied by diminished sensation or dysaesthesia in the affected area and commonly associated with tenderness over the involved nerve(s).¹ The IHS includes relief of pain following a local anesthetic block of the affected nerve as part of their diagnostic criteria for

occipital neuralgia.¹ Thus, the principal indication for occipital block is diagnosis. Another indication is the treatment of chronic occipital neuralgia, often with a series of therapeutic blocks combining local anesthetic and corticosteroid. Pain relief is typically prompt and may last several weeks or even months. At that time the injection may be repeated.^{19,25}

Sympathetic Nerve Blocks

Sympathetic nerves may be injected for several reasons:

- Diagnostic - to determine the source of pain, e.g., to identify or pinpoint a nerve that acts as a pathway for pain; to determine the type of nerve that conducts the pain; to distinguish between pain that is central (within the spinal cord) or peripheral (outside the spinal cord) in origin; or to determine whether a neurolytic block or surgical lysis of the nerve should be performed;
- Therapeutic - to treat painful conditions that respond to nerve blocks (e.g., celiac block for pain of pancreatic cancer); and
- Prognostic - to predict the outcome of long-lasting interventions (e.g., lumbar sympathectomy).

The response to sympathetic blockade is the best diagnostic test for complex regional pain syndrome (CRPS). If the patient has had a technically successful sympathetic block and does not obtain significant relief, then the patient probably does not have CRPS. Over two thirds of patients will obtain significant relief with minimal effect on motor and sensory function because the sympathetic fibers are the least myelinated (as compared to motor and sensory nerve fibers) and are the first to be affected by the local anesthetic.

A 2014 case report and literature review identified only five cases, and no Level I or II evidence-based trials to support the use of sympathetic nerve block for ischemic pain.¹⁶ The authors presented two cases of patients who experienced severe pain due to ischemia despite full regional nerve blocks.¹⁶ The available literature is not sufficient to support the use of sympathetic nerve blocks for ischemic limb pain.

Celiac Plexus Nerve Block/Neurolysis for Pancreatic Cancer

Although its analgesic effectiveness is similar to analgesic drugs, celiac plexus neurolysis offers pain reduction without the significant adverse effects of opiates.² A multidisciplinary, international guideline issued a strong recommendation based on moderate quality evidence for celiac plexus neurolysis as a treatment for pain associated with advanced pancreatic cancer.² Furthermore, a 2011 Cochrane review stated that celiac plexus block (neurolysis) significantly reduced opiate use and lowered pain compared to the control group.³

The optimal timing of celiac plexus neurolysis for pain due to pancreatic cancer is not known.² Advocates of an earlier approach argue that pain is more effectively addressed by neurolysis when treated earlier, and opiate-related side effects may also be reduced compared to later treatment. However, the effects of celiac plexus neurolysis diminish over time, which would leave a patient with fewer options as the cancer progresses and pain becomes more severe. Repeat celiac plexus neurolysis for pain due to pancreatic cancer is effective only about 30% of the time and is not recommended.^{2, 17}

Celiac Plexus Nerve Block/Neurolysis for Chronic Pancreatitis

Celiac plexus blockade is an option for pain relief in patients with refractory pain due to chronic pancreatitis and a non-dilated pancreatic duct. Advantages of celiac plexus blockade include that a single treatment can potentially provide pain reduction or relief, may reduce or eliminate the need for oral analgesia, and can be performed quickly and repeated as needed. However, it is unclear which patients will derive the most benefit and the pain relief is transient, lasting for three to six months.²⁴

The American College of Gastroenterology suggests considering celiac plexus block for treatment of pain in chronic pancreatitis (conditional recommendation, very low quality of evidence) noting that celiac plexus blockade represents a relatively low-risk, opioid-free method to reduce refractory pain in certain patients with chronic pancreatitis.⁴¹

Intercostal Nerve Blocks

Intermittent intercostal nerve blocks can be used to control pain in the chest and upper abdomen, such as pain associated with rib fractures or chronic pain due to post herpetic neuralgia. Intercostal nerve blocks can be performed using anatomic landmarks or with ultrasound guidance, which can be used to minimize the chance of intravascular injection and pneumothorax and to increase reliable dermatomal coverage.^{4, 8}

For isolated injuries, such as single rib fracture, nonsteroidal anti-inflammatory drugs with or without opioids would be the initial treatment. For more severe injuries, particularly if ventilation is compromised, intercostal nerve blocks may be needed. For patients with multiple rib fractures, there is a need to perform the procedure at multiple intercostal levels. Repeated blockade may be needed for prolonged relief upon return of pain and/or deterioration in functional status. For repeat blocks or other interventions, patient must have been responsive to prior interventions with improvement in physical and functional status.^{5, 8}

Regional anesthesia plays an important role in thoracic surgery, particularly with regard to post-operative pain control. The first choice of regional anesthesia for thoracic surgery is epidural analgesia or thoracic paravertebral block. In general, the analgesic efficiencies of both these types of anesthesia are equivalent; however, thoracic paravertebral block has some advantages over epidural analgesia, including fewer complications. When these two blocks are contraindicated, intercostal nerve block or interpleural block should be considered.^{6, 7}

Genicular Nerve Blocks and Radiofrequency Neurotomy

The genicular nerve is a sensory nerve that surrounds the knee and provides innervation for the joint. Genicular nerve blocks, neurolysis and radiofrequency neurotomy are emerging interventions for knee pain. The limited evidence regarding genicular nerve blocks for determining appropriateness of treatment with genicular radiofrequency ablation has reached conflicting results.^{9, 10, 41} A few small studies suggest that genicular radiofrequency neurotomy may be effective for relief of pain, but further research is needed to establish safety and efficacy.
11-15

Peripheral/Ganglion Nerve Blocks.

Peripheral nerve blocks (PNB) are widely used for surgical anesthesia as well as for both postoperative and nonsurgical analgesia. Indications for PNBs are diverse and vary widely. Blocks are often used to avoid the effects of alternative anesthetics or analgesics. The most common rationale for their use is to avoid side effects and complications of general anesthesia, particularly respiratory-related effects, and to provide analgesia while minimizing opioid use.³⁷

Chronic pain can be treated with a number of pharmacologic and nonpharmacologic therapies which generally fall into six major categories: pharmacologic, physical medicine, behavioral medicine neuromodulation, interventional and surgical approaches.³³ Optimal outcomes result from multiple approaches.^{33,50} Interventional approaches, which typically attempt to target the presumed pain generators, may play a complementary role to other strategies (e.g., rehabilitation and appropriate pharmacotherapy.) The best candidates for interventional management have persistent focal pain of shorter duration, appropriate expectations, and well-managed psychosocial distress.³³

Cancer pain can be caused by complex interactions among cancer cells, the peripheral and central nervous systems, and the immune system. Peripheral pain receptors may become activated, sensitized or injured with certain cancers. Neuropathic pain may arise from nerve tissue damage and cancer patients may experience mild to severe pain. At least 15% will experience no relief or have severe adverse effects from interventions to address their pain. Nerve blocks or other interventional procedures may be appropriate as part of a comprehensive pain management program.^{34, 35}

Peripheral Nerve Blocks for Prevention or Treatment of Headaches

Peripheral nerve blocks have been proposed as a treatment for migraines in pregnancy and refractory migraines. However, evidence is limited to support this indication. In a series of 13 pregnant women with migraine refractory to medication, injection of local anesthetic into one or more peripherals nerve resulted in elimination of pain in seven women, pain reduction in two and no response in four women. Larger studies are necessary to better define the efficacy of this approach.³¹

Peripheral Nerve Blocks for Diagnosis and Treatment of Post-Herniorrhaphy Groin Pain

Persistent pain following inguinal hernia surgery is relatively common and a comprehensive pain management program is recommended. A prospective study, including elective primary open hernia repairs, found persistent pain occurred in 16.5 to 16.1 percent of patients at six months and five years.³⁶ Acute pain persisting more than eight weeks is most likely neuropathic due to primary or secondary nerve injuries. Post-herniorrhaphy neuralgia should be suspected if pain persists beyond six to eight weeks. These patients should undergo imaging to exclude nonneuropathic causes. Patients with positive response to initial nerve block can be treated every 1-3 weeks until pain relief is sustained. Those who have a positive response initially, but the pain returns may require groin nerve sacrifice via percutaneous nerve ablation or surgical neurectomy.³⁶

Peripheral Nerve Blocks for Prevention or Treatment of Trigeminal Neuralgia

Compression of the trigeminal nerve root is the main mechanism of trigeminal neuralgia, but brainstem lesions account for a small proportion of cases. Initial treatment of most patients with

trigeminal neuralgia is pharmacologic therapy. For patients with TN refractory to medical therapy, it is reasonable to discuss options for surgical therapy (e.g., microvascular decompression, various types of rhizotomy, or gamma knife radiosurgery.) The decision to have surgery and the choice among surgical options will be influenced by individual circumstances including patient preference, adverse effect profile of the available techniques, and expertise of the local center.⁴² There is insufficient evidence in the published peer-reviewed literature to support the use of peripheral nerve blocks for the treatment of trigeminal neuralgia.⁵⁰

Intraosseous Radiofrequency Nerve Ablation of Basivertebral Nerve

Basivertebral nerve radiofrequency ablation has been developed for the treatment of chronic low back pain thought to originate from the vertebral body endplates.⁴³ The Intracept Intraosseous Nerve Ablation System, Relevant Medsystems, Inc. is approved by the FDA and intended to be used in conjunction with radiofrequency generators for the ablation of basivertebral nerves of the L3 through S1 vertebrae. Its purpose is to relieve chronic low back pain of at least six months duration that has not responded to at least six months of conservative care, and is also accompanied by features consistent with Type 1 or Type 2 Modic changes on an MRI [e.g., inflammation, edema, vertebral endplate changes, disruption and fissuring of the endplate, vascularized fibrous tissues within the adjacent marrow, hypointensive signals (Type 1 Modic change), and changes to the vertebral body marrow including replacement of normal bone marrow by fat, and hyperintensive signals (Type 2 Modic change)].⁴⁹

Studies to date report relief of pain and improvement in function and quality of life after treatment, however, most are company sponsored, limited in size and are of generally poor or fair quality. A review of full-text clinical practice guidelines and position statements offers weak support for the Intracept Intraosseous Nerve Ablation for chronic low back pain of suspected vertebrogenic origin. Long-term non-industry-funded prospective trials should be pursued to confirm the results of currently published clinical studies.⁴⁴

Coding Implications

This clinical policy references Current Procedural Terminology (CPT®). CPT® is a registered trademark of the American Medical Association. All CPT codes and descriptions are copyrighted 2019 American Medical Association. All rights reserved. CPT codes and CPT descriptions are from the current manuals and those included herein are not intended to be all-inclusive and are included for informational purposes only. Codes referenced in this clinical policy are for informational purposes only and may not support medical necessity. Inclusion or exclusion of any codes does not guarantee coverage. Providers should reference the most up-to-date sources of professional coding guidance prior to the submission of claims for reimbursement of covered services.

CPT® Codes	Description
64400	Injection(s), anesthetic agent(s) and/or steroid; trigeminal nerve, each branch (ie, ophthalmic, maxillary, mandibular)
64405	Injection(s), anesthetic agent(s) and/or steroid; greater occipital nerve
64408	Injection(s), anesthetic agent(s) and/or steroid; vagus nerve
64415	Injection(s), anesthetic agent(s) and/or steroid; brachial plexus

CPT® Codes	Description
64417	Injection(s), anesthetic agent(s) and/or steroid; axillary nerve
64418	Injection(s), anesthetic agent(s) and/or steroid; suprascapular nerve
64420	Injection(s), anesthetic agent(s) and/or steroid; intercostal nerve, single level
64421	Injection(s), anesthetic agent(s) and/or steroid; intercostal nerve, each additional level
64425	Injection(s), anesthetic agent(s) and/or steroid; ilioinguinal, iliohypogastric nerves
64430	Injection(s), anesthetic agent(s) and/or steroid; pudendal nerve
64435	Injection(s), anesthetic agent(s) and/or steroid; paracervical (uterine) nerve
64445	Injection(s), anesthetic agent(s) and/or steroid; sciatic nerve
64447	Injection(s), anesthetic agent(s); femoral nerve
64450	Injection(s), anesthetic agent(s) and/or steroid; other peripheral nerve or branch
64454	Injection(s), anesthetic agent(s) and/or steroid; genicular nerve branches, including imaging guidance, when performed
64505	Injection, anesthetic agent; sphenopalatine ganglion
64510	Injection, anesthetic agent; stellate ganglion (cervical sympathetic)
64517	Injection, anesthetic agent; superior hypogastric plexus
64520	Injection, anesthetic agent; lumbar or thoracic (paravertebral sympathetic)
64530	Injection, anesthetic agent; celiac plexus, with or without radiologic monitoring
64620	Destruction by neurolytic agent, intercostal nerve
64624	Destruction by neurolytic agent, genicular nerve branches including imaging guidance, when performed
64640	Destruction by neurolytic agent; other peripheral nerve or branch
64680	Destruction by neurolytic agent, with or without radiologic monitoring; celiac plexus
64999	Unlisted procedure, nervous system

HCPCS Codes	Description
N/A	

ICD-10-CM Diagnosis Codes that Support Coverage Criteria

+ Indicates a code requiring an additional character

ICD-10-CM Code	Description
C25.0 through C25.9	Malignant neoplasm of pancreas
G44.85	Primary stabbing headache
G50.1	Atypical facial pain
G54.0 through G54.9	Nerve root and plexus disorders
G56.40 through G56.43	Causalgia of upper limb
G57.70 through G57.73	Causalgia of lower limb
G89.22	Chronic post-thoracotomy pain

ICD-10-CM Code	Description
G89.4	Chronic pain syndrome
G90.50 through G90.59	Complex regional pain syndrome I (CRPS I)
M54.81	Occipital neuralgia
K86.0	Alcohol-induced chronic pancreatitis
K86.1	Other chronic pancreatitis
R07.81 through R07.89	Other chest pain
R10.10 through R10.12	Pain localized to upper abdomen
S22.41X+ through S22.49X+	Multiple fractures of rib

Reviews, Revisions, and Approvals	Revision Date	Approval Date
Converted corporate to local policy.	12/01/2020	
<p>Annual review. Added refractory chronic pancreatitis as an indication for celiac plexus block to section III and updated background accordingly. Added ICD -10 codes K86.0 and K86.1 to support coverage criteria. Changed “Experimental/investigational” language in section V. and VI.E. to “insufficient evidence to support...”. Under section VI, moved “Note” for visibility. Added insufficient evidence to support peripheral nerve block for treatment of trigeminal neuralgia to VI.D, removed G50.0 from list of ICD 10 codes that support coverage criteria and updated background accordingly. References reviewed, reformatted and updated. Changed “review date” in the header to “date of last revision” and “date” in the revision log header to “revision date.” Reviewed by specialist. Added note in section VI to state: If administered as part of a surgery or other procedure, coding for peripheral/ganglion nerve blocks should follow proper coding practices and would not be subject to prior authorization or payment separately from the procedure.</p> <p>Revised policy title from “Nerve Blocks for Pain Management” to “Nerve Blocks and Neurolysis for Pain Management.” Added VII. Insufficient evidence to determine the safety and effectiveness of intraosseous radiofrequency nerve ablation of basivertebral nerve. Updated background and references accordingly.</p> <p>Added “as effectiveness has not been established” to I. C. Background updated. Reworded some extraneous language with no clinical significance.</p>		

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Important Reminder

This clinical policy has been developed by appropriately experienced and licensed health care professionals based on a review and consideration of currently available generally accepted standards of medical practice; peer-reviewed medical literature; government agency/program approval status; evidence-based guidelines and positions of leading national health professional organizations; views of physicians practicing in relevant clinical areas affected by this clinical policy; and other available clinical information. LHCC makes no representations and accepts no liability with respect to the content of any external information used or relied upon in developing this clinical policy. This clinical policy is consistent with standards of medical practice current at the time that this clinical policy was approved.

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