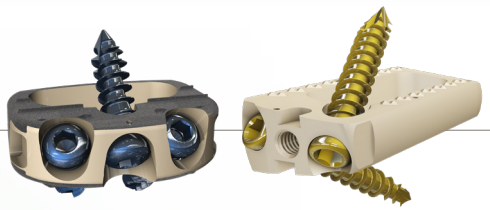
CENTINEL SPINE®

TAKE *back* YOUR LIFE

A Patient's Guide to Treating DDD and How STALIF M™ & STALIF L® *Can Help*

Anterior & Lateral Lumbar
Integrated Interbody™ Systems

THERE IS *hope*



With STALIF M & STALIF L
You Don't Have to Live with Back Pain

Day after day, from morning to evening, your chronic lower back pain impacts everything you do. Whether you are having difficulty performing your job, spending time with your family, or even enjoying the simplest daily pleasures, it is time to take away your back pain and take back your life.

STALIF® *gives you an option.*

If your doctor has recommended spinal fusion to alleviate your back pain, you can read this guide to help you and your doctor choose the option that is best for you.

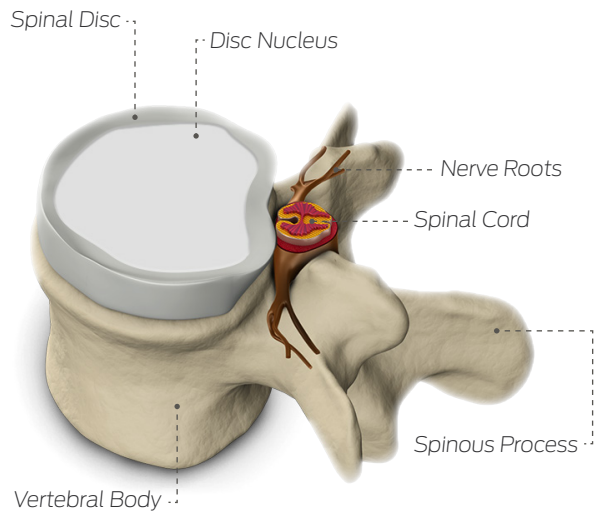
THE *lumbar* SPINE

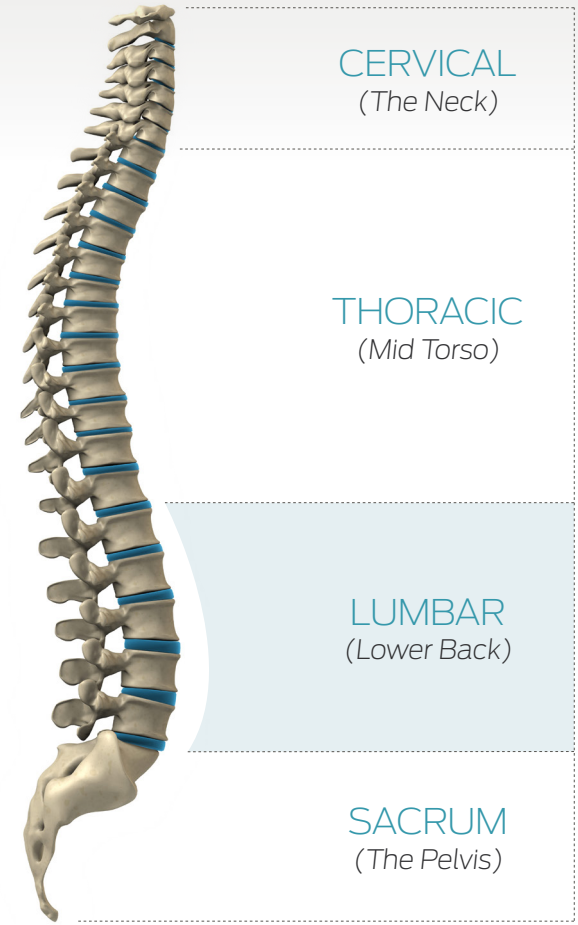
Your Back

All voluntary movement in your body is controlled by the brain, whose main communication pathway to the muscles is a large bundle of nerves collectively known as the *spinal cord*. Protection for this critical pathway is provided by the bones of the spinal column.

These bones, or *vertebral bodies*, have a number of important functions—one is to encircle and guard your spinal cord against trauma and another is to provide the skeletal support we need to walk upright.

Between each pair of vertebrae is a *spinal disc* that acts like a shock absorber and provides flexibility during your daily activities.





The combination of the spinal disc and the attached vertebral bodies is called a *spinal segment* or level. At each spinal segment, nerves branch from the spinal cord and pass through openings between the vertebrae called *foramen*. These nerves travel your arms and legs to control movement and relay sensation back to your brain.

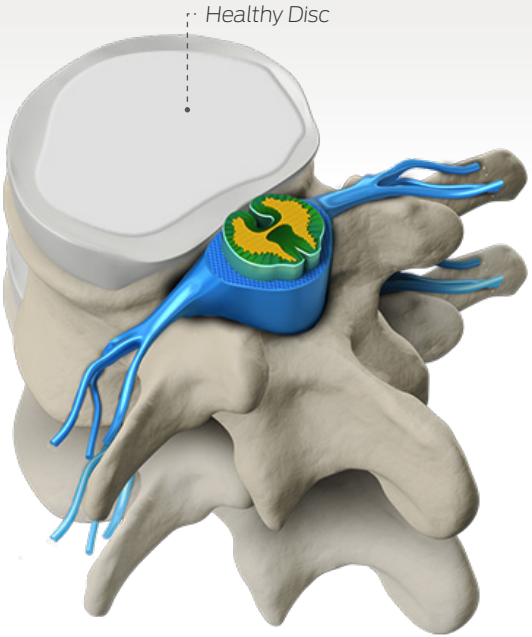
WHAT IS *degenerative disc disease (DDD)?*

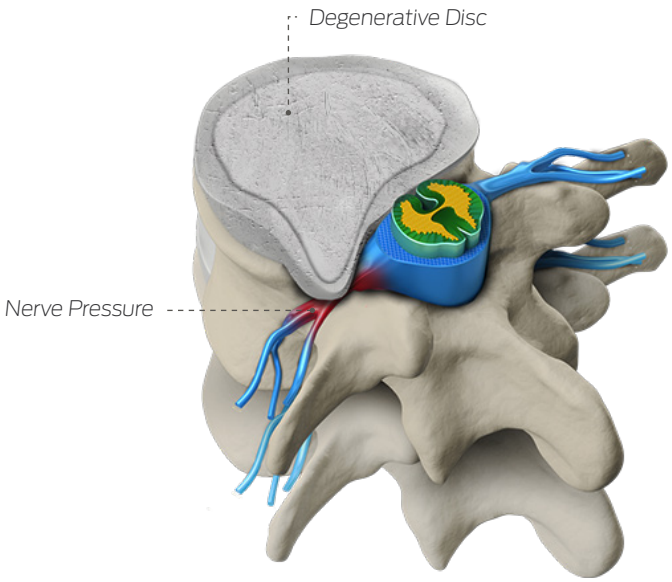
DDD isn't a disease at all

Your spinal discs act as a cushion to absorb shock between the vertebrae during movement. As a result of aging or injury, sometimes the spinal disc loses its cushioning effect which may result in a loss of disc height. This loss of disc height reduces the distance between the vertebral bodies and may cause irritation or pinching of the nerves resulting in back and/or leg pain. The spinal disc may also bulge or herniate, where the disc material contained within the intervertebral disc is pushed into the spinal canal. This may result in inflammation and pressure on the local nerve.

DDD can cause more than back pain

The aging of your disc can cause irritation or pinching of the nerves—leading to a combination of back and/or leg pain, weakness, numbness, or tingling in your legs.





WHAT ARE THE *options* FOR TREATING DDD?

There are a number of treatments available for DDD

Your doctor will likely first use treatment options such as physical therapy, heat, and anti-inflammatory medications. For the vast majority of patients, back pain will subside over time using these types of conservative methods.

Additional forms of treatment may become necessary—such as injections and nerve root blocks. If they are found to be effective, these treatments can be performed several times by a pain management physician or physiatrist. These injections work by decreasing inflammation and, ultimately, the pain of your irritated nerves.

If conservative forms of treatment fail to ultimately relieve your symptoms, then surgery may be presented as an option.

ARE THERE DIFFERENT *surgical options?*

What is Spinal Fusion?

The goal of surgical treatment is affording you relief from your pain. To achieve that outcome, stabilization with fusion of the spine is often necessary to eliminate the movement within the diseased areas of the spinal column. This movement within the spinal column is causing the pain by impinging nerves at the diseased segment which generates pain.

Spinal fusion involves stopping all motion at the diseased segment by removing the spinal disc and inserting a device to allow bone growth between vertebral bodies—essentially fusing the vertebral bodies into one.

What are my Spinal Fusion Options?

Spine surgery can be performed utilizing an ALIF approach, which is an anterior (front) approach through an incision in your abdomen, an LLIF approach, which is a lateral (side) approach through your side, or a PLIF/TLIF approach, which is a posterior (back) approach thorough an incision in your back.

There are several advantages to using an anterior or lateral approach, including:

- *Less muscle disruption*
- *Less blood loss during surgery*
- *Reduced operative time*
- *Reduced hospital stay*
- *Reduced post-operative recovery time*
- *Greater anterior column support (80% of the load on your spine goes through the anterior column)*
- *Ability to place a larger implant to better aid fusion*

During anterior or lateral spinal fusion surgery, the painful spinal disc is reached with caution. The spine may then be stabilized using a spacer implant that is covered by a metal plate that bridges the vertebral bodies.

Alternatively, your surgeon may utilize our more advanced technology—where a single device, **STALIF M** or **STALIF L**, replaces the disc portion of the damaged spinal segment. The **STALIF** device is then secured with specially-designed screws.

The procedure encourages fusion between the vertebrae above and below the affected spinal segment. This type of surgery generally requires less operative time, and more importantly, leaves all of the bones and muscles of the back intact. This may result in a shorter recovery time, allowing you to return to your daily activity more quickly.

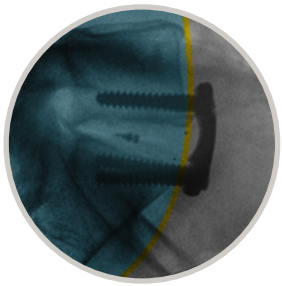
STALIF®

featuring
INTEGRATED INTERBODY™
Technology

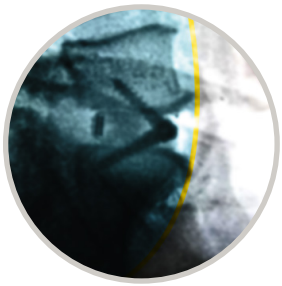
Is it right for you?

If you are diagnosed with DDD, your doctor will suggest the course of treatment he or she feels is right for you. The decision will be based on your history, physical exam, and findings on x-rays or other spinal imaging.

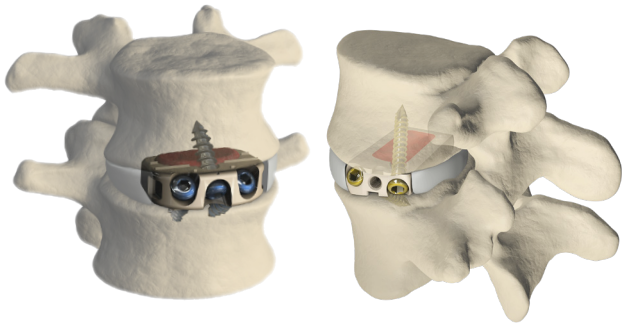
***If the recommended treatment involves surgery, ask your doctor about* STALIF.**



A traditional plate sits outside the confines of the vertebral body.



STALIF M-Ti™ *(featuring* **INTEGRATED INTERBODY™** *technology), conforms to the anatomy.*



Because this device is placed through the abdomen or side, it may result in a shorter surgery, lower rate of complications and quicker recovery. With thousands of DDD patients worldwide having already received the successful and established **STALIF** technology, the reported experiences have been extremely positive.

Only your doctor knows what's right for you. Remember to ask if **STALIF** can be used as a part of your treatment plan.

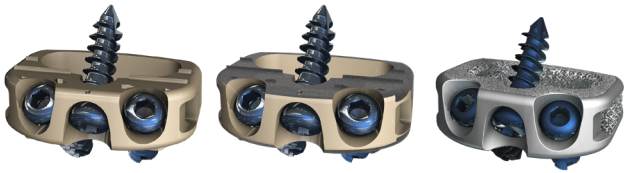
AVAILABLE IN MULTIPLE *material options*

STALIF M and **STALIF L** are available in multiple material options to meet each individual patient's needs. Your surgeon will discuss the best material option for you.

Available devices include:

STALIF M:

Anterior fusion device for the lower (lumbar) spine (L2-S1), available in 3 material options (PEEK, PEEK with **Ti-ACTIVE**™, and **FLX**™).



STALIF M | STALIF M Ti | STALIF M FLX

STALIF L:

Lateral fusion device for the lower (lumbar) spine (L2-L5), available in 2 material options (PEEK and **FLX**).

STALIF L | STALIF L FLX

PEEK

PEEK (polyetheretherkeytone) is a high-performance medical grade plastic.

Ti ACTIVE™

Ti-ACTIVE is a three-dimensional microporous commercially-pure titanium surface.

FLX™

FLX is a 3D-printed porous titanium alloy scaffold.

PEEK and **Ti-ACTIVE** implants also include Tantalum markers. All **STALIF** integrated fixation screws are made of titanium alloy. All materials used in the production of **STALIF** devices are highly biocompatible. Please consult with your doctor regarding any possible allergies.

Titanium has been shown to improve the characteristics of orthopedic and spinal implants. **STALIF M-Ti**, **STALIF M FLX**™, or **STALIF L FLX**™ titanium technologies may further optimize opportunities for fusion.

WHAT ARE THE *potential risks* OF AN ALIF OR LLIF PROCEDURE?

Potential risks following ALIF or LLIF surgery include:

- Infection
- Allergic reaction
- Nerve or spinal cord damage
- Blood vessel damage
- Problems with the graft or interbody device hardware
- Loss or impairment of bowel, sexual, and/or bladder function
- Ongoing pain

Following surgery, sometimes it is necessary to have Magnetic Resonance (MR) images taken. **STALIF M**, **STALIF M-Ti**, **STALIF M FLX**, **STALIF L**, or **STALIF L FLX** systems have not been evaluated for safety and compatibility in the MR environment, nor have they been tested for heating or migration in the MR environment. Please consult with your doctor if you need an MRI following surgery, as scanning a patient who has these implanted devices may result in patient injury.

STALIF M, **STALIF M-Ti**, **STALIF M FLX**, **STALIF L**, and **STALIF L FLX** systems are expected to have a clinical lifetime of 12 months, after which a bony fusion should be supporting the treated level.

This is not intended to be a full list of the possible complications associated with ALIF or LLIF surgery, or with **STALIF** technology. Please consult with your doctor to discuss all potential risks.

about THIS GUIDE

This guide was developed and provided by **CENTINEL SPINE** and is designed to convey key information regarding the **STALIF M** and **STALIF L** devices—the **INTEGRATED INTERBODY**™ options your surgeon is considering to treat your condition.

The guide is not intended to replace a conversation with your surgeon and only your surgeon is qualified to treat your spine and determine what is right for you.

Consult with your doctor for additional information regarding the most appropriate treatment for you—or if you have further questions about anterior lumbar integrated interbody fusion surgery.

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For more information...

And to discover how our devices have helped others like you, please visit our online presence at:

www.rediscovermylife.org

About Us...

With a clinical history of 30+ years, **CENTINEL SPINE** has welcomed the challenge of making surgeries more efficient, and thereby easier, on both patients and surgeons. Our engineers have developed distinguished technologies that realize the promise of efficient, simpler surgeries.

CENTINEL SPINE®

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