

## Laminectomy

A laminectomy is a surgical incision (cut) into the vertebra (backbone) to get access to the structures associated with spinal cord. It is usually performed in the cervical and lumbar regions and less often in the thoracic region. The operation is performed to remove tumours or herniated intervertebral discs, or to relieve pressure on the spinal cord and/or spinal nerves.

This operation isn't always successful, which means the symptoms could remain, or only be partial relieved. Sometimes, the operation isn't expected to relieve symptoms, but is performed to prevent any further clinical deterioration. In this case, your original symptoms will probably remain, but should not get any worse.

### Laminectomy

One of the most common reasons for laminectomy in the lumbar region is a prolapsed or herniated intervertebral disc. If the herniated disc is in this region, it can cause back pain with pain radiating down the leg, as well as weakening of the muscles in the leg, and some loss of sensation in the leg and foot. It may also be difficult to raise your leg when it is held in a straight position due to pain.

### Anterior surgical fusion

A herniated disc in the neck region can cause symptoms including pain, numbness and weakness in the arm. In a number of cases, a herniated disc is associated with an injury.

The surgeon will attempt to relieve the pressure on nerves and nerve roots by doing an anterior cervical fusion - removing the material that is protruding from the disc and compressing the spinal cord or nerve roots. This is usually performed through an anterior approach (the front of the neck). Complications with this approach include difficulty swallowing, a hoarse voice and neck or shoulder pain; these symptoms almost always resolve.

### Medical issues to consider

Tests are usually performed before surgery to aid diagnosis. These tests may include:

- Plain films/Spinal x-ray
- Myelogram (rarely performed)
- Computerised tomography (CT) scan
- Magnetic resonance imaging (MRI) scan.

Your surgeon should explain the nature of your operation, the reasons for it, the outcome and the possible risks involved. They should be able to tell you the approximate length of stay in hospital that will be required and the number of weeks you will need to recuperate before returning to work. You may require inpatient rehabilitation initially for a short period of time.

Your anaesthetist will visit you to see how suitable you are for surgery. Laboratory tests, including blood and urine samples, are taken before the operation.

### Operation procedure

You will have 'nil by mouth' (nothing to eat) for a number of hours prior to surgery. A pre-medication injection is usually given to make you drowsy and dry up some internal secretions.

Laminectomy is usually performed under general anaesthetic. The position you are placed in on the operating table depends on the position of your herniated disc

The skin is marked for incision. The surgeon first cuts through the skin. The muscle is then cut, peeled back from the vertebrae and held in place with special instruments called retractors. The lamina, which is between the bony projection of the vertebrae (the 'points' you can feel with your fingers) and the transverse process or 'wing', is either removed or drilled with small holes.

What happens next depends on the problem. For example, the surgeon may then trim the protruding bits of a herniated disc. Once the surgery is completed, the lamina is placed back into position, and the muscle and skin are sutured (sewn) closed.

## Immediately after the operation

After the operation, you can expect, depending on which procedure you have:

- Routine post-operative observations will be taken and charted, including temperature and blood pressure.
- Your wound is checked for redness, swelling and signs of infection.
- Muscle spasms are not uncommon following laminectomy. Pain relief and antispasmodic medication are given regularly.
- Note is made of your ability to pass urine, as sometimes this may be affected immediately following surgery.
- You may have intravenous fluids for a few days, which may include an antibiotic.
- Initially, you will be shown how to roll over in bed. You are taught the proper method of rolling your body in order to maintain proper body alignment. This is most important for the first 48 hours or so (this applies to laminectomy and not an anterior cervical fusion).
- You are assisted out of bed usually within 24 hours. The physiotherapist will give you specific instructions on how to get out of bed properly in order to avoid stress and strain on your wound site. You may feel light-headed when you first get out of bed.
- You are encouraged to walk, stand and sit for short periods. You are taught how to prevent twisting, flexing or hyper-extending your back while moving around.
- You may be referred for inpatient or outpatient rehabilitation.

## Possible complications

Some of the possible complications of these procedures include:

- Infection/breakdown of the wound
- Bleeding: superficial or deep
- Blood clots in the legs
- Chest infection
- Sore throat, hoarse voice and/or difficulty swallowing
- Injury to the nerve and/or weakness and numbness
- Paraplegia or quadriplegia (depending on the site and severity of the spinal cord injury).

## Taking care of yourself at home

Be guided by your doctor, but general suggestions include:

- Continue to take your medications as ordered, especially the full course of antibiotics.
- Avoid activities that strain the spine – such as sitting or standing for too long, flexing your spine, bending at the waist, climbing too many stairs or going for long trips in the car.
- Avoid wearing high-heeled shoes.
- Sleep on a firm mattress.
- Continue with any exercises you were shown in hospital. Gradually increase them, although if you develop pain, cease the activity.
- Beware of lifting, bending or twisting.
- Be guided by your physiotherapist and doctor as to what specific activities you can and can't do, including walking and driving.
- Report to your doctor any signs of infection, such as wound redness or drainage, elevated temperature or persistent headaches.

## Long-term outlook

A regular exercise program following surgery is most important to increase your spinal muscle strength and flexibility, and to protect against future injury. This is usually initiated as an inpatient and continued as an outpatient.

Occasionally, the operation doesn't work and the original symptoms remain. At other times, the operation isn't expected to relieve symptoms, but is performed to prevent the area from deteriorating further. In this case, your original symptoms will probably remain, but not get any worse. Make sure to discuss your concerns and expectations with your doctor.

## Other forms of treatment

Even with signs of spinal nerve pressure, such as sciatica, recovery without any treatment may occur. Alternative treatment to surgery isn't always possible, but generally should be tried first. This may include:

- Stabilisation exercises
- Stretching and strengthening exercises
- Cortisone injections
- Non-steroidal anti-inflammatories or a course of oral steroids
- Training on how to safely use your back (such as proper lifting techniques)
- Physiotherapy
- Switching to ergonomic furniture.

Discectomy without laminectomy may also be an option, and this can often be done as day surgery using arthroscopic microscopic discectomy.

## Where to get help

- Your doctor
- Neurosurgeon.

## Things to remember

- A laminectomy is a surgical incision into the backbone to obtain access to the spinal cord.
- One of the most common reasons for laminectomy is a prolapsed or herniated intervertebral disc.
- Occasionally, the operation doesn't work and the original symptoms remain.
- At other times, the operation isn't expected to relieve symptoms, but is performed to prevent the area from deteriorating further.

**This page has been produced in consultation with, and approved by:**

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