Lumbar nerve root injections

Information for patients
Orthopaedics - Spinal Physiotherapy
What is a nerve root injection?

A nerve root injection involves delivering a small volume (usually 3-3mls) of local anaesthetic and steroid, to the area of the spine closest to where a painful nerve root is compressed and/or inflamed.

Why has my doctor offered me this treatment?

As part of your treatment it has been suggested that you may benefit from nerve root injections. You will probably have been suffering leg pain (sciatica) due to nerve root compression or irritation. You may have already had an MRI or CT scan, and together with your surgeon's assessment, this has shown that one nerve root in particular is the probable cause for your pain. This procedure is aimed at improving your leg pain symptoms.

Are there any risks?

Most side effects from the procedure are usually minor. Major complications have been reported in isolated case reports. Possible complications include:

- **Nerve damage:** In about 1 in 25 cases the nerves at the site of the injection may be more deeply affected by the anaesthetic, causing weakness, numbness or pain in the leg. Usually this effect will only last for a few hours, and will disappear after the local anaesthetic has worn off. Very rarely the side effect may be prolonged or permanent.

- **Stroke:** The nerve roots in your back may lie very close to the blood vessel that supplies the spinal cord. There are very rare case reports of spasm or damage to these vessels during this procedure, and this can lead to temporary, and sometimes permanent, loss of sensation or power in part of your body (stroke). The complication is infrequent, but is something that you should be aware of before we carry out the injection.
• **Infection:** Sterile technique and equipment are used to reduce the risk of infection, although this complication may still occur despite these precautions.

• **Allergic reaction:** Approximately 1 in 2,500 patients will have an allergic type reaction to the dye. Please tell the doctor if you have any allergy to medicines or anything else.

• **Bleeding:** It is quite common (approximately 1 in 20) for there to be a small amount of bruising at the site of injection. Occasionally the bleeding may result in a large bruise or haematoma, which can be painful, or cause pressure on adjacent structures in the back.

• **A rise in blood sugar levels:** for a few days for people who have diabetes.

• **A small leakage of the cerebrospinal fluid (CSF):** caused by the needle and can lead to a headache (when standing and walking) for a few days afterwards. You may be advised to lie down for a few days.

• **Technical failure:** Rarely, the particular anatomy of your spine may prevent the needle being placed close enough to the nerve.

• **Radiation:** The typical dose of radiation for this procedure is very low. However, this procedure cannot be done without the use of X-rays, as these help the radiologist to safely guide the needle to the correct nerve root.

This test is not carried out on pregnant women. If you suspect or know that you are pregnant, please telephone 0114 271 4271.

Women who are still having periods should have the procedure during the 10 days following the start of your menstrual period. (This includes the time that you are menstruating). If your appointment is not within the first 10 days of your menstrual cycle, please telephone the department and we will arrange a suitable date with you.
We must obtain your consent (permission) for any procedure or treatment beforehand. Staff will explain all the risks, benefits and alternatives before they ask for your consent. If you are unsure about any aspect of the procedure or treatment proposed, please do not hesitate to ask for more information.

**Where is the procedure done and who will do it?**

Depending on who has offered you for this procedure, it may be carried out either as a day case procedure in an operating theatre, or in the Radiology department.

**Should I continue taking my medications? Can I eat and drink?**

If you are taking medications then you should still take them, including any pain medication or medication for diabetes. However, the procedure is not safe for people taking any medications to thin their blood, such as warfarin or clopidogrel.

Be sure to tell a member of staff if you are allergic to any medications. In addition, you should mention if you are taking any medication to thin your blood, such as warfarin or clopidogrel.

You may eat and drink as usual before the procedure, unless you are having a cervical (neck) nerve root injection, in which case you must not eat and drink for 4 hours before the procedure.

**When do I need to come into hospital?**

If your nerve root injection is to be carried out in the Radiology department, you will receive a letter informing you of your appointment time. It is useful if you can arrive 10 to 15 minutes early in
order to get ready for the procedure. The procedure takes approximately 30 minutes.

If your nerve root injection is being carried out in an operating theatre, you will get a letter telling you when to arrive and which ward to go to.

**What will happen before my injection**

Before your procedure, a radiologist, anaesthetist or spinal surgeon will check all of your details and explain the procedure to you. If you have not already done so, you will be asked to sign a consent form. A nurse will help you to get into the correct position on a special ‘table’ and will stay with you throughout the procedure, so that they can help you and explain things as they happen.

**What happens during the procedure?**

After a small injection of local anaesthetic to numb the overlying skin and soft tissues, a fine needle is passed down to the intended area under XR guidance. As the needle reaches the intended position, a special dye that is visible on X-ray is injected to show up the nerve root. This is followed by injection of the local anaesthetic and steroid around the selected nerve(s). Whilst this is done you will be asked if you feel any pain and if so, whether the pain is in the same or different place to where you usually feel your leg pain. A small dressing or plaster will be put over the needle site.

**What happens after the procedure?**

Once the procedure is finished and we are happy that you are well, you will be able to go home after a short rest. Occasionally, we may need to observe you for a few hours after the procedure.

Be aware that the local anaesthetic given may cause some temporary leg numbness or weakness for a few hours. You will need to be careful
when getting out of bed, that any weakness does not cause your leg to ‘give way’ and for you to fall over.

Please arrange for either a friend or relative to collect you from hospital. You must not drive on the day of the injections or if you have persistent weakness or numbness in your leg(s).

When you get home, you should rest for the rest of the day but you can eat and drink as normal.

Once the numbness has worn off, it is not uncommon for the pain to return, occasionally slightly worse than before, until the corticosteroid takes effect. This can take several days, or even a few weeks, as steroid injections do take some time to work.

You should continue to take your usual pain relief medication until you begin to feel benefit. It is important not to stop taking certain pain relief medication suddenly, such as, morphine or neuropathic medication (gabapentin, pregabalin or amitriptyline). It will be necessary to gradually ‘wean’ yourself off these medications and your GP can advise you if necessary.

The majority of patients will experience significant benefits from these injections but the duration of benefit is variable. For a considerable number of patients, the injections can provide excellent pain relief during which time the disc swelling can reduce naturally. However, there is a risk of having a further episode.

If an initial injection is helpful, a surgeon may offer to repeat the procedure, but not usually for about 6 months.
Is there anything I should look out for when I go home?

It is extremely rare to have any problems once you have gone home. However, if you do feel unwell with symptoms such as:

- Increased back pain, swelling, redness
- New numbness or weakness in your legs
- Bladder or bowel problems
- Fever
- Feel generally unwell

You should consult your GP or your local Accident and Emergency department and explain that you have had this procedure.

What follow up will I have?

Typically, a telephone follow up appointment with one of the team who were looking after you prior to your injection, will be arranged for 6 to 8 weeks after your injection. In the meantime, you may be asked to complete a questionnaire (either sent to you in the post or by email), so that you can tell them whether or not your leg pain has been made better by the injection.

Where can I find more information about nerve root injections?

Further information on nerve root injections is available at:


Alternatively, you can get in touch with your treating clinician or the radiology department at the hospital.