Alternative Surgeries Review

While laminectomy is by far the most common type of surgery for spinal stenosis, there are other available surgical options including:

- Foraminotomy
- Laminotomy
- Interspinous process spacer
- Microendoscopic decompression

Like a laminectomy, the goal of these surgical options is to decompress – either directly or indirectly – the pressure on the spinal cord or spinal nerve by widening the spinal canal.

Facetectomy or Foraminotomy

This spinal stenosis surgery removes a part of the facet (a bony structure in the spinal canal). Generally, this is part of the laminectomy procedure, but if the stenosis is only on one side, a single nerve root can be decompressed through a microdecompression (similar to a microdiscectomy approach) or a microendoscopic approach.

Laminotomy

A laminotomy is a microdecompression procedure in which a part of the lamina is removed to relieve pressure, or to allow access for the surgeon to be able to remove the offending portion of the disc or the bone spur.

Interspinous Process Distractors

The first of the kind was the X-STOP, which is a device inserted between the spinous processes – the small boney protrusions that stick out along the back of one's spine – to keep them opened up. It effectively opens the spinal canal as if one were in a seated position rather than a standing position, which relieves pressure on the spinal canal. One benefit is that this lumbar stenosis surgery is fairly minimal for the insertion of the device. Another benefit is that it can be done under local anesthetic.

However, use of the X-STOP device is relatively new compared to a lumbar laminectomy. The X-STOP clinical studies that have been done are relatively small and tend to show varying results as to success rates in terms of pain relief.

Facet Replacement or Total Element Replacement

This new class of devices is designed to replace the facet joints in the back of the spine (or the total segment in the back of the spine) without doing a fusion. There are currently several different experimental devices being investigated and/or are in clinical trials, but at the time of this article none have been approved for use in the general public.

Microendoscopic Decompression

One surgical option for decompressive surgery is to do the surgery through a tube called microendoscopic surgery. The goal of this approach is to minimize the trauma to the soft tissue and allow for earlier recovery. However, the trade-off is that this spinal stenosis surgery is harder to do, visualization is limited compared to an open laminectomy and complications (such as dural tears leading to cerebrospinal fluid leaks) are higher. It is a technique that a few surgeons favor, but for spinal stenosis it has not gained widespread usage.

While a variety of other surgical options are available or may be coming available, at the time of this article the gold standard of surgical care for lumbar spinal stenosis is a lumbar laminectomy. Many of the above alternatives may be an option for certain patients with lumbar stenosis or may become an option with future technological advances.

A Spine-health.com Peer Reviewed Article Written by Peter F. Ullrich, Jr., MD

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