

## Nerve Root Injection

### WHAT IS A NERVE ROOT INJECTION?

Between each spinal vertebra is a 'disc' that allows the spine to be flexible. In between adjacent vertebrae, there is an opening on each side called a foramen. Nerves exit through the foramen on their way to the buttock or leg. **A nerve root injection involves an injection of corticosteroid (or 'steroid') and/or a local anaesthetic into the fat surrounding the nerve root.** CT scanning is used to guide this injection so the radiologist can confirm accurate placement of the needle. Corticosteroid medication decreases inflammation in the nerve root and will often reduce pain caused by nerve root inflammation, irritation of the nerve caused by arthritis or conditions such as disc degeneration or prolapsed disc.

### REASONS FOR THE PROCEDURE:

Back and/or leg pain (sciatica) can come from compression of the nerve as it passes through the foramen. Compression can come from a damaged, bulging disc or from extra bone that grows as a response to arthritis in the joints between the vertebrae. Inflammation from scar tissue and swelling after surgery on the spine can also irritate the nerves in the lower back.

If the pain is suspected to come from a particular root, but it is not certain which one (especially in older people who may have root compression as a result of arthritis at a number of spinal levels), blocking the root with anaesthetic confirms or rules out that particular root as the cause. This can help in planning for future surgery. If surgery is a consideration, a nerve root injection may be used to relieve the pain before the surgery and can sometimes allow surgery to be delayed or avoided.

### BEFORE THE PROCEDURE:

- You should wear comfortable clothes that are easy to remove.
- When you make your appointment for the nerve root injection, you need to let us know if you are taking any blood thinning medication, such as warfarin. Aspirin is usually not stopped.
- A blood test may be required to check your blood clotting on the day of the procedure.
- Continue with pain medication and other medications as usual.
- You may be monitored for 2-3 hours after the procedure, so please allow for this.
- You should arrange for someone to take you home after the procedure, as it is not advisable to drive for the rest of the day as you may have numbness, weakness or other temporary side-effects after the procedure.

### DURING THE PROCEDURE:

- You will be asked to lie prone on the CT scanning table.
- The table will be moved into the scanner and CT images of your spine will be taken to enable the correct position to be attained.
- The skin on the back is then cleaned with antiseptic, and the area is then covered with a sterile drape.
- Local anaesthetic is injected to numb the skin and deeper tissues in your lower back.
- When the skin and muscles are numb, a thin spinal needle is then guided into place. CT scans will be used as a guide so the radiologist can confirm accurate placement of the needle.
- When the needle is in the correct location, contrast medium (x-ray dye) may be injected to check the needle position. A combination of corticosteroid and long-acting local anaesthetic is then injected into the tissue surrounding the nerve root.
- The long-acting local anaesthetic very rapidly numbs the nerve. The area of the limb supplied by the

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nerve being treated goes numb, and the leg or foot may feel 'dead' for a while. This can be worrying when it happens, but you should be aware that the feeling and movement will recover soon.

### AFTER THE PROCEDURE:

- The leg is usually numb for a period of time. If the anaesthetic spreads into the spinal canal, the opposite leg may also be numb for a period of time (from minutes to 1-2 hours).
- There may be an increase in the leg pain when the injection starts, particularly if the root in the foramen is severely compressed. The pain eases off when the anaesthetic spreads around the compressed root.
- The actual procedure itself takes about 15 minutes, but you will be monitored after the procedure for 2-3 hours. Monitoring occurs after the procedure to make sure any numbness, weakness or other temporary side effects of the procedure have worn off before you go home.
- The radiologist will send a written report of the procedure to your referring doctor later in the day.

### RISKS OF THE PROCEDURE:

- Overall, the risks are minimal when carried out by experienced specialist radiologists using CT image guidance. Approximately 7 in every 1000 patients will have some type of complication from this procedure and the severe complications (such as permanent nerve root damage) are rare.
- Infection of the skin and deep tissues is possible, but is rare. It is however, important to monitor the injection site for any signs of infection over the next 24 hours. **If there is any sign of redness, swelling or pain over the area, please contact your GP or referring doctor as soon as possible.**
- Allergic reactions to the local anaesthetic and steroid medication are rare.