Herniated lumbar disc and chronic lumbar discogenic pain treated with endoscopic disc surgery

New spinal surgery technique
Endoscopic disc surgery achieves excision of herniated lumbar disc material using miniaturized instruments to approach the disc pathology from outside the spinal canal. The endoscopic technique is an effective, less invasive alternative to traditional open decompression.

In endoscopic disc surgery, the operative canola (a tube-shaped device only seven millimeters in diameter) is docked directly in the annulus (outer layers of the disc), effectively acting as the surgical retractor. The visualization endoscope, operative tools and medications pass through this tube. Recent published studies* demonstrate that the technique’s outcomes compare favorably to the traditional open excision of the herniated disc material.

Further uses for this new technique
Though this endoscopic technique was originally designed for the excision of herniated lumbar disc material, recently other usages have been developed including the management of chronic discogenic pain. Sufferers of chronic lumbar discogenic pain often become physically impaired even in performing activities of daily living and will go to great lengths to seek relief. The exact cause of chronic lumbar discogenic pain remains ill defined but the ailment presents pathological conditions dissimilar to herniated lumbar disc in the absence of frank tear in the annulus. It does have narrow annular fissures and thin spots in the annulus. Granulation tissues that fill the fissures stimulate overgrowth of sensitive nerve endings.

Traditional treatment for chronic discogenic pain has been 360-degree fusion at the appropriate disc level, a technique using both anterior and posterior approaches. Each approach requires insertion of stabilizing metallic implants: anterior approach requires a metal cage implant while the posterior approach requires


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pedical screws and connecting rods. In addition, fusion requires insertion of bone graft from autologous or allogogenous sources. Due to the magnitude and extensiveness of this surgery, significant operation-related morbidity exists.

Endoscopic lumbar disc surgery eliminates the need to remove structural elements to approach the disc so that fusion is not necessary. Since surgical exposure is minimal, surgical morbidity is greatly reduced, recovery time is minimized, and rehabilitation can be commenced soon after the procedure.

**About the procedure**

Endoscopic lumbar disc surgery is performed on an outpatient basis under local anesthesia and conscious sedation. Light sedation allows for intraoperative patient-surgeon dialogue regarding pain response. A fluoroscopic x-ray unit, which pinpoints the most direct disc entry site, can freeze single frame or record in continuous motion mode. The skin incision, calculated from the x-ray landmarks, is no more than one-half inch in length.

An endoscope is inserted through the skin window to visualize the epidural space and the outer layers of the disc (annulus). In the treatment of herniated disc, the underside of the herniated nucleus is extracted backwards rather than through the spinal canal as is required with the traditional open surgery, eliminating the need to “drag” irritating material through the nerve space.

In patients with chronic discogenic pain, the endoscope’s unique ability to view the deep surface of the annulus allows the surgeon to assess annulus fissures and other changes. With enhanced visualization, the surgeon performs annuloplasty by sealing the fissures and contracting the stretched annulus using a bipolar radiofrequency probe. The radiofrequency setting on the probe uses heat to coagulate the granulation tissues in the fissures and shrink the stretched annulus.

**Contact information**

For additional information, telephone consultation or to refer a patient, you can also contact the following UCLA orthopedic surgeon:

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