NHS
Brighton and Sussex University Hospitals
NHS Trust

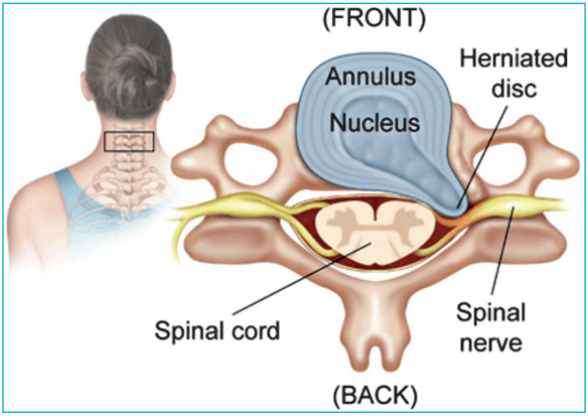
CT guided nerve root injections

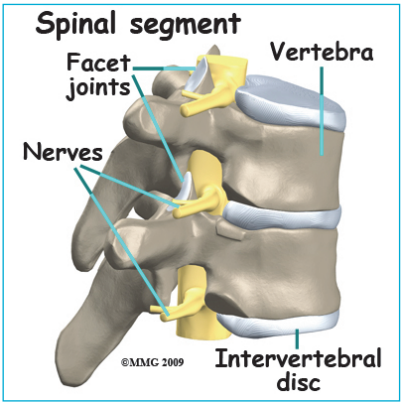
Providing support and information for patients and their families

A CT guided nerve root injection is used to relieve pain in the neck, shoulder, arm, back and leg, which is caused by irritation of the nerves in the cervical region (neck), or lumbar region (back).

What is a nerve?

Nerves carry messages about sensations and control of muscles around the body. They are a continuation of the spinal cord that lies inside the spinal column. The spine consists of vertebrae (bones) and elastic discs between the vertebrae (intervertebral discs).
The nerves exit the spine via spaces on either side of the vertebrae (foramina).





What causes nerve pain?

Nerves can become pinched or irritated as they come off the spine. This can be due to bone overgrowth or a bulging disc. Nerve irritation and inflammation can cause pain, which is often felt in areas of the body away from the back (at the distribution of the nerve). Altered sensations such as pins and needles, burning and numbness can also occur.

What is a CT scanner?

A CT (computerised tomography) scanner is a type of X-ray machine that produces highly detailed cross-sectional images of inside the body.

What is a CT guided nerve root injection?

It is injection of local anaesthetic and steroid into the area where the nerves exit the spine using CT for guidance. The nerve root injection may be diagnostic (to determine the source of your pain) and/or therapeutic (to relieve you of pain). The steroid injection can in the medium-term have the effect of reducing inflammation around the nerve root.

Before the procedure

If you are taking **blood thinning medication** or have **any conditions that affect your blood clotting** contact the Neuroradiology Department on **01444 441881 Ext. 5718** for advice. **Aspirin, Warfarin, Rivaroxaban and Clopidogrel are common blood thinning drugs.** You may need to liaise with your doctor if we have to temporarily stop any of your tablets.

If you are **immunosuppressed** please let us know. Certain medications for immunosuppression interact with the steroid and we may need to consult with your clinician before booking an appointment.

If you have an **active infection** or are on **antibiotics** please call us to rebook once you are clear of infection or have completed your antibiotics.

If there is any possibility that you could be pregnant or if you are pregnant please inform your doctor immediately. If you are **pregnant** you cannot have this procedure. To reduce the risks for women of child bearing age, lumbar nerve root injections are usually performed within the first ten days of the menstrual cycle.

Please note that although we do our best to minimise disruption, your procedure could be delayed or postponed, or even cancelled at short notice due to emergencies or equipment failure.

On the day of the examination

On the day of examination you can eat and drink normally and take your usual medications unless you have been advised otherwise. On arrival please report to reception. You will then be directed to the CT waiting area. A nurse and doctor (neuroradiologist) will see you, explain the procedure and will answer any questions that you may have. The risks and benefits will be explained and you will be asked to sign a consent form. The consent form confirms that you agree to have the procedure and understand what it involves.

Once you are in the room, you will be positioned on the CT table and will be asked to lie still for the procedure. If the nerve root block is to be on the cervical (neck) region you will lie on your back. If the nerve root block is to be on your lumbar (spine) region you will lie on your front.

The nurse, radiographer and neuroradiologist will be in the room and will get the equipment ready. Initially, a planning scan will be taken to identify and mark the area to be injected. The skin will be cleaned with antiseptic fluid and local anaesthetic will be injected into the skin.

The neuroradiologist will use the CT scanner to produce live images to guide a very fine needle close to the nerve. Several scans will be taken to confirm the position of the needle tip as it is advanced. When the needle is in the right place, an injection of local anaesthetic and steroid will be given through this needle. This may cause some discomfort that should settle quickly.

The examination takes around 20-30 minutes but this does vary for each patient. After the procedure you will be asked to remain in the radiology department for a short period of time for observation. Please allow two hours in total.

You will need someone to drive you home after the injection. You are advised not to drive for at least 12 hours after the procedure.

After the procedure

After the procedure your legs or arms may feel numb or heavy for a few hours. This is the effect of the local anaesthetic and will wear off.

You may get an immediate pain relief from the local anaesthetic and if that happens it is a good indicator that the pain comes from that nerve. The local anaesthetic will wear off after a few hours and the steroid may take up to three or four weeks to take effect.

You can perform light activity as able for the next few days after the injection, but it is advisable that you do not carry out any heavy manual work. Continue taking the same pain medications as you did before the procedure.

It is important to monitor any changes in your pain in the next few weeks.

What are the risks?

Like everything in hospitals there are risks but the risk is generally low.

Some patients experience worsening of the pain temporarily and may feel some tingling, clumsiness or even weakness to the affected limb. This weakness should wear off in a couple hours and is due to the local anaesthetic.

The steroid may occasionally cause facial flushing.

If you are diabetic your blood sugar may rise due to the steroid, so you will need to be more vigilant with your diabetes control for a few days following the procedure.

Rare risks include bleeding/haematoma, infection, nerve injury and allergic reaction to medication used.

When the injection is in the **neck,** there is an extremely small risk (less than one in a thousand) of a severe stroke. We will do everything possible to minimise the risk, but it is important to know that it can never be eliminated. Safety is of paramount importance to us and we always make sure that the benefit of the procedure outweighs the risk. The neuroradiology consultant will discuss this in more detail on the day of the procedure.

Is the procedure painful?

Local anaesthetic is used to numb the skin, which can sting initially. The subsequent placement of the needle is generally well tolerated. However, as the needle gets close to the nerve, you may get a short sharp pain in the area of the nerve distribution that settles with the local anaesthetic.

How long does the injection work for?

The steroid drug works by reducing inflammation within the tissues and it can take up to three weeks to start working. The relief you feel can vary. Sometimes it can last weeks or even months.
This is not a miracle cure though as it generally does not address the underlying cause. Even if the injection is unsuccessful, the information may still be useful to doctors planning your care. Your consultant who requested the examination will follow you up and discuss with you any further management.

For further information contact:

If you would like to discuss your CT nerve root injection, or if you have vision, mobility or access issues, or any special requirements regarding religion, or related to an allergy or disability, please contact the **Neuroradiology Department** on **01273 696955 Ext.62256**

Neuroradiology Department
Royal Sussex County
Eastern Road, Brighton, BN2 5BE

Dr Panos Koumellis/Dr Marius Poitelea
Consultant Interventional Neuroradiologists
Medical Secretary Email – Belinda.Mccorkell@nhs.net
01444 441881 Ext. 5718

Disclaimer
The information in this leaflet is for guidance purposes only and is in no way intended to replace professional clinical advice by a qualified practitioner.

Ref number: 777.2
Publication Date: October 2020
Review Date: October 2023

carer and patient information group approved