

- Pimples or boils in the skin at the injection site may prevent us doing an injection.
- Spinal injections are not appropriate if the pain is caused by spinal infection (discitis, osteomyelitis), vertebral fracture or malignancy. These conditions should be excluded by the referring doctor before a spinal injection.

Complications

- Generally, spinal injections are free of serious complications.
- Leg or arm numbness, weakness or “pins and needles” usually subside within an hour, but occasionally after a few hours.
- Occasionally the pain is worse for a short period (hours), before it improves.
- A mild, transient headache may follow some spinal injections. No special treatment is required, apart from rest, fluids and paracetamol (Panadol).
- Facial redness or rash may occur for a few days, before subsiding.
- The steroid may transiently aggravate diabetes and close monitoring of blood glucose levels is recommended in diabetics.
- In cervical (neck) injections local anaesthetic can enter the CSF space and cause transient weakness and breathing difficulties.
- In the lumbar region leakage of local anaesthetic into the CSF may result in transient spinal anaesthesia.

The following extremely rare complications have been reported by others:

- Pneumothorax (air leak in the chest) after a thoracic spinal injection.
- Spinal epidural haematoma and abscess.
- Facet joint infection (septic arthritis).
- Permanent damage to a nerve.
- Stroke and death after cervical injection.
- Paraplegia, quadriplegia (paralysis) and death.

How Effective are the Injections?

- About 75% of patients report an improvement in pain, 25% are the same and less than 1% are slightly worse.
- The benefit can last anywhere from a few days to several months.
- Average duration of benefit is 8 weeks.
- It is impossible to predict how effective an injection will be in an individual case.
- Sometimes multiple injections are required.

How often can I have a Spinal Injection?

We recommend that one should allow at least 1 month between injections and that no more than 4 injections be performed in a year.

What type of Spinal Injection should I have?

The type of injection most appropriate for you is determined by your referring doctor and the radiologist, taking into account both the clinical picture and the scan findings.

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CT-Guided Spinal Injections



a guide for patients



Healthcare Imaging Services

Introduction

- Many spinal injections are performed daily.
- Spinal injections are done for temporary pain relief or to confirm the source of pain.
- Most spinal injections are performed under CT guidance.
- The radiologists in the Department have performed many spinal injections over many years and are very experienced.

How is a Spinal Injection Performed?

- A spinal injection involves minimal discomfort and takes only a few minutes.
- The patient lies prone (on the stomach) on a CT scan table. A limited, low dose preliminary scan is done to confirm the level and to plan the trajectory.
- This scan is for needle guidance only, not to diagnose pathology.
- The skin is marked with a pen and cleansed with an antiseptic.
- Short acting local anaesthetic is injected into the skin.
- A thin needle is then advanced to the precise spot required for the injection.
- The needle tip position may need a few minor adjustments.
- The medication is a mixture of steroid and long acting local anaesthetic.
- The long acting local anaesthetic wears off after a few hours.
- The steroid starts to work after 24 hours, but may take up to 2 weeks to feel fully effective.

Types of Spinal Injections

Foraminal Injection (also called **Nerve Block**, **Nerve Sheath Injection**).

- Most commonly performed in the lumbar spine and cervical spine (neck).
- A needle is advanced into the bony tunnel (foramen) through which a spinal nerve emerges, the needle tip positioned next to the nerve.



- The needle sometimes contacts the nerve and produces a sharp “electric shock” for an instant.
- This indicates the needle is in a satisfactory position, but the needle may also be well placed without such a sensation being felt.
- Relief from pain may be immediate or may take 48 hours to become apparent.
- It is not uncommon to feel slight weakness, numbness or “pins and needles” in the leg or arm for a few hours afterwards.
- These effects will disappear as the local anaesthetic wears off.
- Foraminal injections are performed when a nerve is squeezed, irritated or inflamed in the bony tunnel. Most commonly this is caused by disc prolapse or by tunnel narrowing (foraminal stenosis).

Epidural Injection

- Epidural injections are performed for relief of pain from nerve root irritation and to alleviate the symptoms of spinal canal stenosis.
- The needle tip is placed in a very thin, fat-filled epidural space, through which the nerve roots pass as they exit the spine.
- The needle-tip lies just outside the thecal sac (fibrous sheath containing the spinal nerves).
- Occasionally the thecal sac is inadvertently punctured. In such a case, the procedure is cancelled and re-booked for another occasion, allowing a few days for the tiny hole in the sac to heal. This is done to avoid injecting the steroid into the sac, which may cause delayed complications.
- Some patients may experience a mild headache after inadvertent puncture of the thecal sac. This usually is transient and settles spontaneously. A thecal sac puncture is more likely if there has been scarring from previous surgery.
- Some patients may experience a transient headache after a spinal injection even if the thecal sac has not been punctured.
- There is an overlap in Foraminal and Epidural injections. Which approach is used is sometimes dictated by local anatomy and accessibility.

Facet Joint Injection

- The small facet joints between the vertebrae of the spine may become painful. Such pain may be temporarily relieved by an injection of steroid and local anaesthetic into the joint.
- Access to the joint may be very restricted if the joint is arthritic and CT guidance is essential for precise needle placement.
- We usually do not inject more than 2 facet joints at the same time.

Other Injections

- Sometimes an arthritic facet joint is complicated by a cyst, which presses on a nerve. The cyst and the facet joint can be injected at the same time.
- Sometimes the small nerves, which supply the facet joint are injected (Medial Branch Block) or treated by radiofrequency ablation.
- The sacro-iliac joints at the base of the spine are also frequently injected. We can place 2 needles in each sacro-iliac joint.

Before the Spinal Injection

- You must bring with you all recent CT or MRI scans of the spine so that we can review them and confirm the correct level before an injection is performed.
- An injection may be cancelled if we cannot examine a recent CT or MRI scan of the region to be injected.
- If you take anti-coagulants (blood thinning medication such as Warfarin, Plavix), you must tell us several days beforehand as some anticoagulants need to be stopped 5–7 days before the injection.
- The injection may have to be cancelled if some anticoagulants have not been ceased in time.
- Low dose aspirin (eg Cartia) is not a contra-indication to spinal injections and need not be stopped.
- It is important that you have someone drive you home and assist you in getting into and out of the car and house, as there may be residual leg or arm weakness or numbness for a few hours after the injection.