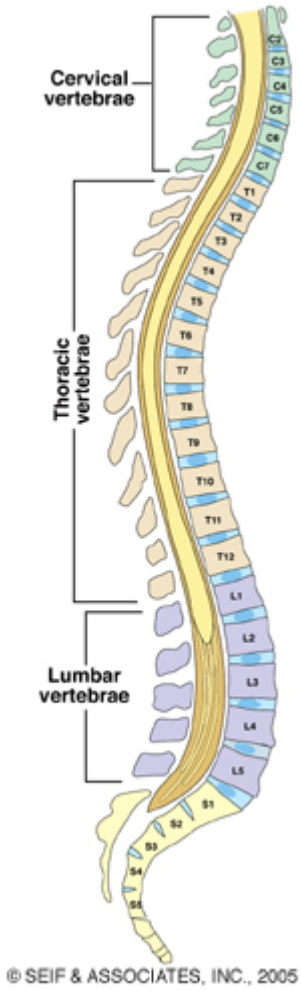
Laminectomy

The spinal cord and nerves that travel down your back are surrounded by protective bones, which are referred to as the spine (*backbone*). As we age, the spine degenerates. This can cause thickening of the ligaments and joints, which results in a narrowed tunnel through which the nerves and spinal cord pass. This tunnel is called the central canal, and the tightening of this passageway is called central canal stenosis. When the central canal becomes too narrow, bone pushes on the nerves, causing pain. Patients may suffer from symptoms such as pain radiating down their buttocks, thigh and leg, weakness, and numbness along with tingling. This pain is typically positional, meaning patients will find that certain positions, such as flexing over a shopping cart, will make it feel better.



One way to ease the pain is with an operation called a laminectomy. Small pieces of bone in the spine (called lamina) are removed. The ligaments underneath the lamina and parts of the joints that have grown too large are also removed. This takes pressure off the nerves and typically makes patients feel better. The spine stays strong, but the pain should go away. Surgery should only be considered if all attempts at non-surgical treatment have failed to provide relief.

BEFORE THE PROCEDURE

A medical evaluation will be done. This may include:

- A physical examination.
- Blood tests.
- Electrocardiogram (*heart rhythm test*).
- Imaging tests. This may include:
  - Chest X-ray.
  - MRI (*magnetic resonance imaging*). It can help locate disc problems.
  - CT scan (*computed tomography*).

- You will talk with an anesthesiologist. This is the person who will be in charge of the anesthesia during the operation. A laminectomy usually requires general anesthesia (*you are asleep during the procedure*).
- The person having the laminectomy needs to give informed consent. This requires signing a legal paper that gives permission for the surgery. To give informed consent:
  - You must understand how the procedure is done and why.
  - You must be told all the risks and benefits of the procedure.
  - You must sign the consent form. A legal guardian can also do this.
  - Signing should be witnessed by a health care professional.
- You will need to stop taking certain medicines.
  - Stop using aspirin and non-steroidal anti-inflammatory drugs (NSAIDs) for pain relief. This includes prescription drugs and over-the-counter drugs, such as ibuprofen and naproxen. If possible, do this 10-14 days before the procedure. Also, stop taking vitamin E.
  - If you take blood thinners, ask your caregiver when you should stop taking them.
- If you smoke, stop at least 2 weeks before the procedure. Smoking can slow down the healing process and increase the risk of complications.
- The day before the procedure, eat only a light dinner. Then, do not eat or drink anything for at least 8 hours before the operation. Ask if it is OK to take any needed medicines with a sip of water.
- Arrive at least 1-2 hours before the procedure, or whenever your surgeon recommends. This will give you time to check-in and fill out any needed paperwork.

LET YOUR CAREGIVER KNOW ABOUT

On the day of the procedure, your caregiver will need to know the last time you had anything to eat or drink. This includes water, gum, and candy. Make sure your caregiver also knows about:

- Any allergies.
- All medicines you are taking, including:
  - Herbs, eyedrops, over-the-counter medicines, and creams.
  - Blood thinners (*anticoagulants*), aspirin, or other drugs that could affect blood clotting.
- Use of steroids (by mouth or as creams).
- Previous problems with anesthesia.
- Possibility of pregnancy, if this applies.
- Any history of blood clots.
- Any history of bleeding or other blood problems.
- Previous surgery.
- Smoking history.
- Family history of problems with anesthesia.
- Any recent symptoms of colds or infections.
- Other health problems.

THE PROCEDURE

Preparation:

- Small monitors will be placed on your body. They are used to check your heart, blood pressure, and oxygen level.
- You will be given an intravenous line (IV). A needle will be inserted in your arm. It is hooked to a plastic tube. Medication will flow directly into your body through the IV.
- You might be given a sedative. This medication will help you relax.
- You will be given anesthesia. For general anesthesia, the anesthesiologist may hold a mask gently over your face. You will breathe in gases that will make you sleep. A tube also might be put in your throat. This would let you continue to get anesthesia during the procedure.
- Your back will be cleaned with a special solution, to kill germs on the skin.
- A catheter will be placed into your bladder, to collect urine during the surgery.

Procedure:

- Once you are asleep, the surgeon will make a 2 to 5-inch cut (*incision*) in your back. The length of the incision will depend on how many spinal bones (*vertebrae*) are being operated on.
- Muscles in the back are moved away from the vertebrae, and pulled to the side.
- Pieces of lamina are removed. This is the bony roof of the central canal.
- The ligament (*tough tissue*) that lies under the lamina and connects the vertebrae is removed.
- The remaining ligaments and thickened joints are also removed, though not completely. Just enough is removed to take pressure off the nerves.
- The nerves are identified, and their passage is tracked and assessed for excessive tightness. Once they are no longer under any pressure, enough ligaments and bone has been removed.
- The back muscles are moved back into their normal position.
- The area under the skin is closed with small, absorbable stitches. In time, these will go away on their own.
- The skin is closed with small stitches (also absorbable) or staples.
- A dressing is put over the incision.
- The procedure may take 1 to 3 hours.

AFTER THE PROCEDURE

- You will stay in a recovery area until the anesthesia has worn off. Your blood pressure and pulse will be checked every so often. Then you will be taken to a hospital room.
- You may continue to get fluids through the IV for awhile.
- Some pain is normal. You may be given pain medicine while still in the recovery area. If your pain gets

worse, be sure to tell your caregiver.

- It is important to be up and moving as soon as possible after an operation. Physical therapists will help you start walking.
- To prevent blood clots in your legs:
  - You may be given special stockings to wear.
  - You may need to take medicine to prevent clots.
- You may be asked to do special breathing exercises. This is to prevent a lung infection.
- Most people stay in the hospital for 1 to 3 days after a laminectomy.

RISKS AND COMPLICATIONS

Problems after a laminectomy are rare. But they can occur. They may include:

- Bleeding.
- Pain.
- Infection near the incision.
- Nerve damage. Signs of this can be pain, weakness, or numbness.
- Leaking of spinal fluid.
- Blood clot in a leg. The clot can move to the lungs. This can be very serious.
- A weak spine.
- Trouble controlling urination or bowel movements.

PROGNOSIS

Most people have less pain after a laminectomy. This is especially true for people who had pain in their leg. Having less pain makes it easier to go about daily activities. It may take several months for weakness and numbness to go away. Sometimes, people need another procedure after a few years.

HOME CARE INSTRUCTIONS

- Medication:
  - Take whatever pain medicine has been prescribed by the surgeon. Follow the directions carefully. Do not take over-the-counter painkillers unless the surgeon says it is OK. Do not drive if you are taking narcotic pain medications.
  - You may need to take blood thinners for several weeks to 2 months. The goal is to prevent blood clots.
  - You may need to take a stool softener, if you take narcotic pain medication. Also, eat foods high in fiber to prevent constipation (*difficult bowel movements*), such as fruits and vegetables.
- Wound care:
  - Do not get the incision wet until the surgeon says it is OK. After a few days you may take quick showers, but keep the incision clean and dry. A few weeks after surgery, once the incision has healed and the surgeon says it is OK, you can take baths or go swimming.
  - Check the area around the incision often. Look for redness and swelling. Also, look for anything leaking from the wound.
- Activity:
  - Take it easy for a while. Pain may go away fast. But, full recovery can take weeks or months. Your overall health before the procedure will make a difference. So will your age.
  - Walk as much as possible.
  - Do not lift anything heavier than 10 pounds, until your surgeon says it is safe.
  - For a few weeks, do not twist or bend. Try not to pull on things. And avoid sitting for long periods of time.
  - Ask your caregiver when you can resume other activities, such as work, driving, or sex.
- Exercise:
  - Ask your caregiver to explain what you should and should not do. Also, ask if you need physical therapy. The right kind of exercise can make your back stronger. It can also speed up your recovery.
- Follow up care:

- Your surgeon may need to take out stitches or staples. This is usually done about 2 weeks after the operation.
- Your surgeon may take X-rays. They can show how your spine is healing.

SEEK MEDICAL CARE IF:

- You have any questions about medicines.
- Pain continues, even after taking pain medicine.
- You feel weak.
- You are too tired to walk every day.
- You become nauseous.
- You are constipated.
- You have an oral temperature above 102° F (38.9° C).

SEEK IMMEDIATE MEDICAL CARE IF:

- Pain suddenly becomes much worse.
- The incision area is red, swollen, it is bleeding, or other fluid is leaking from the incision.
- Your legs or feet become increasingly painful or swollen.
- You have trouble controlling urination or bowel movements.
- You are having trouble breathing.
- You have chest pain.
- You have an oral temperature above 102° F (38.9° C), not controlled by medicine.
- You develop new weakness.

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