

Endoscopic Laminotomy: It Spells ‘Relief’ for Spinal Nerves

Endoscopic Spine Surgeon Dr. Kaixuan Liu with Atlantic Spine Center Says Demand Rising for Minimally Invasive Back Surgery

WEST ORANGE, NJ, UNITED STATES, January 19, 2023 /EINPresswire.com/ -- New instrumentation and advances in minimally invasive spinal surgery techniques, like endoscopic lumbar laminotomy, are enhancing surgeons’ ability to relieve debilitating back pain, while reducing risks to patients and speeding their recovery, according to [Dr. Kaixuan Liu](#), MD, PhD and founder of [Atlantic Spine Center](#), a noted expert in endoscopic spine surgery.

“[Endoscopic laminotomy](#) in the lumbar (lower) back is the least invasive surgical treatment for spinal stenosis, a common degenerative disorder that causes narrowing of the spinal canal and compression of nerves emanating from the spine,” says Dr. Liu.

He cites minimal blood loss, the ability to perform the procedure through only a small incision, less scarring, the preservation of a patient’s spinal mobility, quicker recovery time, and greater safety, especially for older patients or patients with other health conditions, as advantages of endoscopic lumbar laminotomy.

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Until now, “traditional open laminectomy” has been the gold standard for decompression of spinal nerve roots. But newer, minimally invasive procedures, performed in ways that reduce tissue damage; lessen complications, such as

infections, cerebrospinal fluid leaks, and dural tears; and shorten hospital stays, are becoming increasingly popular options among both surgeons and patients. These newer endoscopic techniques also produce clinical outcomes equal to, or better than, more extensive and alternative surgical approaches, including microscopic spinal surgery, Dr. Liu states.



Dr. Kaixuan Liu

Researchers agree. In a 2021 study published in the International Journal of Spine Surgery, authors found “multiple positive outcomes” in more than 400 patients who underwent full-endoscopic procedures, like uniportal endoscopic interlaminar decompression, for relief of lumbar spinal stenosis. Minimally invasive techniques “reduce operation duration [and] perioperative complications, and [achieve] better postoperative outcomes,” they state. In fact, in the same article, the scientists conclude that endoscopic surgery “could [someday] be clinically applied in a broader spectrum of diseases, such as infections, tumors, and trauma.”

Just-published research – in a December 2022 issue of World Neurosurgery – indicates “full-endoscopic uniportal interlaminar decompression” in cases of lumbar spinal stenosis “results in better patient satisfaction with more favorable surgical outcomes and fewer complications.” An endoscopic laminotomy is a recommendation for patients whose spinal degeneration and resulting nerve compression have failed more conservative treatments, such as physical therapy and injection of corticosteroids in the spine.

Lumbar spinal stenosis is a common disorder that primarily affects older adults. Authors of the World Neurosurgery article indicate that, annually, more than 1.2 million adults in the United States develop lumbar spinal stenosis, which often causes intense pain, cramping, or numbness in the back, hips, or legs; hinders walking; and may even affect a patient’s bowel or bladder control. They call spinal canal decompression “the most frequently performed surgery” in patients over age 50.

And the numbers are expected to rise as the population continues growing older, Dr Liu warns. Scientists writing in a 2019 edition of Neurosurgery Clinics of North America blame spinal nerve compression primarily on spinal stenosis – a narrowing of the spinal canal due to arthritis, bone spurs, herniation of aging discs, and thickening ligaments. “Sufficient [nerve] decompression [by widening the canal space] can now be achieved using full-endoscopic techniques in a standardized minimally invasive procedure,” they state

In describing an endoscopic lumbar laminotomy, Dr. Liu explains that the surgeon “inserts an endoscope through a small incision near the area of spinal disease. The endoscope’s camera provides direct visualization of the treatment area. Through the endoscope, the surgeon can then manipulate the necessary instruments to remove a small piece of the lamina, as well as fatty ligaments, bone spurs, and/or herniated disc materials causing the nerve compression.” The term “lamina” refers to “the bony arch of the vertebra that protects the spinal cord from damage.”

He says endoscopic lumbar laminotomy takes only about an hour to complete – much less time than more extensive surgical approaches, which may require up to two hours.

Of course, laminotomy is by no means a “cure” for a degenerating spine, Dr. Liu emphasizes. The procedure is intended simply to provide symptom relief by removing dislodged or enlarged

spinal material, thereby improving quality of life. "Indeed, some patients may continue to struggle with motor and sensory nerve fibers in the back or legs if long-term spinal compression has caused permanent nerve damage."

Although no one has yet found a way to stop the aging process, individuals can minimize – or slow – spinal deterioration by:

- Practicing good posture. That means keeping the back straight when sitting for long periods and taking frequent breaks to stand and stretch.
- Using recommended body mechanics when lifting or carrying bulky or heavy objects. (Squat and lift with the legs rather than simply bend and put pressure on the spine.)
- Engaging in exercises to strengthen the body's core muscles, which support the spine. Exercise physiologists contend walking is an easy way to develop core muscles and gain – or retain -- a high level of fitness.
- Maintaining correct body weight for one's height. The bigger the belly, the greater the pressure on the spine.

"And, if you follow these recommendations, you will not only be enhancing the health of the spine but strengthening the heart and supporting the proper functioning of other organs in the body too," Dr. Liu says.

Kaixuan Liu, MD, PhD, is a board-certified physician who is fellowship-trained in minimally invasive spine surgery. He is the founder of Atlantic Spine Center.

Atlantic Spine Center is a nationally recognized leader for endoscopic spine surgery with several locations in NJ and NYC. www.atlanticspinecenter.com

Melissa Chefec
MCPR, LLC
+1 203-968-6625
[email us here](#)

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