

BACK NECK & JOINT



EPIDURAL INJECTIONS

Epidural injections are famous for their use to provide pain relief during childbirth, where the intended effect is reasonably short. In contrast, epidurals can also be used to treat radicular pain (also known as sciatica) in an attempt to produce long term relief.

OVERVIEW

The Epidural Space

The spinal cord is enclosed within a sac of fluid known as the dural sac. The epidural space is the space between this dural sac and the bony vertebral column.

Caudal Epidural Injections

When a pain relief injection is performed near the tailbone, it is known as a caudal epidural injection. Injections are administered close to the tailbone through the caudal opening and the fluid travels up the spinal canal to the target area.



Transformational Epidural Injections

A new and more precise technique of transformational epidural injection has been developed with the assistance of C-arm fluoroscopy, a high-tech x-ray machine that looks at the spine from all directions. In this instance, the needle is aimed under x-ray guidance directly between the nerve root and the corner of the disc. The main advantage of this technique is a greater concentration of therapeutic agent at the site of nerve compression.

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POSSIBLE COMPLICATIONS

Injection Risks

There are two main risk categories for epidural injections.

With the caudal approach, risks are minor as the needle is not inserted near any of the vital spine structures. Instead, the injection is in a number of veins, so it may produce sudden onset dizziness or light-headedness - this should be reported to the doctor immediately.

Intra vascular injection via the transformational approach has the small risk of blockage of the small blood vessels supplying the spinal cord, which could lead to spinal cord damage. Your doctor will take every possible precaution to prevent intra vascular injection.

There is also a small risk of the needle puncturing the spinal fluid sac. This would cause total temporary numbness in the legs, and may produce a headache afterwards. Again, this is why an X-ray machine is used to guide insertion of the epidural.

Injection Side Effects

- The most common side effect is the temporary increase in pain in the back or leg
- Allergies to local anaesthesia are possible, but rare - mention any known allergies to the doctor
- The injection is done slowly to minimise the chances of side effects
- Short-term light-headedness, headaches or nausea are not uncommon
- Legs may become tingly and numb from the anaesthetic for up to 1-2 hours. You may feel weak and unsteady for up to an hour afterwards (therefore, it is essential to have another person drive you home)
- Bacteria infections can occur from the injection site, but this is very rare

THE PROCESS

What an epidural injection can do for your pain:

1) Making an accurate diagnosis

A transformational epidural injection can help confirm the diagnosis of radicular pain, as well as confirm the level of nerve compression.

2) Anti-inflammatory action

A prominent cause of sciatic pain is the inflammation arising from an injured disc. An epidural injection not only flushes the area with local anaesthetic, but also introduces cortisone, a steroid-based anti-inflammatory agent.

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3) Stretching of scar tissue or adhesions

One of the body's responses to a disc injury is the formation of new tissue. Adhesions are bands of tissue that can form between the disc and normal structures in the back such as the lining of the spinal cord and nerve roots. This injection may act by breaking down these adhesions. The injection acts like a water hose squirting into a blocked pipe to shift a blockage.

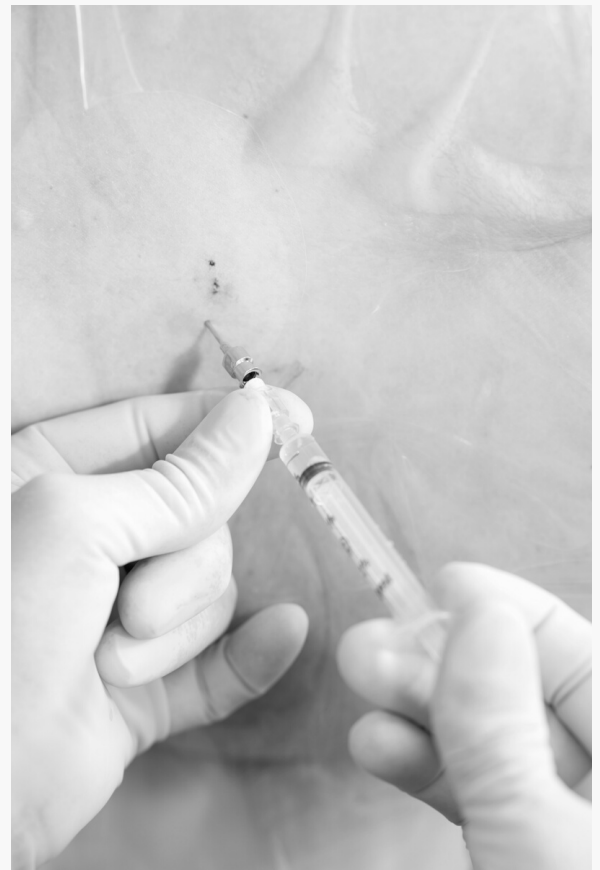
4) Breaking the pain cycle

Injuries can trigger changes in the electrical activity of the spinal cord. This sometimes causes innocuous messages travelling into the spinal cord to be interpreted as pain. It is thought that local anaesthetics temporarily block these abnormal messages, which in turn helps to break the pain cycle. By blocking the pain, the muscles can relax, which is an important step to start the healing process.

WHEN AN EPIDURAL IS USED

Doctors will look for disc prolapse or scarred nerve root pain symptoms when deciding to use an epidural. This kind of pain typically presents as a shooting or electric shock-like pain down the leg, the kind often associated with pins and needles. Commonly known as sciatica, this is called radicular or nerve root pain by doctors.

Epidurals are also occasionally used for other types of pain in the leg, known as referred pain, which may be a deep dull aching quality. Sometimes, they are also used for acute attacks of low back pain (lumbago), when conservative therapy is not effective.



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METHOD OF INJECTION

The injection typically takes about 5-10 minutes. You'll lie face down over a number of pillows on the couch. A small needle is placed in the lower back, just above the coccyx, and local anaesthetic is injected into the ligaments at the entrance of the epidural space.

The injection is best performed under fluoroscopic (X-ray) guidance to improve accuracy. Additionally, contrast material is injected to enhance the X-ray image, ensuring the injection goes into the epidural space to the desired level and to prevent injection into small blood vessels.

WHAT HAPPENS AFTER THE INJECTION?

Generally speaking you should go home, lay down and take it easy for the day. The next day you can resume light activity including return to light work. It usually takes 7-14 days for the full effects of the injection to work.

MORE ON THE PAIN CHART

You should rate your pain between 0 and 10 before your injection, and after for 6 hours, firstly in 30 minute intervals and then hourly intervals. Ratings should be conducted in terms of movements and how you feel doing the things that most aggravate the pain.

FOR MORE INFORMATION



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