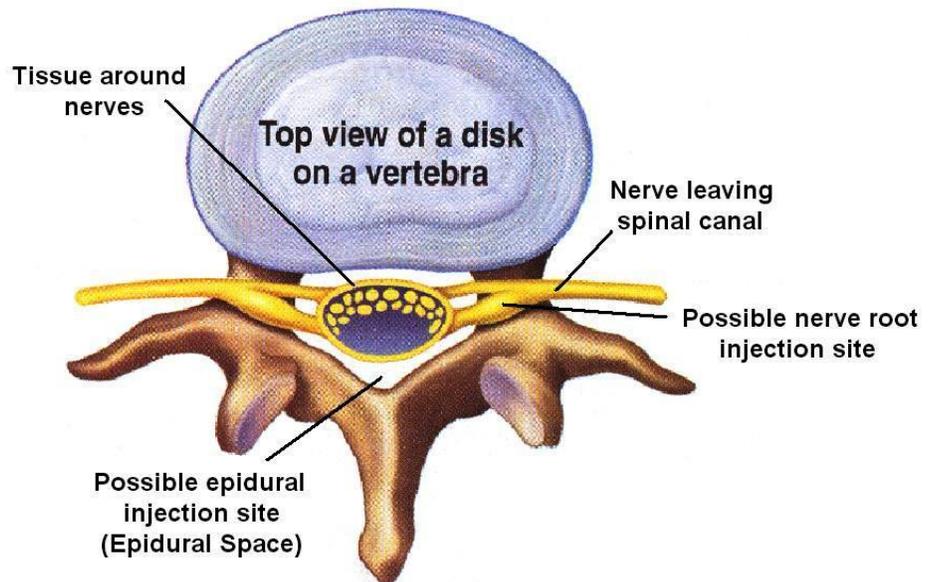




Epidural Steroid Injections

What is an epidural injection?

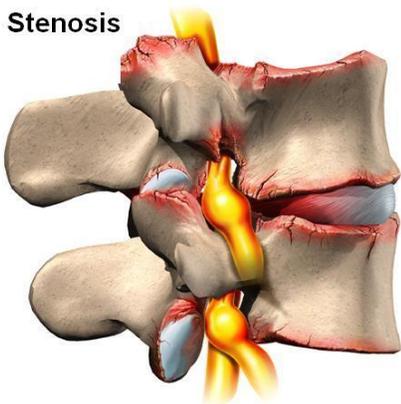
Epidural refers to the space outside the dura or covering of the spinal cord and inside the spinal canal. This space runs the length of the spinal cord. Epidural injections provide diagnostic data and pain relief by delivering local anesthetic and anti-inflammatory action of steroid into the spinal area on the surface of the spinal column. The procedure is done under fluoroscopy (X-ray) guidance so your doctor can better target the direct source of your pain.



What are steroids?

Steroids are a certain form of chemical found naturally in your body. Medically used steroids are potent anti-inflammatory agents. They are useful in the treatment of patients with radiculopathy caused by local inflammation due to disc injury, degenerative changes, and other causes. Most adverse effects are associated with long-term use of steroids. When steroids are used locally with injections, the associated risks are substantially less. Side effects can include indigestion, increased appetite, trouble sleeping, and occasionally headache. Tylenol can help with headaches after a steroid injection or dosing.

Stenosis



Why is it done?

An epidural injection may be ordered by your provider as a means to confirm a specific diagnosis and/or decrease pain and inflammation. In general, epidural injections are recommended to provide pain relief and enable patients to progress with their rehabilitation. Epidural injections may be an effective nonsurgical option for common conditions such as lumbar disc herniation, degenerative disc disease, and lumbar spinal stenosis.

What causes the inflammation causing my symptoms?

Inflammation or irritation of a nerve root most commonly originates from a herniated, degenerated, or “leaky” disc at that spinal nerve root level.

What is the typical procedure?

If a transforaminal epidural is ordered for the cervical, thoracic, or lumbosacral region, an appointment will be made for you at the outpatient surgery or imaging center. You may be given the option to receive light conscious sedation, which is medication given intravenously to help you relax during the procedure.

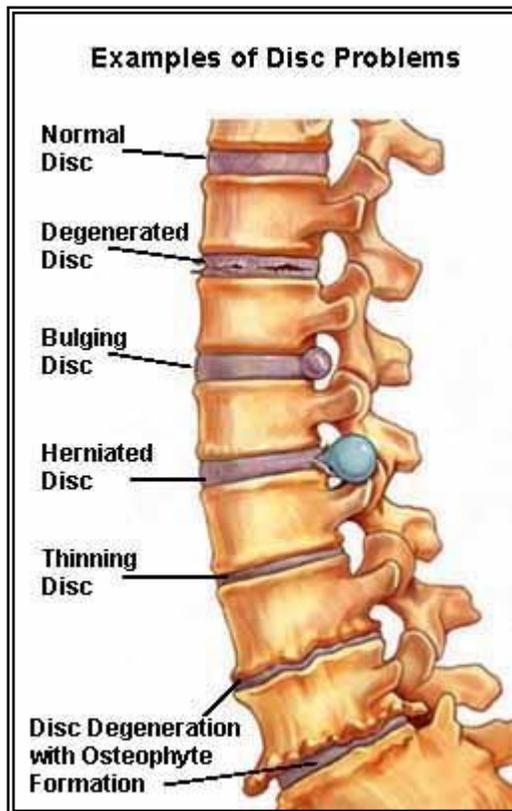
If sedation is required, you will be monitored closely with an EKG monitor, blood pressure cuff, and blood oxygen monitoring device. Local anesthetic will be used before the actual injection to diminish discomfort. The physician then locates, under fluoroscopy (X-ray), a specific anatomical target site or location that is near the problem area. Contrast is used to confirm proper placement. Medication, typically anesthetic and steroid, is then injected.

How long does the procedure take?

You will typically be in the surgery center for approximately 2 hours. You will arrive one hour before the procedure. The actual procedure time is usually fifteen minutes. The remainder of the time will be spent in the recovery room.

Is the procedure painful?

The procedure does involve an injection so you may feel some discomfort. Local anesthetic is used, and intravenous medication may be given to make you as comfortable as possible. You may feel some warmth as the fluid is injected. You may also experience some of your typical pain. The doctor will be interested in how this compares to your usual symptoms.



When will the pain relief take effect?

You may experience numbness and/or relief from your typical pain for up to 6 hours after the injection. This is due to the long-acting anesthetic injected. Your usual symptoms may then return and may possibly be worse than usual for a day or two. The beneficial effects of the steroid injection usually begin in 2 to 3 days or may take as long as a week.

Will I need further injections?

It is hard to determine exactly. If an initial injection provided a certain amount of pain relief, a second injection may provide additional benefit. If your pain subsides completely and does return at some point, additional injections may be an option.

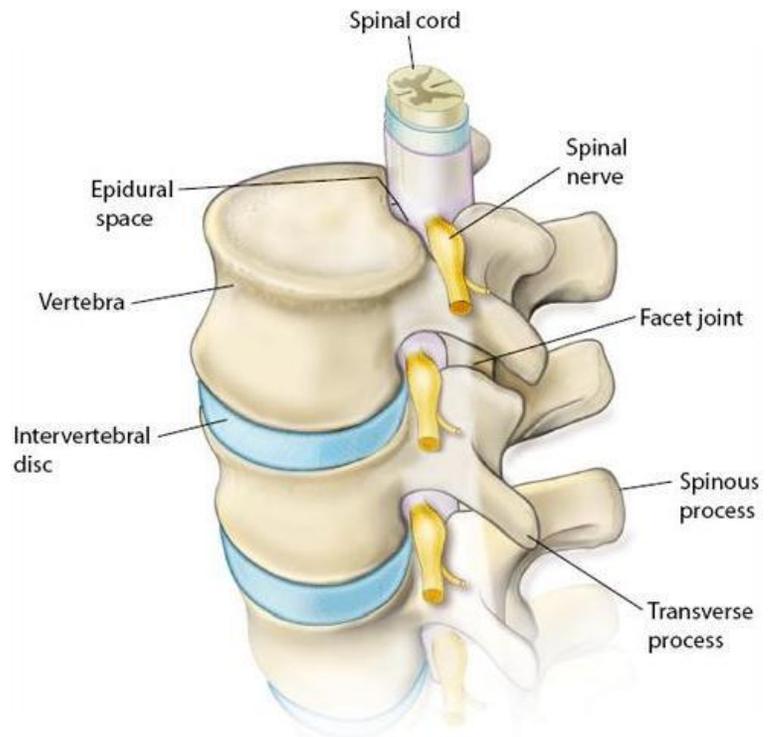
What are the risks of this procedure?

Generally speaking, this procedure is very safe. However, as with any procedure, there are risks, side effects, and the possibility of complications. The most common side effect is pain, which is temporary. There is also occasional bruising. There is a slight possibility of infection, either at the site of injection or in the deeper tissue. This could require the use of antibiotics, either by mouth or intravenously. Additionally, if the infection were severe, it could require hospitalization and further surgery.

In these procedures it is possible to get close to a nerve root, and this would cause a slight increase in pain with possible radiation into the limb. It is very unlikely, but there could be permanent nerve damage.

Very rare complications may include bone injury from repetitive steroid intake, reaction to the injectant (anesthetic or steroid material) causing respiratory or cardiac compromise as well as seizures. Death is even a possibility, as with any invasive procedure, although this possibility is exceedingly rare.

Steroid medications have rarely been associated with hip or arm (bone) damage, and this has usually been with high doses or prolonged use. This remains a rare complication.



What are the different types of Epidural Spinal Injections?

Caudal epidural injection:

Caudal is the Latin word signifying the tail, or tail end of the spine. Thus, a caudal injection is the location where the epidural steroid is placed. The spinal needle is introduced through a portion of the sacrum. (See anatomy picture.) A small bony opening, called the sacral hiatus, is entered with the spinal needle under X-ray guidance. This technique is often preferred in patients who have had previous surgeries causing scar formation that would interfere with injection at other locations. It is also sometimes the preferred place of injection for patients with spinal stenosis. This is a relatively safe, easy procedure to perform and can provide significant anatomical coverage of the injected medications. It is not one of the more specific, localizable procedures.

Transforaminal epidural injection:

A transforaminal epidural steroid injection (**selective nerve root block**) is a procedure performed for both diagnostic and therapeutic purposes for neck/back pain and limb pain, numbness, tingling or weakness. In this procedure, a needle is directed under fluoroscopic (X-ray) guidance through the foramen or opening where the spinal nerve exits at the level where the disc and nerve injury has occurred. The medication – anesthetic and steroid – is delivered specifically between the disc and nerve interface and along the course of the nerve which is causing the majority of the symptoms.

Interlaminar (translaminar) injection:

An interlaminar epidural steroid injection is an approach in which a needle is advanced to a site specific to the injury. The level of injury is viewed under fluoroscopy, and the needle is advanced between two vertebrae to a depth that puts it in the epidural space. Please see the anatomy pictures for full details.

The epidural space is a space overlying the spinal cord. As the needle advances, it goes past the bony shelves of the back portion of the vertebrae and stops before entering the spinal cord or spinal space. The injected material is placed over this region to then bathe the areas of interest.

Pre-Procedure Instructions for Spinal Injections

- Please stop all aspirin, aspirin products, and all nonsteroidals – except Celebrex– 5 days before the procedure. Examples of nonsteroidals that need to be stopped are: **Motrin, Advil, Naprosyn, Naproxen, Aleve, Indocin, Lodine, Orudis, Relafen, Daypro, Tolectin, Mobic, Torodol, Voltaren, Trilisate, Dolobid, Arthrotec, Ibuprofen, Diclofenac and Clinoril.**
- If you have questions regarding these types of products or their discontinuation, you should discuss this with one of our staff.
- If you take fish oil or Vitamin E supplementation, please stop these 5 days prior to the injection.
- If you take **Coumadin, Heparin, Lovenox, Warfarin, Pradaxa, Debigatran, Orgaran, Innohep, Fragmin, Argatroban, Plavix, Effient, Prasugrel, ReoPro, Ticlid, Trental, Persantine,** or any other **blood thinner**, notify your doctor. This medication must be discontinued prior to an injection and requires permission from the provider prescribing it.
- Do not eat 6 hours or drink 2 hours prior to the procedure. You may take routine a.m. medications with a small amount of water.
- Please wear comfortable, loose fitting clothing with an elastic waist band such as gym shorts, sweats, or pajama bottoms. Please do not wear jeans. Due to the use of betadine, please if possible wear dark colors.
- You may be requested to obtain laboratory work and an EKG prior to your procedure. This will be discussed and ordered, if necessary, at the pre-procedure appointment with your provider.
- For your safety, you must have a responsible adult to drive you home. Failure to have a driver may result in the cancellation of your procedure. Taxis are not permitted.
- If you have any problems, please contact our office directly to speak with a medical assistant.
- You will need to schedule a follow-up appointment for approximately 10 days to 2 weeks after your procedure. If this is not already scheduled please contact our office to schedule immediately.

Date of procedure: _____ Arrive at: _____ a.m./p.m.

Gateway Surgical Center 690 N. Cofco Center Court Suite 150 Phoenix, AZ 85008 (602) 288-4441	NSASC 9439 E Ironwood Square Dr. Suite 100 Scottsdale, AZ 85258 (480) 355-3750	Tempe Surgical Suite 4765 S Lakeshore Dr. Tempe, AZ 85282 (480) 860-8998
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Post Spine Procedure Instructions and Follow-up Orders

- Your activity level following your injection should be at the following levels:

Day of Injection: We recommend no new activities. You should rest the day of the procedure. You can participate in all previous activities, but do this at a level of 25% of your usual effort. Avoid sustained sitting or standing and alternate your positions on a regular basis (about every 20 minutes).

Day 2: 25% to 50% of your usual activity level.

Day 3: Up to 75% of your usual activity level.

Day 4: After Day 4, activity is unrestricted as tolerated. If your physician gives you specific instructions or you have physical therapy, please follow these.

- **Diet:** Return to your normal diet as tolerated.
- **Medications:** ■ Resume aspirin and other anticoagulants the first day after the injection.
■ Resume your other medications as per your physician's previous directions.
- Should you have fever, chills, drainage, excessive swelling or redness from the injection site, bladder or bowel dysfunction, or change in sensation or muscle strength, please contact our office immediately. If you cannot reach your physician, please present to the nearest emergency room.
- The bandage may be removed after 24 hours.
- You may shower immediately, but please avoid swimming or baths/Jacuzzis/hot tubs for the first 2 days after the procedure, to reduce the risk of infection.
- You may use ice compresses over the injection site – 20 minutes on, then 20 minutes off. Repeat this cycle as required. If using a gel pack, make sure a towel or piece of cloth is placed between the cold pack and the skin. Do not apply the cold packs to the numb areas following injection.
- Common side effects following the procedure include:
 - Decreased pain and possibly some numbness for 4 to 8 hours due to the local anesthetic.
 - Pain at the injection site.
 - A small amount of bleeding at the injection site.
 - Back stiffness.
 - If a steroid medication was used during the procedure, possible side effects include facial flushing, insomnia, and occasionally a low-grade fever.

All of the side effects listed should disappear within 1 to 3 days after the procedure.

- If you experience a post-procedure headache, please contact our office. For the first 24 hours, lie down as much as possible. You can take Tylenol up to 3 grams per day in doses of 1 gram every 8 hours. Drink plenty of fluids in the form of caffeinated beverages. The caffeine will often minimize the headache substantially. If you continue with headaches after 24 hours following the procedure, please contact our office.