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The NeuroSpine Center of Wisconsin is recognized as among the best in spine and brain care in the Midwest and is acknowledged as the leader in neurospine care in the region.

With our unique integrated approach, surgeons and physiatrists work as a unified team, providing same-day coordinated consults. From diagnostic testing including X-ray, to physical therapy, to on-site MRI, to therapeutic injections, care remains patient-focused in a single convenient location.

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# Back TO Life

*Back to Life* was developed specifically for chiropractors, worker's compensation case managers, physical therapists, occupational therapists, athletic trainers and personal trainers to provide a better understanding of **NeuroSpine's integrated approach** to back pain.

#### We want to hear from you!

Is there a topic you want to see in "Back to Life"? Do you have questions about our services? Would you like to refer a patient to one of our physicians? Call us at 920-882-8200 or 888-231-5236, or visit [www.neurospinewi.com](http://www.neurospinewi.com).

**Be assured your patient will be referred back to you after we treat his/her condition.**



## Epidural Steroid Injection



By Richard A. Staehler, MD and J. Talbot Sellers, DO  
Co-authored by [spine-health.com](http://spine-health.com)



A lumbar epidural steroid injection is a non-surgical treatment typically used to alleviate acute or chronic low back and/or leg pain. While the effects from the injection tend to be temporary, providing relief from pain for one week to one year, an epidural can be very beneficial for patients during an episode of severe back pain. One important use is to provide sufficient pain relief to allow the patient to start (or progress in) a rehabilitation program.

#### Effectiveness

An epidural injection significantly reduces pain for a large percentage of the patients that receive one. It works by delivering steroids directly to the pain generator to help decrease the inflammation that may be causing the pain. It is thought that there is also a flushing effect from the injection that helps remove or "flush out" inflammatory problems from around the structures that may cause pain.

As a disc degenerates, the inner core of the disc can extrude—or herniate—back into the spinal canal. The herniated disc material can irritate the nerve, which can cause pain to radiate down the path of the nerve—from the lower back through the buttocks and into the leg or even into the foot.



### What is an epidural?

An epidural is an injection that delivers steroids directly into the epidural space. The epidural space is the space between the dura mater (a membrane) and the vertebral wall and is filled with fat and small blood vessels. It is located just outside the dural sac. The dural sac surrounds the nerve roots and cerebrospinal fluid (the fluid that the nerve roots are bathed in).

There are often inflammatory factors and other substances that generate pain (e.g. substance P) that are associated with lumbar disc herniation and this inflammation can cause significant nerve root irritation and swelling.

Steroids (corticosteroids) have been shown to reduce inflammation by inhibiting the production of substances that cause inflammation; the epidural injection can be highly effective because it delivers the medication directly to the site of inflammation.

### When is an epidural recommended?

In general, epidural injections are used to help provide pain relief to enable patients to progress with their rehabilitation. Individuals who have less pain and feel more comfortable are generally able to work on the active therapies—such as stretching, strengthening and pain relief exercises and low impact aerobic conditioning—that are critical in rehabilitating the lower back.

Several common conditions—including lumbar disc herniation, degenerative disc disease and lumbar spinal stenosis—can cause severe acute or chronic low back and/or leg pain. For these and other conditions that can cause chronic pain, an epidural steroid injection may be an effective non-surgical treatment option.



### What are the benefits?

The benefits of epidural steroid injections include a reduction in pain, primarily in leg pain. If a patient does not experience any pain relief from the first injection, further injections will probably not be beneficial. However, if there is some improvement in pain, one to two additional injections may be recommended.

### Treatment

The epidural steroid injection usually takes about 15 to 30 minutes to complete. The patient typically lies on his or her stomach on a fluoro table. Prior to the injection, the skin is numbed with lidocaine, a local anesthetic similar to the novacaine used by dentists. Then the physician will locate the appropriate spot for the injection using an x-ray machine called a fluoroscope.

Using fluoroscopy (live x-ray) for guidance, the physician directs a needle toward the epidural space. Fluoroscopy is considered important in guiding the needle into the epidural space, as controlled studies have found that medication is misplaced in 13% to 34% of epidural injections that are done without fluoroscopy. Once the needle is in the exact position, x-ray dye is injected to confirm proper needle placement. If everything looks good, the steroid solution is then injected.

Following the injection, the patient is usually monitored for 15 to 20 minutes before going home. Typically, patients are asked to rest on the day of the injection and allowed to return to their normal activities on the following day.



With all invasive medical procedures, there are potential risks. Generally, however, there are few risks associated with epidural injections, and they tend to be rare. Risks may include:

- **Infection.** Minor infections occur in 1% to 2% of all injections. Severe infections are rare, occurring in 0.1% to 0.01% of injections.
- **Bleeding.** Bleeding is a rare complication and is more common for patients with underlying bleeding disorders.
- **Nerve damage.** While extremely rare, nerve damage can occur from direct trauma from the needle or secondarily from infection or bleeding.
- **Dural puncture** ("wet tap"). A dural puncture occurs in 0.5% of injections. It may cause a post-dural puncture headache (also called a spinal headache) that usually gets better within a few days. Although rare, a blood patch may be necessary to alleviate the headache.

Paralysis is not a risk since there is no spinal cord in the region of the lumbar epidural steroid injection.

In addition to risks from the injection, there are also potential risks and side effects from the steroid medication. These side effects tend to be rare. Risks and side effects may include:

- A transient decrease in immunity
- Transient flushing
- High blood sugar
- Increased appetite
- Stomach ulcers
- Severe arthritis of the hips (avascular necrosis)

Lumbar epidural steroid injections should not be performed on patients who have a local or systemic bacterial infection, are pregnant (if fluoroscopy is used) or have bleeding problems. Epidurals should also not be performed on patients whose pain is from a tumor or infection, and if suspected, an MRI scan should be done prior to the injection to rule out these conditions. Injections may be done, but with extreme caution, for patients with allergies to the injected solution, uncontrolled medical problems (such as congestive heart failure and diabetes) and those who are taking aspirin or other antiplatelet drugs (e.g. Ticlid, Plavix).

**For more information call 920-882-8200 or 1-888-231-5236.**

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