

Lumbar Laminectomy / Foraminotomy



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Back pain caused by ligament or muscle strains can often be relieved with rest, medication, or physical therapy. However, back pain associated with numbness, tingling, pain, or weakness in the legs may indicate compression of the spinal nerves. This condition is more serious than a strain and may not improve without surgery. Pressure on the spinal nerves may be caused by a narrowing of the spinal canal.

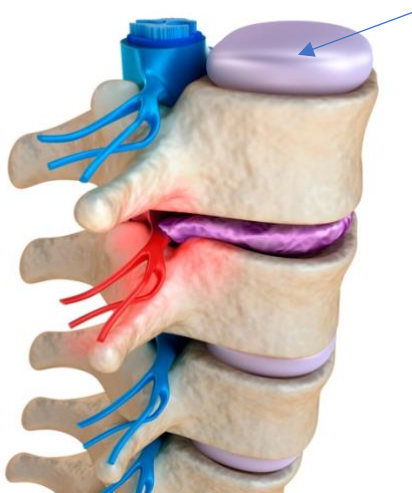
Before surgery is recommended, several tests are performed to determine the exact cause and severity of the back and leg pain. Tests may include X-rays, MRI scans, CT scans, EMG tests or myelograms. If these tests show that you have significant compression of the spinal nerves, you may need a lumbar laminectomy or foraminotomy to relieve your symptoms.

BASIC SPINE ANATOMY



Vertebra

A vertebra is a bone found in the spine. The human spine contains 33 vertebrae. These bones are the building blocks of the spine. They stack one on top of the other. Each vertebra is separated from the next by a cushion (disc). Many muscles, ligaments, and tendons attach to these bones.



Disc

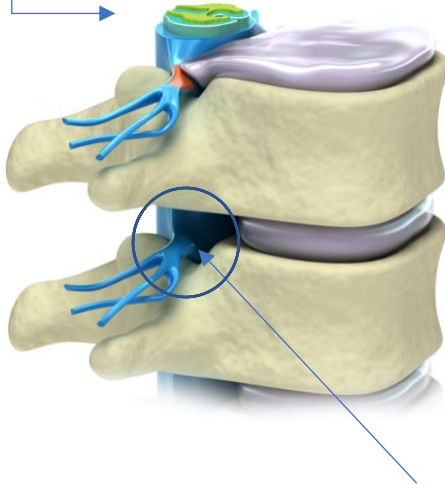
A disc is the soft cushion found between the vertebrae. Its purpose is to protect the vertebrae by absorbing stresses and shocks that travel down the spine. The disc is made mostly of water. It has a soft center portion, which is contained by thick outer rings that act like rubber bands.

Spinal Canal

Each vertebra has an opening in the back portion to allow the spinal cord to pass through. These openings make up the spinal canal.

Spinal Cord

The spinal cord starts at the base of the brain and passes down through the cervical and thoracic regions of the spine and ends between the first and second lumbar vertebrae. The spinal cord relays information between the brain and the rest of your body.

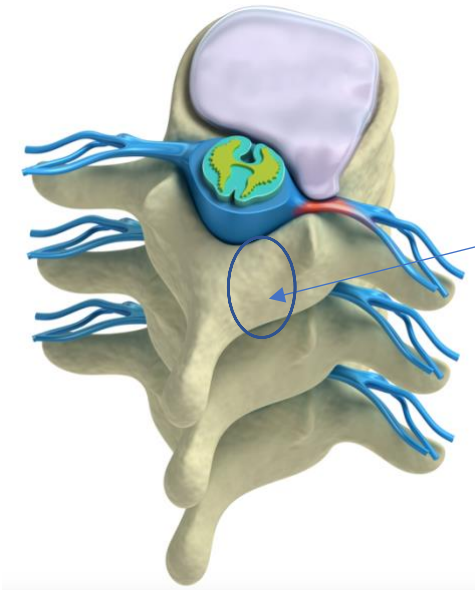


Nerve Root

Nerve roots extend directly from the spinal cord and escape the spinal canal through small openings between the vertebrae (see **foramen**, below). The nerve roots then branch out as smaller nerves that travel to specific places throughout the body. Information is constant transmitted from nerves in the body, through the spinal cord, to the brain. The brain interprets the information and sends signals back to direct the body's response to the information.

Foramen

A foramen is the natural opening that forms between two vertebrae. This opening allows the nerve roots to leave the spinal canal.

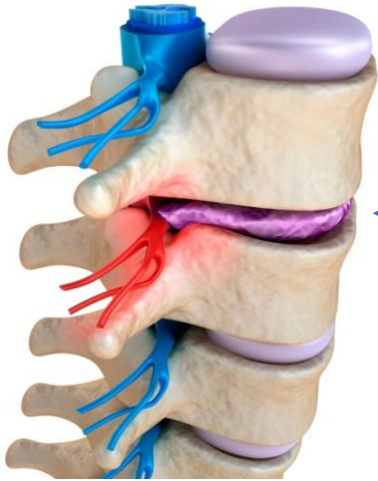


Lamina

There is a lamina present on both the right and left side of the spinous process. The laminae (plural of lamina) form the back wall of the spinal canal.

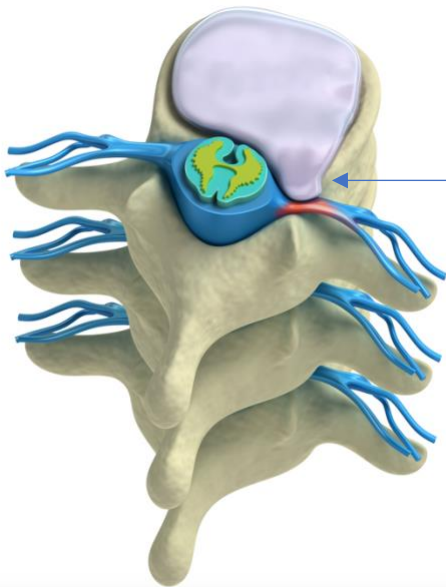
WHAT CAUSES NERVE COMPRESSION?

There are several common conditions that occur in the spine that may cause nerve or spinal cord compression. These conditions are usually a result of the natural aging process. As we mature, our bodies slowly begin to show signs of wear and tear. A recent injury may speed up the degenerative process.



Degenerative Disc Disease

Discs are usually the first structures to show signs of aging. The degenerative process starts as a disc slowly begins to lose water. Over time, structural changes happen within the disc. This will cause the disc to lose its elasticity and to flatten out. It is unable to effectively cushion the vertebrae or to maintain adequate space between them. Therefore, the vertebrae bear more stress and shock, which then leads to changes such as disc herniations, arthritis in the facet joints or formation of osteophytes (also known as bone spurs).



Spinal Stenosis

Spinal stenosis is a narrowing of the openings where the spinal cord or nerve roots pass through the vertebrae. The narrowing may be caused by thickened edges of bone known as osteophytes. Spinal stenosis may also be caused by a herniated disc or a thickened spinal ligament.

Herniated Disc

A herniation of the disc occurs when the thick outer rings of the disc tear and some of the soft center portion escapes into or through the outer rings of the disc. This condition may also be described as a bulging, slipped, or ruptured disc. When the herniated disc material comes in contact with the nerve root or spinal cord, irritation progresses and symptoms can develop.

Osteophyte

Commonly referred to as a bone spur, an osteophyte is a protrusion of bone that can form along the edges of a degenerating joint. As the disc thins down and the vertebrae bear more stress, osteophytes form to help stabilize the damaged joint. Osteophytes are not painful. Pain occurs when an osteophyte narrows the spinal canal or foramen, causing pressure on the nerve.

REASONS FOR SURGERY

Surgery is often recommended if your symptoms continue despite at least six weeks of treatment such as restricting activity, medications and sometimes physical therapy. You may need surgery sooner if you have excruciating pain or develop severe, progressive weakness in your legs or lose control of your bowels or bladder.

Surgery will decrease or relieve symptoms in the buttock, thigh, calf and foot. However, this surgery may or may not improve back pain.

PREPARING FOR SURGERY

There are several important steps that must be completed before your surgery. Please **carefully review** the following information:

Medical Clearance

If you have any health problems, I will require you to see one or more of your physicians for a complete medical examination. Please make this appointment as soon as your surgery has been scheduled. If you do not have a physician, please call my office. I will be happy to recommend one for you.

One to two weeks prior to your surgery, a nurse from the surgery center will call you to ask questions about your health and medical history. You may be asked to come to the hospital for testing. By completing this testing a few days in advance, you will save time the day of surgery.

It is important to review your current medications before your surgery. Certain medications may cause excessive bleeding during surgery. Please review the following information carefully.

Medication, Herbal & Dietary Supplements

- ▶ **STOP TAKING** aspirin, anti-inflammatory drugs (Ibuprofen, Advil, Motrin, Aleve, Naprosyn, Celebrex, Mobic, Arthrotec, Voltaren, etc.), Vitamin E and Glucosamine for 2 weeks prior to surgery.
- ▶ **STOP TAKING** all prescription diet medication, herbal supplements, or fish oil for 2 weeks prior to surgery.
- ▶ **NOTIFY MY OFFICE** if you are taking “blood thinning” medications and follow these recommendations:

Coumadin	Stop 5 days prior to surgery
Plavix, Persantine, Ticlid, Aspirin	Stop 2 weeks prior to surgery

▶▶ **NOTIFY YOUR INTERNIST OR CARDIOLOGIST** of the above recommendation to insure it is safe for your situation.

- ▶ **YOU SHOULD CONTINUE** all other medications that you normally take.
- ▶ The Anesthesia Department will let you know in advance which medications you are to take the morning of surgery. If you are advised to take your medication, swallow only the smallest amount of water.
- ▶ **IF YOU ARE DIABETIC**, the Anesthesia Department will advise you on how to take your oral medication or the amount of insulin to take on the morning of surgery.
- ▶ **Please let your surgeon and your anesthesiologist know about alcohol use.** If you drink more than 2 alcoholic beverages a day, you may experience withdrawal symptoms after surgery. Symptoms may include mild shakiness, sweating, hallucinations and other more serious side effects. Interventions can be taken before surgery to minimize withdrawal symptoms. **The best goal is for you to stop drinking alcohol for at least 2 weeks prior to surgery.**
- ▶ **STOP SMOKING. Smoking prevents healing of bone and soft tissue.**

SURGICAL CHECKLIST

- Schedule an appointment with your family doctor or cardiologist if you have been told you that you need a medical clearance for your surgery.
- If you take your MRI, CT scan, or myelogram films from my office, you must return them to the office prior to surgery.

THE DAY BEFORE SURGERY

Most importantly, do not eat or drink anything after midnight the night before your surgery.

THE DAY OF YOUR SURGERY

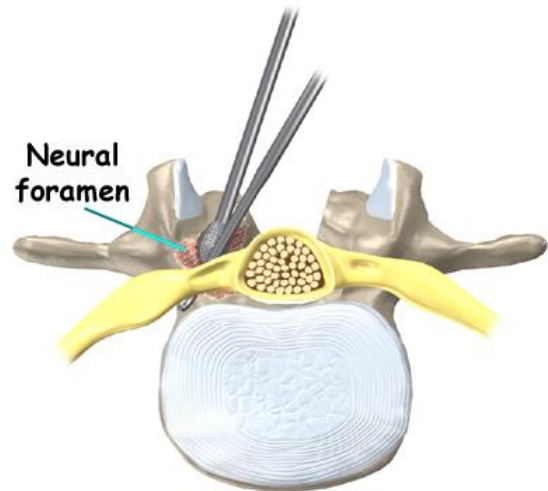
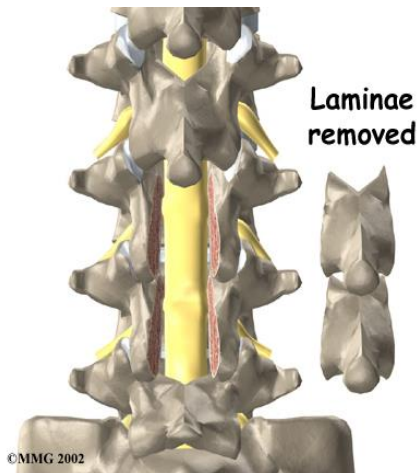
Do not eat breakfast or drink anything the day of your surgery.

When you arrive at the hospital, go to the registration area and tell the staff that you are my patient and are scheduled for surgery. You will then be escorted to the surgical waiting area. Your family and friends may wait there during the surgery.

You will be taken to the pre-op area about one hour before your scheduled surgery. You will be given fluids through an IV and a sedative to help you relax. Once you are in the operating room, the anesthesiologist will administer a general or spinal anesthetic.

General anesthesia is a medically induced and controlled loss of consciousness and sensation. You will not be in pain or discomfort during the surgery. The medications for the general anesthesia will be given through your IV or inhaled.

Once you are anesthetized, the actual surgery will begin. A small incision will be made on your low back. I will relieve pressure and make more space in the spinal canal by removing the laminae. I will also remove any other osteophytes or disc material causing pressure on the nerves.



SURGICAL RISKS

A lumbar laminectomy or foraminotomy is generally a very safe and effective surgery for relief of leg pain. However, as with any surgical procedure, there are potential risks. Risks of the operation include, but are not limited to: bleeding, infection, anesthesia complications, medical complications, pneumonia, blood clots in the legs, blood clots in the lungs, tear of the nerve sac, weakness of the legs, nerve injury, and incomplete resolution of pain.

In most cases, complications rarely occur. Some complications are more common if you have had previous surgery on your back. Many precautions are taken to prevent complications, but no surgery is risk free.

HOSPITAL CARE

After the surgery, you will be taken to the recovery room where your blood pressure, temperature, pulse and respiration will be checked frequently. You will stay in the recovery room for a few hours. Meanwhile, I will speak with your family and friends in the waiting room regarding your condition.

Most patients are helped out of bed by the nursing staff on the day of surgery or by the next morning. After surgery, it is important to get out of bed and start moving as soon as possible. Physical and occupational therapy can provide additional instructions on

the proper ways to move around after surgery. The therapists will also assess your needs for medical equipment to be used at home.

Your wound drainage will be monitored closely. The drainage tube and original dressing are typically removed by the second day after surgery. A new dressing will be placed over your incision. When you return from surgery, you may have a drainage tube (Foley catheter) in your bladder that is connected to a collection bag. This is typically removed by the first day after surgery. Once you are able to drink, eat, and take your pain medication by mouth, your IV line will be removed. Most patients can go home one to two days after surgery.

Although the nerve has been freed, it is still injured from being crushed by the bone spurs. The pain, numbness, or tingling in your leg usually begins to improve shortly after the surgery. In some cases, it may take several days before an improvement is noticed. Occasionally, it may even take a few weeks before the symptoms show a notable improvement. Nerves heal very slowly. Every patient experiences this healing process differently.

AT HOME

You must see me in the office approximately two weeks after surgery. Your first post-operative appointment should be made when you schedule your surgery. If you do not have a post-operative appointment, please call the surgical scheduler immediately to schedule your appointment at (512) 314-3888.

The post-operative instructions outlined below have been designed to help give you the best possible chance to have a positive outcome from this surgery.

POST-OPERATIVE INSTRUCTIONS

When you return home after your surgery, you should:

- Please leave your dressing on for three days after surgery
- **IF** your dressing is occlusive using a clear plastic-like covering called Tegaderm you may shower, with your dressing on, beginning post op day #1.
- **IF** you have DermaBond on your incision, a waxy skin protectant, you do not need a dressing and you may shower one day after surgery. Your skin protectant can be removed 7-10 days after surgery.
- Otherwise you may shower with the dressing off on day 4 after surgery.
 - you may gently wash the incision with soap and water
 - rinse the incision well
 - blot the wound dry, do not rub.
 - do not apply lotions or creams to the incision

- you may cover the incision with a light dressing, using a small amount of tape
- You may have small tapes across your incision, called Steri-Strips. Please remove these strips one week after surgery. (occasionally, the adhesive from these tapes can cause skin irritation if the tapes are left on too long)
- Limit sitting in a chair to no longer than 10 to 15 minutes at a time
- Begin to gradually increase your walking as your comfort allows.

Please follow these instructions for 6 weeks after surgery:

- **NO bending** forward at the waist.
- **NO twisting.**
- **NO lifting** more than 10 pounds.
- **NO driving until after your first post-op visit.**
- Avoid all strenuous activities, including but not limited to the following examples:
 - pushing or pulling motions
 - using snow blowers, lawn mowers and riding mowers
 - pushing grocery carts, strollers
 - using a vacuum
 - walking dogs on leashes
 - pulling luggage
- You may climb stairs as necessary.
- Gradually increase the amount of walking you do each day. Two to three short walks a day are easier to tolerate than one long walk. You may use a treadmill.
- After your post-operative appointment, you may apply Vitamin E lotion or cocoa butter to your incision to soften it.
- You may resume sexual activity as your comfort allows. Please keep in mind the activity restrictions listed above.

Six weeks after surgery, you may begin physical therapy. The therapist will help you strengthen your back muscles with back exercises. These exercises should be part of your lifelong fitness program. The therapist will also teach you about doing everyday tasks with proper body mechanics.

RETURNING TO WORK

Returning to work depends on your occupation and your employer's acceptance of your activity restrictions.

REASONS TO CALL THE OFFICE

- Temperature elevation greater than 101° F.
- Redness or drainage from the incision.
- If the pain and/or numbness in your buttocks, legs, or feet is becoming unbearable.

Go to nearest emergency center:

- If you lose the ability to control your bowels or bladder.

Call 911 immediately:

- If you have shortness of breath or chest pain.

A FINAL NOTE

If you have any questions or concerns, please do not hesitate to call me or my staff during regular business hours, which are 9:00am – 4:30pm, Monday through Friday. In an emergency after hours, our answering service will take your call and notify me.

OFFICE PHONE NUMBER: (512) 314 3888