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A New Solution

Thanks to the NuVasive technology utilized by Surgeons at South Texas Spinal Clinic, patients with debilitating pain have more hope than ever.

By: Rose Mary Budge, Photography: styleGIO

Spine surgery can be scary. It wasn't something Mariscela F. Gaona wanted to consider even though spinal woes were causing her almost constant pain, and she couldn't walk without a very noticeable limp. "I took shots and tried to find non-surgical answers for my problems," Gaona says. "But nothing seemed to work. A day or so after the shots, the pain would return, and I'd be suffering again."

Finally, her husband, Raul Gaona, an internist, said the situation couldn't go on. Her son, Raul Gaona Jr. – also a physician – agreed. Mom was outnumbered and had to agree with the men in the family that it was time – way past time, in fact – to take action.

So the Gaonas went looking for a spine surgeon and found South Texas Spinal Clinic, a proponent of a minimally invasive/minimally disruptive procedure called "extreme lateral interbody fusion," or XLIF, which was developed by a spinal-implant company called NuVasive in collaboration with Dr. Luiz Pimenta of Sao Paulo, Brazil.

The procedure sounded promising – and to Mariscela Gaona, it sounded less intimidating than the traditional methods suggested by some medical professionals she had previously consulted. Gathering courage and buoyed by her doctor's expertise and enthusiasm, she decided to give it a try. And happily, it turned out to be absolutely right for her situation.

"I still have to use a cane, but I'm pain-free now," she reports. "It's like having a whole new life."

While the XLIF procedure was ideal for Gaona and can significantly lessen collateral damage, which can be an issue in traditional surgeries, it isn't necessarily right for every patient. The surgeons at South Texas Spinal Clinic warn that much depends on the patient's spinal condition and the location of the spinal problems.

It has proven to be an especially powerful tool for lower-back surgery and is highly effective in combating degenerative scoliosis and spondylolisthesis. But as with most surgeries, there are risks involved, and therefore, pros and cons must be carefully weighed by both the patients involved and their physicians.

How does the procedure work?

The method, which results in real medical miracles in many cases, involves side entry to the surgical site rather than access from the back or the front, thereby allowing a more direct approach to intervertebral disc space with less area to transverse to get to the spine. As a general rule, the patient also experiences less tissue trauma, less scarring, less blood loss and less post-operative discomfort.

A muscle-sparing fusion approach is used that bypasses the big muscles in the lower back. It doesn't require the use of robots or lasers to implement the procedure in the OR, but camera technology is used to help the surgeon accomplish their goal. And there's no big incision as with traditional spinal surgery – just several small incisions. This is a real plus that greatly reduces recovery time for patients.

Since its discovery, the procedure has continually grown more refined and safer with spinal implant companies such as NuVasive leading the way. According to its online mission statement, NuVasive's role is to act as a surgical partner and support system, helping both surgeon and patient toward a successful outcome.

In Gaona's case, NuVasive technology was used to place an implant between vertebras and then, a little later, screws were installed to even more securely hold the implant in place. With obvious awe, the patient points out that her initial hospital stay/recovery period was just a matter of days. And putting in the securing screws? "Well, let's see," she reflects. "I went in the hospital one day and came out the next. It was quite remarkable."

Such glowing testimonials aren't uncommon. A similar story reveals a man who had been employed at a commercial meat-processing plant for many years, but whose steadily worsening back problems and deteriorating physical condition were making it impossible for him to work.

Traditional surgery was out of the question; the collateral damage to muscles, tissues and nerves would be too great. The NuVasive procedure was utilized, and in two weeks, the patient was back at his job and doing just fine.

A third story involves a home inspector who had been out of work for more than six months when he made his first appointment. The minimally invasive procedure was recommended, and the outcome was a huge success in every respect.

http://www.spinaldoc.com/NuVasive_Spinal_Surgery.php CONFIDENTIAL

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South Texas Spinal Clinic Surgeons often confer about such surgical situations, valuing each other's professional opinions and finding strength in collaborating. The South Texas Spinal Clinicis a leader in identifying specialized techniques in spinal surgery, pain management, electro-diagnostic medicine and physical therapy. They believe their Nuvasive affiliation will open up many new possibilities and provide even better outcomes for their patients in the future.

Though they come from different backgrounds, the physicians at South Texas Spinal Clinic share a warm camaraderie and dedication to their field. They're also in agreement about the stress factor in their medical specialty: They say it's a big responsibility to navigate surgical instruments in an area as sensitive as the vertebral column. But the rewards that come from eliminating back, neck and leg pain and the opportunity to help patients resume their normal activities make it all worthwhile.

In addition to having impressive scholastic credentials, the spine surgeons at South Texas Spinal Clinic are members of prestigious organizations, including the North American Spine Society and the Society of Lateral Access Surgeons (SOLAS), which promotes the XLIF technique and helps keep physicians advised of the latest research and innovations in the surgical field. As for awards, it would take pages to list them and these physicians never tire of talking about the vistas that are opening up in their field thanks to research and modern technology. And without a doubt, all the innovation is good news for patients who might feel intimidated by traditional spinal surgery.

For more information about NuVasive and minimally invasive spinal surgery, visit www.nuvasive.com. Since its discovery, the procedure has continually grown more refined and safer with spinal implant companies such as NuVasive leading the way.

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Direct Lateral Interbody Fusion Approach in the Treatment of a Patient Suffering from Degenerative Lumbar Scoliosis, Stenosis, Lumbar Radiculopathy, and Neurogenic Claudication Michael W. Hasz, MD

Background Context: Several recent surgical advances allow patients to be treated in a less invasive manner, yet still afford the patient the significant benefits that have been afforded in the past by other techniques. These advances have changed our treatment of adolescent scoliosis. A deformity can often be better corrected and anterior surgery avoided by utilizing pedicle screw instrumentation technology and segmental posterior instrumentation.

Purpose: To demonstrate the utility of a new approach for minimally invasive spinal fusion.

Methods: Case report of a patient presenting with ongoing back pain and lower extremity pain who underwent a minimally invasive interbody fusion.

Results: The patient showed significant improvement of both axial back pain as well as her lower extremity symptoms.

Case Report

A seventy-seven year old female presented with ongoing back and lower extremity pain. She was diagnosed with degenerative lumbar scoliosis, stenosis, as well as lumbar radiculopathy and neurogenic claudication. Since she had failed extensive nonoperative conservative treatment, surgical intervention became an option for her.

Various surgical treatment options were considered. First, the goal of surgery had to be



Fig. 1 -Direct Lateral Interbody Fusion procedure (Image courtesy Medtronic http://www.lessinvasivespine.com/sextantsystem.html)

determined. One goal was to decompress the nerves. It was hoped that by decompressing the nerves, the lower extremity symptoms would improve. Options for decompressing the nerves would be via laminectomy or foraminotomy. However, her second chief complaint was that of axial back pain. Axial back pain can originate from many sources, including the arthritic changes associated with degenerative scoliosis. Axial back pain would not be relieved by nerve decompression. A third concern was the possibility of her lumbar scoliosis progressing even further without any surgical intervention. Fusion of the vertebrae would be indicated to relieve the axial back pain and align the lumbar spine. Additionally, an indirect decompression of the nerves at the foramina could be performed by improving the alignment of the scoliosis.

Surgical Procedure

In an effort to address these three goals, we elected to proceed with the direct lateral anterior interbody fusion of the lumbar spine. This minimally invasive retroperitoneal approach allowed for significant improvement in the patient's scoliosis deformity and indirect decompression of the foramina, as well as the canal, during realignment. required significantly less posterior It also surgery than would have been required if the full decompression had been done directly.

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Fig 2. -Anterior-Posterior x-ray of the lumbar spine prior to surgery (left) and after surgery (right), showing scoliosis correction

Results

This procedure allowed the patient to be mobilized sooner than traditionally would have been an option for her. This can help decrease the risk of postoperative morbidities associated with prolonged bed rest and decreased activities. Preoperative versus postoperative radiographs demonstrated significant improvement in the lumbar scoliosis. Her clinical report demonstrated significant improvement of both axial back pain as well as her lower extremity symptoms.

Discussion

Direct lateral interbody fusion is an innovative surgical procedure. This surgical procedure expands upon the advantage of a retroperitoneal approach to the anterior lumbar spine. It involves using a technique of entering the disc, preparing the disc, and placing an implant for interbody fusion through a more lateral approach. This is directed through and

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Fig. 3 -Lateral x-ray of the lumbar spine prior to surgery (left) and after surgery (right), showing curve correction and lordosis restoration

between the muscle fibers of the psoas muscles to enter the disc space. This facilitates the use of smaller skin incisions while maintaining the benefits of the retroperitoneal approach. The direct lateral interbody techniques appear to offer a significant improvement in the treatment of some patient's conditions. This approach is a useful tool for a well rounded surgeon to have.



Michael W. Hasz, MD

Dr. Hasz is Board certified by The American Board of Spine Surgery. He is a fellow in the American Academy of Orthopaedic Surgeons and a member of both the American Association of

Orthopaedic Surgeons and the North American Spine Society. He was Chairman of the Department of Orthopaedic Surgery and Director of Spinal Surgery at the Andrews Air Force Base / Malcolm Grow Medical Center in Maryland. He currently holds an appointment as Clinical Instructor of Orthopaedic Surgery and Assistant Professor of Surgery at the Uniformed Services Health Science University in Bethesda, Maryland.

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