

Laminectomy Surgery

The lumbar laminectomy is designed to remove a small portion of the bone over the nerve root and/or disc material from under the nerve root to give the nerve root more space and a better healing environment.

The lumbar laminectomy (open decompression) differs from a microdiscectomy in that the incision is longer and there is more muscle stripping.

- First, the back is approached through a two-inch to five-inch long incision in the midline of the back, and the left and right back muscles (erector spinae) are dissected off the lamina on both sides and at multiple levels (see Figure 2).
- After the spine is approached, the lamina is removed (laminectomy), allowing visualization of the nerve roots.
- The facet joints, which are directly over the nerve roots, may then be undercut (trimmed) to give the nerve roots more room.

Post laminectomy, patients are in the hospital for one to three days, and the individual patient's mobilization (return to normal activity) is largely dependent on his/her pre-operative condition and age.

Patients are encouraged to walk directly following a laminectomy for lumbar stenosis. However, it is recommended that patients avoid excessive bending, lifting, or twisting for six weeks after this stenosis surgery. In order to avoid pulling on the suture line before it heals.

Laminectomy and Spinal Stenosis: Success Rates

The success rate of a lumbar laminectomy to alleviate pain from spinal stenosis is generally favorable. Following a laminectomy, approximately 70% to 80% of patients will have significant improvement in their function (ability to perform normal daily activities) and a markedly reduced level of pain and discomfort associated with spinal stenosis .

Lumbar Laminectomy for Leg Pain and Back Pain Relief

The surgical results of a lumbar laminectomy are particularly effective for leg pain (sciatica) caused by spinal stenosis, which can be severe. **Unfortunately laminectomy surgery is not nearly as reliable for relief of lower back pain.**

This is because lumbar stenosis is often created by the facet joints becoming arthritic, and much of the low back pain is from the arthritis.

Although removing the lamina and part of the facet joint can create more room for the nerve roots, it does not eliminate the arthritis. Unfortunately, the symptoms may recur after several years as the degenerative process that originally produced the spinal stenosis continues.

Laminectomy and Spinal Stenosis: Risks and Complications

A lumbar laminectomy is able to alleviate spinal stenosis pain by removing painful pressure on the nerve root and/or disc space. However, the procedure is not foolproof. Complications from this surgery for lumbar stenosis can result from a variety of factors.

Lumbar Laminectomy Risks and Considerations

The potential risks and complications with a lumbar laminectomy include:

- **Nerve root damage (1 in 1,000) or bowel/bladder incontinence (1 in 10,000).** Paralysis would be extremely unusual since the spinal cord stops at about the T12 or L1 level, and surgery is usually done well below this level.
- **Cerebrospinal fluid leak (1% to 3% of the time).** If the dural sac is breached, a cerebrospinal fluid leak may be encountered but does not change the outcome of the surgery. Generally a patient just needs to lie down for about 24 hours to allow the leak to seal.
- **Infections (about 1% of any elective cases).** Although an infection is a major nuisance and often requires further surgery to clean it up along with IV antibiotics, it generally can be managed and cured effectively.
- **Bleeding.** While possible, this complication is uncommon as there are no major blood vessels in the area.
- **Postoperative instability of the operated level (5 to 10% of cases).** This complication can be minimized by avoiding the pars interarticularis during surgery, as this is an important structure for stability at a level. Weakening or cutting this bony structure can lead to an isthmic spondylolisthesis after surgery. Also, the natural history of a degenerative facet joint may lead it to continue to degenerate on its own and result in a degenerative spondylolisthesis. Either of these conditions can be treated by a spinal fusion surgery for the affected joint at a later date.

- General anesthetic complications such as myocardial infarction (heart attack), blood clots, stroke, pneumonia, or pulmonary embolism can happen with a lumbar laminectomy as with any surgery.
- Although in the general population these complications are rare, laminectomy surgery for spinal stenosis is generally done for elderly patients and therefore the risk of general anesthetic complications is somewhat higher.

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Blood loss from spinal surgery

Some medications can increase the amount of blood loss. The most common ones are aspirin and [NSAIDs](#) (such as ibuprofen, naprosen, voltaren, Relafen). These medications should be discontinued 10-14 days before surgery. If you are on coumadin (warfarin), you should consult your surgeon and your primary care physician as to when to stop the medication and how to manage the anticoagulation. Spinal surgery cannot be done safely if your blood does not clot.

Surgical Considerations for Spondylolisthesis

When deciding whether or not to have a spine fusion surgery to treat severe symptoms from spondylolisthesis, there are multiple considerations, including:

- As a general rule, surgery should not be considered until a concerted effort of 6 to 12 months of non-surgical treatments has been made. The most common treatments include physical therapy, injections, manual manipulations, anti-inflammatory medications, and oral steroids.

Spondy Treatment Info:

Physical Therapy

Epidural Injections

Spinal Manipulation

NSAIDs

Oral Steroids

- Surgery may be considered sooner if the patient's spondylolisthesis is getting worse (i.e. the slip is progressing).

- Surgery may be recommended sooner if the patient experiences pain that is so severe that it inhibits his or her ability to sleep, walk, and/or function in daily activities.
- Patients who smoke or who have excessive weight may not be ideal candidates for surgery. Some surgeons will require the patient to stop smoking (meaning stop any intake of nicotine) and/or to lose weight prior to surgery in order to improve the probability for the patient to have a safe and successful surgery.
- There are multiple surgical approaches to consider, including minimally invasive vs open techniques and posterior only vs combined anterior/posterior fusion procedures. Even larger anterior/posterior spinal fusion procedures can often be performed as a single surgery with a short hospital stay. Although surgeon preference may vary, the goals of the spinal fusion surgery are the same: relieve pressure on pinched nerves and obtain spine stability (immediately with spinal implants and permanently with bone fusion).
- In some cases, repair of the bone defect may be considered without fusion of the motion segment if there is no nerve compression or significant disc degenerative changes.

Surgeon Skill and Experience

As with most types of spine surgery, the results of surgery for spondylolisthesis are to a certain extent dependent on the skill and experience of the individual spine surgeon.

Patients are well advised to ask questions of their spine surgeon such as:

- How many isthmic spondylolisthesis surgeries does the surgeon do? As a general rule, more is better, meaning that a surgeon who does 40 fusions to treat isthmic spondylolisthesis each year will likely have better results than a surgeon who only does 2 or 3 of this type of fusion surgery.
- How long is the typical recovery time after this type of surgery? In general, if the surgeon's patients tend to go home within a day of the surgery, it is better than if most of the surgeon's patients need to recover in the hospital for 3 or 4 days.

References:

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