

## Introduction

Your doctor has requested that you undergo a Nerve Root Sleeve Injection (NRSI). NRSI is the introduction of local anaesthetic and/or steroid into the sheath around the nerve. This is usually requested because the nerve is thought to be inflamed by a disc pressing on it, by scarring after surgery, or from arthritis in an adjacent spinal joint. There are a number of other causes that are less common.

Steroids have a strong anti-inflammatory effect and hence, reduce pain over a period of time. This treatment may result in permanent remission of symptoms. However the effect may be temporary, lasting weeks or months. A positive result however confirms the diagnosis, and then other treatments may be applicable.

## What Happens Before the Procedure

You need to ***fast from solids and liquids for 4 hours*** before the procedure. If you take **Warfarin, Plavix, Iscover, Clopidogrel** or other blood thinning agents, notify the booking staff as this may require cessation or blood tests prior to the procedure.

A nurse will go through a checklist with you prior to the procedure. Questions relating to allergies, past medical history and your understanding of the procedure will be discussed.

Notify the nurse and doctor of any:

- Allergies, especially iodine as the contrast medium may cause a reaction.
- If you are or may be pregnant, due to the use of x-ray imaging.

Do not be alarmed if questions are repeated, this is to ensure a thorough check is undergone. A doctor will sign a consent form with you either in the pre admission clinic or on the day of the procedure. Please take this time to ask any questions regarding the procedure or concerns with the doctors. The doctor will discuss with you the details of the procedure and potential complications.

## What Happens During the NRSI

The procedure may take up to 30 minutes. An antiseptic solution will be used to clean the skin on your back. The Specialist Radiologist will localise the nerve root using x-ray or CT control and will inject local anaesthetic into the area. This may sting slightly for a short time.

A needle is then directed into the space around the nerve using x-ray or CT control. The position of the needle-tip and where the anaesthetic and steroid are spread is checked with an injection of contrast. The local anaesthetic and/or steroid are then injected.

**Occasionally, in the lumbar region, the procedure technique is altered and a localised epidural injection will be performed instead.**

The skinny needle is placed in the spinal canal behind the sac containing nerves and fluid. Occasionally, the sac will be punctured during the needle placement in the epidural space.

## What Happens After the Injection

The local anaesthetic may cause numbness in your leg (lumbar NRSI) or arm (cervical NRSI) similar to the facial numbness that occurs after dental anaesthetic. This may last 4-8 hours.

Usually this sensation is present immediately and if it has not developed after half an hour, it will not at all. We like to keep you resting in a chair until normal sensation returns.

**You *are not* able to drive yourself home so, please organise a driver to bring you to and from the procedure.**

After the procedure, pain relief may be complete but transient. More often sustained Pain relief develops over a period of a few days.

## Risks

**Complications are rare during this procedure. However you need to be informed of all the risks.**

Risks associated with the procedure may include:

- Pain during needle positioning.
- Infection involving redness, swelling, or increased pain over the injection site. Fever or chills need to be reported directly to NISwa and your referring doctor.

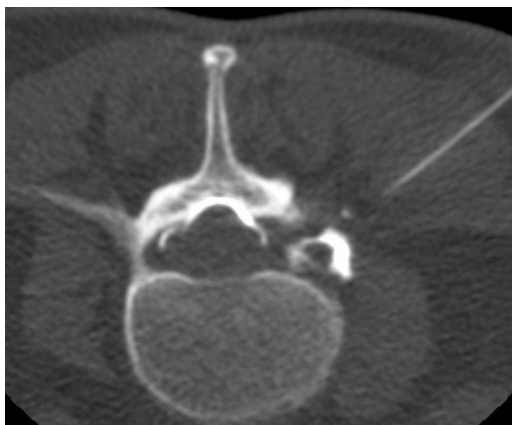
- If the sac is punctured during a lumbar epidural injection there is a potential for fluid to slowly leak out over time giving you a headache. Your Specialist Radiologist performing the procedure will alert you of a sac puncture. This is not a serious situation. You will be asked to lie flat for 4 hours and to drink plenty of fluid. This helps prevent any headache. The chance of a headache is less than 1%.
- During a cervical nerve sleeve injection there is a rare risk of puncturing a blood vessel which may cause bleeding or local pain.
- A rare complication is injury to the nerve root by the needle, either directly or by inflammation. Very rare complications (<1:100000) include direct damage to the spinal cord or injury to a blood vessel resulting in spinal stroke, causing weakness in arms and/or legs, or other spinal symptoms such as problems with bladder and bowel functions.
- Risks associated with the x-ray contrast material include an allergic reaction. Very severe reaction is rare and a life threatening reaction is extremely rare (<1:100 000).
- After the procedure you may experience numbness or weakness in the distribution of the nerve that has been injected usually lasting for a few hours. Rarely in the case of cervical nerve root injections, more generalised numbness and weakness may necessitate a period of observation in hospital.
- Any procedure can potentially (very rarely) be associated with unpredictable risks including death

**Seek Medical Advice if you have:**

- Weakness or loss of strength in your lower limbs.
- Prolonged nausea or vomiting.
- Prolonged pain.

**If you have any concerns, contact:**

- Your specialist or GP
- NIISSwa:  
Sir Charles Gairdner Hospital  
(08) 9346 4455  
Royal Perth Hospital  
(08) 9224 1069
- The Emergency department via hospital switchboard  
Sir Charles Gairdner Hospital  
(08) 9346 3333.  
Royal Perth Hospital  
(08) 9224 2244

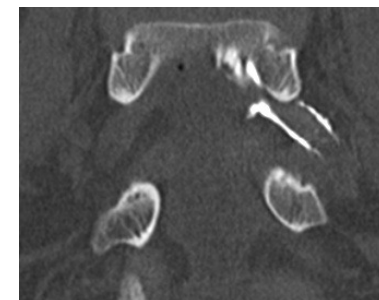


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**NEUROLOGICAL IMAGING &  
INTERVENTION SERVICES WA  
(NIISwa)**

**PATIENT INFORMATION  
NERVE ROOT SLEEVE INJECTION**



NIISWA – Sir Charles Gairdner Hospital  
1<sup>st</sup> Floor G Block (access via Gold Lifts)  
Phone (08) 9346 4455

NIISWA – Royal Perth Hospital  
3<sup>rd</sup> Floor Imaging Services North Block  
Phone (08) 9224 1069