Laminectomy

Summary

- A laminectomy is a surgical incision into the backbone to access 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.

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

This operation isn't always successful, which means the symptoms could remain, or only be partially 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.

Reasons for a laminectomy

One of the most common reasons for a laminectomy in the lumbar region is a prolapsed or herniated intervertebral disc. If the herniated disc is in this region, it can cause sciatic nerve pressure 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.

Another common reason for a laminectomy is degeneration or arthritis of the spine. This leads to narrowing of the pathways that nerves travel through (vertebral canal or foraminae) and can also cause sciatic nerve pressure. It may be difficult to walk due to aching or burning in the legs after short distances (claudication).

Diagnosis of spinal problems

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

- plain spinal x-rays
- myelogram (rarely performed)
- computerised tomography (CT) scan
- magnetic resonance imaging (MRI) scan.

Laminectomy procedure

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 initially require inpatient rehabilitation 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.

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.

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

Your 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 surgeon confirms the nerves are not compressed any more, and the muscle and skin are sutured (sewn) closed.

**What to expect after a laminectomy**

After the operation, you can expect:

- 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.
- Your ability to pass urine is recorded, as sometimes this may be affected immediately following surgery.
- You may have a drain-tube placed during surgery, which is taken out after one or two days.
- 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.
- You are helped to get out of bed usually within 24 hours. The physiotherapist will give you specific instructions on how to get out of bed properly 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.

**Complications of a laminectomy**

Some of the possible complications of this procedure includes:

- infection or breakdown of the wound
- bleeding – superficial or deep
- blood clots in the legs
- chest infection
- damage to the dura (which covers the spinal cord) leading to leakage of spinal fluid
- injury to the nerve, weakness and numbness
- paraplegia or quadriplegia (depending on the site and severity of the spinal cord injury)
- delayed instability.

**Self-care after a laminectomy**

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, stop 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 any signs of infection to your doctor, such as wound redness or seeping, elevated temperature or persistent headaches.

Long-term outlook after a laminectomy

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 started in hospital 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 treatment for spinal problems

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.

Other treatment options may include:
• stabilisation exercises
• stretching and strengthening exercises
• cortisone injections
• non-steroidal anti-inflammatory drugs (NSAIDS) 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 (removal of the disc) without laminectomy may also be an option, and this can sometimes be done as day surgery as a lumbar microdiscectomy.

Where to get help
• Your doctor
• Neurosurgeon

Things to remember
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