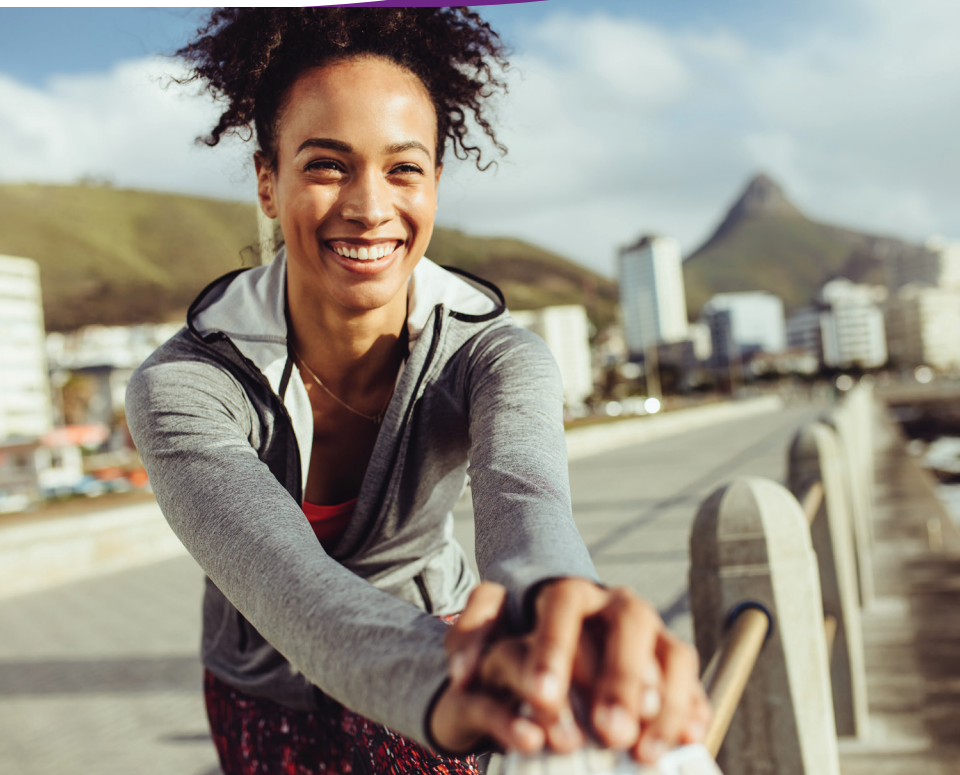


An introduction to

XALIF

Anterior lumbar interbody fusion in the lateral decubitus position

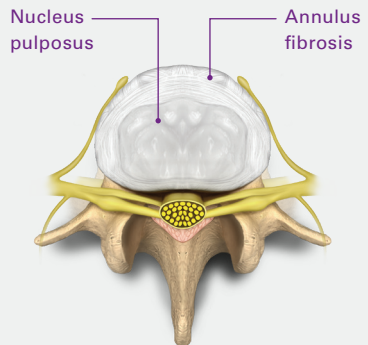
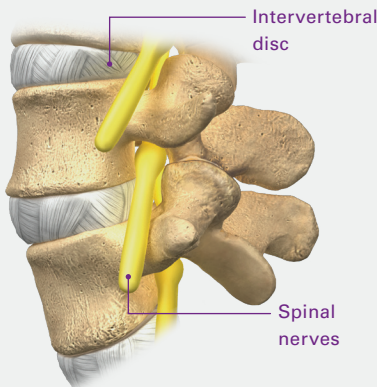
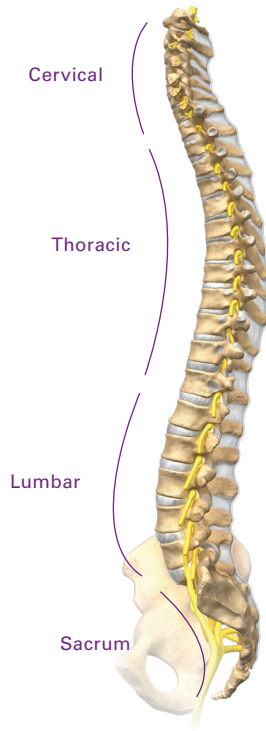
This booklet provides general information on XALIF. It is not meant to replace any personal conversations that you might wish to have with your physician or other member of your healthcare team. Not all the information here will apply to your individual treatment or its outcome.



About the spine

The human spine is made up of 24 bones or vertebrae in the cervical (neck) spine, the thoracic (chest) spine, and the lumbar (lower back) spine, plus the sacral bones.

Vertebrae are connected by several joints, which allow you to bend, twist, and carry loads. The main joint between two vertebrae is called an intervertebral disc. The disc is made of two parts, a tough and fibrous outer layer (annulus fibrosis) and a soft, gelatinous center (nucleus pulposus). These two parts work in conjunction to allow the spine to move and also provide shock absorption.

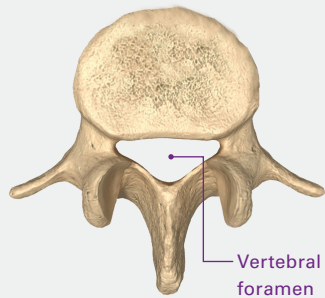
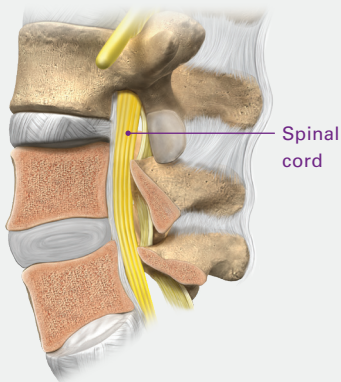
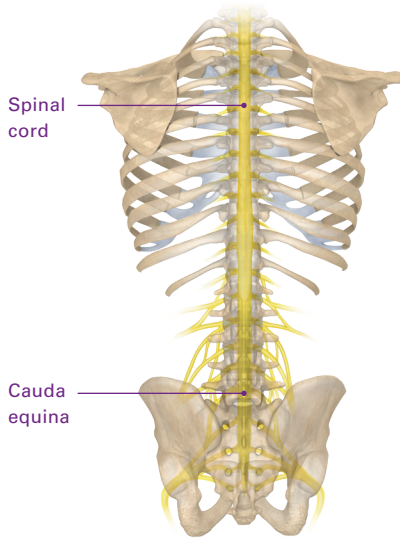


About the spinal cord and cauda equina

Each vertebra has an opening (vertebral foramen) through which a tubular nervous structure travels. Beginning at the base of the brain to the upper lumbar spine, this structure is called the spinal cord.

Below the spinal cord, in the lumbar spine, the nerves that exit the spinal cord continue to travel through the vertebral foramen as a bundle known as the cauda equina.

At each level of the spine, spinal nerves exit the bony spine then extend throughout the body.



What can cause pain?

There are several primary causes of spine problems. The majority of the symptoms are caused by either instability or by disc, bone or ligaments pressing onto the nerve roots, spinal cord, and/or cauda equina.

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, spinal cord, and/or cauda equina causing symptoms including, but not limited to lower back and/or leg pain.

Degenerative spondylolisthesis

Degenerative spondylolisthesis is a condition where one vertebra has slipped forward over another one below it. This instability typically occurs as a result of degenerative changes but may also be caused by stress fractures, or congenital abnormalities (birth defects), and in rare cases from a tumor or trauma.

Degenerative scoliosis

Adult degenerative scoliosis is a condition where a right-left or lateral curve develops in a previously straight spine. This curvature occurs as a result of deterioration of the disc and joints in the back of the spine. As the joints degenerate they create a misalignment in the back, resulting in a bend or curvature, causing symptoms including lower back and/or leg pain.

What are treatment options?

Many symptoms can be treated without surgery including rest, heat, ice, medication, injections and physical therapy. It is important to speak with a physician about the best option.

If symptoms do not improve with conservative treatment, physicians may recommend spinal surgery. Surgery is reserved for those who do not gain relief from non-operative forms of treatment, patients whose symptoms are increasing or worsening, and/or patients that present with a spinal condition which indicates the need for surgery.

What is an XALIF?

In this procedure, the patient is positioned on his/her/their side (lateral decubitus position) and the surgeon works on the spine from the front (anterior) and removes the diseased or damaged spinal disc in the lower (lumbar) spine. The surgeon inserts a bone graft into the space between the two vertebrae where the disc was removed (the interbody space). The goal of the procedure is to stimulate the two vertebrae to grow together into one solid bone—a process known as fusion. Fusion creates a rigid and immovable column of bone in the problem section of the spine. This type of procedure attempts to reduce back pain and other symptoms.

Anterior approaches, such as in XALIF, allow access to the discs from the front of the spine and do not require muscle stripping as occurs in posterior (from the back) approaches.

By placing the patient in the lateral decubitus position for this approach, the surgeon is able to decrease the length of surgery and improve recovery times over traditional supine (lying face up) positioning.¹⁻³

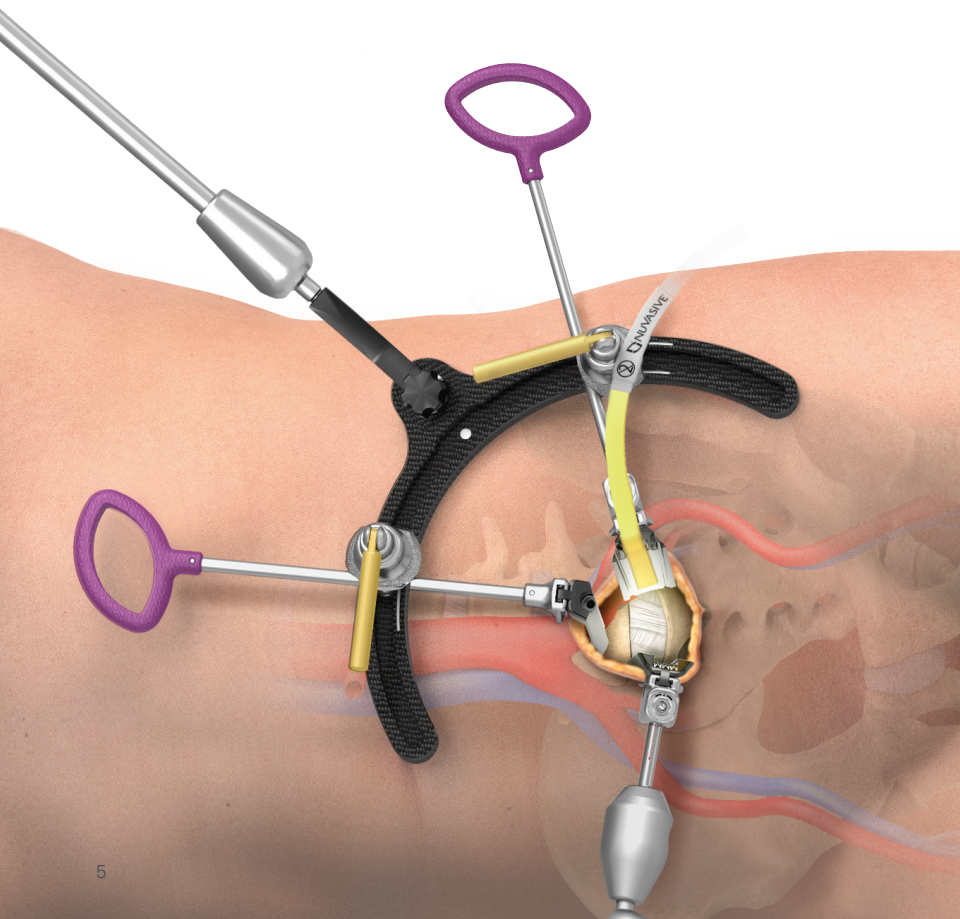
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1. Drazin D, Kim TT, Johnson JP. Simultaneous lateral interbody fusion and posterior percutaneous instrumentation: early experience and technical considerations. *Biomed Res Int* 2015;Article ID 458284.
2. Olsen MA, Mayfield J, Laurysen C, et al. Risk factors for surgical site infection in spinal surgery. *J Neurosurg* 2003;98(2):149-55
3. Olsen MA, Nepple JJ, Riew KD, et al. Risk factors for surgical site infection following orthopaedic spinal operations. *J Bone Joint Surg Am* 2008;90(1):62-9.

Can an XALIF be right for me?

Your physician might determine an XALIF procedure is a good option for you if you require an interbody fusion, are skeletally mature, and have received at least 6 weeks of non-surgical treatment.

Conversely, your physician may determine that an XALIF procedure is not a good option for you if you are not a good candidate for fusion surgery in general due to other medical conditions. These conditions can be, but are not limited to signs of inflammation or infection near the operative site, patient sensitivity to implant materials, patients with inadequate bone quality, previous retroperitoneal surgery, previous aortic bypass or endovascular stent graft, and other indications.



What to expect

Before surgery

Your physician will review your condition and explain treatment options, including medications, physical therapy, and other surgeries. Should you have any questions regarding the procedure, do not hesitate to ask your surgeon. Your physician will provide thorough preoperative instructions.

During surgery

After you are sedated, positioned on your side, and surrounded by the appropriate surgical draping, an X-ray image is taken of your spine to identify the location of the operative disc space.

Step 1: Approach

Traditionally, a small incision is made through one side of the abdomen. Gravity helps shift the abdominal contents to the side naturally and the large blood vessels that lie in front of the spine are gently moved aside.

Step 2: Disc removal

The diseased or damaged disc is removed to reduce pressure from the symptomatic cord and/or nerve root.

Step 3: Implant

An implant is inserted into the void left where the disc is removed. This implant acts as a scaffold for bone to grow through, which will eventually stabilize that segment of your spine once fusion (bone growth) occurs. This may include an implant with built in fixation (standalone device).

Step 4: Fixation

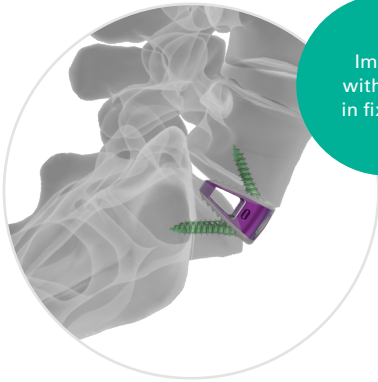
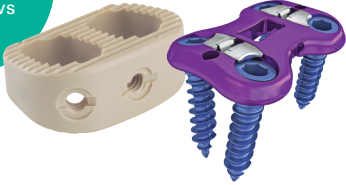
A small plate and screws may then be placed over the disc space, or screws and rods may be placed from the back (posterior) side to act as a stabilization device (internal brace) to help hold everything in place while fusion occurs.

What implants are used?

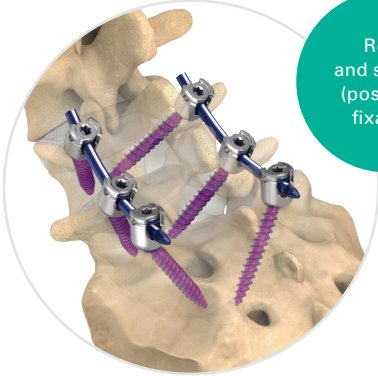
Below are some examples of the implants that may be used during an XALIF procedure:



Implant with plate and screws



Implant with built in fixation



Rods and screws (posterior fixation)



After surgery

After surgery you will wake up in the recovery room, where your vital signs will be monitored and your immediate postoperative condition will be carefully observed. Once the medical staff feels that you are doing well, you will be returned to your room in the hospital.

Your physician will determine the best postoperative course for you. This will include any medications to take home, as well as a prescribed program of activities. Your physician will provide instructions on wound care, exercises, and limitations to postoperative activity.

What are the potential risks of an XALIF procedure?

Keep in mind that all surgery presents risks and complications that are important to discuss with your surgeon prior to your surgery. Listening to your physician's guidance, both before and after surgery, will help your recovery.

Potential risks following XALIF surgery include:

- problems with anesthesia,
- blood vessel damage,
- nerve or spinal cord damage,
- problems with the interbody device or hardware,
- retrograde ejaculation (in males), and
- ongoing pain.

This is not intended to be a complete list of the possible complications. Please contact your physician to discuss all potential risks.

Frequently asked questions

Can I shower after surgery?

Depending on your surgical incision, you may have showering restrictions. Ask your physician for appropriate instructions.

Will I have a scar?

Your physician will discuss the incisions that will be made during an XALIF surgery.

When can I drive?

For a period of time after your surgery, you may be cautioned about activities such as driving. Your physician will tell you when you may drive again.

Can I travel?

The implants used in the XALIF procedure may activate a metal detector. Because of increased airport security measures, please call your local airport authority before traveling to get information that might help you pass through security more quickly and easily. Ask your physician to provide a patient identification card.

Resources

For more information about XALIF, please visit [nuvasive.com](https://www.nuvasive.com)

If you would like to learn more about patient support and education for spinal condition sufferers and their loved ones, please visit [thebetterwayback.org](https://www.thebetterwayback.org)

If you have any questions about XALIF or spine surgery, please call or visit your physician, who is the only one qualified to diagnose and treat your spinal condition. This patient information brochure is not a replacement for professional medical advice.



Recovery from something as significant as spine surgery doesn't just happen—**it's achieved.**

The Better Way Back® is a free patient education and support program for those suffering from a spinal condition. We provide patients a safe space for compassionate discussion on all things spine, because we understand that a prepared, educated, and supported patient has a greater chance of a successful recovery.

The Better Way Back champions that journey back to health by fostering a community exclusively for patients, by patients. We connect patients with others who have experienced similar challenges and recovered from spine surgery. Our recovered patients volunteer their time to share the modern, evolving story of life after back surgery. You don't have to face this journey alone. Join our nationwide community today!



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