

Fix The Back From The Side

XLIF – A novel minimally invasive spinal fusion technique

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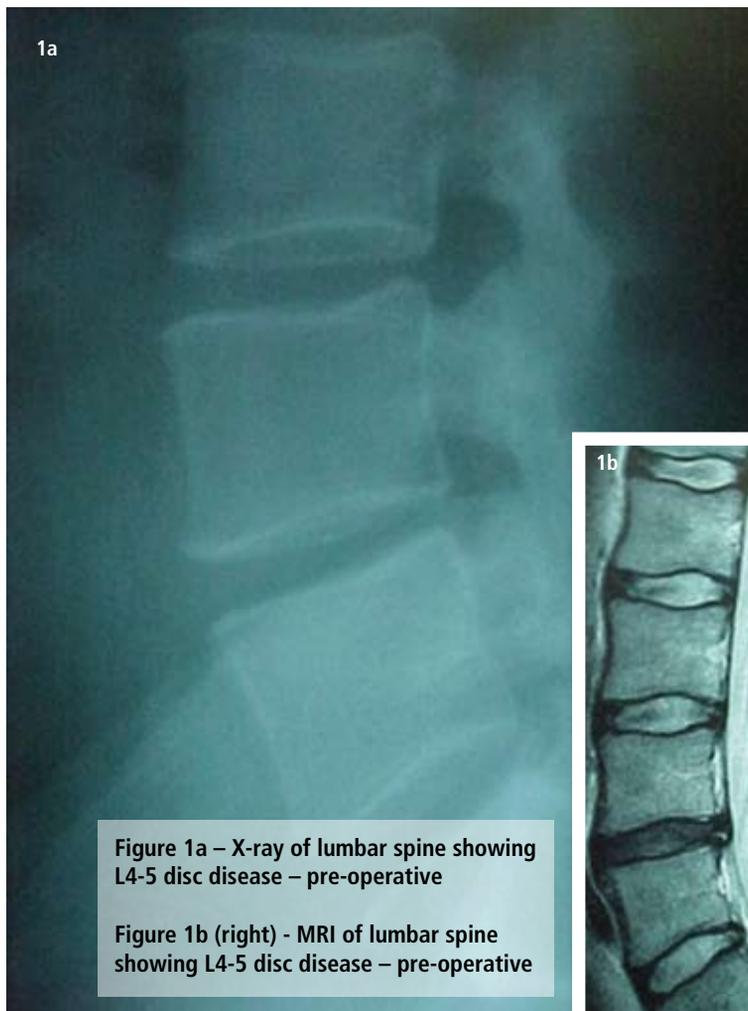


Figure 1a – X-ray of lumbar spine showing L4-5 disc disease – pre-operative

Figure 1b (right) - MRI of lumbar spine showing L4-5 disc disease – pre-operative



Successful surgery for degenerative disc disease depends on the correct identification of the source of pain, and assessment whether surgery is the best means of eliminating that source. The indications or rationale for surgical treatment of lumbar degenerative disc disease and/or low back pain are somewhat controversial, but mostly include:

- Instability of a lumbar segment with intractable low back pain
- Painful facet disease with low back pain and leg pain
- Annular tear or disc disruption confirmed by MRI and/or discography causing intractable low back pain
- Spondylolisthesis or slippage of one vertebra over another
- Degenerative scoliosis or change in the normal curvature of the spine with associated back/leg pain.

Once a surgical decision is reached, it mostly involves a spinal fusion, a technique that fuses two or more vertebrae together to reduce their motion and eliminate instability and pain. There are several

techniques for approaching the spine to perform the fusion, defined mainly by the direction of the approach. The technique options include the traditional open fusion methods from the back (posterior) or the abdomen (anterior or front) versus the newer minimally invasive techniques including the eXtreme Lateral Interbody Fusion (XLIF) – from the side. Over the past few years, advances in spine technology have shown traditional fusion methods trending towards minimally invasive techniques with less soft tissue disruption, resulting in fewer

Low back pain is becoming more prevalent in today's society. About 50% of working adults will suffer from low back pain annually and over 6,000,000 persons a year see a doctor because of low back pain. For all workers in the U.S. under the age of 45, low back pain is the leading cause of lost productivity and lost time from work. Current body of knowledge indicates that the consequences of disc degeneration account for most back and leg pain syndromes. While over 90% of patients with low back pain tend to recover and do well with non-operative treatment, about 5% to 10% of this population tend to have persistent or chronic symptoms and disability, requiring more aggressive treatment including surgical treatment.

complications, faster recovery and improved quality of life.

The XLIF procedure was developed to overcome the obstacles of both posterior (back) and anterior (front) approaches, and to access the spine for fusion with as minimal soft tissue disruption as possible. Typically the traditional open fusion surgeries are performed through large incisions with extensive muscle retraction and disruption. This disruption of spinal muscles is a major cause of post operative pain and contributing to long recovery time after back surgery. Unlike the traditional fusion technique, the XLIF procedure does not require entry through sensitive back muscles; instead the spine is approached from the side through a 3cm incision. The same goals of complete disk removal and implant insertion are achieved without disruption of muscles of the spine. This technique requires the use of a specialized minimally invasive access port, fluoroscopic (X-ray), and a “nerve avoidance” monitoring system to prevent possible nerve damage. Requiring only two tiny incisions on the patient’s side and back,

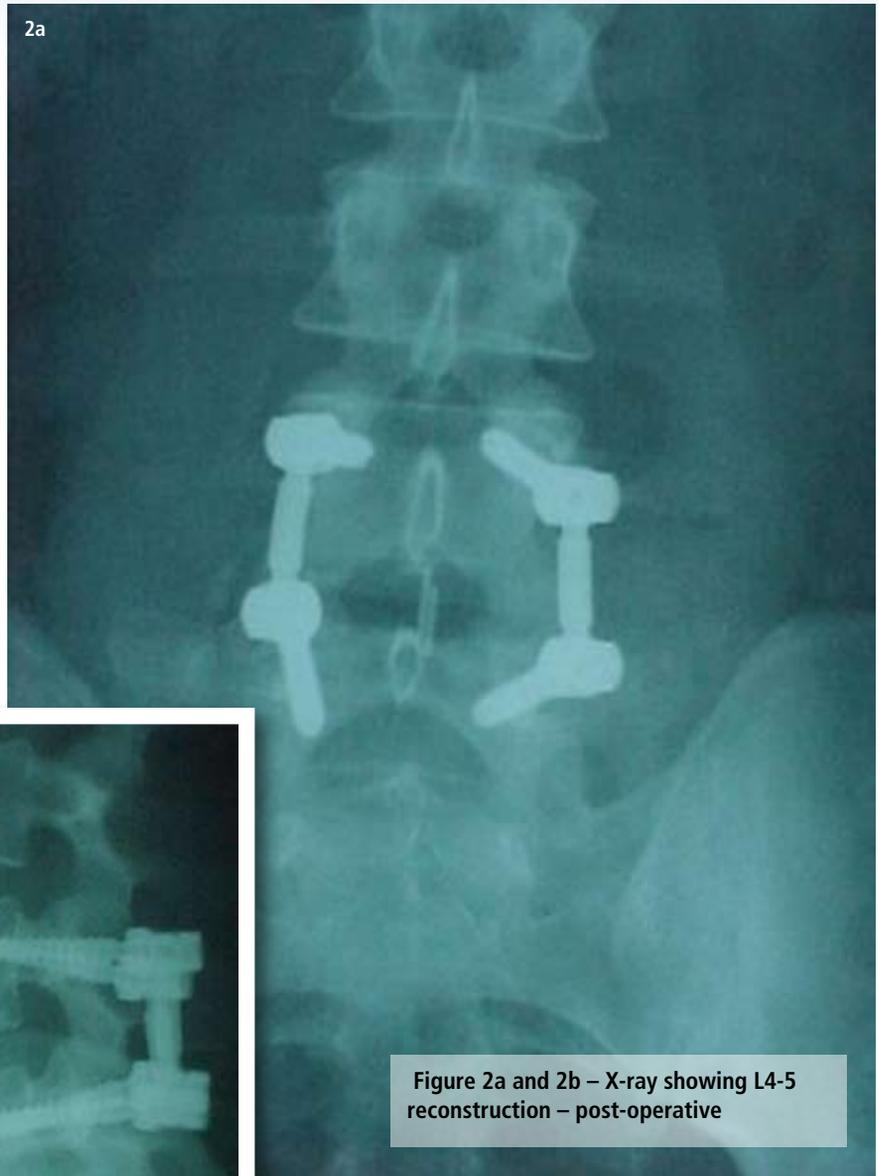


Figure 2a and 2b – X-ray showing L4-5 reconstruction – post-operative

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patients are often walking within 6 to 12 hours and usually hospitalized about 1 to 2 days. Because it is minimally disruptive to the soft tissues, the XLIF procedure requires less operative time and results in minimal blood loss and quicker post operative recovery.

Case illustrations (radiographs and clinical photographs) are as described. This is a 35-year-old truck driver with chronic low back pain due to a lifting injury. He was treated surgically after failure of physical therapy and spinal injections with a single level L4-L5 XLIF.

The XLIF technique has been used in thousands of patients in the U.S. and abroad to successfully treat a range of spinal conditions including lumbar degenerative disease, spondylolisthesis, scoliosis, adjacent level disease and revision surgery. The author has been offering this procedure since January of 2006, having successfully treated over 70 spinal segments. The problem of low back pain is prevalent. About 8 in 10 Americans will experience a life altering episode of back pain at some point in their lives, some of which will be recurrent and require specialized care. Jacksonville Orthopaedic Institute has a comprehensive spine



Figure 3a (back) and 3b (side) – Shows incision at 2 weeks post-operative



center with a compliment of highly trained spine surgeons, physician assistants and an excellent rehabilitation program. Our skilled team will apply appropriate clinical expertise to establish an accurate diagnosis quickly, exhausting every appropriate treatment options before considering surgery.