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Paravertebral Facet Joint/Nerve Blocks and Neurotomy - Diagnostic and Therapeutic

Introduction

ABSTRACT:

Acute pain is elicited by the injury of body tissues and activation of nociceptive transducers at the site of local tissue damage. This type of pain is often a reason to seek health care, and it occurs after trauma, surgical interventions, and some disease processes.

Chronic pain has been described as pain that persists beyond the time for healing of acute injury or that is associated with progressive disease. The nature, duration, and/or intensity of chronic pain adversely affect the function or well-being of the patient. In addition, the pain has been refractory to repeated attempts at medical management and usually has been present for at least three to six months.

Chronic pain has been defined as "persistent or episodic pain of duration or intensity that adversely affects the function or well-being of the patient, attributable to any nonmalignant etiology" ("Practice Guidelines for Chronic Pain Management: A Report by the American Society of Anesthesiologists Task Force on Pain Management, Chronic Pain Section"). In addition, the pain has been refractory to repeated attempts at medical management and usually has been present for at least three to six months.

Pain associated with cancer includes pain associated with disease progression as well as treatments. Pain associated with cancer can have multiple causes—namely, disease progression, treatment (e.g., neuropathic pain resulting from radiation therapy), and co-occurring diseases (e.g., arthritis). Regardless of whether the pain associated with cancer stems from disease progression, treatment, or a co-occurring disease, it may be either acute or chronic.

Spinal pain generates from multiple structures in the spine. Certain conditions may not be detectable using currently available technology or biochemical studies. However, for a structure to be implicated, it should have been shown to be a source of pain in patients, using diagnostic techniques of known reliability and validity. The structures responsible for pain in the spine, include but are not limited to, the vertebral bodies, intervertebral discs, spinal cord, nerve roots, facet joints,

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ligaments, muscles, atlanto-occipital joints, atlanto-axial joints, and sacroiliac joints.

Postlaminectomy syndrome or pain following operative procedures of the spine, sometimes known as failed management syndrome, is becoming an increasingly common entity in modern medicine. Other spinal conditions causing pain include various degenerative disorders such as spinal stenosis, spondylolysis, spondylolisthesis, degenerative scoliosis, idiopathic vertebrogenic sclerosis, diffuse idiopathic spinal hyperostosis, and segmental instability. Degenerative conditions other than disc disruption and facet arthritis may contribute to approximately 5% to 10% of spinal pain.

Neural blockade is one technique used in chronic pain management. Neural blockade is the interruption of neural transmission by the injection of a local anesthetic agent or other drug. Nerve block therapy can be used to answer specific questions resulting from a careful evaluation of the patient's pain problem and to gain insight into the underlying problem causing the pain. Success of the nerve block is determined by the adequacy of interruption of nerve function, and the effect of that blockade on the patient's pain. The goal of chronic pain management is to achieve optimal pain control, recognizing that a pain-free state may not be achievable; minimize adverse outcomes; enhance functional abilities and physical and psychological well-being; and enhance the quality of life for patients with chronic pain.

The facet, or zygapophysial, joints are paired diarthrodial articulations between posterior elements of adjacent vertebrae. Spinal facet joints have been implicated as responsible for spinal pain in 16% to 41% of patients with low back pain (Datta et al, 2009), 36% to 67% of patients with neck pain (Falco et al, 2009) and 34% to 48% of patients with thoracic pain (Atluri et al, 2008). Paravertebral facet joint/nerve block is utilized as a diagnostic tool to determine whether a specific facet joint is responsible for chronic spinal pain. The patient with this condition usually has moderate-to-severe back pain that does not have a strong radicular component, there is no associated neurologic deficit, the pain is typically aggravated by hyperextension of the spine, and there is typically tenderness to palpation of the spine at the level of the suspected joint. Back or neck pain is typically worse than leg or arm pain, respectively, e.g., pain is primarily axial, not radicular.

Facet joint arthropathy (joint disease) is diagnosed through a **double-comparative** local anesthetic blockade of a joint, either by intra-articular injection of a **small volume** of local anesthetic (0.5 to 1.0 ml), or blockade of the medial branch nerves of the dorsal rami innervating the joint with a small volume of local anesthetic (0.5 to 1.0 ml). A single block has been implicated to be a source of false-positive results in 27% to 63% of patients in the cervical spine (Falco et al, 2009), 42% to 58% of the patients in the thoracic spine (Atluri et al, 2008), and 17% to 47% in the lumbar spine (Datta et al, 2009). The diagnosis can be made by a positive but differential response to local anesthetics of different durations of

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action injected on separate occasions.

After a needle is placed into the facet joint or adjacent to the target medial branch nerve under imaging guidance, a small volume (0.5 to 1.0 ml) of a short or long-acting local anesthetic agent with or without steroid is injected. The patient is then asked to engage in activities that typically elicit or aggravate the pain. Relief of pain for a significant period of time suggests that facet joints were the source of the pain. Pre-procedural and post-procedural pain scores (numeric or Visual Analogue) should be documented, and then compared. If significant pain relief occurs after the injection (a positive response), the patient's response should be monitored and documented with regards to the degree of pain relief, duration of pain relief, and improvement in functional status. A repeat block may be performed only if the patient's pain returns and functional status starts to deteriorate. If significant relief is noted with improvement in functional status, but the pain returns after a period of relief, a second block may be performed at a later date with local anesthetic of a different duration of action in order to rule out a false-positive response.

If double-comparative paravertebral facet joint /nerve blocks provide significant pain relief lasting several weeks to months, therapeutic facet joint/nerve blocks may be considered. If double-comparative paravertebral facet joint/nerve blocks provide significant pain relief that is not long-lasting, facet joint denervation may be considered.

For the purposes of this policy, a facet joint level refers to the zygapophyseal joint or the two medial branch nerves innervating that zygapophyseal joint.

INDICATIONS AND LIMITATIONS

Diagnostic or therapeutic injections/nerve blocks may be required for the management of chronic pain. It may take multiple nerve blocks targeting different anatomic structures to establish the etiology of the chronic pain in a given patient. It is standard medical practice to use the modality most likely to establish the diagnosis or treat the presumptive diagnosis. If the first set of procedures fail to produce the desired effect or to rule out the diagnosis, the provider should then proceed to the next logical test or treatment indicated. For the purpose of this paravertebral facet joint block LCD, an anatomic region is defined per CPT as cervical/thoracic (64470, 64472) or lumbar/sacral (64475, 64476). A facet joint level refers to the zygapophyseal joint or the two medial branch nerves innervating that zygapophyseal joint.

Diagnostic Paravertebral Facet Joint/Nerve Block

Diagnostic paravertebral facet joint/nerve block is appropriate for the following conditions:

- Hypertrophic arthropathy of the facet joints causing back and/or neck pain;

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- Back or neck pain following whiplash/post-traumatic injury;
- Back pain greater than leg pain;
- Neck pain greater than arm pain;
- Thoracic pain greater than chest wall pain;
- Back or neck pain associated with suspected motion segment instability/hypermobility or pseudoarthrosis following fusion; and/or

Repeat injection would be considered medically necessary only upon subsequent return of pain and deterioration in functional status. As noted in the above, if pain returns after a satisfactory response it may be necessary to give a second injection on a different date of service to determine the etiology of the pain and effectiveness of the injection. Two-to-three adjacent joint levels may need to be injected before the level(s) is (are) determined.

The standard of care for all paravertebral facet joint/nerve block injections requires that these procedures be performed under fluoroscopic- or CT-guided imaging. Therefore, injections performed without imaging guidance will be denied as inappropriate and not reasonable or necessary.

Therapeutic Paravertebral Facet Joint/Nerve Block

When a patient has relief of pain with controlled diagnostic blocks with a combined response from two blocks of several weeks to months, he/she may be considered a candidate for therapeutic facet joint/nerve nerve blocks. When a patient has relief of pain (positive response), but an insufficient duration of symptom relief, with controlled diagnostic blocks, he/she should be considered for a more definitive procedure such as denervation unless, of course, the diagnosis is in error.

Therapeutic facet joint/nerve block injections may be considered provided that:

- injections do not exceed a frequency parameter of more than once every two (2) months for a specific region (cervical/thoracic, lumbosacral);
- initial pain relief of greater than or equal to ($> / =$) 80%-90% with the ability to perform previously painful maneuvers and persistent pain relief for a minimum of six (6) weeks of $> / =$ 50% with the continued ability to perform previously painful maneuvers; and
- appropriate consideration is given to the adverse effects (e.g., adrenal suppression of corticosteroid injections).

Paravertebral Joint/Nerve Denervation

Paravertebral facet joint denervation is the destruction of a paravertebral facet joint nerve by neurolytic agent (e.g., chemical, thermal, electrical, radiofrequency). Facet joint denervation may be considered if double-comparative paravertebral facet joint/nerve blocks do provide significant pain relief, but the pain relief is **not** long-lasting. This procedure involves placing a needle or

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radiofrequency cannula adjacent to each of the two, or more, medial branch nerves innervating the target joint(s).

Indications for Paravertebral Joint/Nerve Denervation:

Facet joint arthropathy (joint disease) is diagnosed through a **double-comparative** local anesthetic blockade as described above.

For those beneficiaries that are considered candidates for denervation, the medical record should reflect the failure of conservative therapy and that appropriate diagnostic paravertebral facet joint/nerve block studies have been performed. Studies should document the specific joint level(s) affected and that significant, but not long-lasting, pain relief has been obtained from the paravertebral facet joint/nerve blocks. Significant pain relief in this instance is defined as greater than or equal to (>/=) 80%-90% initially with the ability to perform previously painful maneuvers.

LIMITATIONS:

Limitations for Paravertebral Joint/Nerve Denervation:

The effects of denervation should last from six (6) months to one (1) year, or longer. In some instances, though, the effects may be permanent. Repeat denervation procedures at the same joint/nerve level will only be considered medically necessary when the patient had significant improvement of pain after the initial facet joint nerve destruction that lasted an appropriate period of time (greater than or equal to six months).

Pulsed radiofrequency for denervation is considered investigational and thus, not medically necessary.

Limitations for all Diagnostic and Therapeutic Facet Joint Interventions

Low back pain may also be associated with "myofascial pain syndrome" or a soft-tissue source of pain in which case no nerve root pathology exists, so interlaminar/translaminar, caudal, or transforaminal epidural injection would be ineffective. If the diagnosis is in question, the diagnosis of radiculopathy should be confirmed by electrophysiological studies, radiological studies, or a diagnostic transforaminal selective epidural/selective nerve root injection. A paravertebral joint/nerve or sacroiliac joint injection would also not be indicated for pain associated with "myofascial pain syndrome."

Nerve blocks may be used for diagnostic and therapeutic purposes. Therapeutic blocks include the use of anesthetic, antispasmodic, and/or anti-inflammatory substances for the long-term control of pain. There is no role for a "series" of injections. Each injection should be individually evaluated for clinical efficacy (diagnostically and/or therapeutically). If complete, but only temporary pain relief

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occurs after the injections, another type of treatment needs to be considered.

Other interventional pain management procedures done on the same day as paravertebral facet joint blocks should be rare. In certain circumstances a patient may present with both facet and sacroiliac problems. In this case, it is appropriate to perform both facet injections and SI injection at the same session assuming that these are therapeutic injections and that prior diagnostic injections (blocks) have demonstrated that both structures contribute to pain generation. The medical record must clearly support both procedures. Medicare recognizes that this is not common and will monitor the frequency with which these codes are combined. Multiple procedure modifiers will apply to intraarticular sacroiliac injection.

It is usually not appropriate to provide an interlaminar epidural/intrathecal injection, a transforaminal selective epidural (or selective nerve root injection), facet joint/nerve block, sacroiliac joint injection, lumbar sympathetic block, or other nerve block on the same day. Therefore, only one of these procedures is allowed on a given day, unless conditions are met as described immediately above for paravertebral and sacroiliac joints or one of the following conditions occur and are documented in the medical record.

- If more than one type of diagnostic injection is performed on the same day, the anesthetic response to the first injection must be assessed and demonstrate incomplete pain relief prior to proceeding with the additional injection. Otherwise it would be impossible to determine which injection resulted in pain relief.
- Multiple pain generators are present and are clearly documented in a patient on anticoagulants, requiring the anticoagulants to be stopped for the injection(s).

General anesthesia or monitored anesthesia care (MAC) is rarely, if ever required for injections addressed in this policy. In fact, general anesthesia is contraindicated for diagnostic blocks (Manchikanti et al 2005). Further, monitored anesthesia care or heavy sedation may provide false-positive results.

CMS Publication 100-08, *Program Integrity Manual*, Chapter 13, section 5.1 outlines that "reasonable and necessary" services are "ordered and /or furnished by qualified personnel." Services will be considered medically reasonable and necessary only if performed by appropriately trained providers. Training and expertise must have been acquired within the framework of an accredited residency and/or fellowship program in the applicable specialty/subspecialty. If this skill has been acquired as continuing medical education, the courses must be comprehensive, offered, sponsored or endorsed by an academic institution in the United States and/or by the applicable specialty/subspecialty society in the United States, and designated by the American Medical Association (AMA) as Category 1 Credit. Documentation of training must be available upon request.

Coding Information

CPT/HCPCS Codes

CPT/HCPCS coding is required for all Part B carrier physicians/providers.

64470 INJECTION, ANESTHETIC AGENT AND/OR STEROID, PARAVERTEBRAL FACET JOINT OR FACET JOINT NERVE; CERVICAL OR THORACIC, SINGLE LEVEL

64472 INJECTION, ANESTHETIC AGENT AND/OR STEROID, PARAVERTEBRAL FACET JOINT OR FACET JOINT NERVE; CERVICAL OR THORACIC, EACH ADDITIONAL LEVEL (LIST SEPARATELY IN ADDITION TO CODE FOR PRIMARY PROCEDURE)

64475 INJECTION, ANESTHETIC AGENT AND/OR STEROID, PARAVERTEBRAL FACET JOINT OR FACET JOINT NERVE; LUMBAR OR SACRAL, SINGLE LEVEL

64476 INJECTION, ANESTHETIC AGENT AND/OR STEROID, PARAVERTEBRAL FACET JOINT OR FACET JOINT NERVE; LUMBAR OR SACRAL, EACH ADDITIONAL LEVEL (LIST SEPARATELY IN ADDITION TO CODE FOR PRIMARY PROCEDURE)

77003 FLUOROSCOPIC GUIDANCE AND LOCALIZATION OF NEEDLE OR CATHETER TIP FOR SPINE OR PARASPINOUS DIAGNOSTIC OR THERAPEUTIC INJECTION PROCEDURES (EPIDURAL, TRANSFORAMINAL EPIDURAL, SUBARACHNOID, PARAVERTEBRAL FACET JOINT, PARAVERTEBRAL FACET JOINT NERVE, OR SACROILIAC JOINT), INCLUDING NEUROLYTIC AGENT DESTRUCTION

77012 COMPUTED TOMOGRAPHY GUIDANCE FOR NEEDLE PLACEMENT (EG, BIOPSY, ASPIRATION, INJECTION, LOCALIZATION DEVICE), RADIOLOGICAL SUPERVISION AND INTERPRETATION

ICD-9 Codes that Support Medical Necessity

It is the responsibility of the physician/provider to code to the highest level specified in the ICD-9-CM (e.g., to the fourth or fifth digit). The correct use of an ICD-9-CM code listed below does not assure coverage of a service. The service must be reasonable and necessary in the specific case and must meet the criteria specified in this determination.

721.0 CERVICAL SPONDYLOSIS WITHOUT MYELOPATHY

721.1 CERVICAL SPONDYLOSIS WITH MYELOPATHY

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721.2	THORACIC SPONDYLOSIS WITHOUT MYELOPATHY
721.3	LUMBOSACRAL SPONDYLOSIS WITHOUT MYELOPATHY
721.41	SPONDYLOSIS WITH MYELOPATHY THORACIC REGION
721.42	SPONDYLOSIS WITH MYELOPATHY LUMBAR REGION
722.4	DEGENERATION OF CERVICAL INTERVERTEBRAL DISC
722.51	DEGENERATION OF THORACIC OR THORACOLUMBAR INTERVERTEBRAL DISC
722.52	DEGENERATION OF LUMBAR OR LUMBOSACRAL INTERVERTEBRAL DISC
733.82	NONUNION OF FRACTURE
738.4	ACQUIRED SPONDYLOLISTHESIS
756.11	CONGENITAL SPONDYLOLYSIS LUMBOSACRAL REGION
756.12	SPONDYLOLISTHESIS CONGENITAL
847.0	NECK SPRAIN
847.1	THORACIC SPRAIN
847.2	LUMBAR SPRAIN

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Documentation Requirements

The patient's medical record should contain documentation that fully supports the medical necessity for paravertebral facet joint/nerve injections as they are covered by Medicare (please see "Indications and Limitations of Coverage and/or Medical Necessity"). This documentation includes, but is not limited to, relevant medical history, physical examination, results of pertinent diagnostic tests or procedures.

Medical documentation in the patient's medical record should substantiate the suspected diagnosis. As an example, "The patient had back pain without a strong radicular component, no associated neurologic deficit, and the pain was aggravated by hyperextension of the spine." Medical documentation should also demonstrate that the patient's pain has been refractory to repeated attempts at medical management. The following lists specific criteria that should be documented in the medical record:

- Complete initial evaluation including history and physical examination;
- Physiological and functional assessment, as necessary and feasible;

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Description of indications and medical necessity, as follows:

- Suspected organic problem;
- Pain and disability of moderate-to-severe degree;
- No evidence of contraindications such as severe spinal stenosis resulting in intraspinal obstruction, infection, or predominantly psychogenic pain;
- Nonresponsiveness to conservative modalities of treatment;
- Repeating interventions only upon return of pain and deterioration in functional status; and/or
- Responsiveness to prior interventions with improvement in physical and functional status for repeat blocks or other interventions.

Document the total amount of injectate for all medications used, **not** to exceed 0.5 to 1 mL per facet joint or medial branch nerve.

The standard of care for all facet joint/nerve injections requires that these procedures be performed under fluoroscopic- or CT-guided imaging. An image (plain radiograph with conventional film or specialized paper) documenting the needle position must be obtained whenever a substance is injected. A hard or digital copy of the needle placement should be retained to document accurate placement.

Utilization Guidelines

It is expected that these services would be performed as indicated by current medical literature and/or standards of practice. Services performed in excess of established parameters may be subject to review for medical necessity. In addition to the information in "Indications and Limitations of Coverage and/or Medical Necessity," the following additional guidelines are presented.

Frequency and Number of Injections or Interventions:

- In the **diagnostic phase**, a patient may receive epidural/intrathecal injections at intervals of no sooner than one week or preferably, two weeks. Blockade in cancer pain or when a continuous administration of local anesthetic is employed for reflex sympathetic dystrophy are exceptions.
- The number of injections in the diagnostic phase should be limited to no more than two times.
- Usually, no more than two, and occasionally three, diagnostic injections would be expected per date of service, per region (cervical/thoracic, lumbosacral).
- Once a structure is proven to be negative, no repeat interventions should be directed at that structure unless there is a new clinical presentation with symptoms, signs, and diagnostic studies of known reliability and validity that implicate the structure.

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- The effect of injected corticosteroids may remain for several weeks. The benefit is attributed to a decrease of local inflammation and perhaps some local anesthetic effect. It is usually not necessary to repeat an injection if there has been a satisfactory response to the first injection. Patients who relapse after a satisfactory response may be candidates for another trial after an appropriate interval. Consideration should be given to the cumulative dose injected and limitations made to avoid steroid complications.
- In the **therapeutic phase** (after the diagnostic phase is completed), the frequency of interventional techniques should be two months or longer between each injection, provided that there is initial pain relief with diagnostic injections of greater than or equal to (\geq)80%-90% with the ability to perform previously painful maneuvers, and a persistent pain relief of \geq 50% with the continued ability to perform previously painful maneuvers is maintained for at least six weeks. The therapeutic frequency must remain at least two months or longer for each region.
- In the treatment or **therapeutic phase**, the interventional procedures should be repeated only as medically necessary. No more than four therapeutic injections of any type (interlaminar or caudal epidural, transforaminal epidural, paravertebral facet joint or nerve, and/or sacroiliac joint) per region per patient per year are anticipated for the majority of patients.
 - Under unusual circumstances with a recurrent injury, carcinoma, or reflex sympathetic dystrophy, blocks may be repeated more frequently in the treatment phase after diagnosis/stabilization.
- Only paravertebral facet joint/nerves for which there has been a positive response should be injected for therapeutic reasons. No more than two, and occasionally three unilateral or bilateral joint/nerve injections per region would be anticipated per date of service.
- Only paravertebral facet joints for which there has been a positive response to at least two double-comparative local anesthetic injections should be denervated.
- Claims billed for denervation procedures performed more frequently than once every six months at the same target level (region) must be supported by documentation describing the unusual clinical circumstances and response to prior therapy(ies).

Sources of Information and Basis for Decision

AdminaStar Federal and other Medicare contractors' Local Coverage Determinations/Local Medical Review Policies

American Society of Anesthesiologists. Practice guidelines for chronic pain management. *Anesthesiology* 1997; 86:995-1004.

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