INTERVENTIONAL PAIN MANAGEMENT PROCEDURE – SPINAL EPIDURAL INJECTIONS

INTRODUCTION

Therapeutic Spinal Epidural Injections or Select Nerve Root Blocks (Transforaminal) are types of interventional pain management procedures. The therapeutic use of epidural injections is for short-term pain relief associated with acute back pain or exacerbation of chronic back pain. With therapeutic injections a corticosteroid is injected close to the target area with the goal of pain reduction. Epidural injections should be used in combination with other conservative treatment modalities and not as stand alone treatment for long-term back pain relief. There are different approaches used when administering spinal epidural injections:

Interlaminar epidural injections, with steroids, access the epidural space between two vertebrae (Interlaminar) to treat cervical, lumbar or thoracic pain with radicular pain. These procedures should be performed using fluoroscopic guidance. Interlaminar epidural injections are the most common type of epidural injection.

Transforaminal epidural injections (also called selective nerve root blocks) access the epidural space via the intervertebral foram where the spinal nerves exit (cervical, lumbar or thoracic region). It is used both diagnostically and therapeutically. Some studies report lack of evidence and risks of transforaminal epidural injections. These procedures are always aided with fluoroscopic guidance.

Caudal epidural injections, with steroids, are used to treat back and lower extremity pain, accessing the epidural space through the sacral hiatus, providing access to the lower nerve roots of the spine. These procedures should be performed using fluoroscopic guidance. Failed back surgery syndrome is the most common reason for the caudal approach.

The rationale for the use of spinal epidural injections is that the sources of spinal pain, e.g., discs and joints, are accessible and amendable to neural blockade.

Interventional pain management procedures must be performed by licensed interventional pain physicians only. Medical necessity management for epidural injections includes an initial evaluation including history and physical examination and a psychosocial and functional assessment. The following must be determined: nature of the suspected organic problem; non-responsiveness to conservative treatment; level of pain and functional disability; conditions
which may be contraindications to epidural injections; and responsiveness to prior interventions.

Interventional pain management specialists do not agree on how to diagnose and manage spinal pain; there is a lack of consensus with regards to the type and frequency of spinal interventional techniques for treatment of spinal pain. The American Society of Interventional Pain Physicians (ASIPP) guidelines and International Spine Intervention Society (ISIS) guidelines provide an algorithmic approach which provides a step-by-step procedure for managing chronic spinal pain based upon evidence-based guidelines. It is based on the structural basis of spinal pain and incorporates acceptable evidence of diagnostic and therapeutic interventional techniques available in managing chronic spinal pain.

The guidelines and algorithmic approach referred to above include the evaluation of evidence for diagnostic and therapeutic procedures in managing chronic spinal pain and recommendations for managing spinal pain. The Indications and Contraindications presented within this document are based on the guidelines and algorithmic approach. Prior to performing this procedure, shared decision-making between patient and physician must occur, and patient must understand the procedure and its potential risks and results (moderate short-term benefits, and lack of long-term benefits).

**INDICATIONS FOR EPIDURAL INJECTIONS OR SELECTIVE NERVE BLOCKS (caudal, interlaminar, and transforaminal)**
*(Injection of local anesthetics with corticosteroids)*

- Back pain and/or extremity pain resulting from any of the following conditions and associated timeframes:
  - Disc herniation with radiculitis:
    - after 2 weeks or more of acute back pain involving radiculopathy that has failed to respond or poorly responded to conservative management;
  - Failed back surgery syndrome or Epidural fibrosis
    - typically not done immediately post-surgery: no sooner than 6 months post surgery
    - patient must engage in some form of conservative treatment for a minimum of 6 weeks prior to epidural injections
  - Lumbar spinal stenosis;
    - patient must engage in some form of conservative treatment for a minimum of 6 weeks prior to epidural injections
  - Discogenic low back pain/degenerative disc disease;
    - patient must engage in some form of conservative treatment for a minimum of 6 weeks prior to epidural injections

AND
- Average pain levels of ≥ 6 on a scale of 0 to 10 or Intermittent or continuous pain causing functional disability.
FREQUENCY OF REPEAT THERAPEUTIC INJECTIONS

- Epidural injections may be repeated only as medically necessary and with proof that: prior injection had a positive response by significantly decreasing pain; the patient continues to have ongoing pain or documented functional disability (≥ 6 on a scale of 0 to 10); AND

- The patient is actively engaged in other forms of conservative non-operative treatment (unless pain prevents the patient from participating in conservative therapy); AND

- Injections meet the following criteria:
  - There must be at least 14 days between injections;
  - No more than 3 procedures in a 12-week period of time per region;
  - Limited to a maximum total of 6 procedures per region per 12 months.

- Course of treatment, three epidural injections, regardless of approach must provide at least
  - > 50% pain relief obtained for a minimum of 6 weeks to be considered a positive and effective response.

- If the neural blockade is applied for different regions (cervical and thoracic regions are considered as one region and lumbar and sacral are considered as one region), injections may be administered at intervals of no sooner than 14 days for most types of procedures.

- Injecting multiple regions or performing multiple procedures during the same visit may be deemed medically unnecessary unless documentation is provided outlining an unusual situation.

CONTRAINDICATIONS FOR EPIDURAL INJECTIONS

- Bleeding diathesis and full anticoagulation (risk of epidural hematoma);
- Severe spinal stenosis resulting in intraspinal obstruction;
- Local infection at injection site;
- Predominantly psychogenic pain;
- Sepsis;
- Hypovolemia;
- Pregnancy;
- Uncontrolled diabetes;
- Uncontrolled glaucoma;
- High concentrations of local anesthetics in patients with multiple sclerosis;
- For diagnosis or treatment of facet mediated pain;
- Known or suspected allergic reaction to steroid medications;
- Spinal infection;
- Malignancy; OR
- Acute fracture.
ADDITIONAL INFORMATION:

Additional Terminology: Interlaminar Epidural; Selective Nerve Root Injection (transforaminal only); Transforaminal Injection; Injections of Spinal Canal

Conservative Therapy: (musculoskeletal) includes a combination of modalities, such as rest, ice, heat, modified activities, medical devices, (such as crutches, immobilizer, metal braces, orthotics, rigid stabilizer or splints, etc and not to include neoprene sleeves), medications, diathermy, chiropractic treatments, or physician supervised home exercise program. Part of this combination may include the physician instructing patient to rest the area or stay off the injured part. NOTE - conservative therapy can be expanded to require active therapy components (physical therapy and/or physician supervised home exercise) as noted in some elements of the guideline.

Home Exercise Program - (HEP) – the following two elements are required to meet guidelines for completion of conservative therapy:
- Information provided on exercise prescription/plan AND
- Follow up with member with information provided regarding completion of HEP (after suitable 4-6 week period), or inability to complete HEP due to physical reason-i.e. increased pain, inability to physically perform exercises. (Patient inconvenience or noncompliance without explanation does not constitute “inability to complete” HEP).

**Hip-spine syndrome**
Hip-spine syndrome is a condition that includes both debilitating hip osteoarthritis and low back pain. Abnormal spinal sagittal alignment and difficulty in maintaining proper balance, as well as a wobbling gait, may be caused by severe osteoarthritis of the hip joint. Epidural injections are used to determine a primary pain generator in this condition.

**Spondylolisthesis and nerve root irritation**
Degenerative lumbar spondylolisthesis is the displacement of a vertebra in the lower part of the spine; one lumbar vertebra slips forward on another with an intact neural arch and begins to press on nerves. The most common cause, in adults, is degenerative disease although it may also result from bone diseases and fractures. Degenerative spondylolisthesis is not always symptomatic. Epidural injections may be used to determine a previously undocumented nerve root irritation as a result of spondylolisthesis.

**Lumbar spinal stenosis with radiculitis**
Spinal stenosis is narrowing of the spinal column or of the neural foramina where spinal nerves leave the spinal column, causing pressure on the spinal cord. The most common cause is degenerative changes in the lumbar spine. Neurogenic claudication is the most common symptom, referring to “leg symptoms encompassing the buttock, groin and anterior thigh, as
well as radiation down the posterior part of the leg to the feet.” In addition to pain, leg symptoms can include fatigue, heaviness, weakness and/or paresthesia. Some patients may also suffer from accompanying back pain. Symptoms are worse when standing or walking and are relieved by sitting. Lumbar spinal stenosis is often a disabling condition, and it is the most common reason for lumbar spinal surgery in adults over 65 years. The most common levels of stenosis are L3 through L5, but it may occur at multilevels in some patients. Radiculitis is the inflammation of a spinal nerve root that causes pain to radiate along the nerve paths. Epidural injections help to ascertain the level of the pain generator in this condition.

**Postoperative epidural fibrosis**
Epidural fibrosis is a common cause of failed back surgery syndrome. With the removal of a disc, the mechanical reason for pain may be removed, but an inflammatory condition may continue after the surgery and may cause pain. Epidural corticosteroids, with their anti-inflammatory properties, are used to treat postoperative fibrosis and may be used along with oral Gabapentin to reduce pain.

**Lumbar herniated disc**
Epidural steroid injections have been proven to be effective at reducing symptoms of lumbar herniated discs. Evidence shows that they can be successful in 42% to 56% of patients who do not improve after 6 weeks of conservative treatment. Observation and epidural steroid injection are effective nonsurgical treatments for this condition.

**Failed back surgery syndrome**
Failed back surgery syndrome (FBSS) is characterized by persistent or recurring low back pain, with or without sciatica, following lumbar surgery. The most common cause of FBSS is epidural fibrosis which be triggered by a surgical procedure such as discectomy. The inflammation resulting from the surgical procedure may start the process of fibrosis and cause pain. Epidural steroid injections are administered to reduce pain.

**Discogenic pain**
Discogenic pain is predominant low back pain without disc herniation. 80% to 90% of low back pain is commonly believed to be of unknown etiology. The term, discogenic disc disease, may refer to degenerative disc disease or to internal disc disruption syndrome. Patients with the latter condition may have painful invertebral discs despite minimal degenerative changes. In the U.S., discogenic pain accounts for 25% of cases of chronic low back pain. Evidence has shown that epidural steroid injections are effective for short-term improvement of discogenic pain.
REFERENCES


