

MEDICAL POLICY

Medical Policy Title	Epidural Steroid Injections
Policy Number	7.01.115
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Our medical policies are guides to evaluate technologies or services for medical necessity. Criteria are established through the assessment of evidence based, peer-reviewed scientific literature, and national professional guidelines. Federal and state law(s), regulatory mandates and the member's subscriber contract language are considered first in the determination of a covered service.

(Link to [Product Disclaimer](#))

POLICY STATEMENT(S)

Selective Nerve Root Block (SNRB)

- I. An initial level diagnostic selective nerve root block (SNRB) is considered **medically appropriate** when **ALL** the following criteria are met:
 - A. Performed at a single nerve root;
 - B. Performed with anesthetic injectate;
 - C. Performed when attempting to establish the diagnosis of radicular pain (including radiculitis) or radiculopathy when the diagnosis remains uncertain after standard evaluation (neurologic examination and either radiological studies and/or electrodiagnostic studies) in **ANY** of the following clinical scenarios:
 1. When the physical signs and symptoms do not correlate with imaging findings;
 2. When there is clinical evidence of multi-level nerve root pathology;
 3. When the clinical presentation is suggestive of, but not typical for, both nerve root and peripheral nerve or joint disease involvement;
 4. When the clinical findings are consistent with radiculopathy in a level-specific referral pattern of an involved named spinal root(s), but the imaging studies do not corroborate the physical exam findings (positive straight leg raise test);
 5. When the individual has had previous spinal surgery; **or**
 6. When performed for the purposes of surgical planning.
- II. A diagnostic SNRB at a spinal level other than the initial level is considered **medically appropriate** when **ALL** the following criteria are met:
 - A. The prior diagnostic SNRB resulted in less than 80% pain relief from the injectate utilized;
 - B. There is evidence of multilevel pathology;
 - C. It has been at least seven (7) days since the prior diagnostic SNRB.
- III. A diagnostic SNRB for any other indication is considered **not medically necessary** (e.g., post-

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herpetic neuralgia).

- IV. A diagnostic SNRB performed using injectates other than anesthetic, corticosteroid, and/or contrast agent administered alone or in combination, is considered **investigational**.
- V. A therapeutic SNRB (i.e., a repeat SNRB at the same level) performed for **ANY** indication is considered **investigational**.
- VI. An SNRB performed with ultrasound guidance is considered **investigational**.
- VII. A diagnostic SNRB scheduled as part of a “series-of-three” without evaluation of response to the prior injection is considered **not medically necessary**.

Initial Epidural Steroid Injection (Interlaminar, Transforaminal, or Caudal)

VIII. Initial epidural steroid injection (ESI) (interlaminar, transforaminal, or caudal) is considered **medically appropriate** for **any** of the following conditions when **ALL** the associated criteria are met:

- A. For treatment of presumed radiculopathy, when **ALL** the following criteria are met:
 - 1. Failure of at least four (4) weeks of conservative treatment (e.g., exercise, physical therapy, chiropractic care, or medications to include nonsteroidal anti-inflammatory drugs [NSAIDs] or analgesics);
 - 2. The individual is participating in a comprehensive pain management program that includes **all** of the following: physical therapy, patient education, psychosocial support, and oral medications;
 - 3. Symptoms include the presence of pain, dysesthesia(s), or paresthesia(s) in a level-specific referral pattern of an involved named spinal root(s) causing significant functional limitations (i.e., diminished quality of life and impaired age-appropriate activities of daily living), and **any** of the following:
 - a. Detailed neurologic examination within the prior three (3) months demonstrates at least **one (1)** of the following findings, concordant with nerve root compression of the involved named spinal root(s):
 - i. Loss of strength of specific named muscle(s) or myotomal distribution(s);
 - ii. Altered sensation to light touch, pressure, pin prick, or temperature in the sensory distribution; **or**
 - iii. Diminished, absent, or asymmetric reflex(es);
 - b. A concordant radiologist’s interpretation of an advanced imaging (e.g., MRI, CT, CT-myelogram) within the past 24 months confirming compression of the involved named spinal nerve root(s) or foraminal stenosis at the concordant level; **or**
 - c. Electrodiagnostic studies (EMG/NCV) within the past 24 months are diagnostic of nerve root compression of the involved named spinal nerve root(s); **and**
 - 4. Advanced imaging (e.g., MRI, CT, CT myelogram) within the past 24 months is required

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for cervical/thoracic interlaminar and transforaminal epidural steroid injections.

- B. For treatment of presumed radiculitis or radicular pain, when **ALL** the following criteria are met:
 - 1. Failure of at least four (4) weeks of conservative treatment (e.g., exercise, physical therapy, chiropractic care, or medication to include nonsteroidal anti-inflammatory drugs [NSAIDs] or analgesics);
 - 2. The individual is participating in a comprehensive pain management program that includes ALL of the following: physical therapy, patient education, psychosocial support, and oral medications; **and**
 - 3. Advanced imaging (e.g., MRI, CT, CT myelogram) within the past 24 months is required for cervical/thoracic interlaminar and transforaminal ESI.
- C. As an initial trial treatment for evidence of neurogenic claudication (e.g., leg pain, paresthesia, heaviness, or cramping brought on when walking and relieved when leaning forward or sitting down) when **ALL** the following criteria are met:
 - 1. Advanced imaging (e.g., MRI CT CT-myelography) within the past 24 months confirms moderate-to-severe spinal stenosis at the level to be treated;
 - 2. Diagnostic evaluation has ruled out other potential causes of pain;
 - 3. Symptoms include significant functional limitations resulting in diminished quality of life and impaired, age-appropriate activities of daily living;
 - 4. Failure of at least four (4) weeks of conservative treatment (e.g., exercise, physical therapy, chiropractic care, or medication to include nonsteroidal anti-inflammatory drugs [NSAIDs] or analgesics); **and**
 - 5. The individual is participating in a comprehensive pain management program that includes **all** the following: physical therapy, patient education, psychosocial support, and oral medications.
- IX. A transforaminal epidural steroid injection (TFESI)* performed with an intra-articular facet joint injection with synovial cyst aspiration is considered **medically appropriate**, when **ALL** the following criteria are met:
 - A. The individual is participating in a comprehensive pain management program that includes **all** of the following: physical therapy, patient education, psychosocial support, and oral medications;
 - B. Advanced imaging (e.g., MRI, CT, CT myelogram) within the past 24 months confirms compression or displacement of the corresponding nerve root by a facet joint synovial cyst;
 - C. There is a clinical correlation (based on history and physical examination) with the individual's signs and symptoms of radicular pain or radiculopathy.

*Note: Refer to Policy Guidelines for the exception that an TFESI can be performed on the same day as an intra-articular facet joint injection with synovial cyst aspiration.

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Repeat Epidural Steroid Injections (Interlaminar, Transforaminal, or Caudal)

- X. Repeat epidural steroid injection (ESI) (interlaminar, transforaminal, or caudal) is considered **medically appropriate** when **ALL** of the following criteria are met:
- A. It has been at least 14 days since the prior epidural steroid injections. Note: See Policy Statement XI and the Policy Guidelines for ESI session limits;
 - B. There has been documented pain relief of at least 50% for at least two (2) weeks and **either** of the following criteria are met:
 - 1. Increase in the level of function/physical activity; **or**
 - 2. Reduction in the use of pain medication and/or additional medical services, such as physical therapy/chiropractic care;
 - C. Advanced imaging (e.g., MRI, CT, CT-myelogram) within the past 24 months is required for cervical/thoracic interlaminar and transforaminal ESI.
- XI. Epidural steroid injections (interlaminar, transforaminal, or caudal) are considered **not medically necessary** for **ANY** of the following:
- A. When performed without imaging guidance (i.e., CT, fluoroscopy), except for an emergent situation or when fluoroscopic/CT guidance or the injection of contrast is contraindicated (e.g., pregnancy);
 - B. TFESI or Caudal ESI (CESI) is performed at more than two (2) contiguous foraminal levels (unilateral or bilateral) during the same session;
 - C. Caudal ESI (CESI) is performed for symptomatic levels above L4-L5;
 - D. Interlaminar epidural steroid injection (ILES) or caudal epidural steroid injection (CESI) is performed at more than a one (1) spinal level during the same session;
 - E. ESI is performed on the same date of service as other invasive modality or procedures, with the exception of an intra-articular facet joint injection being performed together with for a transforaminal epidural steroid injection (TFESI) with synovial cyst aspiration on the same date of service;
 - F. ESI is performed in isolation, without the individual participating in a comprehensive pain management program that includes all of the following: physical therapy, patient education, psychosocial support, and oral medications;
 - G. There are more than three (3) sessions of epidural steroid injections per episode of pain, per region, in six (6) months (refer to Policy Guidelines);
 - H. There are more than four (4) sessions of epidural steroid injections per region in a rolling 12 months (refer to Policy Guidelines);
 - I. ESI scheduled as a “series-of-three” without evaluation of response to the prior injection.
- XII. The following are considered **investigational**:

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- A. ESI with ultrasound guidance for any indication.
- B. ESI performed using injectates other than anesthetic, corticosteroid, and/or contrast agent administered alone or in combination.

RELATED POLICIES

Corporate Medical Policy

2.01.24 Platelet Rich Plasma and Growth Factor Treatments

7.01.42 Radiofrequency Facet and Sacroiliac Joint Ablation/Denervation

7.01.116 Facet Joint Injections/ Medial Branch Blocks

11.01.03 Experimental or Investigational Services

POLICY GUIDELINE(S)

Injectates

- I. The policy criteria are applicable to selective nerve root blocks (SNRBs) and epidural steroid injections (ESIs) for the conditions listed within the policy statements above.
- II. This policy only applies to the injection of anesthetic, corticosteroid, and/or contrast agent, and not to other injectates, including, but not limited to, Spinraza, chemotherapy, neurolytic substances, antispasmodics, antibiotics, antivirals, or biologics.
- III. This policy does not apply to epidural injections administered for obstetrical or surgical epidural anesthesia, epidural injections administered for peri-operative pain management, epidural injections/indwelling catheter placement for a trial for an implantable intrathecal or epidural drug pump if there is no delegation for prior authorization of the code(s) for implantable intrathecal or epidural drug pumps.

Image-Guidance

- IV. When criteria have been met, an ESI and selective nerve root block must be performed with the use of fluoroscopic- or CT-guidance. Criteria exception is allowed for an emergent situation when fluoroscopic-guidance, CT-guidance, or the injection of contrast is contraindicated (e.g., pregnancy).

Frequency & Number of Injections/Procedures

- V. When criteria have been met, up to three (3) sessions of ESIs per episode of pain, per region (cervical, thoracic, lumbar), during a six (6) month period, and up to four (4) sessions during a rolling 12-month period.
- VI. When criteria have been met, only one invasive modality or procedure performed on the same date of service is allowed. Criteria exception: an exception is allowed for a transforaminal epidural steroid injection (TFESI) performed with a synovial cyst aspiration on the same date of service.

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Levels

- VII. When criteria have been met for a therapeutic TFESI, no more than two (2) contiguous levels (whether unilateral or bilateral) are allowed during the same session.
- VIII. When criteria have been met for a diagnostic SNRB, only one single level/single side is allowed during the same session.
- IX. When criteria have been met for an ILESI or caudal ESI, only one spinal level is allowed during the same session. Note: Caudal ESI only involves symptomatic levels below L4-L5.

DESCRIPTION

Definitions for Epidural Steroid Injections:

Caudal epidural steroid injection (Caudal ESI) is an injection of contrast, (absent allergy to contrast), followed by the introduction of corticosteroids and possibly a local anesthetic into the epidural space of the spine by inserting a needle through the sacral hiatus under fluoroscopic guidance into the epidural space at the sacral canal.

Interlaminar epidural steroid injection (ILESI) is an injection of contrast, (absent allergy to contrast), followed by the introduction of a corticosteroid and possibly a local anesthetic into the epidural space of the spine either through a paramedian or midline interlaminar approach under fluoroscopic guidance.

Neurogenic claudication is the clinical syndrome commonly associated with lumbar spinal stenosis. Symptoms of neurogenic claudication are described as leg pain, paresthesia, heaviness, or cramping brought on when walking and relieved when leaning forward or sitting down.

Radicular pain is pain that radiates along the course of a spinal nerve root, typically resulting from compression, inflammation, and/or injury to the nerve root.

Radiculitis is inflammation of a spinal nerve root, often leading to pain, numbness, tingling, or weakness along the nerve's pathway.

Radiculopathy is the presence of pain, dysesthesia(s), or paresthesia(s) in a level-specific referral pattern of an involved named spinal root(s) causing significant functional limitations (i.e., diminished quality of life and impaired age-appropriate activities of daily living) and any of the following:

- A detailed neurologic examination within the prior three (3) months demonstrates at least one of the following findings (concordant with nerve root compression of the involved named spinal root[s]):
 - o Loss of strength of specific named muscle(s) or myotomal distribution(s);
 - o Altered sensation to light touch, pressure, pin prick, or temperature in the sensory distribution;
 - o Diminished, absent, or asymmetric reflex(es).
 - o A concordant radiologist's interpretation of an advanced diagnostic imaging study (e.g., MRI or CT) within the past 24 months confirming compression of the involved named spinal nerve

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root(s) or foraminal stenosis at the concordant level(s);

- o Electrodiagnostic studies (EMG/NCV) within the past 24 months are diagnostic of nerve root compression of the involved named spinal nerve root(s).

Selective nerve root block (SNRB) is a diagnostic injection of contrast (absent allergy to contrast) followed by the introduction of local anesthetic to anesthetize a single specific spinal nerve root. This procedure is performed by inserting a needle into the neuroforamen under fluoroscopic or computed tomography (CT) guidance. This procedure is often used to assist with surgical planning.

- SNRBs are erroneously referred to as transforaminal epidural steroid injection (TFESI), although technically SNRBs involve the introduction of anesthetic only and are used for diagnostic purposes.
- Selective nerve root blocks (SNRBs) performed for the purpose of treating pain (i.e., repeat SNRB at the same level) may be termed therapeutic selective nerve root blocks. There is insufficient evidence to support the clinical utility of therapeutic selective nerve root blocks (SNRBs).

Session is a time period, which includes all procedures (i.e., epidural steroid injection, selective nerve root block, facet joint injection, medial branch nerve block (MBB), and facet joint radiofrequency ablation (RFA)) performed on a single date of service.

Spinal stenosis is the narrowing of the spinal canal usually due to spinal degeneration that occurs with aging. It may also be the result of spinal disc herniation, osteoarthritis, epidural lipomatosis, or a tumor.

Transforaminal epidural steroid injection (TFESI) is a therapeutic injection of contrast (absent allergy to contrast) performed at a single or multiple spinal levels, followed by the introduction of a corticosteroid and possibly a local anesthetic by inserting a needle into the neuroforamen under fluoroscopic or computed tomography (CT) guidance.

SUPPORTIVE LITERATURE

Epidural spinal injection (ESI) is one of several therapies available for people who fail conservative treatment, and is a common modality used for radicular pain and lumbar referred pain with several potentially painful conditions (e.g., neurogenic claudication) associated with degenerative or isthmic spinal stenosis.

Buenaventura et al (2009) conducted a systematic review to evaluate the effectiveness of lumbar TFESIs in managing chronic radicular pain. Of the four randomized, controlled trials evaluating TFESIs, all showed positive results for short-term relief. Two studies were positive for long-term relief; the results for long-term relief were not available for the third study, and the fourth study had negative long-term relief results.

Novak et al (2008) conducted a systematic review to evaluate the evidence in support of guidelines on frequency and timing of epidural steroid injections, to help determine what sort of response should occur to repeat an injection. The review included 11 randomized, controlled trials, one prospective controlled trial, and two prospective cohort studies. The authors concluded that there is

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limited evidence to suggest guidelines for frequency and timing of epidural steroid injections or to help define an appropriate partial response that would trigger a repeat injection. Research suggests that repeat injections may improve outcomes, but conclusions cannot be made due to methodological limitations of the available evidence. The authors further concluded that there does not appear to be any evidence to support the common practice of a series of injections.

Parr et al (2012) conducted a systematic review evaluating the effect of caudal epidural injections with or without steroids in managing various types of chronic low back and lower extremity pain, produced good evidence for short- and long-term relief of chronic pain secondary to disc herniation or radiculitis with local anesthetic and steroids, and fair relief with local anesthetic only. Further, this systematic review also provided only fair evidence for caudal epidural injections in managing chronic axial or discogenic pain, spinal stenosis, and post-surgery syndrome.

Lumbar Radiculopathy

In a Cochrane review, Oliveira et al (2020) published a systematic review and meta-analysis of 25 placebo-controlled randomized trials (n=2,470) evaluating the efficacy and safety of epidural corticosteroid injections for lumbosacral radicular pain. Moderate-quality evidence indicated that epidural corticosteroid injections were slightly more effective than placebo in reducing short-term leg pain and short-term disability (95% CI). However, the treatment effects were small and may not be considered clinically important (i.e., mean difference lower than 10%). Epidural corticosteroid injections were not more effective than placebo for reducing leg pain at intermediate or long-term follow-up. Adverse events were mostly minor (e.g., headache, accidental dural puncture, worsening pain), with no significant difference between groups. The authors concluded that the available evidence provides only limited support for the use of epidural corticosteroid injections in lumbosacral radicular pain, as benefits are small and largely confined to the short term.

Verheijen et al (2021) conducted a meta-analysis of 17 RCTs comparing ESI to epidural or nonepidural placebo in patients with sciatica. Studies were eligible for inclusion in the meta-analysis if they provided data on sciatica patients (any level of pain, any duration of symptoms, and any prior therapy). For back pain, ESI was not significantly more effective than epidural placebo at 6 weeks (p=.14), 3 months (p=.95), or 6 months (p=.53). GRADE quality of evidence was moderate at 6 weeks, very low at 3 months, and low at 6 months. When compared to nonepidural placebo, ESI resulted in greater relief of back pain at 3 months (p=.02) but not at 6 weeks or 6 months (quality of evidence: moderate). Based on low-quality evidence, leg pain was significantly improved with ESI compared to epidural placebo at 6 weeks (p<.01) and 3 months (p=.04), but not at 6 months (p=.31). In a sensitivity analysis adjusting for heterogeneity, leg pain was significantly improved with ESI compared to epidural placebo at all time points. Compared to nonepidural placebo, ESI did not significantly improve leg pain at any time point (quality of evidence: low to moderate). Functional status was significantly improved with ESI versus epidural placebo at 6 weeks (p<.01), but between-group differences were not significant at 3 months or 6 months (quality of evidence: moderate at 6 weeks, low at 3 months, and very low at 6 months). Compared to nonepidural placebo, ESI did not significantly improve functional status at any time point (quality of evidence: moderate). The patient population included in this review was not well-defined; therefore, it is unclear whether certain subpopulations may obtain greater benefit from ESI. Other limitations of the review include the

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relatively small number of studies available (particularly for the back pain outcome analyses and all comparisons between ESI and nonepidural placebo), the unclear clinical importance of the outcomes, and the variation in treatment success definitions across studies.

Cervical Radiculopathy

Cohen et al (2014) reported the results of an RCT that compared ESI, conservative treatment, and a combination of both for patients with cervical radiculopathy. A total of 169 patients were randomized to conservative care (physical therapy plus medications), ESIs, or a combination of both treatments. The primary outcomes were neck and arm pain measured at 1- and 3- months posttreatment. There were no differences noted between ESI and conservative care on any of the outcome measures. The group receiving combination therapy had a greater reduction in arm pain at 1 month compared with the two individual treatments and had a greater success rate at 3 months (56.9% vs. 26.8%, $p=.006$).

Borton et al (2022) performed a systematic review of cervical transforaminal ESIs for cervical radiculopathy. The review included six studies (3 RCTs and 3 observational studies; $n=443$). None of the included studies directly compared cervical transforaminal ESIs with other treatment options or placebo. Short-term (4 to 8 weeks) decreases in pain scores following injection varied greatly both within and between the six studies, and mean reduction in pain scores ranged from 18% to 70%. Four studies reported on longer-term pain relief (> 8 weeks), and mean reduction in pain scores ranged from 33% to 73%; however, there was a significant number of patients lost to follow-up in these studies.

Spinal Stenosis

Schneider et al (2019) published the results of a 3-arm RCT comparing the clinical effectiveness of medical care ($n=88$), group exercise ($n=84$), and manual therapy/individualized exercise ($n=87$) in patients with lumbar spinal stenosis. Treatment in the medical care group consisted of medications and/or ESI provided by a physiatrist. Study limitations include failure to disclose the proportion of patients in the medical care group that received ESI during the course of the study, excluding patients <60 years of age, and no direct reporting of pain outcomes. The primary outcomes were symptoms and physical function as measured by the patient-reported Swiss Spinal Stenosis (SSS) score. The SSS score ranges from 12 to 55 points, with higher scores indicating higher levels of self-reported disability. Analyses at 2 months indicated that manual therapy/individualized exercise demonstrated greater reduction in SSS score compared to medical care or group exercise. The magnitude of the difference in the reduction of SSS score between groups did not reach the level of a minimal clinically important difference of 3.02 points.

Failed Back Surgery Syndrome

The evidence is insufficient to determine that ESI results in an improvement in the net health outcome for individuals with failed back surgery syndrome (FBSS), also known as persistent spinal pain syndrome (PSPS) or post-laminectomy syndrome.

Celenlioglu et al (2022) investigated the efficacy of caudal epidural steroid injection (CESI) versus transforaminal epidural steroid injection (TFESI) in patients with post lumbar surgery syndrome

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(PLSS). In a prospective, randomized, assessor-blind study, a total of 56 patients (n = 26 CESI group; n = 30 TFESI group) were randomized and assessed at baseline, 1-hour, 3-weeks, and 3-months after the procedure. Treatment success was defined as a $\geq 50\%$ decrease in the Numeric Rating Scale (NRS-11) scores compared to baseline. NRS-11 and modified Oswestry Disability Index (mODI) scores showed a significant decline in both groups at all follow-ups ($p < 0.001$). At 3 weeks, the improvement in the mODI scores was significantly higher in the TFESI group ($p = 0.020$). In all follow-ups, the NRS-11 scores were similar between the groups. At 3 weeks, the rates of patients with a $\geq 50\%$ decrease in NRS-11 scores were 53.8% and 60% in the CESI group and TFESI group, respectively, while these rates were 30% and 26.7%, respectively, at 3 months. Although both CESI and TFESI were effective and safe methods in the treatment of PLSS caused by EF following lumbar discectomy, the study was limited by the lack of a placebo-controlled group and a short follow-up period.

Herpes Zoster Associated Pain (Active and Postherpetic Neuralgia)

A single case report described complete resolution of thoracic postherpetic neuralgia symptoms at 2- and 12-week follow-up after a transforaminal ESI (Mehta 2015); however, case-level evidence is insufficient to draw conclusions about efficacy.

Fujiwara et al (2018) conducted a randomized prospective trial comparing transforaminal (TF) and interlaminar (IL) epidural steroid injection approaches in patients (n=40) with acute-phase shingles. Patients were evaluated at baseline, 1 month, and 3 months using VAS and SF-36 scores. VAS scores at 1- and 3-month follow-up were significantly lower than baseline in both groups, with no significant difference between approaches. SF-36 scores and PHN incidence (defined as VAS >40 at 3 months) were also not significantly different between groups. The study was limited by a small sample size that did not meet power analysis requirements and a short follow-up period. The authors concluded that both IL and TF approaches improved pain scores, but neither demonstrated superiority.

Ghanavatian et al (2019) conducted a retrospective review of 42 patients with PHN managed by ESI at Mayo Clinic campuses from 1997 through 2018. A total of 97% of patients were treated with interlaminar ESI. Patients who reported poor ESI efficacy at 2 weeks had a 94% chance of continued pain at 12 weeks. Conversely, of the 24 patients who reported moderate-to-good pain relief at 2 weeks, 79% had persistent relief at 12 weeks. PHN duration <11 months was predictive of moderate-to-good pain relief at 12 weeks (positive predictive value 55.2%). However, no patient characteristics, concurrent medications, or type of intervention were significantly associated with ESI efficacy. The study was limited by its retrospective design and small sample size.

Choi et al (2020) conducted a prospective, double-blind, randomized controlled trial comparing a single 5 mg epidural dexamethasone dose (group A) with intermittent repeated doses totaling 15 mg (group B) in patients (n=42) with zoster-associated pain (ZAP) beyond the acute phase (30–180 days after rash onset). The primary outcome was change in NRS pain score and the secondary outcome was complete remission of PHN. The percentage of patients with $\geq 50\%$ pain reduction was not significantly different between groups ($p = 0.110$). However, complete remission of PHN was significantly higher in group B (80.95%) than group A (28.57%, $p = 0.001$). The study was limited by the lack of a placebo control group, small sample size, and exclusion of patients with well-established PHN (>180 days).

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Chuang et al (2025) performed a systematic review and meta-analysis of 13 studies (9 RCTs [n=815] and 4 observational studies [n=253]) evaluating various nerve blocks for acute herpes zoster, including paravertebral blocks (PVB), erector spinae plane (ESP) blocks, epidural blocks, and intercostal nerve blocks. The meta-analysis of 6 RCTs showed that nerve blocks significantly reduced VAS pain scores at 4 weeks but not at 12 weeks. PVB and ESP blocks significantly decreased PHN incidence at 3 and 6 months. Notably, the four observational studies comparing epidural or intercostal nerve blocks with other techniques provided only weak evidence for their use, highlighting the need for more high-quality RCTs specifically evaluating epidural approaches for acute herpes zoster.

Ultrasound-Guided ESI

There is limited peer-reviewed literature regarding the overall health benefit of ultrasound guidance during epidural steroid injections compared to fluoroscopy or CT guidance.

Jang et al (2020) conducted a retrospective comparative review of 122 patients to compare ultrasound (US)-guided selective nerve root block (SNRB; n=44), fluoroscopy (FL)-guided interlaminar cervical epidural steroid injection (IL-CESI; n=41), and FL-guided transforaminal CESI (TF-CESI; n=37) for radicular pain in the lower cervical spine. Neck Disability Index and pain scores improved at 1, 3, and 6 months in all groups, with no significant differences between groups. No intravascular contrast spread was observed in the US-guided group, compared with 2 patients in the FL-guided IL group and 7 in the FL-guided TF group. Despite the advantages of no radiation exposure and real-time visualization of soft tissue structures, the authors acknowledged that ultrasound technique is operator-dependent and cannot independently confirm the spinal level reached by the injectate.

Ahmed et al (2023) performed a meta-analysis of seven randomized controlled trials comparing ultrasonography (USG)-guided versus conventional fluoroscopy (FL)-guided ESIs for radiculopathy. There was no statistically significant difference in pain reduction between groups at the lumbosacral level at 1 month or 3 months. Functional improvement was also comparable between groups. USG guidance was associated with a significantly lower risk of inadvertent vascular puncture (OR 0.21; 95% CI 0.07–0.64) and shorter procedure time compared to FL guidance. There was no significant difference in the need for repeat ESIs between groups. Study limitations include heterogeneity due to inclusion of both cervical and lumbosacral levels, different epidural approaches, and different steroids used. The authors concluded that USG-guided ESIs are noninferior to FL-guided ESIs in terms of pain reduction and functional improvement.

Kimura et al (2023) conducted a systematic review and meta-analysis of 8 RCTs (n=962) to compare US-guided versus FL- or CT-guided spinal nerve injections. There was little to no difference in pain reduction or functional disability between groups. US guidance probably reduced major adverse events (0.7% vs 6.5%) and minor adverse events (2.1% vs 4.2%), and significantly reduced procedure time (MD -4.19 min; 95% CI -5.09 to -3.30). The authors concluded that US-guided injections remained effective while reducing adverse events compared to conventional guidance.

Injectates – Biologics (e.g., Platelet Rich Plasma, Stem Cells, Amniotic Fluid)

Sanapati et al (2018) conducted a systematic review and single-arm meta-analysis of the

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effectiveness of platelet-rich plasma (PRP) and mesenchymal stem cell (MSC) injections in managing low back and lower extremity pain. Twenty-one studies met inclusion criteria (12 lumbar disc injections, 5 epidural, 3 lumbar facet joint, and 3 sacroiliac joint studies). Disc injections of PRP and MSCs showed Level III evidence, while epidural, facet joint, and sacroiliac joint injections demonstrated Level IV evidence. The authors concluded that MSCs and PRP may be effective in managing discogenic low back pain, radicular pain, facet joint pain, and sacroiliac joint pain, but the evidence lacked high-quality randomized controlled trials.

Wang and Zhang (2025) conducted a systematic review and meta-analysis of 7 studies (4 RCTs and 3 prospective studies; n=416) comparing epidural PRP versus corticosteroid injection for lumbar radicular pain. Corticosteroids significantly reduced Oswestry Disability Index (ODI) scores at 4 weeks ($p = 0.0008$), with no significant differences in VAS or ODI scores between groups at other time points. Complication rates were similar, though incomplete reporting may underestimate risks. The authors concluded that PRP did not demonstrate superior improvements over corticosteroid injections for lumbar radicular pain, while corticosteroids showed significant short-term functional improvement. The review was limited by low study quality and heterogeneity in PRP preparation methods.

PROFESSIONAL GUIDELINE(S)

For radicular pain, the North American Spine Society (NASS) (2020) finds that there is sufficient literature to suggest that a trial of ESIs for radicular pain caused by conditions other than disc herniation is appropriate prior to considering surgical intervention. NASS cites multiple randomized-controlled trials (RCTs) that demonstrate lumbar epidural steroid injections (LESIs) are effective in the treatment of lumbar radiculitis caused by disc herniation. Similarly, citing that several conditions may cause cervical radicular pain, with literature regarding interlaminar (IL) ESIs demonstrating durable improvements in pain and disability for 12 and 24 months for a variety of cervical pathologic conditions. The literature on cervical transforaminal (TF) ESIs is limited to observational studies including reduction in surgical intervention has been demonstrated, and the biochemical pathology involved is likely similar to lumbar radicular etiologies.

For lumbar referred pain, NASS (2020) finds that the literature suggests LESIs are effective in reducing pain in this patient population. It is noted that this treatment seems to be less effective in this group than in patients with herniated discs. In addition, data show that LESI is equivalent to epidural local anesthetic likely due to the suppression of neurogenic inflammation by the local anesthetic. Based on these data, it is felt that a trial of LESIs is reasonable prior to the consideration of surgical intervention.

NASS' (2020) evidence-based clinical guidelines for diagnosis and treatment of low back pain reported that there is insufficient evidence to make a recommendation for or against the use of caudal or interlaminar epidural steroid injections in patient with low back pain (Grade I).

The American Society of Interventional Pain Physicians (ASIPP) published comprehensive evidenced-based guidelines for facet joint interventions in the management of chronic spinal pain (Manchikanti 2020). Patients testing positive for facet joint pain may undergo either therapeutic facet joint nerve blocks or radiofrequency neurotomy based on patients' preferences, values, and physician expertise. Once facet joint pain is excluded, the patient may be treated with epidural injections.

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The American Society of Interventional Pain Physicians (ASIPP) published an updated guideline on the use of epidural injections in the management of chronic spinal pain (Manchikanti 2021). The following recommendations were made

- For patients with disc herniation:
 - The evidence is Level I for caudal epidural injections, lumbar interlaminar epidural injections, lumbar transforaminal epidural injections, and cervical interlaminar epidural injections with strong recommendation for long-term effectiveness.
 - For thoracic disc herniation, based on one relevant, high-quality RCT of thoracic epidural with fluoroscopic guidance, with or without steroids, the evidence is Level II with moderate to strong recommendation for long-term effectiveness.
- For patients with spinal stenosis:
 - Based on one high-quality RCT in each category the evidence is Level III to II for fluoroscopically guided caudal epidural injections with moderate to strong recommendation and Level II for fluoroscopically guided lumbar and cervical interlaminar epidural injections with moderate to strong recommendation for long-term effectiveness.
 - The evidence for lumbar transforaminal epidural injections is Level IV to III with moderate recommendation with fluoroscopically guided lumbar transforaminal epidural injections for long-term improvement.
- For patients with axial discogenic pain, the evidence for axial discogenic pain without facet joint pain or sacroiliac joint pain in the lumbar and cervical spine with fluoroscopically guided caudal, lumbar and cervical interlaminar epidural injections, based on one relevant high quality RCT in each category is Level II with moderate to strong recommendation for long-term improvement, with or without steroids.
- For acute proven disc herniation with radiculitis with disabling pain or to avoid surgical intervention, herpes zoster, post herpetic neuralgia, CRPS I and II, epidural injections may be performed at physician discretion without additional pain duration or conservative management requirements.

A 2022 American Society of Pain and Neuroscience (ASPN) guideline provides recommendations for the use of epidural steroid injections in the treatment of low back pain (Sayed 2022). Grade A consensus recommendations include:

- Interlaminar epidural injections for treatment of low back and radicular pain originating from disc disease, spinal stenosis and for chronic back/leg pain after surgical intervention.
- Transforaminal epidural injections for treatment of low back and radicular pain originating from disc disease, spinal stenosis and for chronic back/leg pain after surgical intervention.
- Caudal epidural injections for treatment of low back and radicular pain originating from disc disease, spinal stenosis and for chronic back/leg pain after surgical intervention when interlaminar or transforaminal approaches are not feasible

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- Use of either steroid or local anesthetic or the two classes of medication in combination for use in epidural injections for treatment of low back and radicular pain originating from disc disease, spinal stenosis and for chronic back/leg pain after surgical intervention.

In 2022, ASPN provided updated consensus guidance regarding best practices for minimally invasive lumbar spinal stenosis treatment (MIST) (Deer 2022). The guidelines note that most trials, on lumbar ESI, have demonstrated efficacy but there is considerable variability regarding epidural technique, medication, dosage, and duration of improvement. As a result, treatment efficacy for the modality has been difficult to determine, as foundational studies in support of the procedure come from different eras representing the evolution of evidence-based medicine and evidence-based study standards.

- Epidural steroid injections are recommended in the algorithm for the treatment of symptomatic lumbar spinal stenosis. Grade B; Level of certainty high; Level of evidence I-A)
- Epidural steroid injections may be repeated when a patient has significant temporary improvement in symptoms. Be aware that the number and frequency of injections may be limited by insurance and payer rules and regulations. Grade B; Level of certainty moderate; Level of evidence I-B).

In 2025, the American Academy of Neurology (AAN) Guidelines Subcommittee conducted a systematic review of 90 RCTs on the efficacy of epidural steroids for cervical and lumbar radicular pain and spinal stenosis published between January 2005 and January 2021 (Armon 2025). The review affirms limited efficacy of ESIs in reducing pain and disability in cervical and lumbar radiculopathies and possibly in lumbar spinal stenosis, largely in the short term. The panel made the following conclusions:

- For patients with cervical or lumbar radiculopathy, ESIs probably reduce short-term disability (moderate confidence).
- For patients with lumbar spinal stenosis, ESIs possibly reduce short-term disability (low confidence, confidence downgraded for heterogeneity). There were no studies evaluating ESIs in cervical spinal stenosis.
- For patients with cervical or lumbar radiculopathy, ESIs possibly decrease long-term disability (low confidence).
- For patients with lumbar spinal stenosis, ESIs possibly reduce long-term disability (low confidence). There were no studies evaluating cervical stenosis.
- For patients with cervical or lumbar radiculopathy, ESIs probably provide short-term pain reduction (moderate confidence).
- For patients with lumbar spinal stenosis, ESIs probably do not provide short-term pain reduction (moderate confidence). No studies were available for cervical stenosis.
- For patients with cervical or lumbar spinal radiculopathy, there is insufficient evidence to determine whether ESIs provide long-term pain reduction (very low confidence).

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- For patients with lumbar spinal stenosis, there is insufficient evidence to determine whether ESIs reduce long-term pain (very low confidence). There were no studies evaluating cervical stenosis.
- Epidural steroid injections are possibly equally effective in patients with lumbar and cervical disease (low confidence, anchored by imprecision), considering that there is only 1 RCT meeting inclusion criteria for cervical radiculopathy.
- There is no significant difference between interlaminar, transforaminal, and caudal ESIs in the outcomes of short-term disability or pain or long-term disability or pain.

Ultrasound Guidance

In 2020, the North American Spine Society (NASS) published coverage policy recommendations for epidural steroid injections & selective spinal nerve blocks which indicates there is insufficient safety and efficacy data to support ultrasound guidance for any approach delivering ESI.

Injectates – Biologics (e.g., Platelet Rich Plasma, Stem Cells, Amniotic Fluid)

The American Society of Pain and Neuroscience (ASPN) identified the educational need for an evidence-based guideline on regenerative medicine therapy for chronic pain and convened a multispecialty working group to evaluate the evidence (D'Souza 2024). The expert panel made the following relevant statements:

- Consensus Point 29. While epidural injections with autologous-conditioned serum (ACS) may improve radicular pain symptoms, some evidence suggests that it is not superior to corticosteroid injection (Level I, Grade C).
- Consensus Point 30. Epidural injections with PRP or other PRP-related products may alleviate radicular pain symptoms in radiculopathy, although studies had a high risk for bias (Level I, Grade C).
- Consensus Point 34. PRP injection at the site of pain for post-herpetic neuralgia as an adjunct to oral neuropathic analgesics may be associated with improved pain intensity compared to medications alone (Level II-2, Grade C).

In 2025, the American Society of Interventional Pain Physicians (ASIPP) published comprehensive evidence-based guidelines for regenerative therapies in the management of chronic low back pain (Manchikanti 2025). The panel made the following relevant statements:

- Epidural injections with PRP are supported by Level III (fair) evidence, with a moderate consensus-based clinical recommendation.
- Intradiscal injections with PRP are supported by Level III (fair) evidence, with a moderate consensus-based clinical recommendation.
- Intradiscal injections with bone marrow aspirate concentrate (BMAC) are supported by Level III (fair) evidence, with a moderate consensus-based clinical recommendation.
- Facet joint injections with PRP and MSCs are supported by Level IV (limited) evidence, with a moderate consensus-based clinical recommendation.

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- Sacroiliac joint injections with PRP are supported by Level IV (limited) evidence, with a low consensus-based clinical recommendation.

REGULATORY STATUS

Not Applicable

CODE(S)

- Codes may not be covered under all circumstances.
- Code list may not be all inclusive (AMA and CMS code updates may occur more frequently than policy updates).
- (E/I)=Experimental/Investigational
- (NMN)=Not medically necessary/appropriate

CPT Codes

Code	Description
62320	Injection(s), of diagnostic or therapeutic substance(s) (e.g., anesthetic, antispasmodic, opioid, steroid, other solution), not including neurolytic substances, including needle or catheter placement, interlaminar epidural or subarachnoid, cervical, or thoracic; without imaging guidance
62321	with imaging guidance (e.g., CT or fluoroscopy)
62322	Injection(s), of diagnostic or therapeutic substance(s) (e.g., anesthetic, antispasmodic, opioid, steroid, other solution), not including neurolytic substances, including needle or catheter placement, interlaminar epidural or subarachnoid, lumbar, or sacral (caudal); without imaging guidance
62323	with imaging guidance (e.g., CT or fluoroscopy)
62324	Injection(s), including indwelling catheter placement, continuous infusion, or intermittent bolus, of diagnostic or therapeutic substance(s) (e.g., anesthetic, antispasmodic, opioid, steroid, other solution), not including neurolytic substances, interlaminar epidural or subarachnoid, cervical, or thoracic; without imaging guidance
62325	with imaging guidance (i.e., fluoroscopy or CT)
62326	Injection(s), including indwelling catheter placement, continuous infusion, or intermittent bolus, of diagnostic or therapeutic substance(s) (e.g., anesthetic, antispasmodic, opioid, steroid, other solution), not including neurolytic substances, interlaminar epidural or subarachnoid, lumbar, or sacral (caudal); without imaging guidance
62327	with imaging guidance (i.e., fluoroscopy or CT)
64479	Injection(s), anesthetic agent, and/or steroid, transforaminal epidural, with imaging guidance (fluoroscopy or CT); cervical or thoracic, single level

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Code	Description
64480	each additional level (list separately in addition to code for primary procedure)
64483	Injection(s), anesthetic agent, and/or steroid, transforaminal epidural, with imaging guidance (fluoroscopy or CT); lumbar or sacral, single level
64484	each additional level (list separately in addition to code for primary procedure)

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HCPCS Codes

Code	Description
Not Applicable	

ICD10 Codes

Code	Description
Multiple Codes	

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SEARCH TERMS

Not Applicable

CENTERS FOR MEDICARE AND MEDICAID SERVICES (CMS)

[Epidural Steroid Injections for Pain Management \(LCD L39036\)](#) [accessed 2026 Apr 27]

PRODUCT DISCLAIMER

- Services are contract dependent; if a product does not cover a service, medical policy criteria do not apply.

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- If a commercial product (including an Essential Plan or Child Health Plus product) covers a specific service, medical policy criteria apply to the benefit.
- If a Medicaid product covers a specific service, and there are no New York State Medicaid guidelines (eMedNY) criteria, medical policy criteria apply to the benefit.
- If a Medicare product (including Medicare HMO-Dual Special Needs Program (DSNP) product) covers a specific service, and there is no national or local Medicare coverage decision for the service, medical policy criteria apply to the benefit.
- If a Medicare HMO-Dual Special Needs Program (DSNP) product DOES NOT cover a specific service, please refer to the Medicaid Product coverage line.

POLICY HISTORY/REVISION	
Committee Approval Dates	
03/20/25, 06/26/25, 06/18/26	
Date	Summary of Changes
06/18/26	• Annual review; policy intent unchanged.
06/26/25	• Annual review; policy intent unchanged. Revised conservative treatment criteria.
03/20/25	• New Policy created due to the splitting of policy content of CMP#7.01.87 into CMP#7.01.115 & CMP#7.01.116. No change to original policy criteria.
01/01/25	• Summary of changes tracking implemented.
03/20/25	• Original effective date