# Clinical Policy: Selective Nerve Root Blocks and Transforaminal Epidural Steroid Injections

Reference Number: CP.MP.165
Date of Last Revision: 07/24

Coding Implications
Revision Log

**See Important Reminder at the end of this policy for important regulatory and legal information.**

## Description

Transforaminal epidural steroid injections (TFESIs) and selective nerve root blocks (SNRBs) are alternatives to interlaminar epidural steroid injections for the treatment of radicular pain. SNRBs consist of a small amount of local anesthetic injected adjacent to a spinal nerve root and are most often used to diagnose the source of pain.[1] During a TFESI, a larger amount of local anesthetic or corticosteroid is injected into the intervertebral foramen, where the injectate spreads to target multiple nerves. SNRBs and TFESIs share similar safety considerations, procedural techniques, and anatomical benchmarks.[1]

## Policy/Criteria

It is the policy of health plans affiliated with Centene Corporation® that invasive pain management procedures performed by a physician are **medically necessary** when *the relevant criteria are met, only one procedure is performed per visit, with radiographic guidance, and the member/enrollee is not currently being treated with full anticoagulation therapy. If on warfarin, international normalized ratio (INR) should be ≤ 1.4 prior to the procedure.* Discontinuing anti-platelet therapy is a clinical decision balancing risks and benefits of the procedure on therapy, versus the underlying medical condition if not treated appropriately.

### I. Selective Nerve Root Blocks (SNRB)

A. *One SNRB for acute pain management* (pain lasting < three months) is considered **medically necessary** when all of the following are met:
   1. There is severe radicular pain in a specific nerve root distribution that interferes substantially with activities of daily living (ADLs);
   2. Severe pain persists after treatment with nonsteroidal anti-inflammatory drugs (NSAIDs) and/or opiate (both ≥ three days or contraindicated/not tolerated);
   3. Cannot tolerate chiropractic or physical therapy, and the injection is intended as a bridge to therapy.

B. *One SNRB for chronic pain* is considered **medically necessary** to establish a diagnosis and confirm beneficial response when all the following criteria are met:
   1. Request is for an SNRB with a local anesthetic at a single nerve root;
   2. Persistent radicular pain in a defined nerve root level, and the diagnosis remains uncertain after standard evaluation (neurologic examination, radiological studies and electrodiagnostic studies);
   3. Pain interferes with ADLs and has lasted for at least three months;
   4. Failure to respond to conservative therapy, including all of the following:
      a. ≥ four weeks chiropractic, physical therapy or prescribed home exercise program;
      b. NSAIDs ≥ three weeks or NSAID contraindicated or not tolerated;
      c. ≥ four weeks activity modification.

C. *A second SNRB for chronic pain* is considered **medically necessary** when multilevel pathology is suspected, and it has been at least two weeks since the prior injection.

D. *SNRBs* are considered **not medically necessary** for any other indication because effectiveness has not been established.

## II. Transforaminal Epidural Steroid Injections (TFESI)

A. *One TFESI for acute* pain management (pain lasting < three months) is considered **medically necessary** when all of the following are met:
   1. There is severe radicular pain in a specific nerve root distribution that interferes substantially with ADLs;
   2. If a cervical TFESI is requested, non-particulate steroid must be used (see Table 1), and the procedure must be conducted with real-time imaging, such as fluoroscopy;
   3. Severe pain persists after treatment with NSAID and/or opiate (both ≥ three days or contraindicated/not tolerated);
   4. Cannot tolerate chiropractic or physical therapy, and the injection is intended as a bridge to therapy.

B. *One TFESI for chronic pain* is considered **medically necessary** when all of the following are met:
   1. TFESI is requested for a single level bilaterally or up to two levels unilaterally;
   2. If a cervical TFESI is requested, non-particulate steroid must be used (see Table 1), and the procedure must be conducted with real-time imaging, such as fluoroscopy;
   3. There is persistent radicular pain caused by disc herniation in a defined nerve root level, or spinal stenosis confirmed by physical exam and imaging;
   4. Pain interferes with ADLs and has lasted for at least three months;
   5. Failure to respond to conservative therapy including all of the following:
      a. ≥ four weeks chiropractic, physical therapy or prescribed home exercise program;
      b. NSAID ≥ three weeks or NSAID contraindicated or not tolerated;
      c. ≥ four weeks activity modification.

C. *A second TFESI for chronic pain* that **did not** improve from the initial injection is considered **medically necessary** when meeting all of the following:
   1. Request is for a TFESI at one level bilaterally or up to two levels unilaterally;
   2. If a cervical TFESI is requested, non-particulate steroid must be used (see Table 1), and the procedure must be conducted with real-time imaging, such as fluoroscopy;
   3. At least two weeks have passed since the first TFESI;

D. *Subsequent TFESIs for recurrence of chronic pain* that **had improved** from the first or second TFESI are considered **medically necessary** with all of the following:
   1. The TFESI is requested at a single level bilaterally or up to two levels unilaterally;
   2. If a cervical TFESI is requested, non-particulate steroid must be used (see Table 1), and the procedure must be conducted with real-time imaging, such as fluoroscopy;
   3. There was ≥ 50% relief and functional improvement for at least two months;
   4. At least two months have passed since the last TFESI;

5. Less than four injections have been given at the same site within 12 months;
6. Less than 12 months have elapsed since the initial injection at the level requested.

E. *Continuation of injections beyond 12 months or more than 4 therapeutic injections* is considered **not medically necessary** because effectiveness and safety has not been established. When more definitive therapies cannot be tolerated or provided, consideration will be made on a case by case basis.

F. *TFESIs* for any other indication are considered **not medically necessary** because effectiveness has not been established.

**Table 1: Particulate and Non-Particulate Steroids**

| Particulate | | Non-Particulate | |
|---|---|---|---|
| Generic | Brand | Generic | Brand |
| Betamethasone acetate | Celestone Soluspan, Betaject | Dexmethasone | Decadron, Adrenocot, Decajec |
| Methylprednisolone acetate | Depo-Medrol, Solu-Medrol, Duralone, Medralone | Betamethasone sodium phosphate | N/A |
| Triamcinolone acetonide | Kenalog | Dexmethasone palmitate | N/A |
| The distinction between particulate and non-particulate is based on studies looking at particle aggregation size relative to a red blood cell. | | | |

**Background**

*Epidural steroid injections/selective nerve root blocks*

There is great controversy regarding the effectiveness of invasive interventions for spinal pain. Epidural glucocorticoid injections have been used for pain control in patients with radiculopathy, spinal stenosis, and nonspecific low back pain despite inconsistent results as well as heterogeneous populations and interventions in randomized trials. Epidural injections are performed utilizing three approaches in the lumbar spine: caudal, interlaminar, and transforaminal. Generally, candidates for epidural steroid injection are individuals who have acute radicular symptoms or neurogenic claudication unresponsive to traditional analgesics and rest, with significant impairment in activities of daily living. Epidural steroid injections have been used in the treatment of spinal stenosis for many years, and no validated long-term outcomes have been reported to substantiate their use. However, significant improvement in pain scores have been reported in short-term outcomes up to three months after injection.[2] A selective nerve root block (SNRB) is primarily used to diagnose the specific source of nerve root pain. In a SNRB, a local anesthetic is used. When used for therapeutic indications, a steroid is added, and it is usually referred to as a selective transforaminal epidural steroid injection.

A 2015 meta-analysis was conducted to assess the effects of various surgical and nonsurgical modalities, including epidural injections, used to treat lumbar disc herniation (LDH) or

radiculitis.[3] A systematic literature search was conducted to identify RCTs which compared the effect of local anesthetic with or without steroids. The outcomes included pain relief, functional improvement, opioid intake, and therapeutic procedural characteristics. The reviewers concluded that the meta-analysis confirms that epidural injections of local anesthetic with or without steroids have beneficial but similar effects in the treatment of patients with chronic low back and lower extremity pain.[3]

Results of a two-year follow-up of three randomized, double-blind, controlled trials, with a total of 360 patients with chronic persistent pain of disc herniation receiving either caudal, lumbar interlaminar or transforaminal epidural injections, showed similar efficacy of the three techniques with local anesthetic alone or local anesthetic with steroid.[4] Interlaminar injections with steroids were superior to transforaminal at 12 months.[4]

**Coding Implications**

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| CPT® Codes | Description |
|---|---|
| 64479 | Injection(s), anesthetic agent(s) and/or steroid, transforaminal epidural, with imaging guidance (fluoroscopy or CT), cervical or thoracic, single level |
| 64480 | Injection(s), anesthetic agent(s) and/or steroid, transforaminal epidural, with imaging guidance (fluoroscopy or CT), cervical or thoracic, each additional level (List separately in addition to code for primary procedure) |
| 64483 | Injection(s), anesthetic agent(s) and/or steroid, transforaminal epidural, with imaging guidance (fluoroscopy or CT), lumbar or sacral, single level |
| 64484 | Injection(s), anesthetic agent(s) and/or steroid, transforaminal epidural, with imaging guidance (fluoroscopy or CT), lumbar or sacral, each additional level (List separately in addition to code for primary procedure) |

| Reviews, Revisions, and Approvals | Revision Date | Approval Date |
|---|---|---|
| SNRB and TFESI criteria reviewed and updated in CP.MP.118. | 04/18 | 04/18 |
| Clarified criteria in II.B, C, and D.1 that a request for TFESI is for one level bilaterally or up to two levels unilaterally. References reviewed and updated. | 08/20 | 08/20 |
| Minor revision to description of CPT 64479, 64480, 64483 and 64484. Replaced "member" with "members/enrollee" in the disclaimer. | 04/21 | |

| Reviews, Revisions, and Approvals | Revision Date | Approval Date |
|---|---|---|
| Annual review. References reviewed and updated. In policy statement, removed option for procedures "without radiographic guidance." Reviewed by specialist. Changed "Last Review Date" in header to "Date of Last Revision" and changed "Date" in Revision log to "Revision Date". | 08/21 | 08/21 |
| Annual review. Criteria updated with grammatical and abbreviation changes. Background updated with no impact on criteria. Dashes removed from code ranges. References reviewed and updated. | 08/22 | 08/22 |
| Annual review. ICD-10 Code table removed. Minor edits with no clinical significance. References reviewed and updated. Reviewed by internal specialist. | 08/23 | 08/23 |
| Annual review. In I.B.4.a. and c. and II.B.5.a. and c. changed duration from six weeks to four weeks. Added Table 1 to give examples of particulate and non-particulate steroids. References reviewed and updated. Reviewed by external specialist. | 07/24 | 07/24 |

**References**

1. Bicket MC, Benzon HT, Cohen SP. Transforaminal Epidural Steroid Injections and Selective Nerve Root Blocks. In: Essentials of pain medicine (Fourth Edition). Chapter 63 –Elsevier. 2018, p. 573 to 584.e2. https://doi.org/10.1016/B978-0-323-40196-8.00063-2. Accessed June 17, 2024
2. Chou R, Hashimoto R, Friedly J, et al. Epidural Corticosteroid Injections for Radiculopathy and Spinal Stenosis: A Systematic Review and Meta-analysis. *Ann Intern Med*. 2015;163(5):373 to 381. doi:10.7326/M15-0934
3. Zhai J, Zhang L, Li M, et al. Epidural injection with or without steroid in managing chronic low back and lower extremity pain: a meta-analysis of ten randomized controlled trials. *Int J Clin Exp Med*. 2015;8(6):8304 to 8316. Published 2015 Jun 15.
4. Manchikanti L, Singh V, Pampati V, Falco FJ, Hirsch JA. Comparison of the efficacy of caudal, interlaminar, and transforaminal epidural injections in managing lumbar disc herniation: is one method superior to the other?. *Korean J Pain*. 2015;28(1):11 to 21. doi: 10.3344/kjp.2015.28.1.11
5. American College of Occupational and Environmental Medicine. Chronic Pain Guideline. https://www.dir.ca.gov/dwc/MTUS/ACOEM-Guidelines/Chronic-Pain-Guideline.pdf Published May 15, 2017. Accessed June 17, 2024.
6. Chou R, Hashimoto R, Friedly J, et al. *Pain Management Injection Therapies for Low Back Pain*. Rockville (MD): Agency for Healthcare Research and Quality(US); 2015.
7. Chou R. Subacute and chronic low back pain: Nonsurgical interventional treatment. UpToDate. www.uptodate.com. Published June 10, 2021. Accessed June 17, 2024.
8. Chou R, Qaseem A, Snow V, et al. Diagnosis and treatment of low back pain: a joint clinical practice guideline from the American College of Physicians and the American Pain Society [published correction appears in Ann Intern Med. 2008 Feb 5;148(3):247 to 8]. *Ann Intern Med*. 2007;147(7):478 to 491. doi: 10.7326/0003-4819-147-7-200710020-00006
9. Chou R, Loeser JD, Owens DK, et al. Interventional therapies, surgery, and interdisciplinary rehabilitation for low back pain: an evidence-based clinical practice guideline from the

American Pain Society. *Spine (Phila Pa 1976)*. 2009;34(10):1066 to 1077. doi:10.1097/BRS.0b013e3181a1390d
10. Heggeness MH. AAOS endorses back pain guidelines. American Academy of Orthopaedic Surgeons. https://www.mainegeneral.org/app/files/public/6460f387-09dc-4968-b162-eee6121a1497/aaosbackpainguidelines.pdf. Published September 2010. Accessed June 17, 2024.
11. Manchikanti L, Datta S, Derby R, et al. A critical review of the American Pain Society clinical practice guidelines for interventional techniques: part 1. Diagnostic interventions. *Pain Physician*. 2010;13(3):E141 to E174.
12. Manchikanti L, Datta S, Gupta S, et al. A critical review of the American Pain Society clinical practice guidelines for interventional techniques: part 2. Therapeutic interventions. *Pain Physician*. 2010;13(4):E215 to E264.
13. Manchikanti L, Abdi S, Atluri S, et al. An update of comprehensive evidence-based guidelines for interventional techniques in chronic spinal pain. Part II: guidance and recommendations. *Pain Physician*. 2013;16(2 Suppl):S49 to S283.
14. Novak S, Nemeth WC. The basis for recommending repeating epidural steroid injections for radicular low back pain: a literature review. *Arch Phys Med Rehabil*. 2008;89(3):543 to 552. doi:10.1016/j.apmr.2007.11.008
15. Staal JB, de Bie R, de Vet HC, Hildebrandt J, Nelemans P. Injection therapy for subacute and chronic low-back pain. *Cochrane Database Syst Rev*. 2008;2008(3):CD001824. Published 2008 Jul 16. doi:10.1002/14651858.CD001824.pub3
16. Vorobeychik Y, Sharma A, Smith CC, et al. The Effectiveness and Risks of Non-Image-Guided Lumbar Interlaminar Epidural Steroid Injections: A Systematic Review with Comprehensive Analysis of the Published Data. *Pain Med*. 2016;17(12):2185 to 2202. doi:10.1093/pm/pnw091
17. Singh JR, Cardozo E, Christolias GC. The Clinical Efficacy for Two-Level Transforaminal Epidural Steroid Injections. *PM R*. 2017;9(4):377 to 382. doi:10.1016/j.pmrj.2016.08.030
18. Smith CC, Booker T, Schaufele MK, Weiss P. Interlaminar versus transforaminal epidural steroid injections for the treatment of symptomatic lumbar spinal stenosis. Pain Med. 2010;11(10):1511 to 1515. doi: 10.1111/j.1526-4637.2010.00932.x
19. Schaufele MK, Hatch L, Jones W. Interlaminar versus transforaminal epidural injections for the treatment of symptomatic lumbar intervertebral disc herniations. Pain Physician. 2006;9(4):361 to 366.
20. Chang-Chien GC, Knezevic NN, McCormick Z, Chu SK, Trescot AM, Candido KD. Transforaminal versus interlaminar approaches to epidural steroid injections: a systematic review of comparative studies for lumbosacral radicular pain. Pain Physician. 2014;17(4):E509 to E524.
21. Kothari MJ. Treatment and prognosis of cervical radiculopathy. UpToDate. www.uptodate.com. Published February 28, 2023. Accessed June 17, 2024.
22. Manchikanta L, Knezevic NN, Navani A, et al. Epidural Interventions in the Management of Chronic Spinal Pain: American Society of Interventional Pain Physicians (ASIPP) Comprehensive Evidence Based Guidelines. *Pain Physician*. 2021;24(S1):S27-S208.
23. Evolving Evidence Review. Epidural steroid injections for the treatment of thoracic spine pain. Hayes. www.hayesinc.com. Published July 23, 2021. (Annual Review March 16, 2023). Accessed June 17, 2024.

24. Practice Guidelines for Chronic Pain Management. *Anesthesiology*. 2010;112(4):810-833. doi:https://doi.org/10.1097/aln.0b013e3181c43103
25. Derby R, Lee SH, Date ES, Lee JH, Lee CH. Size and aggregation of corticosteroids used for epidural injections. *Pain Med*. 2008;9(2):227-234. doi:10.1111/j.1526-4637.2007.00341.x
26. Dietrich, T.J., Sutter, R., Froehlich, J.M. *et al.* Particulate versus non-particulate steroids for lumbar transforaminal or interlaminar epidural steroid injections: an update. *Skeletal Radiol* 44, 149–155 (2015). https://doi.org/10.1007/s00256-014-2048-6

**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. The Health Plan 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. "Health Plan" means a health plan that has adopted this clinical policy and that is operated or administered, in whole or in part, by Centene Management Company, LLC, or any of such health plan's affiliates, as applicable.

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**Note: For Medicaid members/enrollees**, when state Medicaid coverage provisions conflict with the coverage provisions in this clinical policy, state Medicaid coverage provisions take precedence. Please refer to the state Medicaid manual for any coverage provisions pertaining to this clinical policy.

**Note: For Medicare members/enrollees,** to ensure consistency with the Medicare National Coverage Determinations (NCD) and Local Coverage Determinations (LCD), all applicable NCDs, LCDs, and Medicare Coverage Articles should be reviewed prior to applying the criteria set forth in this clinical policy. Refer to the CMS website at http://www.cms.gov for additional information.