

Lumbar decompression with placement of interspinous spacer

Indications

Lumbar decompression with placement of interspinous spacer is a procedure to relieve nerve compression in the lumbar spine. This is most often caused by a condition called “lumbar stenosis” which refers to narrowing or compression of the spinal canal. Lumbar stenosis may be “central” (in the center of the canal) or “foraminal” (at the nerve exit tubes) or, commonly, both. Lumbar stenosis leads to a variety of symptoms including low back pain, stiffness, and fatigue in the lower back and legs. There may also be “lumbar radiculopathy” or sciatica in which there is pain radiating down the legs. It is common for those with severe lumbar stenosis to have limited ability to walk very far without stopping, and having to lean forward. Surgical treatment is considered when conservative management such as anti-inflammatory medications and physical therapy are ineffective. Most importantly, if there is persistent severe difficulty with walking, fatigue, pain, numbness, tingling, and/or weakness and there is MRI evidence of severe lumbar stenosis, then minimally-invasive lumbar decompression is indicated. In addition, placement of an interspinous spacer is required in cases in which (based on the neurosurgeon’s judgment and experience) the level of stenosis or disc collapse is severe requiring significant bone, ligament or disc removal or there is slippage (“spondylolisthesis”) of one vertebrae on another. In such cases, supporting the spine at the end of the operation with an interspinous spacer is critical to prevent further collapse, slippage or “restenosis” (recurrent nerve compression).

Surgery description

In a lumbar decompression with placement of interspinous spacer procedure, the patient is placed under general anesthesia. Neuromonitoring (nerve monitoring) is routinely performed. The patient is positioned prone (on their front) and all pressure points are padded. The lumbar area is prepped and draped in a sterile fashion. Intravenous antibiotics are given, taking care to avoid any drug allergies. Next, fluoroscopy (intraoperative X-ray) is used to localize the affected level (or levels in the case of multilevel lumbar decompression). This allows placement of a small (minimally-invasive) incision. The operating microscope is brought in for careful microdissection. The spine is accessed and a small opening called a laminotomy is performed to allow access to the spinal canal. Next, decompression of the stenosis is performed. Stenosis may be caused by overgrowth of ligament (“ligamentum flavum hypertrophy”), overgrowth of the joints in the spine (“facet hypertrophy”) and/or disc herniation(s). A combination of removal of the ligament, facet, and disc allows decompression of the lumbar spinal canal and nerve roots. A “foraminotomy” (opening of the nerve canal) is often part of this lumbar decompression procedure as well and is specifically done for foraminal stenosis. At the conclusion of the decompression, the spinal canal and/or foramina have been decompressed, and the space for the nerves has been restored. In this procedure, the structural integrity of the spine is supported by placement of an interspinous spacer. The spacer clamps between the two “spinous

processes” of adjacent levels of the spine in order to support the spine and prevent “restenosis” (recurrent nerve compression) or slippage (“spondylolisthesis”). The spacer is made of titanium and will not set off metal detectors in airports. Finally, the incision is closed in layers. Biocompatible glue (Dermabond) is placed over the skin sutures and a waterproof dressing is applied.

Postoperative care and outcome

This is minimally-invasive outpatient (same-day) surgery. Copious local anesthetic is placed around the incision at the end of surgery so that the patient wakes up as “numb” and thus comfortable as possible. Walking immediately is encouraged. Going up and down stairs is fine. The main thing is to avoid heavy lifting, to avoid rapid twisting, and to avoid bending at the waist. Keeping the back straight and using the knees to bend down is less likely to strain the back. Regarding dressing care, showering immediately is fine, just blot the dressing dry after each shower, take the dressing off in 1 week, and please avoid total immersion (like bath, jacuzzi, or pool) until after the sutures are removed (2 weeks).

The outcome from lumbar decompression with placement of interspinous spacer is generally excellent. The vast majority (80-90%) of patients have relief from the symptoms of stenosis and nerve pain within a few weeks (and sometimes immediately). While it depends on the nature of the job, most patients can go back to work in approximately one week postoperatively. At the two-week postoperative visit, we inspect the incision, remove the sutures, adjust or wean medications, and start physical therapy. It varies among patients, but usually 6-8 weeks of physical therapy are indicated to optimize neuromuscular and functional outcome. We see patients again at 3 months postoperatively to reassess outcome and need for further medications or therapy.