LUMBAR LAMINECTOMY

A guide for patients

Lumbar laminectomy is a surgical procedure to relieve discomfort, cramps, pain, tingling and numbness in the buttocks or legs caused by pressure on the spinal cord, the cauda equina or spinal nerve roots.

The aim of surgery is to remove the pressure by opening the spinal canal and widening it from the back. The surgeon removes bone and other tissue pressing on the affected nerves, providing more space for the nerves and reducing any irritation and inflammation.

Laminectomies are typically performed to treat lumbar spinal stenosis. This is a narrowing of the spinal canal that contains the spinal cord and the spinal nerves that arise from the spinal cord, as shown in the illustration (above). At the lumbar level of L1, the spinal cord becomes a nerve bundle called the cauda equina.

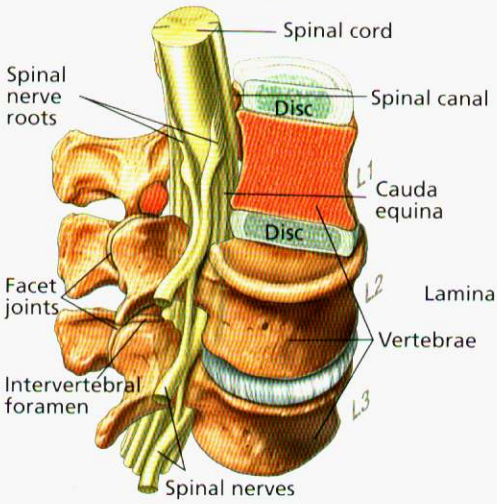
Spinal stenosis occurs mainly in older patients due to age-related:

- osteoarthritis of the spine and degenerative changes in the facet joints of the lumbar vertebrae; facet joints link vertebrae together, giving the spine flexibility, stability and strength, but are susceptible to arthritis, just like other joints in the body
- enlargement of the facet joints of the vertebra
- thickening of facet-joint tissue due to chronic inflammation
- formation of bone spurs (osteophytes) on a vertebra caused by friction between ageing, inefficient facet joints
- thickening, hardening and calcification of ligaments of the spine
- thinning of intervertebral discs, which leads to less space between vertebrae, resulting in smaller intervertebral foramen for spinal nerves to pass through; if a foramen becomes too small, its spinal nerve will be compressed or "pinched"
- herniated or bulging discs
- slippage of one vertebra over another (spondylolisthesis). It occurs usually due to age-related degeneration but sometimes is seen after trauma to the lumbar spine. Spondylolisthesis most commonly occurs between the fourth and fifth lumbar vertebrae (L4-L5 level) and the fifth lumbar and first sacral vertebrae (L5-S1 level).

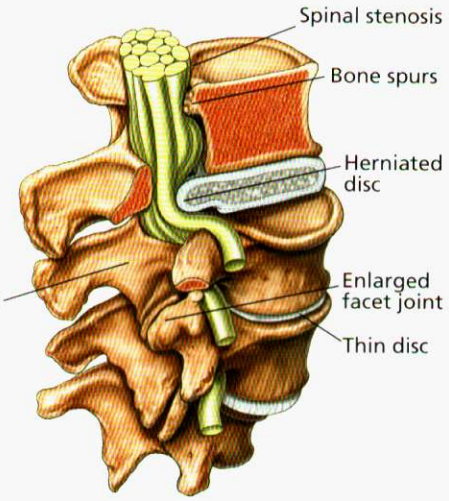
All of the above conditions slowly cause decreases in the space around the spinal nerves, increasing the risk of compression.

Other conditions that can lead to spinal stenosis include:

- rheumatoid arthritis of the spine
- a spinal tumour
- Paget's disease, which causes weak and deformed bones
- acute trauma
- congenital spinal stenosis (existing from birth); symptoms can develop easily in these patients, even when age-related changes or physical stresses are fairly minor
- scoliosis (curvature of the spine)
- achondroplasia (a hereditary condition of abnormal bone growth).



NORMAL LUMBAR SPINAL ANATOMY



ABNORMAL LUMBAR ANATOMY

The most common symptom is "neurogenic claudication". This is a painful cramping discomfort and/or weakness which can be in both or one calf, thigh, and buttock. It is usually provoked by walking or prolonged standing, and is relieved by rest and/or a change of position (usually flexion at the waist).

If a lumbar spinal nerve is compressed, the most common symptoms are:

- sciatica – a syndrome of pain in the lower back and hip, radiating down the buttocks to the back of the thigh and into the leg; most cases of spinal stenosis that cause significant symptoms affect the sciatic nerve, a large nerve that originates at L4, L5 and the sacrum
- persistent discomfort or pain in one or both legs
- dull to severe aching pain in the lower back or buttocks
- numbness and tingling in one or both legs; occasionally the patient may have muscle weakness.

Symptoms can range from mild and intermittent to severe and debilitating. Uncommonly, a few patients have problems with urinary or bowel continence and function. In the most serious cases of pressure on the cauda equina, bladder and bowel control may be severely impaired or lost. Such cases are rare.

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: D D / M M / Y Y Y Y

Edition number: 2

This pamphlet is intended to provide you with general information. It is not a substitute for advice from your surgeon and does not contain all the known facts about lumbar laminectomy.

If you are not sure about the benefits, risks and limitations of lumbar laminectomy, or terms used in this pamphlet or anything else,

Talk to your Surgeon

ask your surgeon. Read this pamphlet carefully, and save it for reference. Some technical terms are used that may require further explanation by your surgeon. Write down questions you want to ask. Your surgeon will be pleased to answer them. You can seek the opinion of another surgeon if you are uncertain about advice that you are given. Use this pamphlet only in consultation with your surgeon.

Consent form: If you have surgery, your surgeon will ask you to sign a consent form. Before signing, read it carefully. If you have any questions, ask your surgeon.

DIAGNOSIS

Diagnostic imaging can provide your surgeon with important information about vertebrae, other spinal structures and abnormalities. Magnetic resonance imaging (MRI), computer tomography (CT), X-ray examination and a spinal myelogram can often reveal the anatomy of the vertebrae and the precise location of abnormalities. 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.

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:

- an allergy or bad reaction to antibiotics, anaesthetic drugs or any 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, other doctors and those bought without prescription. If you need surgery, your surgeon may ask you to stop taking some medicines for a week or more before surgery, or you may be given an alternative dose. Discuss this carefully with your surgeon.

Smoking: Patients who smoke must stop for at least three weeks before surgery and three weeks after surgery. It is best to quit because smoking interferes with healing and recovery. 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 tissue may heal with time. Over several weeks or months, or sometimes longer, symptoms can subside. Patients with mild symptoms often do well without surgery. Most patients with back pain do not require surgery.
- Medications – oral medications such as various analgesics (paracetamol, codeine, Digesic, Tramadol, 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 can provide significant medium-term, temporary 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. If symptoms are relieved by an ESI, then the patient is likely to have a good outcome from a laminectomy, if surgery becomes necessary.
- Physical therapy and specific exercises can be helpful if symptoms are not severe. Mild exercise can assist muscle tone, core strength, fitness, posture and flexibility of the spine. While often helpful, spinal-stenosis exercises are not curative.
- Other conservative treatments can include activity modification, bed rest, back bracing, weight loss and lifestyle changes.
- For patients whose symptoms persist despite medical and conservative treatments, a laminectomy may be needed. Surgery can often be an appropriate first option in patients with severe or worsening symptoms. Outcomes from surgery are usually better when the patient has early diagnosis and the surgery is undertaken before symptoms worsen.

CANDIDATES FOR LUMBAR LAMINECTOMY

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 spinal stenosis or a condition related to spinal stenosis, and have:

- severe and persistent leg pain that is disabling or significantly limits normal daily activities
- weakness or numbness of the 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 spinal stenosis or a related condition
- doses of pain killers are reasonable
- physical therapy or exercise reduces pain and discomfort
- another medical condition is likely to complicate surgery.

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

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.