MySpine® MC
PERSONALIZED MIS SOLUTION

Medacta
International

Improve your quality of life with the

MINIMALLY INVASIVE MYSPINE PLATFORM

Medacta International

Suffering from back, hip or leg pain?

If back, hip or leg pain limits your daily activities, affects your mood, your health and your general well-being...
You're certainly not alone!

Has your doctor recommended Spinal Fusion?

MySpine is a patient specific, Minimally Invasive solution allowing for a fast recovery and pain reduction.

There are a number of surgical and non-surgical solutions available to treat your disease. Depending on your condition, your doctor may suggest that you undergo a spinal fusion (which is a surgical procedure used to correct problems with the vertebrae in your spine).

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The MIS MySpine Patient-Specific Platform may be your solution!

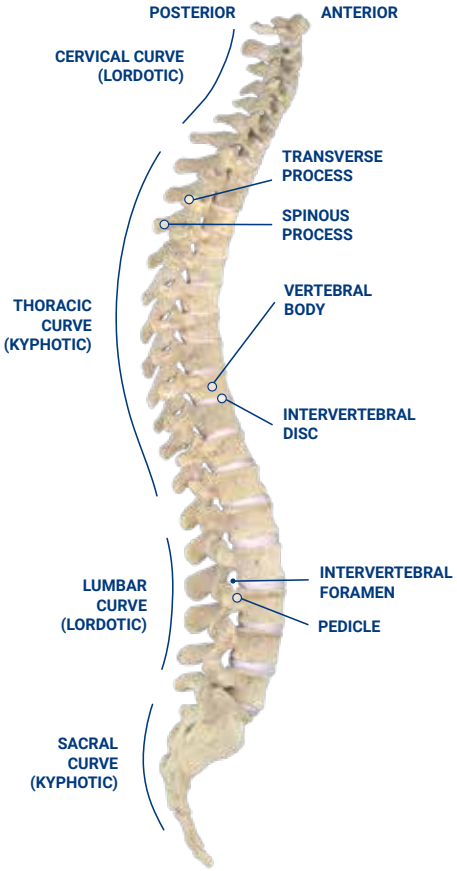
MySpine is an innovative MIS, patient-specific surgical platform specifically designed to your personal spinal anatomy to improve clinical outcomes and reduce your radiation exposure in the operating room.

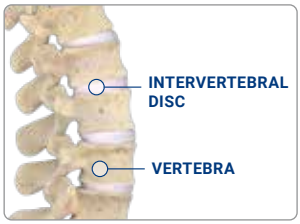
Spine Anatomy

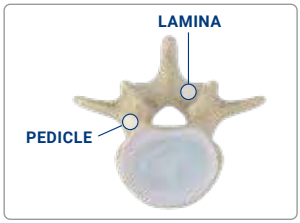
The spine is one of the most important structures in the human body. It supports a large majority of the body's weight, provides points of attachment for muscles and ligaments, and protects the **spinal cord**. A healthy spine is strong yet flexible, allowing a wide range of movements.

The spine is made up of individual **vertebrae** and is divided into four major regions: the **cervical curve**, the **thoracic curve**, the **lumbar curve**, and the **sacrum/coccyx**. **Discs** are located between the vertebrae and act as shock absorbers to protect the vertebrae and allow spinal rotation and bending. Each disc consists in two parts:

- Annulus fibrosus, a tough outer fibrous ring
- Nucleus pulposus, a soft gelatinous center





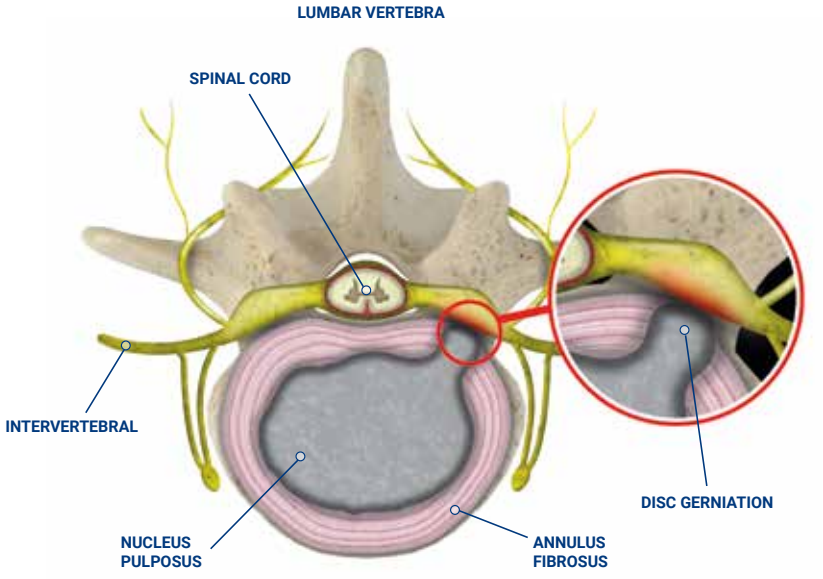


What is Degenerative Disc Disease?

Degenerative changes in your spine may cause you instability and pain in your back. **Degenerative disc disease** (DDD) involves the degeneration of your intervertebral discs as you age which can cause your discs to lose elasticity, flexibility, and height. This may happen gradually, simply from everyday normal wear, or from a prior back injury.

When this happens, your discs lose their shock absorbing abilities which can lead to abnormal motion or misalignment of your spine, which often results in pain. **Symptoms** of degenerative disc disease include any combination of numbness, weakness, or sharp, shooting pains in the buttocks, hips, or back of the leg. Any of these symptoms may limit activities of your daily life and affect your general well-being.

If conservative measures to control your pain, inflammation and disability are not effective, your doctor may suggest that you undergo a **Patient-Specific Spinal Fusion** tailored specifically to your spinal anatomy, severity of your disease, and your overall medical condition.



MySpine MC - A Minimally Invasive Medacta solution

The surgeon can access the spine following a «conventional» open surgical approach or a **Minimally Invasive Surgical approach (MIS)**.

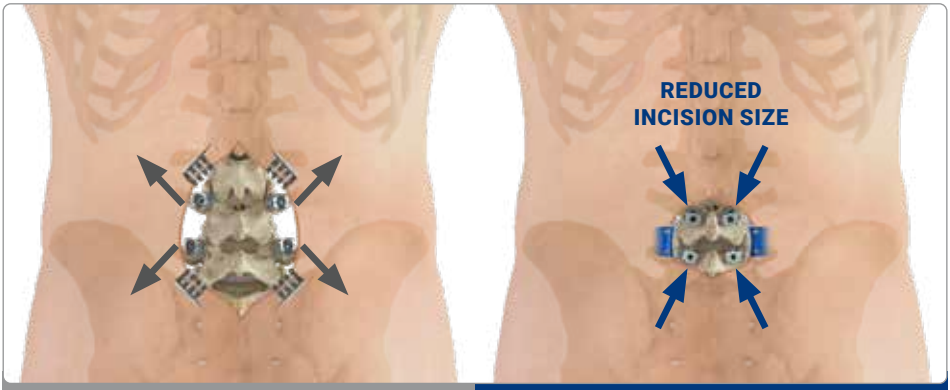
Open approaches can be potentially associated with postoperative muscle atrophy when the back muscular innervation is accidentally injured during surgery.

On the other hand, a true Minimally Invasive Surgery is characterized by the **preservation of the muscular complex structure and a shorter skin incision**.

MySpine MC is truly a Minimally Invasive Surgery[1,2]

Thanks to its muscle sparing technique, muscles are gently manipulated and a small skin incision of 4-5cm is performed.

For this reason, MySpine MC represents an optimal system with its **minimally disruptive atraumatic surgery**, which is fundamental to delivering a fast recovery: MySpine MC will **improve the quality of your life and hasten your recovery** after a spinal fusion surgery.



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What is a MySpine MC Minimally Invasive Spinal Fusion?

A MySpine MC spinal fusion surgery is a means of using **patient-specific, 3D-printed surgical instruments** to help facilitate your minimally invasive spinal procedure. In most cases, your surgeon will remove the damaged intervertebral disc(s) between two vertebrae and stabilize your spine by fusing them together through a small incision.

Using the MySpine patient-specific surgical instruments, your surgeon will safely insert multiple pedicle screws into your vertebrae, then an interbody device is inserted into your intervertebral disc space, and the screws are connected together with metal rods to help fixate and stabilize your spine in place.

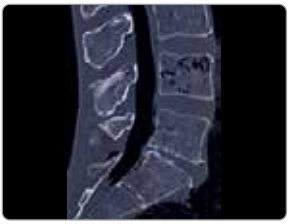
The MySpine patient-specific platform provides in-depth **preoperative planning** to guide your surgeon and to help achieve **the best clinical outcomes for you**.

Your surgeon will use the following devices to help stabilize your spine:

- a **patient-specific 3D printed surgical guide** to help the placement of pedicle screws accurately, safely and quickly
- a **pedicle screw** that is inserted into the pedicle of your vertebrae
- a **rod** that helps connect the individual pedicle screws to form a rigid construct
- an **interbody device** to restore the correct physiological-like height and alignment of your vertebrae

The Minimally Invasive MySpine MC Journey

MySpine MC is a surgical instrument designed to accurately fit your vertebrae. How does it work?



OBTAIN AN IMAGE OF YOUR SPINE

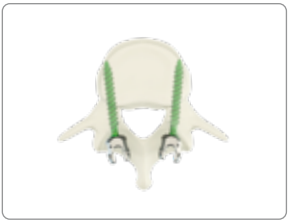
The surgeon will ask you to have a CT scan of your vertebral column. Medacta have developed a specific "Low Dose CT Protocol" to ensure the safe acquisition of your image. In fact, you will receive a very similar amount of irradiation to one single spine x-ray!

REPLICATION OF YOUR SPINE

Using images of your spine, Medacta will create a plastic 3D model for each of the vertebra to be treated, in order to allow the Surgeon to select the best implant position and size for you.

CREATION OF MYSPINE MC

Using the model of your vertebrae and a dedicated planning software, your surgeon tailors your personalized surgical guides around the unique anatomy.



PREPARATION OF SURGERY

Prior to the surgery, your surgeon will receive the MIS MySpine MC instruments and the plastic replica of your vertebrae. The bone model and the screw placement guides will be analysed to accurately prepare for your spine operation.

THE DAY OF SURGERY

The surgeon will benefit of the MIS MySpine MC guides that will help positioning the pedicle screws very accurately according to pre-operative plan.

...ENJOY YOUR SPINE!!!

Why a MySpine MC Minimally Invasive surgery?

A Minimally Invasive surgery causes **less surgical trauma** than other techniques because back muscles are preserved, leading to a **faster recovery**.[1,2,3] Consequently, MIS MySpine MC approach can potentially provide you with the following benefits:

1. DECREASED POSTOPERATIVE PAIN

In comparison with "conventional" open surgical techniques, the **MySpine MC** approach can reduce the postoperative pain thanks to a **less invasive technique**.[2,3] *"Thanks to this surgery I have my life back"* a patient of MD P. Verstraete, Belgium

2. SHORTER REHABILITATION

The **MySpine MC** technique can **decrease the muscular atrophy** leading to a potentially shorter rehabilitation, subject to your doctor's approval, based on your postoperative conditions.[2,3] *"My patients can walk autonomously the day after the surgery."* MD I. LaMotta, USA

3. SHORTER HOSPITAL STAY

The **MySpine MC** technique usually **significantly reduces** the duration of **hospital stay**. Your surgeon may still recommend a longer stay, depending on your postoperative condition.[2,3] *"The patients treated with MySpine MC can leave the hospital on the 2nd postoperative day."* MD N. Marengo, Italy

4. SMALL SKIN SCAR

With MySpine MC, the skin incision is often shorter than with "conventional" open surgery and therefore scar tissue is reduced.[2,3]

5. FASTER RETURN TO DAILY ACTIVITIES

The **MySpine MC** 3D Printed Patient-Specific Solution can potentially provide your back with **better biomechanical performance**, allowing for an improved long-term outcome.[1,2,3] *"At 6-month follow-up, our patients show important clinical improvements, without new neurologic deficits or radiologic pathologic findings."* MD K. Matsukawa, Japan

6. LESS BLOOD LOSS

Preservation of muscles and vessels potentially reduces blood loss during the surgery.[2,3]

7. REDUCED COMPLICATIONS

The **MySpine MC** technique **reduces the incidence of complications** when compared to free-hand techniques because of the highly accurate implant positioning.[4]

Bibliographic references:
[1] Matsukawa K. et al., Cortical pedicle screw trajectory technique using 3D printed patient-specific-guide, M.O.R.E. Journal, September 2018. [2] Marengo N. et al., Cortical Bone Trajectory Screw Placement Accuracy with a Patient-Matched 3-Dimensional Printed Guide in Lumbar Spinal Surgery: A Clinical Study, WORLD NEUROSURGERY, June 2019 [3] Marengo N. et al., Cortical Bone Trajectory Screws in Posterior Lumbar Interbody Fusion: Minimally Invasive Surgery for Maximal Muscle Sparing—A Prospective Comparative Study with the Traditional Open Technique, Clinical Study, February 2018 [4] Petrone S. et al., Cortical bone trajectory technique's outcomes and procedures for posterior lumbar fusion: A retrospective study, Journal of Clinical Neuroscience, April 2020

My experience:

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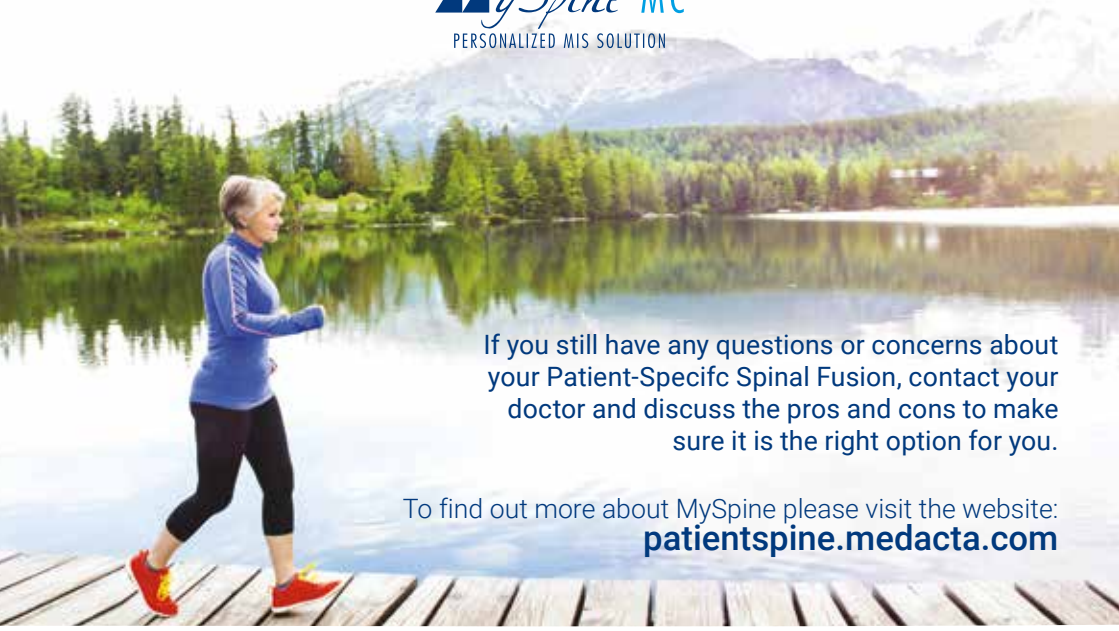

If you still have any questions or concerns about your Patient-Specifc Spinal Fusion, contact your doctor and discuss the pros and cons to make sure it is the right option for you.

To find out more about MySpine please visit the website:
patientspine.medacta.com

"Receiving a personalized, tailored surgery that was based on my specific anatomy made me feel more confident in the surgeon. Being able to see and hold a model of my own spine with my own eyes and hands really helped me understand my pain and trust my operation. I would definitely recommend this to my peers!"
J.S., USA

Medacta International

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