Laminectomy
Summary

- 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.

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

- A laminectomy is a surgical incision into the backbone to obtain access to the spinal cord.
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Surgery

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- Types of surgery
- Exploratory surgery
- Blood, tissue and organ donation
- Plastic and cosmetic
- Reproductive and contraception
- A-Z of surgical procedures

Types of surgery

- Brain surgery
  - Brain surgery is performed for a number of reasons, including alterations in brain tissue, brain blood flow and cerebrospinal fluid...
- Day surgery and anaesthesia
  - Day surgery is completed in one day, usually the person does not have to stay in hospital overnight...
- General anaesthetics
  - An anaesthetic is a drug or agent that produces a complete or partial loss of feeling...
- Surgery
  - Ask your doctor or surgeon about the benefits, risks and possible side effects of surgery...

Exploratory surgery

- Arthroscopy
  - Most people can resume normal activities around three weeks after an arthroscopy...
- Biopsy
  - Before a biopsy, you need to discuss a range of issues with your doctor or surgeon...
- Colonoscopy
  - A colonoscopy can be used to look for cancer of the colon (bowel cancer) or colon polyps, which are growths on the lining of the colon...
- Endoscopy
  - An endoscope or fibrescope is a long, usually flexible tube with a lens at one end and a video camera at the other...
- Laparoscopy
  - The advantage of laparoscopy is that only a small incision is required, which is why it is also known as 'keyhole surgery'...

Blood, tissue and organ donation

- Blood donation
Donated blood is used to help people who are sick or injured, or for medical research...

- Blood transfusion
  Donated blood is screened for blood-borne diseases such as hepatitis, syphilis and HIV...

- Corneal transplantation and donation
  Corneal transplant surgery would not be possible without generous donors and their families, who have donated corneal tissue so that others may see...

- Kidney donation
  Kidneys are often donated after death but more people are choosing to donate one of their kidneys while still alive (living kidney donation).

- Organ and tissue donation
  Discover the facts about organ and tissue donation, decide about becoming a donor and discuss your decision with the people close to you.

- Organ and tissue transplantation
  Transplantation varies depending on the transplant organ or tissue so speak with your medical team about surgical procedures, recovery and medications.

Plastic and cosmetic

- Abdominoplasty (tummy tuck)
  A 'tummy tuck', or abdominoplasty, is cosmetic surgery to remove fat and excess loose skin from the abdomen.

- Blepharoplasty (eyelid surgery)
  Eyelid surgery, or blepharoplasty, aims to improve the appearance of the upper eyelids, lower eyelids or both.

- Body contouring surgery
  Body contouring is surgery to remove sagging skin and extra fat, and improve the shape and tone of underlying tissue.

- Brachioplasty (arm lift surgery)
  An 'arm lift' is surgery to reshape or reconstruct the underside of the upper arm from the armpit to the elbow.

- Breast implants (augmentation)
  Breast implants are inserted under the skin to create larger breasts.

- Breast reduction for men
  Breast reduction for men is surgery to correct overdeveloped or enlarged breasts.

- Breast reduction for women
  Breast reduction surgery removes excess breast fat, glandular tissue and skin to achieve a breast size in proportion with your body.

- Brow lift
  A brow lift is cosmetic surgery to correct a sagging forehead and repair frown lines.

- Cosmetic genital surgery - labioplasty and phalloplasty
  Cosmetic genital surgery involves reshaping the labia, vulva or penis to alter their size or shape.

- Cosmetic implants - buttock, fat and pectoral
  Buttock and pectoral implants involve surgery to insert shaped silicone pieces into skin cavities.

- Cosmetic surgery
  Cosmetic surgery carries risks and, in some cases, the results are not what you may anticipate.

- Cosmetic treatments - injectables
  Cosmetic injections into the skin can be used to reduce wrinkles.

- Ears - otoplasty
  Ear correction surgery, or otoplasty, is usually done to move prominent ears closer to the head or to reduce the size of large ears.

- Facelift (rhytidoplasty)
  A facelift is a type of cosmetic surgery that removes or tightens facial skin to make a person look younger.

- Facial implants
Facial implants are used by people who want to restore or improve the normal shape of their face.

- **Hair transplant surgery**
  Hair transplant surgery involves taking skin from parts of the scalp where hair is growing and grafting it to the thinning or bald areas, or areas of trauma.

- **Liposuction**
  Liposuction is invasive surgery and is not a substitute for weight reduction or a cure for obesity.

- **Medical tourism and insurance**
  People may choose to travel overseas to seek medical or surgical treatment that is unavailable in their home country. This is called medical tourism, and it's a booming industry worldwide. People...

- **Nose - rhinoplasty**
  Rhinoplasty may be performed for cosmetic reasons or to correct a structural problem.

### Reproductive and contraception

- **Assisted reproductive technology – IVF and ICSI**
  IVF (in-vitro-fertilization) and ICSI (intracytoplasmic sperm injection) are assisted reproductive treatment (ART) procedures in which fertilisation of an egg occurs outside the body.

- **Caesarean section**
  A caesarean section is usually performed when it is safer for the mother or the baby than a vaginal birth.

- **Contraception - tubal ligation**
  Sterilisation is a permanent method of contraception that a woman can choose if she is sure that she does not want children in the future.

- **Contraception - vasectomy**
  Having a vasectomy does not affect a man's ability to produce male sex hormones, enjoy sex or reach orgasm.

- **Dilatation and curettage (D&C)**
  A dilatation and curettage (D&C) is an operation performed on women to lightly scrape away the womb lining.

- **Hysterectomy**
  The conditions that prompt a hysterectomy can often be treated by other means, and hysterectomy should only be a last resort.

### A-Z of surgical procedures

- **Abdominoplasty (tummy tuck)**
  A 'tummy tuck', or abdominoplasty, is cosmetic surgery to remove fat and excess loose skin from the abdomen.

- **Brachioplasty (arm lift surgery)**
  An 'arm lift' is surgery to reshape or reconstruct the underside of the upper arm from the armpit to the elbow.

- **Brain surgery**
  Brain surgery is performed for a number of reasons, including alterations in brain tissue, brain blood flow and cerebrospinal fluid.

- **Breast reconstruction and mastectomy**
  Some women choose to have breast reconstruction surgery to give a similar appearance to the look of their original breast in normal clothes.

- **Cosmetic implants - buttock, fat and pectoral**
  Buttock and pectoral implants involve surgery to insert shaped silicone pieces into skin cavities.

- **Craniotomy**
  A craniotomy is an operation to open the skull (cranium) in order to access the brain for surgical repair.

- **Endoscopy**
  An endoscope or fibrescope is a long, usually flexible tube with a lens at one end and a video camera at the other.

- **Eyes - laser eye surgery**
  During laser eye surgery, a computer-controlled laser is used to remove microscopic amounts of tissue from the front surface of the eye.

- **Hair transplant surgery**
Hair transplant surgery involves taking skin from parts of the scalp where hair is growing and grafting it to the thinning or bald areas, or areas of trauma.

- **Heart bypass surgery**
  After heart bypass surgery, eat a wide variety of fresh fruit and vegetables, wholegrain cereals and cold-water fish.

- **Heart disease - angioplasty and stent procedures (video)**
  People with coronary heart disease talk about the medical procedures that followed their heart attack and diagnosis.

- **Kidneys - dialysis and transplant**
  People with kidney failure need dialysis or a transplant to stay alive.

- **Knee replacement surgery**
  Knee replacement surgery removes a diseased knee joint and replaces it with an artificial joint.

- **Laminectomy**
  A laminectomy is a surgical incision into the vertebra to obtain access to the spinal cord.

- **Laparotomy**
  A laparotomy is a surgical incision into the abdominal cavity used to examine the abdominal organs and aid diagnosis.

- **Myomectomy**
  A myomectomy is an operation performed to remove fibroids from the uterus.

- **Obesity surgery**
  Obesity surgery is not a form of cosmetic surgery, nor an alternative to good eating habits and regular exercise.

- **Tracheostomy**
  A tracheostomy is a surgical procedure that involves making a cut in the trachea (windpipe) and inserting a tube into the opening.

- **Transurethral resection of the prostate (TURP) - for benign prostate disease**
  Surgery on the prostate gland can have many side effects, including erectile problems and urinary incontinence.

**Related Information**

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- **Appendectomy**
  An appendectomy is usually carried out on an emergency basis to treat appendicitis.

**Related information on other websites**

- **Keyhole neurosurgery – spinal surgery**
- **Melbourne Neurosurgery – lumbar laminectomy**

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