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**A PATIENTS GUIDE TO:**  
**Transforaminal Epidural Injections**

## **Transforaminal Epidural Injections**

Epidural glucocorticoid injections are commonly given to patients with leg and/or back pain to relieve such pain and improve mobility without surgery. These steroid injections buy time to allow healing to occur and/or as an attempt to avoid surgery after other conservative (non-surgical) treatment approaches have failed. This is an epidural injection to a specific site to a vertebra in the neck. It places steroid (anti-inflammatory) medicine and anesthetic (numbing) medicine close to the nerve endings and into the epidural space in the neck to decrease swelling (inflammation) of the nerve roots.

Transforaminal injections are considered the most specific and effective route for epidurals and are administered laterally through the selected neuroforamen under fluoroscopy, thus explaining the descriptive label "selective transforaminal epidural injection." This technique allows for smaller volumes of injectate since the medicine is placed closer to the site of pathology at the interface of the nerve root, the disc, and the ventral dura. Injectate tends to flow more ventrally or preferentially to the symptomatic side and along the involved nerve root. The injection can provide additional physiologic information not uncovered from spinal imaging, electrodiagnostics, or from the physical examination of a patient. Pain reduction obtained from transforaminal epidural steroid injections can be helpful in identifying a pathologic segment or nerve root level causing pain extending into the extremities or even into the thoracic spine, flank, or abdomen when thoracic selective ESIs are performed.

Therapeutically, the selective administration of epidural corticosteroid at the presumed most symptomatic level can provide pain relief from neural irritation and inflammation which can allow a patient to progress in their conservative rehabilitation plan. This may include advancement in a progressive physical activity protocol as well as in spinal stabilization and strengthening exercises. Frequently, an irritative nerve injury cannot be visualized on imaging studies and may not be detectable with electrodiagnostics but may be identified with a positive response to a diagnostic selective nerve block / transforaminal epidural injection. The information obtained can be used for therapeutic non-operative or surgical intervention.

Transforaminal thoracic epidural injection is an epidural injection to a specific site of a vertebra in the mid-back that places anti-inflammatory medicine close to the nerve endings and into the epidural space to decrease inflammation of the nerve roots, reducing pain in your back or around the rib cage.

Transforaminal lumbar epidural injection is an epidural injection to a specific site of a vertebra in the lower back that places anti-inflammatory medicine and anesthetic medicine close to the nerve endings and into the epidural space to decrease inflammation of the nerve roots, reducing pain in your back and legs.

During a transforaminal injection, a small-gauge blunt needle is inserted into the epidural space through the bony opening of the exiting nerve root (See Figure 1, Neuroforamen).

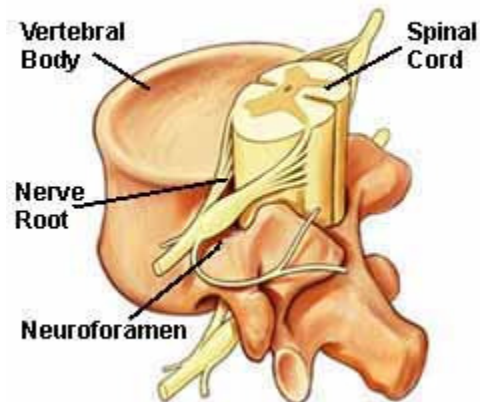


Figure 1. Spinal nerve structures; nerve root and neuroforamen

The needle is smaller in size than that used during a conventional epidural approach. The procedure is performed with the patient lying on their belly using fluoroscopic (real-time x-ray) guidance, which helps to prevent damage to the nerve root. A radiopaque dye is injected to enhance the fluoroscopic images and to confirm that the needle is properly placed (See Figure 2). This technique allows the glucocorticoid medicine to be placed closer to the irritated nerve root than using conventional interlaminar epidural approach. The exposure to radiation is minimal.



Figure 2. Transforaminal spread of the radiopaque dye to confirm correct needle placement.

### **Spinal Conditions Treated and Outcomes**

Indications include large disc herniations, foraminal stenosis, and lateral disc herniations. Patients with disc herniations and leg pain in most studies attain maximal improvement in 6 weeks. Long-term success rates for transforaminal epidural glucocorticoid injections range from 71% to 84%.

### **Patient Sedated but Awake**

The patient is sedated but awake through the intervention. It is important that the physician and patient communicate during the procedure. If significant leg pain is triggered during placement of the epidural needle or injection of the medication, the physician will immediately stop the procedure and check the position of the needle and the source of pain.

**PLEASE NOTIFY THE PHYSICIAN IMMEDIATELY IF YOU HAVE A HISTORY OF A BLEEDING DISORDER OR IF YOU TAKE BLOOD THINNERS (COUMADIN, ASPIRIN, NSAIDS)**

**PLEASE NOTIFY THE PHYSICIAN IMMEDIATELY IF YOU HAVE AN ALLERGY TO IV DYE**

Risks Of Procedure

- -Overall complications are extremely rare
- -Increased discomfort for approximately 2-3 days following the test
- -Nerve damage
- -Seizure
- -Infection
- -Adrenal suppression
- -Bleeding
- -Discitis
- -Abscess
- -Hemorrhage
- -Allergy to medication
- -Nerve damage
- -No improvement
- -Paralysis
- -Death
- -Worsening of condition
- -Hoarseness (cervical procedures )
- -Pneumothorax (cervical procedures)
- -Equipment failure
- -Soreness lasting 5-7 days
- -Elevated blood sugar
- -Abnormal menstruation in females
- -Bruising at or around injection site

THESE RISKS ARE INTENDED TO BE A COMMUNICATION OF THE MOST REASONABLE EXPECTED COMPLICATIONS OF THE PROCEDURE AND DO NOT INCLUDE ALL CONCEIVABLE CONSEQUENCES OF THE PROCEDURE

Discharge Care

- The area injected may be tender or bruised after the injection. Apply ice on and off every 4 hours for 24 hours
- You may not drive for the remainder of the day after the procedure. An adult must be present to drive you home. This is for your safety
- No restrictions on your diet
- Continue routine medications as prescribed. You may take your usual pain medication the day of the procedure
- Notify the Physician on any signs of infection at injection site and if fever develops
- No restrictions on bathing but be careful
- Diabetics may experience elevated blood glucose levels if steroids are given
- Keep a record of any significant changes in your pain and activity level. This information is valuable to the Physician in evaluating your treatment plan
- You should be able to return to work the next day unless there are complications
- Notify the Physician of any new respiratory difficulties

- You may have temporary numbness, heaviness or weakness at the injection site down into the thighs/arms
- Be careful getting in and out of a car
- No driving, alcoholic beverages with sedatives and narcotics
- Do not make any critical decisions or sign important papers for 24 hours
- If an emergency arises and you feel the situation requires immediate attention, go to the nearest emergency room. Make sure the Dr. is notified