

Spinal Injections – Epidural including Nerve Root Block, Facet and Hardware

SPINAL INJECTIONS

In many cases of back and leg pain, spinal injections are used for two purposes. One is to find out more about what is causing your pain and the second is to treat your pain. The injections can thus give more information to make a diagnosis. For example, if an injection provides pain relief in the area that is injected, it is likely that this particular area is the source of the problem. The injections are also therapeutic in that they can provide relief from pain. The relief is usually temporary. However during the period when the pain is less you will be able to do physiotherapy and build up the muscles that are weak. Stronger muscles will then help prevent further recurrence of the pain.

What happens on the day of the injection?

Injections are usually done as a day case. This means that you are brought into hospital for a few hours only. Initially you will be in a waiting area. You are then given a clinical gown and taken to the theatre / injection room. It is best that you bring along one of your own dressing gowns to go over the clinical gown. The injection is done in an operation theatre style setting with X-rays. If you are pregnant or there is a possibility that you may be pregnant please do inform the team looking after you. It is best not to proceed with the injection if you are pregnant. You can eat and drink as normal upto and even after the injection. Please arrange a relative or friend to drive you to and from the hospital. Once you are in the injection room you are asked to sit or lie on a couch. Each injection has a different position. The usual position is to lie on your tummy with your legs hanging off the end of the couch. This is to enable us to see your spine with the help of X-rays. The couch or the operation table has a single large leg in the middle and we need to have your spine on one side of this leg so that the X-ray machine can view your spine. Please note that the couch / operation table is narrow and please take care when you turn.

What Medications Are Injected and Why

At first a local anaesthetic called lignocaine is injected into the skin to numb the area before needles are inserted into the spine. Then with the help of X-rays, needles are inserted into specific areas of the spine. Once needles are in the spine another type of local anaesthetic, called Marcaine is used along with the steroid. A steroid is a strong anti-inflammatory medication. The usual steroid that is used is Triamcinolone (Kenalog)

Will the injections cause pain and what happens after the injection?

While the local is given you will notice pain. The local anaesthetic numbs the nerves. Initially as the injection is given it will sting. However within a few minutes it would be pain free. When the needle reaches the nerve there may be a sharp and severe pain that shoots down your leg. This tells us that we are in the correct place. It is important that you are completely awake so that we can identify the correct area that causes pain. Being awake also helps us monitor that nothing goes wrong. Immediately following the injection your pain will settle. This is the effect of the local anaesthetic which usually lasts for a maximum of 24 hours. You will then notice more pain for the following few days (upto 10). This is the pain from the inflammation of the injection itself. After this period the steroids should start working and you will notice pain relief.

Types of Injections and Why They Are Done

1) Epidural Steroid Injection (ESI)

An ESI is a common type of injection that is given to provide relief from low back and leg pain. The "epidural space" is the space between the spinal sac (dura) and the inside of the bony spinal canal. It runs the entire length of your spine. Once injected into this area, the medication moves and acts on the nerve roots that are inflamed. There are three different ways to perform an epidural injection:

A. Caudal Epidural Steroid Injection (CESI)

A caudal is placed through the very end of the spine just above the back passage.

B. Lumbar Epidural Steroid Injection (LESI)

This is the most common way of performing an epidural. Here you are made to sit or lie down and the needle is inserted in the gap between two vertebrae in the lower back.

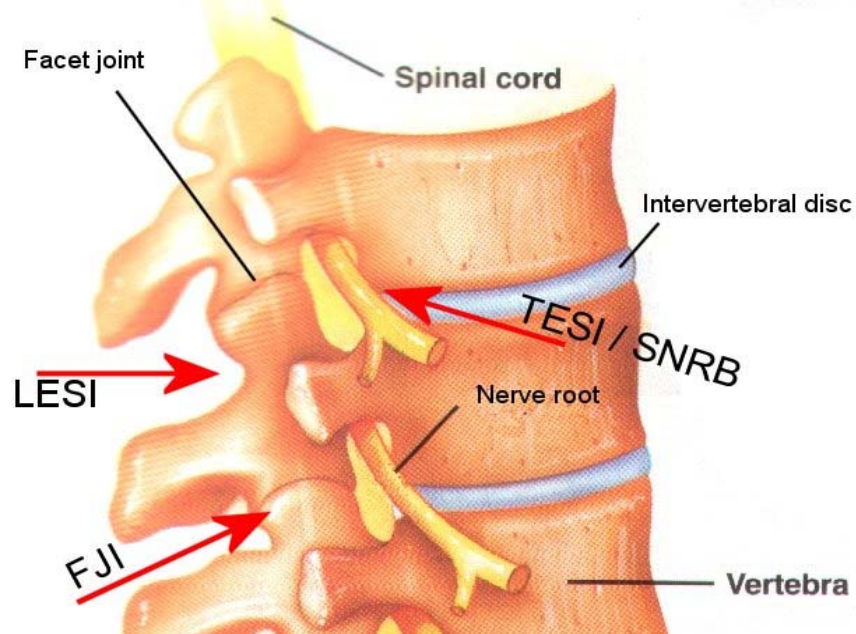
C. Transforaminal Epidural Steroid Injection (TESI) / Selective Nerve Root Block (SNRB)

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This type of injection is a very selective injection around a specific nerve root. The foramina are the small openings between your vertebrae through which the nerve roots come out of the spinal canal and enter the body. This injection is done with the help of X-rays so that the needle enters the correct nerve root canal. This injection is better when examination or MRI scans shows problems with one specific nerve root.

2) **Facet Joint Injections (FJI)**

Facet joints are located on each side of the vertebrae; they join the vertebrae together and allow the spine to move with flexibility. When the discs are worn out there is a lot of strain on these joints and it may lead to arthritis and inflammation in these joints. Usually 4 or 6 joints in the lower back is injected on any single occasion.



LESI = Lumbar Epidural Steroid Injection
TESI Transforaminal Epidural Steroid Injection /
SNRB Selective Nerve Root Block
FJI = Facet joint injections.

3) **Hardware Injections**

If you have had a previous operation on the spine, there may be screws and rods in your spine. These screws and rods may sometimes cause pain. Injections around the inflamed tissues around these screws and rods are called Hardware injections.

Precaution when having spinal Blocks and Injections

Some basic reasons not to have spinal injections are:

1. **Bleeding Tendencies** If you have a tendency to heavy bleeding or are taking medicines to thin your blood.
2. **Infections** If you have a local or systemic infection, a spinal injection may put you at greater risk for spreading the infection into the spine.
3. **Unstable Medical Conditions** A medically unstable patient should have their medical condition treated before any elective injections are given. Accompanying medical illness like diabetes mellitus, congestive heart failure, renal failure, hypertension, or a significant cardiac disease may cause problems.
4. **Allergy.** If you are hypersensitive or have certain allergies to medications, you may have a negative reaction to drugs used in the injection. Make sure you give a list of your allergies.

Risks / Complications.

With any surgery, there is a risk of complications. The list of complications provided here is not a complete list of complications.

1. **Persistent pain.** The most common complication / risk is that the injection does not relieve you of your pain or does it very temporarily. There is also a small possibility that the pain may actually be increased following the injection.
2. **Dural Puncture.** Here the needle accidentally enters the sac around the spinal canal that contains the cerebro spinal fluid (CSF). If excessive fluid leaks out it may cause a spinal headache and nausea.

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3. **Intravascular Injection.** There is a small chance that the medication may be injected into one of the small blood vessels that run in the spine. This can cause seizures, cardiac arrest, and even death if too much of the medication goes directly into the blood stream. The chance of this happening is rare.
4. **Infection.** Injections are done under sterile conditions very similar to surgery. Still, anytime a needle is inserted into the body there is a small chance of infection. Some infections near the spine can be dangerous and can cause meningitis.
5. **Bleeding.** An injection can result in a haematoma. A haematoma is simply a collection of blood due to an injury to a blood vessel. An epidural haematoma can be serious if it is big enough and can cause paralysis. This is again extremely rare.
6. **Bladder Dysfunction.** Because some injection actually numbs the nerves to the bowel and bladder for a short period, you may not have control over your bladder for one to two hours.
7. **Neurological Complications.** There is always a small risk of damage to the spinal nerves. The spinal cord is a bundle of millions of nerves that connects the brain with the rest of the body. The needle can cause damage to the nerves. This is usually temporary.
8. **Arachnoiditis.** This is a very serious condition which can cause severe pain in the long term. Sometimes the injection instead of decreasing the inflammation may cause a chronic irritation of the nerves. This chronic irritation may clump the nerves together like hairs that are stuck together with glue.

If you have any concerns please discuss it with the team looking after you. If you are in doubt and are not satisfied with explanations given then it is best to avoid the injections. Medical evidence is not strong to support the use the injections in the spine.

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