

The role of endoscopic surgery in the treatment of painful conditions of an aging spine: State of the art

The transforaminal approach has served to advance endoscopic spine procedures. The translaminar technique is not new as it was initiated by Jean Destandau in Bordeaux, France. For experienced endoscopic surgeons, however, with training and experience in both translaminar and transforaminal approaches, as many as 80%–90% of all painful degenerative conditions can be treated partially or fully with the endoscope. Operating under local anesthesia is the most efficacious but perhaps more difficult using the less familiar transforaminal approach. This enhances and facilitates the safety and efficacy of the endoscopic platform. The patient can provide oral feedback to the surgeon during procedure. This correlates pain to pathoanatomy and pathophysiology. Current traditional imaging techniques do not explain all causes of pain in patients seeking treatment that can be explained by transforaminal decompression under local anesthesia with the patient awake.

Why some patients develop debilitating pain or are unable to accept and tolerate common low back pain is still not completely understood, as pain is multifactorial. Nevertheless, physicians of all backgrounds from primary care to nonsurgical and surgical specialties all offer medical advice from their own narrow perspectives as practitioners of spine care. Patients with disc degeneration, even in asymptomatic patients, have a high risk of eventually developing low back pain, according to a prospective study assessment in Southern Chinese by the University of Hong Kong.^[1]

Endoscopic spine surgery, while best performed by surgically trained providers, are enthusiastically embraced by all who participate in spine care. In doing so, there may be turf battles pitting practitioners with different training and background. It is imperative that all practitioners not just cooperate but be certain that high standards are practiced by those who participate for the safety and sake of their patients. Cooperation and training by providers with surgical training and background is essential to not allow lack of training or experience to create unnecessary headwinds from traditionally fellowship trained “experts” who may oppose endoscopic spine surgery because they do not understand it or do not perform this type of surgery. Endoscopic surgery is

very safe and also effective to be prematurely marketed, practiced, and performed by untrained or early-stage practitioners without training and mentorship.

This is not a “see one, do one, teach one procedure.” It takes years of training and/or experience and diligence to become good and competent. All competing factions need to work together and cooperate. We all need to be aware of each other’s contributions as a multidisciplinary team, with mentorship by experienced endoscopic surgeons. General traditional spine surgeons who do not or may not support this subspecialty should not be enticed to adopt this technique but instead welcomed to learn and participate only after they ask to be involved but also be willing to learn from the experienced pioneers who are leading the way.

By focusing on the pathoanatomic source of pain through endoscopic visualization, surgical pain management using endoscopic surgery philosophy and technique will move this subspecialty to mainstream medicine. Pain is better understood with *in vivo* visualization and probing of the pain generators using endoscopic transforaminal access, rather than just relying on inexact symptom diagrams. With endoscopic image correlation of the pathoanatomy of imaging studies, a new form of evidence-based medicine should be adopted. New instrumentation, techniques, and specially configured endoscopes all facilitate effective surgical treatment of the pain generator, including visualization of the disc cavity and the ability to add intradiscal therapy.

When a surgeon combines interventional techniques with endoscopic visualization, additional effective steps in the treatment algorithm are available. Image abnormalities or lack of imaging confirmation, however, may not explain the pain and disability experienced by each individual patient. Images do not always show variations in nerve supply and pathoanatomy nor do they quantify the pain experienced by each individual patient, so correlation of diagnostic and therapeutic injections may be needed. The patient’s pain complaints with respect to their response to these tests will require clinical acumen known as the “art of medicine.” The ability to deliver results will depend on clinical acumen as well as surgical skill.

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