

Laminectomy and Laminotomy



Surgery
to Reduce
Low Back
Pain

Planning for Low Back Surgery

Having a low back problem can be frustrating. You may have pain when you sit or stand or walk. Merely lifting a basket of laundry may cause pain to shoot down your leg. But you don't have to live this way. Your doctor may have told you that either a **laminotomy** or a **laminectomy** is likely to reduce your pain. Read on to better understand these procedures. Doing so can help you prepare for surgery. You'll also find ways to make recovery go more smoothly.



When You Have Pain

Your back problem may be due to a sudden injury. Or aging and the wear and tear of constant use may have caused changes in your spine. When pain puts limits on your life and other treatments don't help, surgery may offer the best relief.



Surgery Can Help

Laminotomy and laminectomy are surgeries that remove a small amount of bone from the spine. This takes pressure off nerves in the low back, which greatly reduces symptoms. These surgeries are not cure-alls, but they are especially good at reducing leg pain.



How You Benefit

Most people feel better soon after their surgery. Many feel almost back to normal within 1 to 3 months. Having a laminotomy or a laminectomy almost always does the following:

- Reduces pain. Even the pain from surgery should be gone within weeks.
- Relieves leg pain from the hip down to the foot.
- Allows leg strength to improve. As the pain lessens, you'll be able to use your legs more. This rebuilds muscles.
- Reduces numbness in the affected leg.
- Improves quality of life. After surgery, you should be able to move with greater ease. Many people return to tasks and sports they did before their back problems started.



Learning About Your Low Back

When it is healthy, the low back allows you to bend and stretch without pain. But if your low back problem pinches a nerve, you may have pain, tingling, or numbness all the way down your leg. Sometimes merely standing or sitting causes symptoms.

A Healthy Spinal Column

The spinal column is a stack of bones (**vertebrae**) that are separated by soft pads of tissue (**disks**). Each of these bones has a canal that runs top to bottom. Together these canals form a tunnel called the **spinal canal**. Running through this canal are **nerves**. These nerves carry signals between the brain and body. When a spinal column is healthy, the following parts fit together without pressing on the nerves:

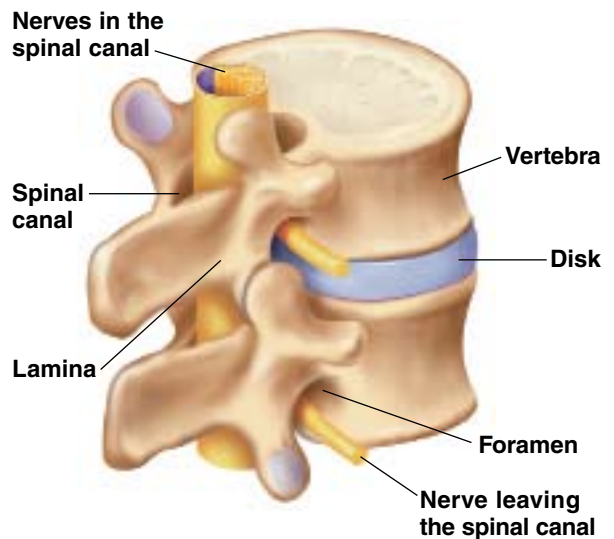
- **Vertebrae** are the bones that make up the spine.

The lamina of each vertebra forms the back of the spinal canal.

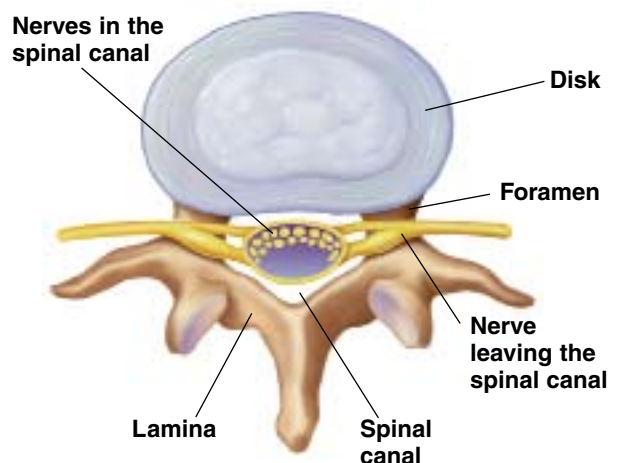
A foramen is a small opening. This is where a nerve leaves the spinal canal.

- **Disks** serve as cushions between vertebrae. A disk's soft center absorbs shock during movement. This allows each vertebra to rock back and forth and side to side, so the body can move freely.

Two vertebrae and a disk

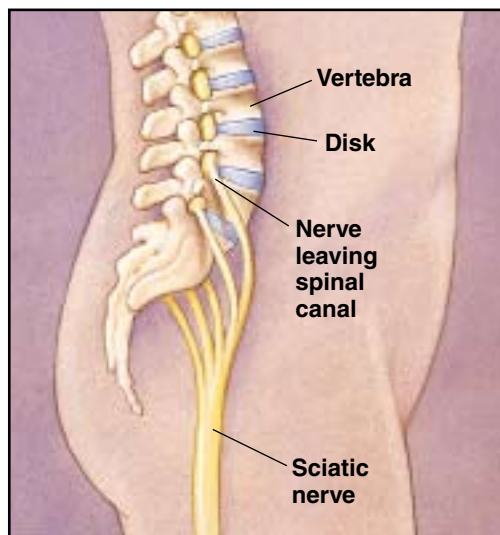


Top view of a vertebra and a disk



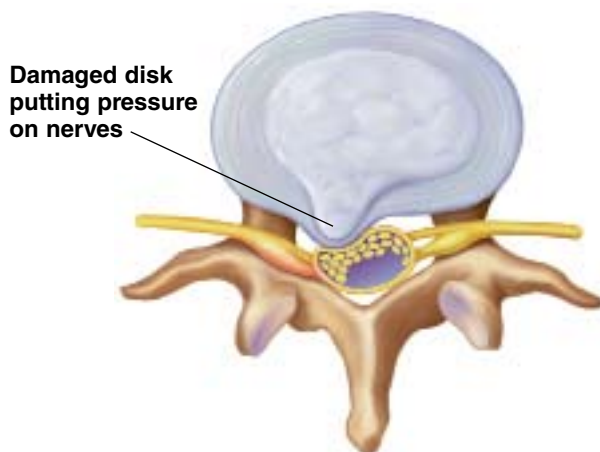
When a Back Problem Pinches a Nerve

The symptoms in your back or leg may be due to pressure on a nerve. This pressure may be caused by a damaged disk or by abnormal bone growth. Either way, you may feel pain, burning, tingling, or numbness. If you have pressure on a nerve that connects to the **sciatic nerve**, pain may shoot down your leg.



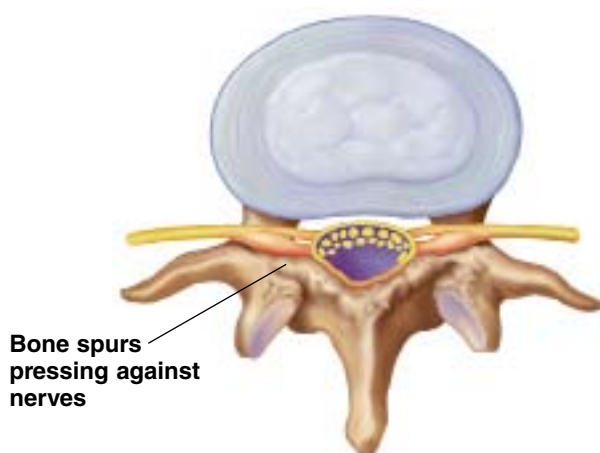
Pressure from the Disk

Constant wear and tear can weaken a disk over time. The disk can then be damaged by a sudden movement or injury. If its soft center begins to bulge, the disk may press on a nerve. Or the outside of the disk may tear, and the soft center may squeeze through and pinch a nerve.



Pressure from Bone

As a disk wears out, the vertebrae right above and below the disk begin to touch. This can put pressure on a nerve. Often abnormal bone (called **bone spurs**) grows where the vertebrae rub against each other. This can cause the foramen or the spinal canal to narrow (called **stenosis**) and press against a nerve.



Preparing for Surgery

An exam and tests are often done weeks before a laminotomy or laminectomy. Be sure to prepare for your surgery as instructed. Once at the hospital, you may be given forms to fill out. You may also meet with the person who gives the anesthesia (the **anesthesiologist** or **nurse anesthetist**).

Your Exam and Tests

You'll have an exam to make sure you are healthy enough to have surgery. Be sure to tell your surgeon about *all* the over-the-counter and prescription medications you take. You will need to stop taking anti-inflammatories, such as aspirin and ibuprofen, before surgery. If you smoke, you should stop or do your best to cut down. Before surgery, you may have some or all of the following tests:

- Imaging tests, such as x-rays and MRIs
- An **ECG** (electrocardiogram)
- Blood and urine tests



Imaging tests, such as x-rays and MRIs, help your doctor plan your surgery.

Preparing at Home

Make life easier and movement safer after surgery. Try these tips:

- Store supplies between hip and shoulder level. That way you can get to them without reaching or bending.
- Arrange for rides. You may not be able to drive for a week or more after surgery.
- Find someone to help with chores and to run errands.
- Get a pair of slip-on shoes with closed backs. That way, you won't have to bend to put on your shoes.



Stock up on supplies. Also, protect your back by storing commonly used items between hip and shoulder level.

The Day of Surgery

Stop eating and drinking as directed by your healthcare provider. You may be told to stop the midnight before surgery or a certain number of hours before the procedure. In most cases, you can brush your teeth before going to the hospital. If you take a daily medication, find out if you should take it the morning of surgery. If you are to take it, swallow with only a sip of water.



You may brush your teeth on the day of surgery, but stop eating and drinking as instructed.

At the Hospital

You may be told to arrive at the hospital a few hours before surgery. Once there, your temperature and blood pressure will be taken. In some cases, tests may be done. Then one or more **IV** (intravenous) lines will be started. These lines provide the fluid and medications you need during surgery.



The anesthesiologist may ask you questions before surgery.

About the Anesthesia

Before surgery, you may meet with the person who will give the anesthesia. He or she may ask about your health history and check your weight. This helps determine the amount of anesthesia you will need to “sleep” through the surgery.

Risks of Surgery

As with any surgery, laminotomy and laminectomy each have some risks. These include:

- Damage to a nerve
- Blood clots
- Spinal fluid leak
- Infection

During Your Surgery

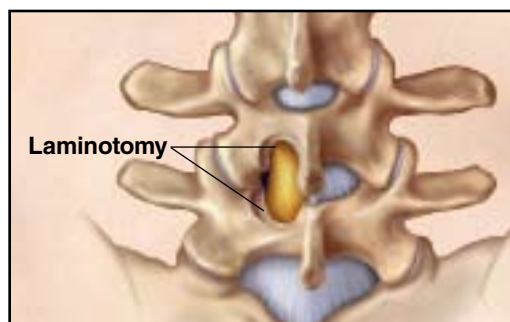
Once in the operating room, you'll be given anesthesia. After you are asleep, an incision is made near the center of your low back. Your incision may be 2 to 6 inches long, depending on how many vertebrae are involved. In some cases, removing part or all of the lamina may be enough to relieve pressure on the nerve. But most often, disk matter or bone spurs must also be removed. Once the nerve is free of pressure, the incision is closed with stitches or staples.

Your surgery may take 1 to 3 hours.

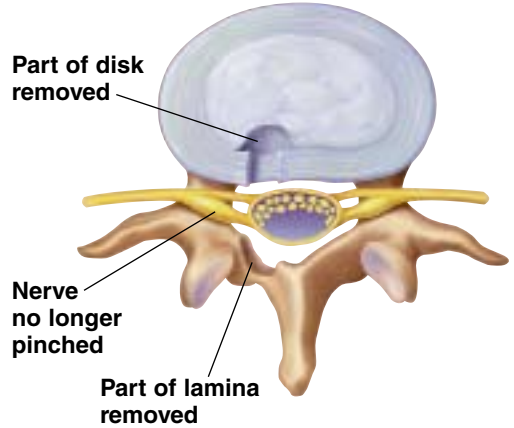
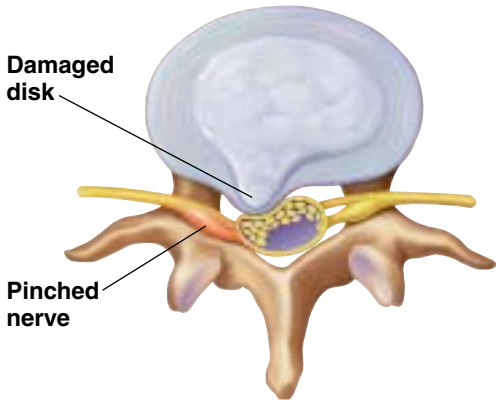


Laminotomy

During a laminotomy, part of the lamina is removed from the vertebra above and below the pinched nerve. The small opening created is sometimes enough to take pressure off the nerve. But in most cases, disk matter or a bone spur that is pressing on the nerve is also removed.

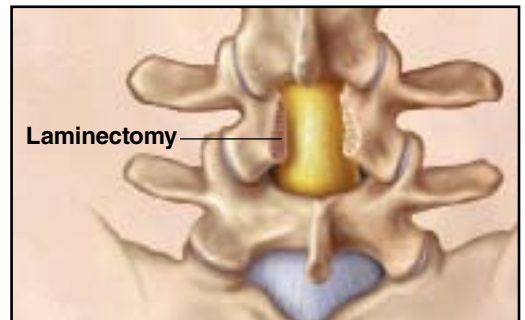


Part of the lamina is removed from the vertebra above and below the pinched nerve.

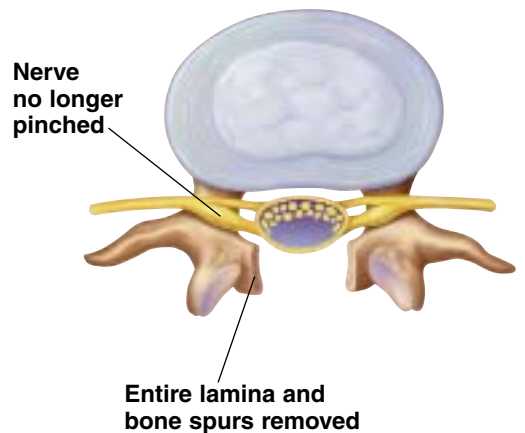
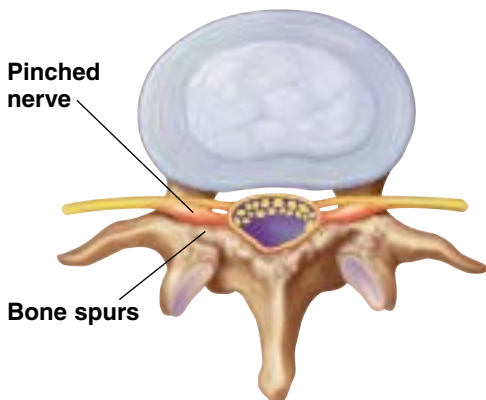


Laminectomy

During a laminectomy, the lamina is removed from the affected vertebra. The opening created may be enough to take pressure off the nerve. If needed, your surgeon can also remove any bone spurs or disk matter still pressing on the nerve. After laminectomy, the opening in the spine is protected by the thick back muscles.



The entire lamina is removed from the affected vertebra. In some cases, laminectomy involves two or more vertebrae.



During Your Hospital Stay

After surgery, you'll be sent to the **PACU** (postanesthesia care unit). When you are fully awake, you'll be moved to your room. You can expect to feel some pain at first. To gain the best pain relief, answer honestly when you are asked how much you hurt. Soon, healthcare providers will help you get up and moving. You'll also be shown how to clear your lungs.

In the PACU

When you wake up, you'll be on your back or side in the PACU. The nurses will give you medications to ease your pain. You may have a **catheter** (small tube) in your bladder. There may also be a drain in your low back. To help reduce the risk of blood clots, you might be wearing compression boots or special stockings.

In Your Hospital Room

You'll be moved to your room when you are alert and your blood pressure and pulse are stable. An IV and the catheter are likely to still be in place. Healthcare providers will check on you often. The nurses will work closely with you to control your pain. Once you are in your room, family and friends will be able to visit you.



Once you reach your room, family and close friends can visit with you.

Controlling Pain

At first, you may be given pain medications by IV or injection. Expect to feel some pain, even with the medications. This is normal. But if the medication does not reduce your pain, be sure to tell the nurse.

PCA Puts You in Control

With **PCA** (patient-controlled analgesia), pain medication is sent through an IV line at the push of a button. To provide a steady level of pain relief, only you should push the button. For your safety, the pumps have special features to limit the amount of medication you receive.



When you first get up to walk, a healthcare provider will help you.

Getting Up and Moving

You may begin to walk within hours after surgery. This reduces some risks of surgery, such as blood clots. With an IV and a PCA pump in place, walking may be a little tricky. But don't worry. A healthcare provider will help you.

Clearing Your Lungs

Fluid can collect in the lungs after any surgery. To clear your lungs and prevent pneumonia, breathe deeply and cough. You should do this often—at least a few times each hour.

A respiratory therapist or nurse may show you how to use an **incentive spirometer**. This machine can help you breathe in and out the right way.



Using an incentive spirometer can teach you to breathe more deeply.

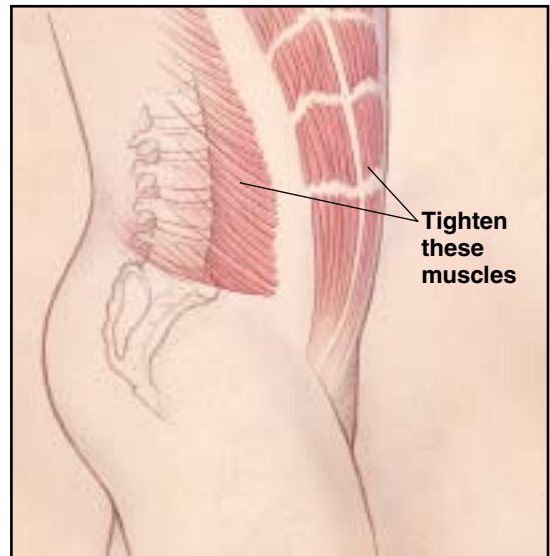
Learning to Move More Safely

Either before or after surgery, you will be shown ways to move more safely. Practice what you are taught, and learn the keys to safe movement. Also follow all the other directions on these pages until safe movement becomes natural to you. This will ensure your best recovery. It will also help protect your back in the future.

Keys to Safer Movement

To move more safely, you need to follow a few simple guidelines. Whether you are getting into bed, standing, or doing a daily task, the keys to safer movement are the same. To protect your back, do these things:

- Tighten the muscles in your stomach to support your spine.
- Keep your ears, shoulders, and hips in a line.
- Bend at the hips and knees, not at your waist.
- Move your body as a unit. Do not twist at your shoulders or waist.



Getting Out of Bed

- Tighten your stomach muscles. Roll onto your side. Be sure to move your body as a unit. Don't twist.
- Scoot to the edge of the bed.
- Press down with your arms to raise your body as you gently swing both legs to the floor.
- Place one foot slightly behind the other. Keep your stomach muscles tight. Then, use your leg muscles to raise your body.



To stand up, press down with the back foot and raise your body.



Sitting and Standing Up

- **To sit**, back up until the front of the chair touches the back of your legs.
- Tighten your stomach muscles. Bend forward slightly from the hips (not the waist).
- Using your leg muscles, lower your body onto the chair. Then scoot back.
- **To stand up**, scoot to the edge of the chair. Place one foot slightly behind the other. Use your leg muscles to raise your body.



Standing and Turning

- Stand with one foot slightly in front of the other.
- Keep your knees relaxed and your stomach muscles tight.
- **To turn your body**, move your feet. Step around. Do not twist.



Getting Into Bed

- Back up until the edge of the bed touches the back of your legs.
- Tighten your stomach muscles. Bend forward slightly from the hips.
- Use your leg muscles to lower your body onto the bed.
- Using your arm for support, lower your body onto its side. (Move your body as a unit, allowing your feet to lift onto the bed.)
- Roll onto your back without twisting your waist.

Safe Sleeping Positions

- Lie on your back with a pillow under your knees.
- Lie on your side with your knees slightly bent. Keep a pillow between your knees.



Recovering at Home

At home, you are in charge of your recovery. Protect your back by taking care of your incision and returning to activity slowly. See your surgeon for follow-up visits. Also improve your strength and motion by exercising as directed.

Incision Care

Take care of your incision as instructed. Bathe or shower as directed, and change the dressing if you are told to. If Steri-Strips were placed over the wound, they should loosen as the incision heals.



The incision may be pink as it heals.

Getting Back into Action

You'll need to increase your activity level slowly. The information below will help you know what to expect.

- Know that some days you will feel better than others. It helps to take short, frequent walks each day.
- You may be able to drive or return to a desk job within weeks after surgery. If you do more active work, you may need to wait 2 to 4 months before going back.
- As your back heals, you may feel ready to have sex. If you have questions about safe positions, talk with your surgeon or nurse.



Take a few short walks each day. Keep in mind that you'll be walking back, too.

See Your Surgeon

Follow-up office visits allow your surgeon to make sure your back is healing well. Stitches or staples are often taken out 1 to 2 weeks after surgery.

When to Call Your Surgeon

Call your surgeon if you have any of these symptoms:

- Drainage from the incision
- Redness near the incision
- Fever above 100°F
- Increasing pain, numbness, or weakness in your leg

Improving Strength and Motion

Strong, flexible muscles help protect your back. You may be taught special exercises. Or you may be told to do the ones shown here. At first, these may be easier to do on a bed than on the floor. Talk with your healthcare provider if doing your exercises causes new or lasting pain.



Pelvic Tilt

- Lie on your back with your knees bent and your feet flat.
- Tighten your stomach muscles. Press down until the curve of your low back flattens against the bed or floor.
- Hold 10 seconds. Repeat 10 times. Do this twice a day.



Partial Sit-Up

- Lie on your back with your knees bent and your feet flat.
- Slowly raise your head and shoulders off the floor.
- Hold 10 seconds. Repeat 10 times. Do this twice a day.

Lifting Safely

The first weeks after surgery, lift only objects that weigh less than 5 pounds. When you must lift, now or in the future, protect your back by following these steps:

- Get close to the object. Lower your body by bending at the hips and knees. Keep your ears, shoulders, and hips in a line.
- Hold the object close to your body.
- Press down with your feet. Allow your legs to lift your body and the object.



Your Surgical Checklist

A checklist such as the one below can help remind you what to do before and after your surgery. After your surgery, do your best to keep walking. Try to walk a little more each week. That way you can ease back into activity safely.

Before Your Surgery

- See your doctor. Have any tests that your doctor orders.
- Stop smoking or cut down.
- Stop taking aspirin and ibuprofen before surgery as instructed.
- Stop eating and drinking as instructed before surgery.
- Find out if you should keep taking any of your medications on the day of surgery.

After Your Surgery

- Schedule your first follow-up visit as directed.
- Take care of your incision and bathe as directed.
- Complete your physical therapy program if one is prescribed.
- Ask your surgeon what activities you should avoid.

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