

LUMBAR DISCECTOMY

A guide for patients

Lumbar discectomy is a surgical procedure to remove part of a disc that is pressing on spinal nerves in the lower (lumbar) back.

Discs are soft but strong, thick cushions made of cartilage that sit between each vertebra of the spinal column, as shown in the illustration (right).

Discs play a vital role in absorbing the daily shocks and forces that are placed on the spine during lifting, bending, running, walking, sitting, sports and other daily activities. They also maintain the correct spacing between vertebrae and help to protect them.

Each disc is composed of a strong outer wall of fibres called the annulus. In the middle is a softer gel-like core called the nucleus.

Although discs are tough and resilient to the mechanical forces placed on them, they can become weakened and damaged through age or trauma caused by excessive pressure, such as heavy lifting. This damage is called "herniation", which is an abnormal protrusion of the soft nucleus into or through the firmer annulus. Disc herniation can occur in four ways:

- 1 **degeneration:** the disc becomes weak and thinner, and may shrink (typically due to age), but the nucleus does not break through the outer wall of the disc
- 2 **prolapse:** the disc has a pronounced bulge that may put some pressure on the spinal canal or a spinal nerve
- 3 **extrusion:** the nucleus ruptures through the annulus but remains in one piece
- 4 **sequestration:** the nucleus ruptures through the annulus and fragments of it are separated from the disc.

IMPORTANT: Fill in all details on the sticker below

DEAR SURGEON: When you discuss this pamphlet with your patient, remove this sticker and put it on the patient's medical history or card. This will remind you and your patient that this pamphlet has been provided. Some surgeons ask their patients to sign the sticker to confirm receipt of the pamphlet.

TREATMENT INFORMATION PAMPHLET

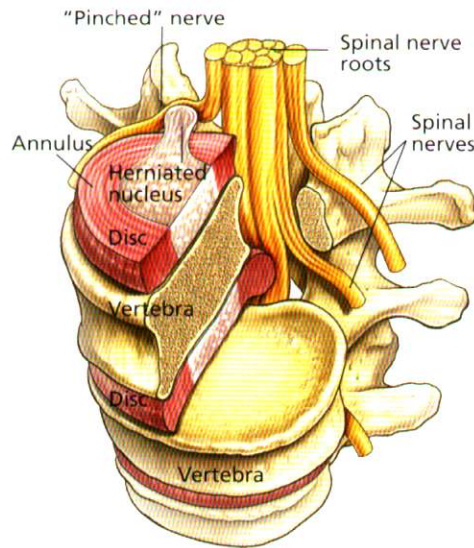
PEEL HERE

PROCEDURE: _____

PATIENT'S NAME: _____

DOCTOR'S NAME: _____

EDITION NUMBER: _____ DATE: DD / MM / YYYY



When a disc herniates, the protrusion may press into the spinal canal or on a nearby spinal nerve, compressing or "pinching" it.

If a disc is compressing a spinal nerve, the most common symptoms are:

- sciatica – pain in the lower back and hip radiating down the back of the thigh and into the leg
- pain in one or both legs
- dull to severe aching pain in the lower back or buttocks
- numbness, tingling or weakness of one or both legs
- problems with urinary or bowel continence.

Symptoms can range from mild and intermittent to severe and debilitating. In the most serious cases, bladder and bowel control may be impaired or lost.

Also, if the disc nucleus ruptures through the annulus, chemicals in the nucleus can irritate nearby spinal nerves

and aggravate symptoms. Once damaged, a herniated disc does not heal and become normal again. However, those parts of the herniated disc that are pressing on a spinal nerve or the spinal canal can be surgically removed (discectomy).

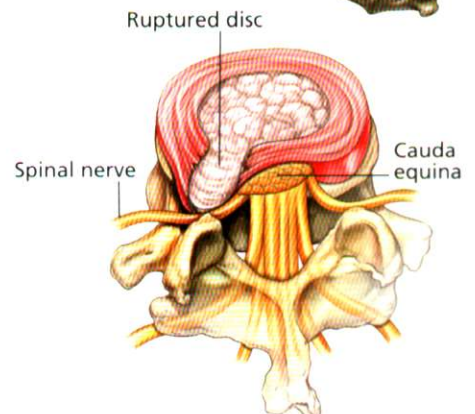
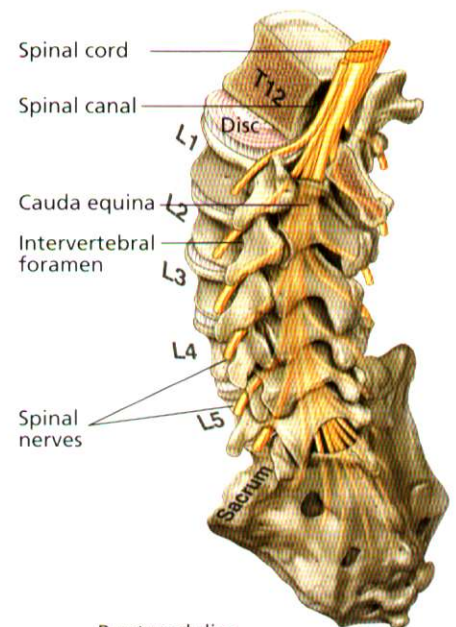
SPINAL CORD AND NERVES

The spinal cord and spinal nerves are protected by bony vertebrae, as shown below. Each spinal nerve courses through a hole between the vertebrae called the intervertebral foramen. Each foramen must be wide enough so that its spinal nerve is not compressed.

At the first lumbar vertebra (L1), the structure of the spinal cord changes, becoming a bundle of nerve roots called the cauda equina. The cauda equina courses through the five lumbar vertebra (L1 to L5) and ends in the sacrum (tailbone).

Cauda equina syndrome: This is caused

Continued on page 2



by a large herniation of a lumbar disc, most commonly at L4 and L5. If nerves of the cauda equina become severely compressed by a herniated disc, blood flow to

them is reduced, and nerve function is impaired. Paralysis and loss of bowel control and bladder control can soon follow. Cauda equina syndrome is a medical

emergency, and surgery is needed to stop the pressure caused by the herniated disc on the cauda equina. Fortunately, this serious complication is rare.

DIAGNOSIS

■ Diagnostic imaging can provide important information about the discs, vertebrae, other spinal structures and any abnormalities. Magnetic resonance imaging (MRI), computer tomography (CT), X-ray examination and myelograms can often reveal the anatomy of a herniated disc and the precise location of nerve compression. One or more of these tests may be necessary for accurate diagnosis.

■ Your surgeon will examine you to determine your strength, reflexes, ability to feel pain, and ability to move. You will be asked about pain, numbness, weakness, previous similar symptoms, and any bowel or urinary problems. Blood tests may be needed.

YOUR MEDICAL HISTORY

Your surgeon needs to know your medical history to plan the best treatment for you. Tell your surgeon about any health problems you have. Some may interfere with treatment, surgery, anaesthesia or recovery. Before surgery, tell your surgeon if you have had:

- any allergy or reaction to antibiotics, anaesthetic drugs or other medicines, surgical tapes or dressings
- prolonged bleeding or excessive bruising when injured, or a family history of excessive bleeding
- recent or long-term illness, and any previous surgery.

Give your surgeon a list of **ALL** medicines you are taking and have recently taken. Include medicines prescribed by your family doctor and those bought “over the counter” without prescription. Include long-term treatments such as blood thinners (warfarin, coumadin, Plavix [clopidogrel], Asasantin, among others), aspirin (including that contained in cough syrups), arthritis medication or insulin. If you need surgical treatment, your doctor may ask you to stop taking some medications for a week or more before surgery, or you may be given an alternative dose.

Smoking: As smoking interferes with healing, patients who smoke must stop for at least three weeks before surgery and three weeks after surgery. It is best to quit. After surgery, smokers have

increased risks of infections, heart and lung complications, and deep venous thrombosis (DVT).

TREATMENT OPTIONS

■ **“Wait and see”** – Damaged or inflamed tissues may heal with time. Over several weeks or months, or sometimes longer, symptoms can subside. Patients with mild symptoms often do well without surgery.

■ **Medications** – Oral medications such as various analgesics (paracetamol, codeine, tramadol, Digesic, Endone) can provide short-term pain relief. Non-steroidal anti-inflammatory drugs (NSAIDs) and corticosteroids can reduce inflammation and provide pain relief. Anticonvulsant medication (Tegretol, Epilim, Neurontin, Lyrica) and some antidepressive medication can also be used to treat nerve pain.

■ **A nerve sheath injection (foraminal block)** – This is the use of local anaesthetic with cortisone injected in the area of the compressed spinal nerve. This treatment can provide significant medium-term relief. While relief typically lasts for days or weeks, this can be long enough for symptoms to subside and for surgery to be delayed or avoided.

■ **Epidural steroid injection (ESI)** – This delivers pain-relieving anti-inflammatory medication close to the source of pain. ESIs can be very effective, but relief tends to be temporary, ranging from one week to one year.

■ **Physical therapy** can be helpful if symptoms are not severe. Mild exercise can assist muscle tone, core strength, fitness, posture and flexibility of the spine.

■ **Discectomy** – For patients whose symptoms persist and who require surgery, the most common procedure is discectomy. Not all of the disc is removed, only that part of the disc which is causing the problem. Surgery can often be an appropriate first option in patients with severe or worsening symptoms.

The modern microdiscectomy technique using magnification provided by an operating microscope or operating loupes is a minimally invasive or “keyhole approach” that has become the standard procedure in recent years.

CANDIDATES FOR DISCECTOMY

When deciding if surgery is an appropriate option for you, your general health and the severity of symptoms are the most important factors to consider. For most patients, surgery is an option if they have a compressed spinal nerve and have:

- severe, persistent leg and lower-back pain that significantly limits normal daily activities
- weakness or numbness of legs or feet
- difficulty walking or standing, or
- bowel or bladder control problems.

Surgery is typically not an option when:

- symptoms are improving
- pain is not severe
- leg and lower-back symptoms are not due to a compressed spinal nerve
- reasonable doses of medication are sufficiently relieving pain
- physical therapy or exercise reduces pain and discomfort
- another medical condition is likely to complicate surgery.

A decision to have surgery: As you make the decision whether or not to have surgery, make sure that you understand the risks, benefits and limitations of discectomy.

There can be risks if you do not have surgery to relieve compression of a lumbar spinal nerve because further damage to it may occur. In some patients, the most serious complications can include further pain, numbness, paralysis or loss of bladder or bowel control.

Your surgeon cannot guarantee that treatment will meet all your expectations and that it has no risks.

Only you can decide if surgery is right for you. If you have any questions, ask your surgeon.

ANAESTHESIA

Lumbar discectomy is usually performed under general anaesthesia. Modern anaesthesia does have risks, although the complication rates are low. Your anaesthetist can provide more information.

Give the anaesthetist a list of the medications you are taking. Make known any problems that you or a blood relative may have had with any anaesthetic. Inform your anaesthetist about any recent or long-term illness, and any previous surgery.