



# LLIF

Lateral Lumbar Interbody Fusion

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*Patient Information*



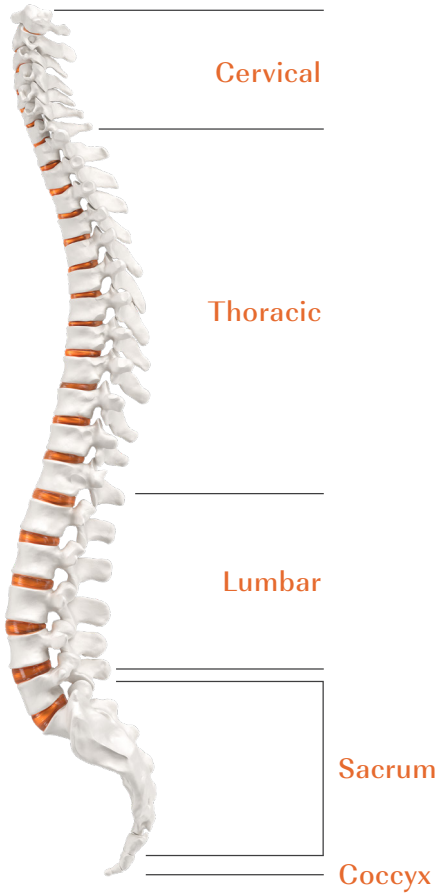
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*This brochure is intended to provide an overview of general information on spinal anatomy, conditions, and treatment options. This brochure does not serve as a replacement for discussing your personal health status with your medical provider. Please consult your surgeon and healthcare team for additional information that pertains to this procedure.*

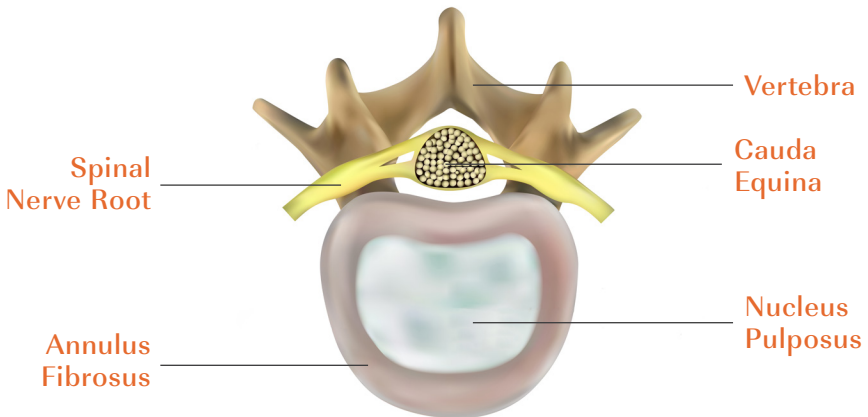
# Anatomy of the Spine



## Regions of the Spine

The individual bones (vertebrae) of the spine extend from the skull to the pelvis. They are grouped into the following segments:

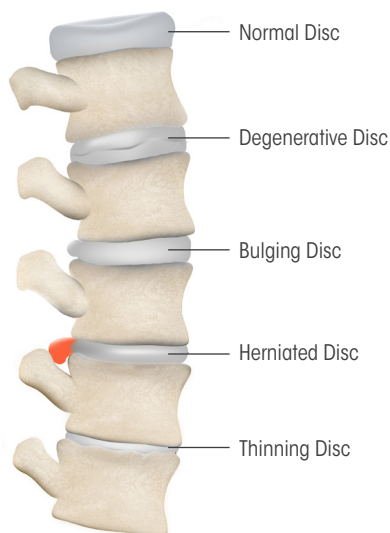
- Cervical: C1-C7
- Thoracic: T1-T12
- Lumbar: L1-L5
- Sacroiliac Joint: S1-S5
- Coccyx: Tailbone



# General Conditions of the Spine

## Degenerative Disc Disease

During the natural aging process, the discs between each vertebral body can lose their flexibility, height, and elasticity which can cause a tear in the tough outer layer of the disc, causing the disc to herniate, bulge, or leak the gelatinous core. The bulges or leakages can end up compressing the nerve roots and/or spinal cord, causing symptoms including, but not limited to lower back and/or leg pain.



## Spondylolisthesis

Spondylolisthesis is a condition in which one of the vertebrae slips forward or backward. Progression of this condition can result in severe nerve compression and spinal deformity. The condition can be a result of degenerative disease, bone fracture, or a birth defect.

## Spinal Stenosis

Spinal stenosis is a term used to describe narrowing of the channels in which nerve roots and the spinal cord are located. This narrowing is caused by age-related degenerative changes which place undue pressure on the nerves. Painful symptoms are a result of nerve compression and tend to be worse with standing or walking.

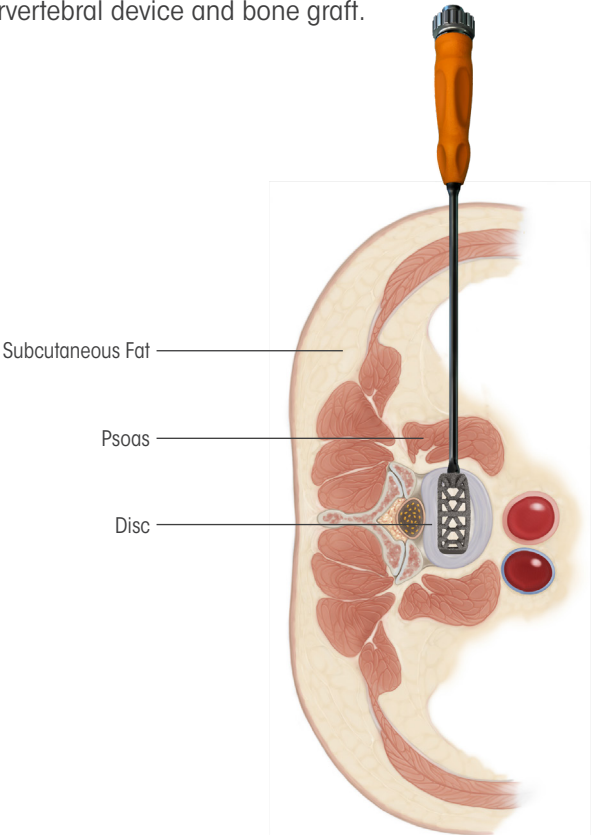


# LLIF Procedure

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Spinal fusion is performed to permanently join two or more bones of the spine, called vertebrae, by eliminating movement between them. This is done by removing the intervertebral disc between the two vertebrae, which normally enables the spine to bend and rotate, and replacing it with an implant packed with pieces of bone graft. The bone graft heals over several months, fusing the vertebrae together and stabilizing the spine.

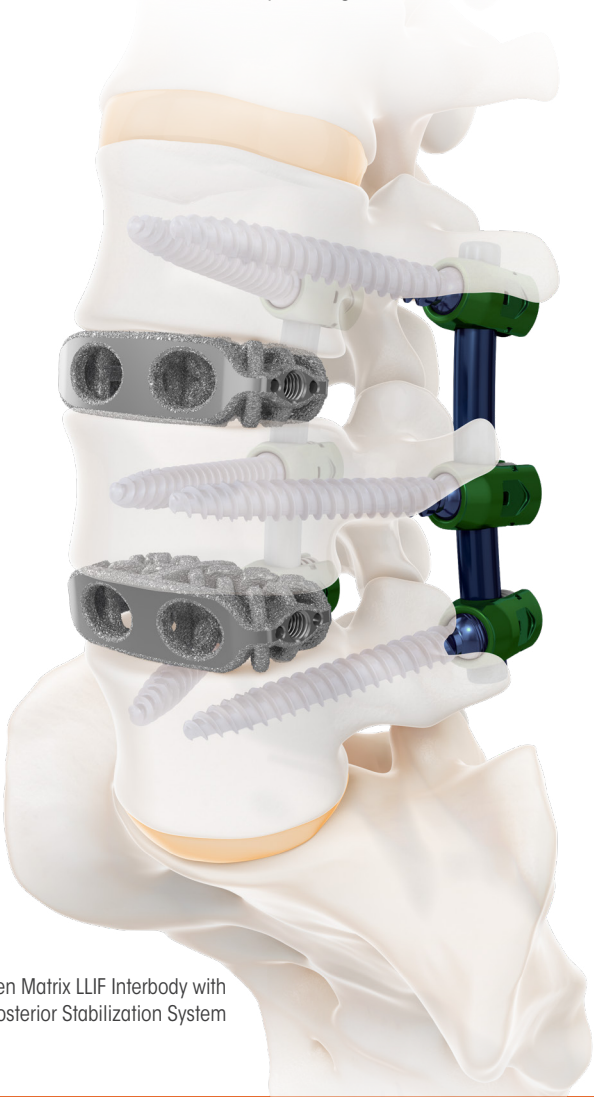
Lateral Lumbar Interbody Fusion, or LLIF, is an anterior column approach to spinal fusion in which the surgeon accesses and repairs the low back with an approach from the side of the patient, as opposed to an approach from the back or the front. During the procedure, the patient is positioned laterally, the surgeon uses a pathway to the spine through the psoas muscle which is located behind the abdominal contents and connects to the lower back to the thighs. This minimally invasive procedure is designed to spare the muscles, tendons, ligaments, and other tissue from the major disruption associated with traditional open back surgery. The LLIF procedure often involves the use of a tubular retractor to hold the muscles open and provides the surgeon a clear view of the spine for replacement of the intervertebral disc with the lateral intervertebral device and bone graft.



# Plates, Screws and Rods

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Screws are placed in the pedicles of each vertebra above and below the intervertebral spacer and are linked with rods on the left and right. The screws and rods serve to firmly affix the bones of the spine around the area of fusion. A plate with four screws may be placed in front of the cage as well, which stabilizes the spine from the front. The surgeon will use medical image guidance (like x-rays) during the procedure to ensure that the hardware is in the optimal position. Bone graft is packed around the screws and rods to promote spinal fusion. The incision is then closed, and surgical dressings are applied before the patient is transferred from the operating room.



SPIRA<sup>®</sup>-L Open Matrix LLIF Interbody with ORTHROS<sup>®</sup> Posterior Stabilization System

# Frequently Asked Questions

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## For what conditions is LLIF performed?

LLIF can be used to treat the following conditions of the lumbar spine:

- Degenerative disc disease
- Herniated disc
- Fractures to the vertebrae
- Spinal weakness or instability
- Spondylolisthesis, a condition in which one vertebra slips forward, on top of another

## Who is a good candidate for LLIF?

You may be a good candidate for spinal fusion if you have instability, weakness, or pain caused by one of the previously listed conditions and have already tried nonsurgical treatments. Spinal fusion changes the normal movement of the spine, which may accelerate wear and tear of the vertebral joints adjacent to the fused vertebrae.

## What should I expect after LLIF surgery?

Treatment with a Lateral Lumbar Interbody Fusion Surgery may help you return to normal activities. If LLIF surgery was performed for sciatica or lumbar radiculopathy pain traveling down the legs, patients will often notice that this pain is completely gone or significantly improved immediately after they wake up from surgery.

After LLIF surgery, it is normal to have some abdominal pain which will resolve over several weeks as the muscles of the abdomen recover and heal. Because a spinal fusion with an incision in the back is often performed concurrently with a Lateral Lumbar Interbody Fusion, back pain is also common during the recovery period which eventually will resolve.

## How long will I stay in the hospital?

Most people will stay in the hospital between 2 to 4 days after their surgery. Various factors, such as mobility, pain control and physical therapy requirements can affect length of stay.



## When can I return to a normal daily routine?

It normally takes approximately 3 to 6 months for the fusion to occur. During that time, you should avoid strenuous activities that might affect the fusion process. Driving is not allowed until after your first post-op visit (usually 7-10 days). Most patients are able to go up and down stairs when they go home from the hospital. Some patients may require additional assistance.

## When can I return to work?

Return to work is determined for each individual patient based upon several factors depending on the surgery, your job, and you as an individual. The goal is to help you return to work as soon as you can do so safely. Your surgeon will determine a plan specifically for you.



*This brochure is not intended as a replacement for professional medical care and meant only as an educational resource. It is not meant to be a warranty or to replace a conversation between you and your physician or a member of their health care team. Please consult your physician for a complete list of indications, precautions, clinical results, and other important medical information that pertains to this procedure.*







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