

Lumbar Epidural Steroid Injection

The epidural space encircles the dural sac which surrounds the spinal cord, nerve roots, and cerebrospinal fluid. It is filled with fat and small blood vessels. An epidural steroid injection delivers steroids directly into the epidural space in the spine.

Typically, a solution containing cortisone (steroid) with local anesthetic (i.e. bupivacaine), is used.

- A steroid, or cortisone, is usually injected as an anti-inflammatory agent. Inflammation is a common component of many low back conditions and reducing inflammation helps reduce pain. Kenalog (Triamcinolone), Decadron (Dexamethasone), and Solu-Medrol (Methylprednisolone) are commonly used steroids.
- Bupivacaine, a long lasting local anesthetic, is often used primarily for pain relief.

Indications: Several common conditions that cause severe acute or chronic low back pain and/or leg pain (sciatica) from nerve irritation can be treated by steroid injections. These conditions include:

- **Lumbar disc herniation**, where the nucleus of the disc pushes through the outer ring (the annulus) and into the spinal canal where it pressures the spinal cord and nerves.
- **Lumbar degenerative disc disease (DDD)**, where the collapse of the disc space may impinge on nerves in the lower back.
- **Lumbar spinal stenosis**, a narrowing of the spinal canal that literally chokes off nerves and the spinal cord, causing significant pain.
- **Compression fractures** in a vertebra from trauma, osteoporosis or tumor invasion.

Contraindications:

- Local or systemic infection
- Pregnancy
- Bleeding problems - patients taking blood thinners (i.e. Coumadin, Plavix, etc.), or patients with a bleeding problem (i.e. hemophilia, severe liver dysfunction)
- Pain related to a spinal tumor (primary such as multiple myeloma or secondary from tumor metastasis). If suspected, an MRI scan should be done prior to the injection to rule out a tumor.

Cautions: Injections may be done, but with caution, for patients with other potentially problematic conditions such as:

- Allergies to the injected solution (steroid or local anesthetics).
- Uncontrolled medical problems such as renal disease, congestive heart failure and diabetes due to fluid retention that a small percentage of patients experience for a few days after steroid injections.
- Use of high dose aspirin or other anti-platelet drugs (e.g. NSAIDS, Plavix), all of which can cause bleeding from the procedure. These medications should be stopped prior to an injection.

Procedure:

- An epidural steroid injection usually takes between 15 and 30 minutes following a standard protocol.
- The patient lies flat on an X-ray table in a prone (face down) position with a pillow placed under his/her abdomen to help curve the lumbar spine to open up the intervertebral space.
- The skin in the low back area is cleaned with antiseptic (chlorhexidine sticks) and then numbed with lidocaine (a fast-acting local anesthetic similar to what a dentist uses)
- Using fluoroscopy (live X-ray) for guidance, a needle is inserted into the skin and directed toward the epidural space. Once the needle is in the proper position, contrast dye is injected to confirm the needle location.
- The epidural steroid solution is then injected. Although the steroid solution is injected slowly, most patients sense some pressure due to the amount of the solution used. The pressure of the injection is generally not painful.
- Following the injection, the patient is monitored for 15 to 20 minutes before being discharged home.
- Sedation is available for patient anxiety and comfort. However, sedatives are rarely necessary, as the epidural steroid injection procedure is usually not uncomfortable.
- If a sedative is used, some patient precautions should be taken, including no eating or drinking for 8 hours prior to the procedure and having a ride home available for discharge.
- There is no definitive research to dictate how many epidural steroid injections should be administered or how frequently they should be given. In general, the consensus is to perform up to three epidural injections per year, which is about the frequency that many arthritis patients receive cortisone shots for shoulder and knee pain.

Post-procedure:

- Patients are usually asked to rest and avoid strenuous work such as heavy lifting for the remainder of the day after the epidural steroid injection.
- Normal activities may typically be resumed the following day.
- To avoid infection at the injection site, patient should avoid hot tubs, Jacuzzi baths, or swimming within 24 hours after injection. Running shower is OK.
- A temporary increase in the pain can occur for several days after the injection due to the pressure of the fluid injected or due to local chemical irritation.

Complications:

- Tenderness at the needle insertion site can occur for several hours after the procedure and can be treated by applying an ice pack for 10 to 15 minutes once or twice per hour.
- Infection should be suspected if pain persists days after the procedure with redness and swelling at the needle insertion site. Immunosuppressed patients such as cancer patients and poorly controlled diabetic patients are at higher risk.
- Epidural hematoma is a rare but serious complication sometimes necessitates surgical evacuation. Anatomical factors such as vertebral abnormalities, technical errors like traumatic spinal tap, multiple attempts at needle placement, and pharmacological factors such as use of anti-platelet and anticoagulant therapy may be implicated in the formation and progress of spinal epidural hematoma. Please call the office if you experience severe localized back pain with delayed radicular radiation that may mimic disc herniation, weakness, numbness, urinary and/or fecal incontinence after lumbar epidural steroid injection procedure.
- Post dural puncture headache occurs when dural is accidentally punctured or nicked while advancing the needle during the procedure. Usually conservative measures such as hydration, caffeine and bed resting are helpful. If the headache persists for more than 5 days and/or headache is severe, blood patch can be very effective to alleviate the symptoms.
- Treatment failure: sometimes lumbar epidural steroid injection can gradually lose the efficacy with shorter duration of pain relief over time. Invasive options such as spinal cord stimulator or spine surgery should be considered if other diagnoses (i.e. facetogenic back pain, myofascial pain, etc) are excluded.