



## INTERLAMINAR EPIDURAL STEROID INJECTION

### What is an interlaminar epidural steroid injection (ESI)?

An ESI is the injection of a steroid (synthetic cortisone) medication into the epidural space.

### What is the purpose of an ESI?

The steroid medication is a powerful anti-inflammatory medication. Pathologic changes of the spine often lead to inflammation of the surrounding structures: bones, discs, ligaments, muscles, and nerves. This inflammation is a large cause of pain. An injection of steroid can substantially decrease this inflammation and thereby lead to a significant reduction in pain. Sometimes, this type of epidural steroid injections can be used to treat shingles or pain that persists after a case of shingles.

### How is the procedure performed?

You will be placed on the procedure table. The injection site is sterilized with either iodine or chlorhexadine. The site to be injected is numbed with a local anesthetic, and a needle is directed to the target area. X-ray guidance is used to ensure proper placement and positioning of the needle. Contrast (x-ray dye) may be injected to be sure the needle is in the proper position. Once proper needle placement is confirmed, the steroid solution is slowly injected.

### How is an ESI different from a TF (transforaminal epidural steroid injection)?

Both an ESI and a TF are epidural steroid injections. They both involve injecting steroid into the epidural space to decrease inflammation and alleviate pain. The main difference is that an ESI spreads the medication into the back of the epidural space and along a more diffuse pattern, hitting multiple levels during a single injection. Alternately, a TF spreads the medication into the front of the epidural space, and is more specific to certain levels and certain affected nerve roots. Your doctor will choose one technique vs the other, based on various criteria, in trying to get the best results for you.

### Will the procedure be painful?

The injection can be painful and we therefore provide the option of receiving IV sedation. IV sedation, combined with local anesthetic, can make the injection nearly pain free. It allows you to remain very still during the procedure, which can also make the injection easier, faster, and more successful. If you decide to have IV sedation, you must



have a driver to get you home safely afterwards. In addition, you cannot have anything to eat or drink within 6 hours of your appointment (clear liquids are allowed until 2 hours before the procedure). If you take medications for diabetes, these medications may need to be adjusted the morning of the procedure. Your primary care physician can help you with this adjustment.

## What are the discharge instructions?

If you received IV sedation do not drive or operate machinery for at least 24 hours after the procedure. You may return to work the next day following your procedure. You may resume your normal diet immediately. Do not engage in any strenuous activity for 24 hours. Do not take a bath, swim, or use a hot tub for 24 hours (you may take a shower). Call the office if you have any of the following: severe pain afterwards (different than your usual symptoms), redness/swelling/discharge at the injection site(s), fevers/chills, difficulty with bowel or bladder functions.

## What are the risks and side effects?

The complication rate for this procedure is very low. Whenever a needle enters the skin, bleeding or infection can occur. If the bleeding accumulates inside the body, it forms a hematoma. If the hematoma pushes against structures of the spine, surgery may be required to evacuate it. Another potential complication is a “spinal headache”, which can occur when attempting an ESI. If this occurs, it usually resolves on its own within three to five days. Alternately, there is another procedure that can be performed to cure the headache within a matter of minutes. Some other serious but extremely rare risks include paralysis and death.

You may have an allergic reaction to any of the medications used. If you have a known allergy to any medications, especially x-ray contrast dye or local anesthetics, notify our staff before the procedure takes place.

You may experience any of the following side effects up to 4 hours after the procedure:

- Arm or leg muscle weakness or numbness may occur due to the local anesthetic affecting the nerves that control your arms or legs (this is a temporary affect and it is not paralysis). If you have any leg weakness or numbness, walk only with assistance in order to prevent falls and injury. Your arm or leg strength will return slowly and completely.
- Dizziness may occur due to a decrease in your blood pressure. If this occurs, remain in a seated or lying position. Gradually sit up, and then stand after at least 10 minutes of sitting.
- Mild headaches may occur. Drink fluids and take pain medications if needed. If the headaches persist or become severe, call the office.



- Mild discomfort at the injection site can occur. This typically lasts for a few hours but can persist for a couple days. If this occurs, take anti-inflammatories or pain medications, apply ice to the area the day of the procedure. If it persists, apply moist heat in the day(s) following.

The side effects listed above can be normal. They are not dangerous and will resolve on their own. If, however, you experience any of the following, a complication may have occurred and you should either contact your doctor. If he is not readily available, then you should proceed to the closest urgent care center for evaluation:

- Severe or progressive pain at the injection site(s)
- Arm or leg weakness that progressively worsens or persists for longer than 8 hours
- Severe or progressive redness, swelling, or discharge from the injections site(s)
- Fevers, chills, nausea, or vomiting
- Bowel or bladder dysfunction (i.e. inability to urinate or pass stool or difficulty controlling either)

## How long does it take for the procedure to work?

The steroid medication begins to take effect in one to two days at which point you should start to see some benefit. The steroid effect continues to get stronger and stronger such that the peak effect occurs at about two weeks. Thereafter, the effect will stabilize and should last several weeks to months. Typically, the pain relief experienced from this procedure lasts 3-6 months, but there is significant variability from patient to patient and from one procedure to another. If and when the pain starts to return, this procedure can be repeated to try and attain some pain relief once again. Keep in mind that this injection may work very well for pain certain areas but may not help with others. This is normal. Areas of pain that do not respond may need other treatments, which you can discuss with your doctor.