

# Transforaminal Cervical Nerve Root Injection

## 1. WHAT IS A TRANSFORAMINAL CERVICAL NERVE ROOT INJECTION?

The spine is made up of bones called vertebra. Between each vertebra is a disc that allows the spine to be flexible. The nerves that provide power and sensation to the upper limbs are called cervical nerves. They exit the spine through openings between two adjacent vertebra called the intervertebral foramina. There are eight cervical nerves on each side of the neck. The nerve roots are surrounded by fat.

A transforaminal cervical nerve injection is where anti-inflammatory medication called corticosteroid (or steroid) and a local anesthetic are injected into the fat surrounding a nerve root in your neck. This decreases inflammation in and around the nerve root and will often help with the pain caused by a prolapsed disc or bony spur.

## 2. WHY WOULD MY DOCTOR REFER ME TO HAVE THIS PROCEDURE?

Irritation, compression and inflammation of the nerves caused by a prolapsed disc or a bony spur from age related changes in the neck can cause arm pain.

Your doctor may refer you for relief of this pain in the following situations:

- To control pain while allowing the disc material to shrink and inflammation to go away which often happens naturally without surgery.
- When you have age related changes at several levels in your neck injections of nerve roots at one or two levels can help determine which level is the cause of your pain. This may be helpful in planning surgery.
- To control pain while you are waiting for surgery.

## 3. HOW DO I PREPARE FOR THE PROCEDURE

You need to let the department know if you are taking any blood thinning medication such as Warfarin, Clopidogrel, Rivaroxaban, and Dipyridamole. Blood thinning medication need to be stopped before this procedure is carried out. These drugs are usually prescribed to prevent clots, strokes or heart attack so it is very important that you do not stop these medications without being instructed to do so by your doctor. They will give you specific instructions about when to stop and restart your medication. Low dose aspirin is not stopped.

Continue with pain medication and other medication as usual.

You need to let the department know if you are allergic to iodine.

You can have a light meal 2-3 hours before the procedure. Do not change your eating pattern if you are an insulin dependent diabetic.

Please bring any imaging especially MRI scans performed outside the hospital with you so the radiologist can review them prior to the procedure.

You will need to arrange for someone to take you home as you are advised not to drive for at least 12 hours following the procedure.

#### 4. WHAT HAPPENS DURING THE PROCEDURE

You will be asked to wear a gown for the procedure. In the room where the procedure is carried out you will be asked to remove your shoes. You will lie on your side on a table, which is covered, with a thin mattress. The table has an x-ray machine under it and a screen over the top of it. There is a television screen where the doctor performing the procedure can view images of the procedure in real time. The site of the injection is marked using x-ray guidance. The skin is cleaned with antiseptic. The area is covered with a sterile drape. The x-ray machine is used to guide the needle to the back of the neural foramen. When the needle is in the correct location iodinated contrast (dye) is injected to confirm that the needle is in the right place and not in a blood vessel or in the spinal fluid sac. Once the epidural position of the needle is confirmed, a combination of iodinated contrast, steroid and anesthetic is injected under continuous fluoroscopic monitoring. The positioning of the needle or the injection may produce some discomfort. If the pain is severe the procedure may be abandoned.

The procedure itself usually takes 15 minutes.

#### 5. WHAT HAPPENS AFTER THE PROCEDURE

You will be transferred onto a trolley in the recovery area of 15-30 minutes. You may experience some numbness and or weakness in the distribution of the injected nerve that may last for up to 4 hours. Irritation of the nerve by the procedure may produce further upper limb pain that may last 24-48 hours. Pain medication and rest for 1-2 days is advised during this time. Hot flushing of the face or whole body and headache may occur due to the steroid. These usually resolve in 1-3 days. If you have diabetes your blood sugars may be temporarily elevated.

#### 6. WHAT ARE THE BENEFITS OF THE PROCEDURE

Relief of arm pain and avoidance or delay of surgery. Pain relief may last days to months. Your usual pain may go away for a few hours after the procedure. It is usual for the pain to return when the anesthetic has worn off. The full effect of steroid may take 4 -6 weeks to work. Its lasting effect varies from person to person.

#### 7. WHAT ARE THE RISKS OF THE PROCEDURE

It may not be possible to complete the injection due to technically or anatomically not being able to place the needle in the desired position. The injection may not relieve the pain. You may faint or have a vasovagal reaction.

Complications are very uncommon and most happen at the time or shortly after the procedure while you are still in the department where the procedure is carried out. Allergic reaction to the iodinated contrast or anesthetic. Bleeding can cause compression of the nerve being injected. Infection: Severe headache, neck stiffness and pain when you look at bright lights that starts in the few days after the procedure may indicate meningitis or epidural infection. You should see your doctor immediately as this needs to be treated in hospital with antibiotics. Serious and permanent but very rare complications of the procedure include stroke, spinal cord injury leading to partial paralysis and nerve root injury. These complications happen within minutes of the procedure so you will still be in the hospital should any of these rare problems occur.