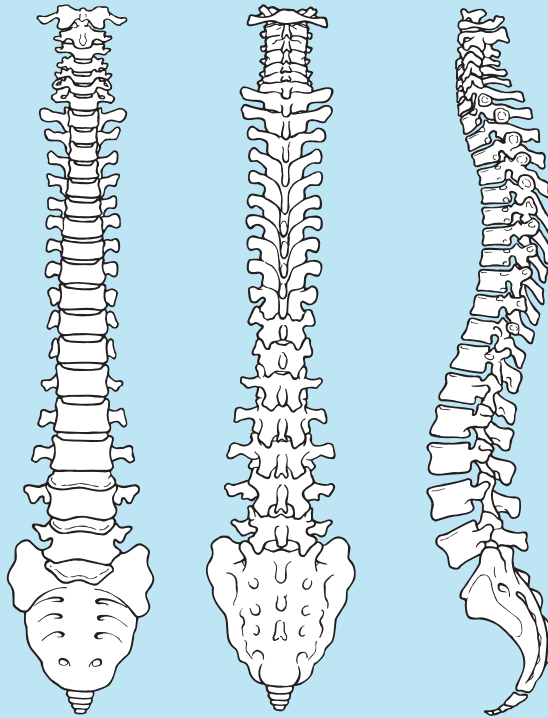




**BASS**  
British Association of Spine Surgeons

# Lumbar Nerve Root Decompression for Foraminal Stenosis



Review date: February 2019

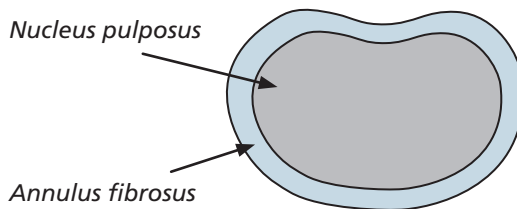
Following your recent MRI scan and consultation with your spinal surgeon, you have been diagnosed as having a narrowing of your lumbar spinal nerve root canal, known as **foraminal stenosis**, resulting in nerve root compression and leg pain (sciatica).

The normal spinal column has a central canal (or passage) through which the spinal cord passes down. The spinal cord stops at the top of the lumbar spine (lower back) and below that point tiny nerve rootlets splay out like a horse's tail forming the cauda equina, all of which are protected by a tough outer membrane, or covering, called the dura mater.

To each side of the canal, spinal nerve roots branch out at every level through a bony passage (foramen).

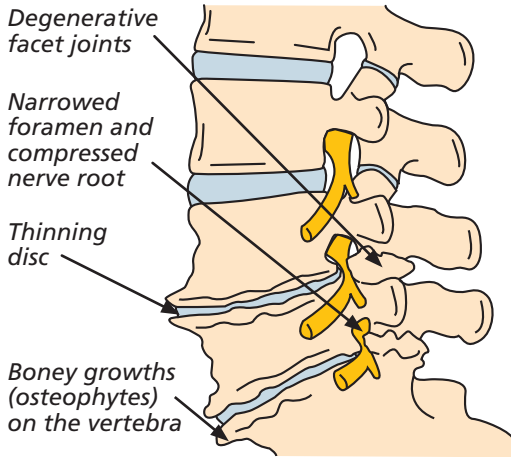
The intervertebral disc is a structure between the vertebrae (bones of the spine), which acts as both a spacer and a shock absorber. The disc is composed of two parts: a soft gel-like middle (nucleus pulposus) surrounded by a tougher fibrous wall (annulus fibrosus).

### Overhead view of an intervertebral disc (simplified)

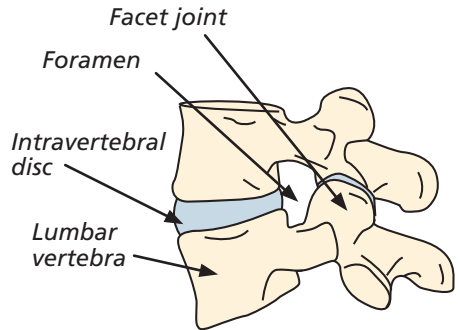


Sometimes as the disc degenerates it can lose height and as a consequence, close down and narrow the passage (foramen) where the nerve root passes through. This can be worsened by bony spurs (osteophytes), which grow into the passage and can result in the nerve root becoming trapped, causing pain, especially when standing or walking (this is called claudication).

## Narrowing of the nerve root canal



## Normal spine



Lumbar nerve root pain (often called ‘sciatica’) generally travels down the leg to below the knee and is felt in the area of the leg that the particular spinal nerve supplies. Symptoms also associated with sciatica include altered sensation, pins and needles, burning, numbness or even weakness of the muscles in the leg which the nerve supplies.

Very few people who have a spinal problem need surgery. However, if the symptoms have not resolved following conservative measures such as manipulation, physiotherapy, medication or injections, surgery may be necessary. The objective of surgery is to widen the nerve root canal by removing bone from the back of the spine, giving the nerve root a wider passage. This is called decompression.

## The operation

The operation is performed through an incision in the midline of your lower back. This is usually a small wound about 1½ inches (4cm) long, but is sometimes longer if several nerves are affected.

The operation is performed under general anaesthetic so you are fully asleep. First, the muscles are lifted off the bony arch (lamina) of the spine.

Often, a small portion of the inside facet joint is removed both to enable access to the nerve root and to remove pressure on the nerve. The nerve root is then gently moved to the side and further bone is removed from around the nerve root canal.

About 70–80% of patients (up to 8 out of 10 people) get good relief from leg pain following this surgery, but relief of back pain is less reliable as this may be due to general wear and tear (arthritic) changes.

## Risks and complications

As with any form of surgery, there are risks and complications associated with this operation. These include:

- damage to the nerve root and the outer lining or covering which surrounds the nerve roots (dura). This is reported in < 5% of cases (fewer than 5 out of 100 people). It may occur as a result of the bone being very stuck to the lining and tearing it as the bone is lifted off. Often the hole or tear in the dura is repaired with stitches or a patch. This could result in back or leg pain, weakness or numbness, leaking from the wound, headaches or, very rarely, meningitis;
- recurrent sciatica. This can occur as a result of scarring (fibrous tissue formation);
- bleeding. You must inform your consultant if you are taking tablets used to thin the blood, such as warfarin, aspirin or clopidogrel. It is likely you will need to stop taking them before your operation as they increase the risk of bleeding;
- problems with positioning during the operation which might include pressure problems, skin and nerve injuries and eye complications including, very rarely, blindness. A special gel mattress and protection is used to minimise this;
- infection. Superficial wound infections may occur in 2–4% of cases (up to 4 out of 100 people). These are often easily treated with a course of antibiotics. Deep wound infections may occur in < 1% of cases (fewer than 1 out of 100 people). These can be more difficult to treat with antibiotics alone and sometimes patients require more surgery to clean out the infected tissue. This risk may increase for people who have diabetes, reduced immune systems or are taking steroids;

- blood clots (thromboses) in the deep veins of the legs (DVT) or lungs (PE). This occurs when the blood in the large veins of the leg forms blood clots and may cause the leg to swell and become painful and warm to the touch. Although rare, if not treated this could be a fatal condition if the blood clot travels from the leg to the lungs, cutting off the blood supply to a portion of the lung. It is reported as happening in fewer than 1 out of 700 cases. There are many ways to reduce the risk of blood clots forming. The most effective is to get moving as soon as possible after your operation. Walk regularly as soon as you are able to, both in hospital and when you return home. Perform the leg exercises illustrated in the 'Preventing Blood Clots' leaflet and keep well hydrated by drinking plenty of water. Ladies are also advised to stop taking any contraceptive which contains the hormone oestrogen four weeks before surgery, as taking these during spinal surgery can increase the chances of developing a blood clot; and
- there are also very rare but serious complications that in extreme circumstances might include damage to the cauda equina and paralysis (the loss of use of the legs, loss of sensation and loss of control of the bladder and bowel). This can occur through bleeding into the spinal canal after surgery (a haematoma). If an event of this nature was to occur, every effort would be made to reverse the situation by returning to theatre to wash out the haematoma. Sometimes, however, paralysis can occur as a result of damage or reduction of the blood supply of the nerves or spinal cord and this is unfortunately not reversible; and a stroke, heart attack or other medical or anaesthetic problems, including death, which is reported as happening in 1 out of 250,000 cases under general anaesthetic.

## **What to expect after surgery**

Immediately after the operation you will be taken to the recovery ward where nurses will regularly monitor your blood pressure and pulse.

Oxygen will be given to you via a face mask for a while, to help you to recover from the anaesthetic. You will also have an intravenous drip for about 24 hours or until you are able to drink adequately again after the anaesthetic.

A drain (tube) may come out of your wound if there has been significant bleeding during the operation; this prevents any excess blood or fluid collecting. This will be removed when the drainage has stopped, usually after 24 hours. You will have some discomfort or pain but the nursing staff will give you appropriate medication to control this.

Usually, on the first day after your operation, the physiotherapist will help you out of bed. They will also show you the correct way to move safely.

## Going home

You will normally be able to leave hospital when you and your physiotherapist are happy with your mobility, usually 1–2 days after your operation.

Please arrange for a friend or relative to collect you, as driving yourself or taking public transport is not advised in the early stages of recovery. If you will need hospital transport please inform one of the nurses as soon as possible.

## Wound care

Your wound will usually be closed with clips. You may shower if you are careful when you get home but bathing should be avoided for two weeks, until the wound is completely dry. Please do not remove your wound dressing, unless it accidentally gets wet, until your clips are removed. If a new dressing is required then a simple dry dressing from the pharmacist (chemist) is sufficient.

### **Please contact your GP if you have:**

- any redness around the wound;
- wound leakage; or
- a high temperature.

The ward will tell you if a community (district) nurse has been arranged to come to your home to remove the clips, or ask you to make an appointment with your GP practice nurse for the clips to be removed. This will usually be 10 days after your surgery.

Date of clip removal: ..... / ..... / .....

## Recreational activities

Walking is the best activity to do after your surgery. Active physical sports should be avoided for the first few weeks after surgery. A gradual return to sport is then advised. If you are in any doubt about certain sports, wait until you can discuss them with your consultant.

## Driving

Sitting for prolonged periods is not advisable after your surgery, including driving a car. If you have no altered sensation or weakness in your legs you may return to driving when you feel safe to do so, but don't travel long distances without taking regular breaks to stretch your legs. Please discuss driving with your surgeon before you leave hospital.

## Lifting and carrying

Please refer to the physiotherapy advice sheet and other advice from your physiotherapist. You should avoid heavy lifting and carrying for several weeks.

## Follow-up

You will be sent a clinic appointment for 8–12 weeks after your surgery. If you have any queries before this appointment please contact the nurse specialist for your consultant's team.

**If you have any questions about the information in this booklet, please discuss them with the ward nurses or a member of your consultant's team.**

Produced, researched and revised by spinal nurse specialist Helen Vernau at The Ipswich Hospital NHS Trust, in association with and on behalf of the BASS Consent and Patient Information Committee.

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