

TECHNICAL FEATURES

The MySpine Pedicle Screw Placement guides are made to match the individual patient's anatomy.

MAXIMIZED STABILITY

MySpine guides are positioned on the vertebrae using distinct references, such as the spinous and transverse processes, in order to achieve maximum stability.



MINIMIZED INVASIVENESS

The MySpine guides are designed to preserve the patient's anatomy.



MAXIMIZED VISIBILITY

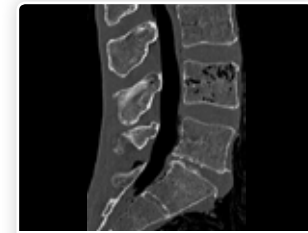
Distal windows enhance the field of view during all surgical steps.



REFERENCES

- [1] Lamartina et al. Adolescent idiopathic scoliosis surgery with patient-specific screw placement guide. *Eur Spine J.* 2014 Dec;23(12). MySPINE VIDEO CASE / REDUCED DOSE RADIATION
 [2] Lamartina et al. Pedicle screw placement accuracy in thoracic and lumbar spinal surgery with a patient-matched targeting guide: a cadaveric study. *Eur Spine J.* 2015 Nov;24(7). MySPINE ACCURACY VS FREE HAND
 [3] Putzier et al. A New Navigational Tool for Pedicle Screw Placement in Patients with Severe scoliosis: A Pilot Study to Prove Feasibility, Accuracy, and Identify Operative Challenges. *J Spinal Disord Tech.* 2014 MySPINE PILOT STUDY
 [4] Landi et al. Spinal Neuronavigation and 3D-Printed Tubular Guide for Pedicle Screw Placement: A Really New Tool to Improve Safety and Accuracy of the Surgical Technique? *J Spine* 2015; 4:5 MySPINE ACCURACY VS GUIDED TECHNIQUE
 [5] Landi et al. 3D Printed Tubular Guides for Pedicle Screw Placement: The Answer for the Need of a Greater Accuracy in Spinal Stabilization. *Orthop Muscular Syst* 2015; 4:3 MySPINE ACCURACY / EASE OF USE
 [6] Farshad et al. Accuracy of patient-specific template-guided vs. free-hand fluoroscopically controlled pedicle screw placement in the thoracic and lumbar spine: a randomized cadaveric study. *Eur Spine J.* 2016
 [7] Gelalis et al. Accuracy of pedicle screw placement: a systematic review of prospective in vivo studies comparing free hand, fluoroscopy guidance and navigation technique. *Euro Spine Journal.* 2012
 [8] Landi et al. Pedicle screw placement accuracy with patient-matched targeting guides: a cadaveric study and first clinical experiences. 8th M.O.R.E. International Symposium, LUGANO APRIL 22-23, 2016.

THE MYSPINE JOURNEY



1. Medacta receives the CT scan of the patient's spine.



2. MySpine pre-operative planning commences with the 3D reconstruction of the spine.



3. Following the surgeon's preferences, virtual positioning of the implants is proposed. This planning can be modified if required.



4. Once the planning has been validated by the surgeon, the in-house manufacturing process starts.

MYSPINE EDUCATION PROGRAM

The M.O.R.E. Institute has created a comprehensive Education Program which supports the surgeon in the application of the MySpine system through:

- **Reference Center**
You will have the opportunity to visit a Reference Center and attend live MySpine surgeries.
- **Learning Center**
The Learning Center offers the opportunity to attend a MySpine workshop, meet experienced surgeons and discuss the clinical and economic benefits of the MySpine technology.
- **Support**
Upon request, you will receive the assistance of an experienced Reference Surgeon to attend your first surgery in your own hospital.
- **Continuous Education**
You can continue your education through MySpine user meetings, M.O.R.E. International events, Reference Center visits and other educational tools.

Simply contact Medacta and we will create an Education Program for you!

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UNIQUE ANATOMIES PATIENT-MATCHED SOLUTIONS

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MySpine is a tailor made patient specific spine vertebrae guide, created to lead the surgeon through the critical steps of accurate pedicle screw placement whilst reducing the surgical time and intra-operative X-ray radiation.

REAL PATIENT MATCHED INSTRUMENTATION

MySpine Pedicle Screw Placement guides are developed specifically for each patient.

COMPREHENSIVE

- Standard MySpine guides are suitable for challenging deformities and long constructs.
- Low Profile MySpine guides are ideal for degenerative cases.

AT THE SURGEON'S HAND

The surgeon determines the entry points for the pedicle screws, and sets their trajectory along with the main geometrical parameters.



STANDARD VERSION



LOW PROFILE VERSION
K-WIRE BASED

MYSPIKE CASE MANAGEMENT

Online interactive 3D planning tool for reliable pedicle targeting and screw trajectory identification.

ONLINE CASE MANAGEMENT

MySpine cases are managed entirely online with no need to install additional software. The case database is available to the surgeon anytime and anywhere. The information on the website is always kept up-to-date.

COMPLETE IN-HOUSE TECHNOLOGY

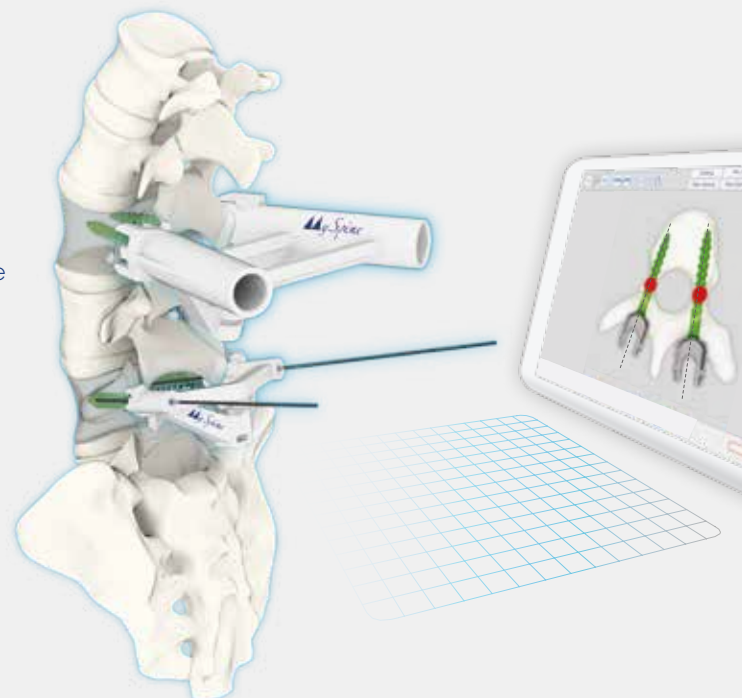
The MySpine process is kept completely in-house from the 3D anatomical reconstruction to the manufacturing of the guides, allowing a direct contact between the surgeon and the MySpine team.

ONLY 3 WEEKS LEAD TIME

The shortest delivery time in today's market for this technology.

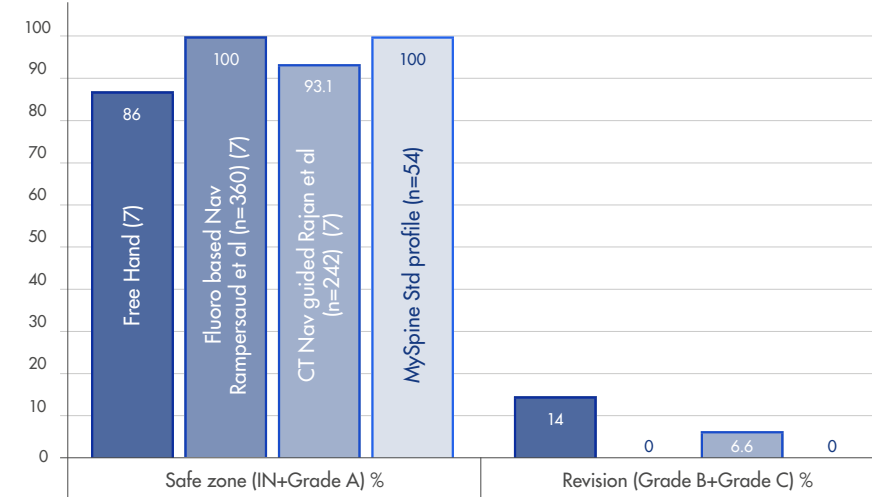
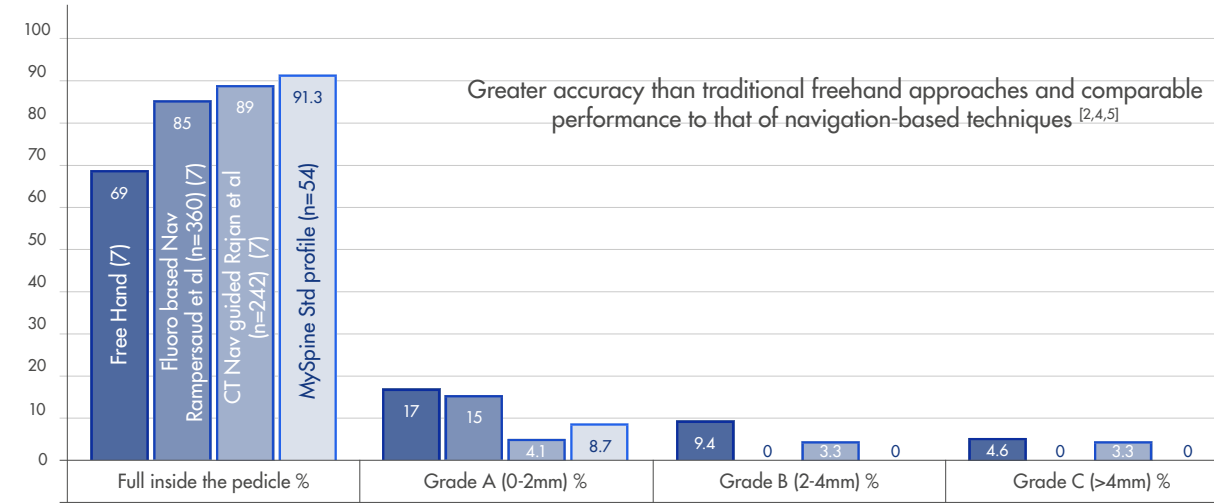
A PERSONAL MYSPIKE TECHNICIAN JUST FOR YOU

Each surgeon is assigned a personal MySpine technician to assist with any questions or concerns.



ACCURATE SCREW POSITIONING

The MySpine guides increase accuracy in screw positioning potentially reducing the risk of pedicle violation.



OUTSTANDING PERFORMANCE

REPRODUCIBLE SURGICAL TECHNIQUE

The MySpine technology, along with the M.U.S.T. Pedicle Screw System, leads to a more accurate screw positioning for both junior and expert surgeons[6].

SIGNIFICANT REDUCTION IN THE SURGERY TIME

Substantial results in terms of screw positioning mean time have been achieved with the MySpine technique; the overall time is reduced about 30% vs free hand technique[6].

SIGNIFICANT REDUCTION IN THE HOSPITAL STAY

From the patient side, potential reduction in the post-operative morbidity and shortened length of hospital stay[4] is a direct advantage of the MySpine technology.

COST SAVING

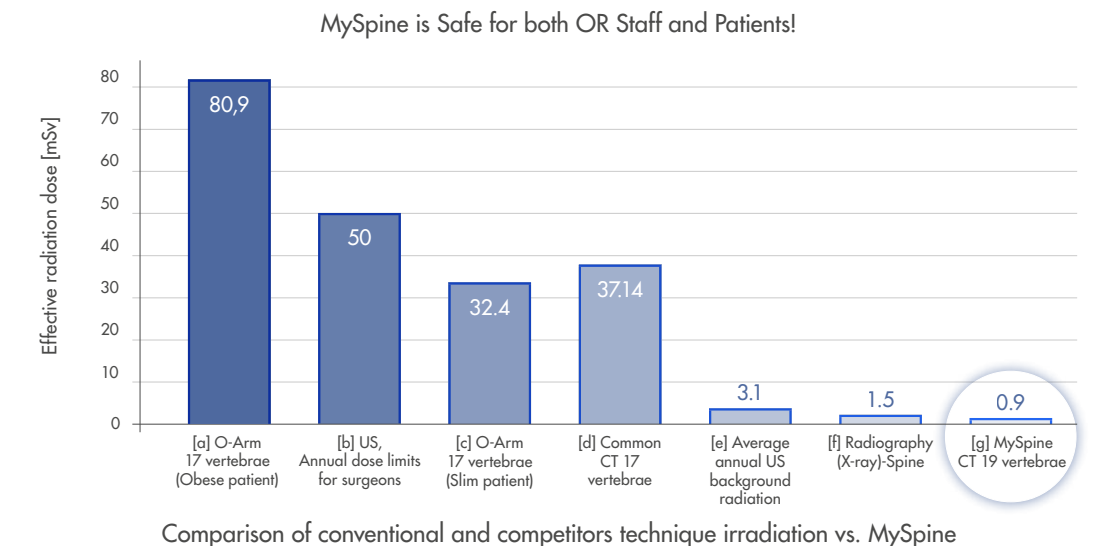
Reducing treatment costs is crucial for all hospitals. To this end, the MySpine system is a good tool to act on the following:

- Improving screw positioning may result in reducing the number of revision surgeries. Data shows that misplaced screws range from 1 to 5% of the total number[8]. A revision surgery has been calculated to cost between \$18,000 and \$28,000[8].
- Reducing surgery time. In a cadaver experiment, template-guided pedicle screw placement was measured to be faster[6]. According to the above-mentioned study, the cost of an active operative room was measured to be worth \$93 per minute. Higher accuracy can therefore be coupled with lower expenditure.
- No capital investment. Unlike navigation systems, MySpine technology does not require any capital investment.

REDUCED X-RAY DOSE

A dedicated MySpine Low Dose CT protocol has been developed in order to minimize the X-ray exposure for the patient, moreover MySpine pedicle screw placement potentially allows a reduction of intraoperative fluoroscopy without sacrificing accuracy[6].

- Low dose radiation protocol allows for dramatic dose reduction to patients compared to using C-Arm or O-Arm technologies: more than 30 times less irradiation! (c).
- Overall radiation dose per surgery is up to 50 full spine X-rays less than the free-hand technique (data on internal files)



[a] Lange et al. Estimating the effective radiation dose imparted to patients by intraoperative cone-beam computed tomography in thoracolumbar spinal surgery, Spine 2013 [b] US Nuclear Regulatory Commission's (USNRC) [c] Lange et al. Estimating the effective radiation dose imparted to patients by intraoperative cone-beam computed tomography in thoracolumbar spinal surgery, Spine 2013 [d] Biswas et al. Radiation Exposure from Musculoskeletal Computerized Tomographic Scans, JBJS Am. 2009 [e] Health Physics Society Specialists in Radiation Safety, Lawrence Berkeley National Laboratory; Fact Sheet 2010 [f] Radiation Dose in X-Ray and CT Exams; 2013 Radiological Society of North America, Inc [g] MySpine, Charité University Hospital, Berlin, Germany