

Minimally Invasive Spinal Techniques Reduce Tissue Disruption



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Emerging technologies and specialized instrumentation enable surgeons to access the spine through small incisions. Minimally invasive spine surgery reduces tissue disruption while achieving the same goals as open surgery.

"We try to split the natural muscle planes instead of cutting the muscle," explained Omar N. Syed, MD, a neurologist at Englewood Health. "The goal of any minimally invasive surgery is to try to prevent disruption to normal tissues, prevent or minimize blood loss, and use a smaller incision, which is more tissue-sparing."

Englewood Health's Spine Center provides a variety of minimally invasive services. Dr. Syed often treats patients with disc herniation, spinal stenosis, and spondylolisthesis, which is when one vertebral body slips forward over another. Oftentimes it can be a degenerative condition seen in later adult life caused by the degeneration of the joints and discs of the spine.

Another condition that Dr. Syed treats is spondylolysis, a microfracture of the pars interarticularis, which is a particular area of the vertebral body. Spondylolysis is often seen in athletes who experience repetitive low back hyperextension, such as gymnasts and baseball players. This can also lead to spondylolisthesis.

"While the prevalence of spondylolysis may be relatively high in the athletic population, it may not always give symptoms," Dr. Syed said. "If it is causing back pain and it is found, people do respond very favorably to any

combination of conservative therapy."

While some patients do well with conservative approaches, including rest, activity modification, pain management, physical therapy, chiropractic work and bracing, others with more severe grades of spondylolisthesis may be referred to a spinal surgeon. Dr. Syed works closely with physical therapists, physiatrists, and pain management physicians who

treat his patients to make treatment decisions and promote recovery after surgery.

"As a surgeon, I'm only one provider among many in an individual patient's journey through an issue with their spine," Dr. Syed said. "Oftentimes a physical therapist has a long-term relationship with the patient. A therapist is seeing a patient on average twice a week for many weeks or months at a time, so a therapist may even suggest when it may be time seek additional medical evaluation."

Physical therapy and chiropractic work strengthen the spine and help support the body, he continued. "If your core muscles are strong, they're able to offload the spine, and hopefully that can improve back pain."

"There are some patients who may benefit from a surgical evaluation," said Dr. Syed, noting that there are many surgical options for treating spondylolisthesis. Because the bones are often slipped and misaligned, they may require stabilization through lumbar decompression and fusion with instrumentation.

Placement of instrumentation can be done through traditional or minimally invasive approaches, he added.

Patients can derive functional benefit and pain relief from routine neck and low back surgery, although these elective surgeries were disrupted by the COVID-19 pandemic. "Now we are back offering elective surgeries in a way that is safe for our patients, and for us."

"What's fortunate about my practice is that I work with a strong team of partners who are also neurosurgeons with expertise in spinal surgery, and we each bring our own wealth of experience," Dr. Syed said. "We are able to review our cases together, so patients can be reassured that not only are they getting my evaluation but the evaluation from the other specialist members of our group."

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