

Nerve root injection Info leaflet

Spinal nerve root block (transforaminal injection)

A 'nerve root block' is an injection around a major nerve where it exits the spinal column through an opening called a neuroforamen. The nerve connects to an area of skin and muscle in a limb.

The injection is carried out at Cervical (neck), Lumbar (low back) or Caudal (base of the spine) level.

A nerve root block can be helpful to temporarily ease pain caused by inflammation or narrowing of the spine affecting the targeted nerve(s) or discs. This pain would be felt in a limb (arm or leg, e.g. 'sciatica') or sometimes the buttock region.

Usually, a combination of cortisone ('steroid') and local anaesthetic is injected together. Local anaesthetic mildly numbs and can provide rapid onset relief, lasting for a number of hours only. Cortisone reduces swelling and inflammation and can have a longer effect, often weeks to a few months.

The effect a nerve root block is temporary; there is no long term curative effect.

Please be aware that there always is a chance of symptom improvement over time even without this treatment.

About cortisone ('steroid')

You should know that cortisone when injected into the epidural space is **outside its manufacturer's license**. That means it has been made and tested to be injected into other body parts (skin, muscle, joints etc); it has not been formally made and tested for injections around nerve and discs. This off-license use is common practice in pain medicine since many years.

Please also consider that cortisone will suppress your **immune system** for up to 2 months after being injected. During this time, you are at higher risk of contracting infections and may have more severe infections if you do.

Cortisone is available in particulate (cloudy) or a clear solution.

The **cloudy** solution (standard for lower spine epidurals) seems to have a somewhat longer effect but has a little higher (but still very small) risk of causing nerve damage/ paralysis.

The **clear** solution tends to have a somewhat shorter effect and a little lower risk.

It is possible to do an epidural without cortisone, but any relief effect would likely be very short (hours/days). Options and risks will be discussed in more and agreed with you when your doctor sees you before the injection. You can then ask any questions you might have.

Pulsed RF lesioning

It is an option (usually during repeat nerve root blocks) to stimulate the injected nerves with electricity of radio frequency. This can make the effect last longer. Your doctor will discuss this option with you if suitable.

If you have Diabetes

Your blood sugar may increase after this procedure. Diabetic control should be at optimum when having a nerve root block, so please ask your GP or Diabetes specialist to review this before having a nerve root block. If you have a very high blood sugar level on the day of the injection (between 15-20mmol/L) it may not be safe to proceed.

You should plan to monitor your blood sugar concentration carefully for the first few days after the injection and should know how to adjust your anti-diabetic medication.

X-rays and Iodine

X-rays as well as an iodine-containing dye are used to guide the injection. Since X-rays can be harmful in higher doses, we try to keep the dose to a minimum. Please tell us if you have a known allergy to iodine or have recently diagnosed over- or under-active thyroid.

For Female patients age 13-55

X rays can harm unborn children during pregnancy; by regulation we are required to exclude pregnancy in all women of child-bearing age and for this reason should use X-rays only within ten days following your monthly bleeding. If you are not within these 10 days you will be asked you to do a pregnancy test on the day the procedure to rule out pregnancy (please be aware that the standard tests have a tiny chance of failing to detect an existing pregnancy)

If you are unsure, or if there is any chance of you being pregnant, you need to contact us well before your admission .

Blood thinning medicines

anticoagulants and anti-platelet drugs

Your blood clotting needs to be near normal to safely have a nerve root block.

If you take medicines that reduce clotting these usually need to be stopped 5-7 days in advance. Please make your doctor aware of this so that you can receive suitable instructions when to stop, and whether to replace with other treatment.

The following medicines usually need to be discontinued 5-7 days before this procedure:

Aspirin (any dose), Clopidogrel (Plavix), Prasugrel, Abciximab (ReoPro), Dipyridamole (Persantin, Asasantin), Eptifibatide (Integrilin), Tirofiban (Aggrastat), Ticagrelor, Warfarin, Acenocoumarol (Sinthrome), Phenindione, Dabigatran (Pradaxa), Epixaban (Eliquis), Rivaroxaban (Xarelto)

Risks and complications

The main risks are lack of useful effect (25%) and, rarely, worsening of existing- or onset of new pain for some time (1-5%). These risks are higher if surgery has been done previously at the injection site.

Very rare complications include temporary or permanent nerve damage leading to reduced feeling, weakness and/or paralysis of a limb, incontinence, loss of sexual function, bleeding with spinal cord damage, infections (such as shingles, meningitis or abscess), or need for spine surgery.

The process of having a nerve root block

Lower back nerve root blocks are performed in a prone - and neck nerve root blocks in a supine position. A local anaesthetic injection first numbs your skin at the injection site prior siting the block needle. Please try not to move while the doctor performs the injection. During the procedure you may experience an unpleasant, painful or electric-like feeling in a buttock/leg (lower spine injection) or arm/fingers (neck injection). Please tell the doctor when and where you feel this.

Afterwards, you may be kept in a recovery area for ongoing monitoring and will then spent some time on a trolley before trying to stand up. As your legs (or arms) may be weaker and feel numb it may take some time for you to be able to do so. Sometimes the bladder muscle tightens for some hours so it may be difficult to pass water.

Arrangements you need to make

You must arrange a friend or relative to take you home when you are ready for discharge and you also must have an adult with you at home for the first night after the injection that is able to physically support you. If this can't be arranged you would need to stay in hospital for one night.

Outcomes

Local audit data show that 75% of patients with limb pain gain pain relief from nerve root blocks, with 53% reporting more than 50% relief. While this does not fully resolve all pain related problems and suffering, temporary relief allows a range of other treatments, e.g. Physiotherapy and Rehabilitation, to proceed and can give you hope and respite, increasing the impact and chance of long term benefit for many pain related problems.

If better for a while after a nerve root block you need to think ahead what to change. For most patients it is important to increase or start new exercises in planned way, and reduce or wean off long term pain killers, particular morphine-like drugs.

Tracking symptom changes

It is a good idea to keep a pain diary for some time before and after having injection treatment.

This can help you and your doctor to document the effect and make decisions about the next steps of your treatment.



While a pen and paper diary is an option, there are a number of Pain Diary Apps available that you can use with a laptop, tablets or mobile phones.

If you have an iPhone or iPad take a look at the Alogea App in the Apple App store. This has been developed by AppToolFactory and Dr Michael Luckmann to help you track and better manage pain medicines.

It's free to download and use for one medicine and symptom.