



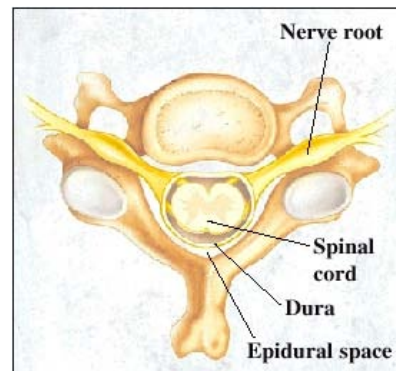
Dr R E Pope

Beneficence and Nonmaleficence
Neurosurgeon and Spine Surgeon

Spinal Nerve Root Blocks

Why do I need this injection?

- Your doctor thinks that you have sciatica in the leg or brachialgia in the arm caused by a trapped nerve in the back or neck.
- The cause of the trapped nerve can be due to a narrowed exit hole (foraminal stenosis), slipped disc (far lateral disc), or by a slipped back bone (spondylolisthesis).
- Injecting around the nerve root just as it leaves the spine can help relieve the pain in the affected limb.
- The problem can show up on an MRI scan.



What is the aim of the treatment?

- The aim of a spinal nerve root block is to deposit some local anaesthetic and long acting depot steroid close to the nerve root as it leaves the spine.
- This produces an anti-inflammatory effect and can relieve the arm or leg pain.

How long will the pain relief last for?

- It is not possible to answer this question on an individual basis.
- Pain relief can be as follows:-
- The injection eliminates the pain never to return again
- The injection reduces the pain for several weeks, the pain returning but not as bad.
- The injection reduces the pain for several weeks, but it returns as bad as ever afterwards.
- Spinal nerve root blocks can be used in two ways:-

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1. As a diagnostic tool to confirm whether the trapped nerve root is the cause of the limb pain.
2. As a treatment for the pain repeated intermittently.

How is the injection performed?

- A blood sample will be taken to assess your clotting ability about a week prior to the procedure.
- At the beginning of the procedure, a small cannula will be sited on the back of your hand, and increments of a short acting sedative given into a vein until you feel relaxed and comfortable. You may need to have oxygen administered during the procedure.
- You will be asked to lie face down in the x-ray machine, whilst the area to be injected is cleaned with antiseptic solution, and the skin numbed with some local anaesthetic - this stings a little at first.
- Using x-ray guidance, a fine needle is inserted into the exit hole of the nerve root suspected to be the cause of the pain. A small amount of dye is injected to check the position of the needle (radiculogram), and then a small amount of local anaesthetic and depot steroid is injected around the nerve root.



Is the treatment done as a day case?

Is a hospital in-patient bed needed?

Is a driver required to take me home afterwards?

Does the treatment require x-ray guidance?

Do I need to fast for 4 hrs before hand?

Can I take my normal medications with sip of water?

If I am diabetic - do I need separate instructions?

Is an intravenous canula needed for this treatment?

Is intravenous sedation needed for this treatment?

No

Yes

Yes

No

Yes

No

No

No

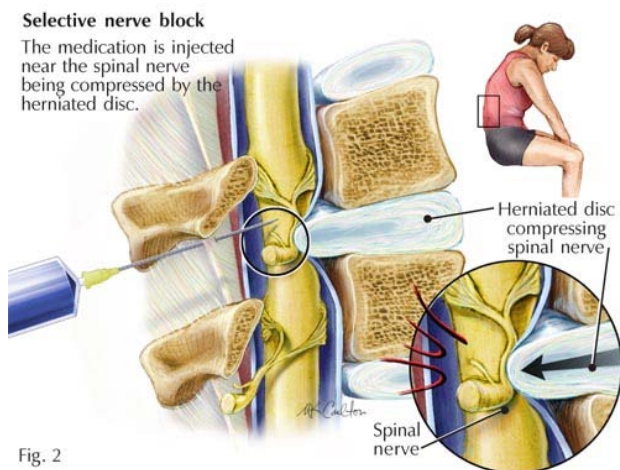
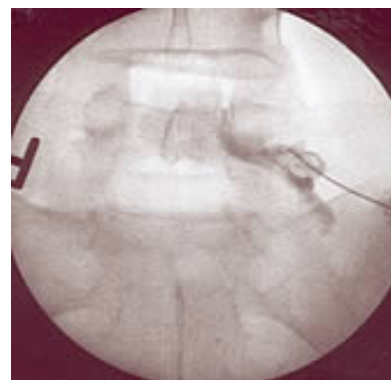


Fig. 2



What happens after the injection?

- You will be transferred to your bed and your vital signs checked on several occasions (pulse, blood pressure). The intravenous sedation will be reversed using a specific reversal agent so that the sedative wears off more quickly.
- You may notice that your leg / arm feel slightly warm and numb for a few hours afterwards.
- When your vital signs are stable you will be taken back to the ward area. At approximately 4 hours after the procedure, if all is well (no numbness / weakness in the arm / leg), and you have a responsible adult to look after you, you may go home.
- Pain relief may occur in the following ways:-
 1. Immediate relief which lasts for several weeks.
 2. Worse for a while, and then relief which lasts for several weeks.
 3. No change for several days, and then slowly improves for several weeks.

What are the side effects of the treatment?

- Temporary numbness in the arm / leg - usually wears off in a few hours.

What are the risks and complications of the treatment?

- Local soreness / bruising at the injection site - usually settles in a few days.
- No pain relief - the commonest complication would be that the treatment did not help the nerve root pain in the arm / leg. The causes of this include incorrect placement of the needle, and wrong diagnosis i.e. the pain in the arm / leg had some other cause.
- Worse pain in the arm / leg - like any other treatment, the pain can be worse afterwards rather than better. This is unusual and the cause is not known. No further nerve root blocks should be administered if this occurs.
- Bleeding and haemorrhage into the epidural space can cause compression of the spinal cord, leading to paralysis at the level of the injection. This would affect the legs, bladder and bowels. Those with known clotting abnormalities or who are taking anti-coagulants should let their consultant know before having the injection.
- Infection - introduction of infection can cause a spinal / paraspinal abscess, which in turn can cause compression of the spinal cord, leading to paralysis of the legs, bladder and bowels. Infection can be minimized by performing the procedure under sterile conditions. Sometimes infection can spread through the spinal / paraspinal areas from other distant sites. The injection should therefore not be done when there is overt infection elsewhere in the body. Diabetics are more prone to staphylococcal infections generally.
- Post dural puncture headache - a low spinal fluid pressure headache occurs if the block needle goes too far and causes a hole in the dural membrane, the membrane between the spinal fluid and the epidural space. This can be treated with an epidural blood patch, IV fluids and analgesics. Normally the hole seals on its own in 2 weeks with resolution of the headache.
- Anaphylaxis - severe allergic reaction to the components in the injection mixture - more common to local anaesthetic but rare with lignocaine. Please tell your consultant before the treatment about all of your drug allergies.
- Total spinal injection - numbness in the whole body due to the local anaesthetic entering the spinal fluid. This can be reduced by using x-ray guidance and performing a radiculogram before injecting.
- Epileptic seizures - this can occur if significant amounts of the local anaesthetic enter the circulation via the plexus of veins that lies in the epidural space. Lignocaine 0.5% has a very low chance of causing this even if the whole amount was injected intravenously, and therefore has an enhanced safety margin in this respect.
- Damage to the spinal cord and spinal nerves by the needle. Should the block needle be inserted too deeply into the spine or if the patient moves suddenly, this can cause the needle to injure the spinal structures. This may result in persistent neuralgic pain, numbness, weakness in variable parts of the body which is irreversible. This type of incident can be reduced by using x-ray guidance, and by the patient lying completely still

Courtesy of: <http://www.painclinic.org/pdf/pc/info-spinalnerverootblocks.pdf>