

Microscopic decompressive laminotomy

The laminotomy, like the laminectomy, is designed to decompress the spinal canal and nerves. In the laminectomy the lamina is removed completely from the vertebra. In the laminotomy, only a portion of the lamina is cut and extracted. This is beneficial because the natural support of the lamina is left in place, increasing post operative stability and recovery. At the same time, the removal of part of the lamina creates more space for the spinal canal and nerves, successfully decompressing.

The most advanced form of this surgery, Microscopic decompressive laminotomy (MDL), uses specialized surgical tools to minimize the damage to adjacent tissues and bone structures while still accomplishing the same decompression as an open laminectomy. The surgeon uses a microscope that allows them to see inside the patient in fine detail with excellent light, instead of having to create a large enough opening to see the operative areas over a wide area. This makes for a much smaller incision, and less damage to surrounding muscle groups. Also, in some studies, it was found to significantly reduce blood loss, postoperative stay, and pain medication.

One attractive aspect of the Microscopic decompressive laminotomy is that if the patient is healthy, it's possible to leave the hospital within twenty four hours- forty eight hours, or in other words, it can almost be an outpatient surgical procedure.

Indications

Patients to undergo a Microscopic decompressive laminotomy should meet all the selection criteria as a patient for a laminectomy.

MDL can also treat patients with:

- Symptoms of radiculopathy from either foraminal stenosis or disc herniation.

Patient should **NOT** undergo MEDL if they have evidence of:

- Lumbar instability
- Spondyloptosis
- Severe Deformity
- Severe Spondylolisthesis
- Spondylolysis
- Infection

- Tumor
- Arachnoiditis
- Pseudomeningocele
- CSF fistula
- Cauda equina syndrome

Risks

The risks for a Microscopic decompressive laminotomy are generally the same as those in a

Success Rates

The success rate of the laminotomy, in one controlled study involving both the open laminotomy and MDL, is good. The MDL reported a symptomatic improvement rate of 84% for back pain, 90% for leg pain, and 96% improvement for stride limitation. The open laminotomy had a symptomatic improvement rate of 72% for back pain, 86% leg pain, and 88% improvement for stride limitation. Other studies report similar success rates of 79-85% after a two year follow-up examination of open laminotomies.

The advantage of the Microscopic decompressive laminotomy over the laminectomy is that not as much bone is removed, leaving in more natural support than the laminectomy leaves. The MDL is a greater improvement still with 30% less blood loss, half as long as a stay in the hospital, and three times less narcotics use.

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