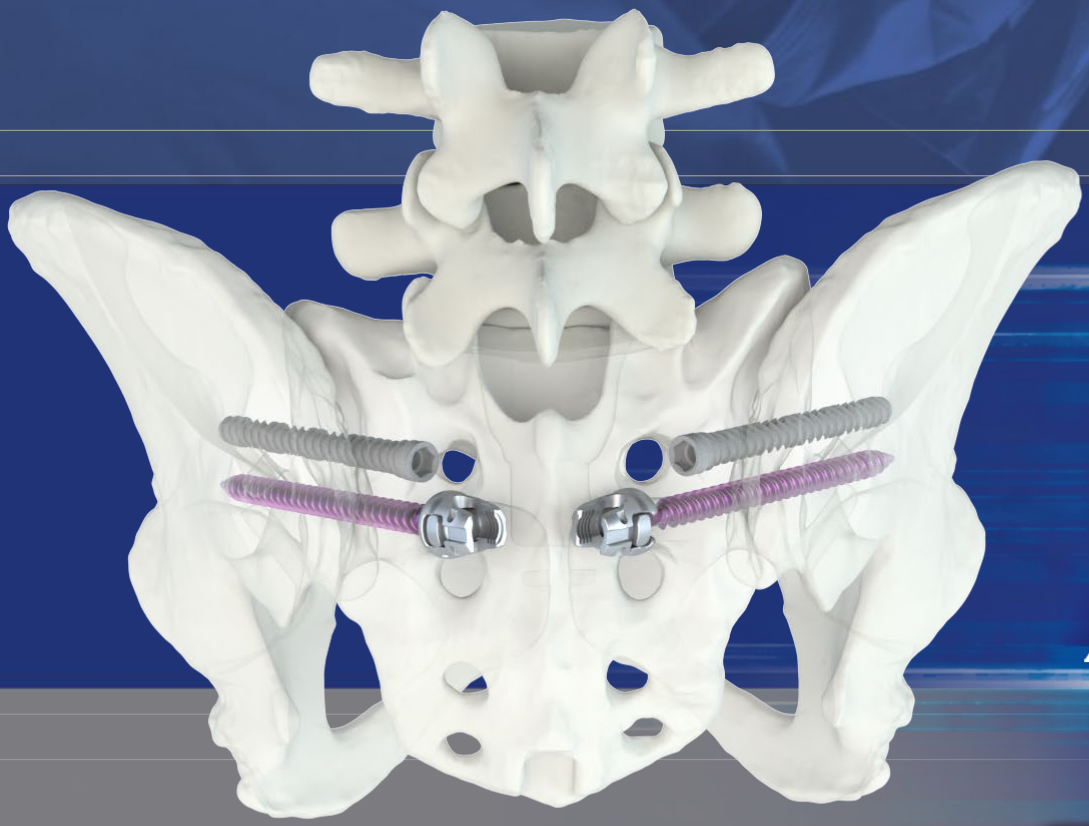
mySpine® ANCHOR

UNIQUE ANATOMIES PATIENT-MATCHED SOLUTIONS



Brochure

Joint | **Spine** | Sports Med

Medacta International

CLINICAL CHALLENGE

The distal fixation in thoracolumbar deformity surgery can be challenging for spine surgeons.

When isolated S1 pedicle screws are utilized as the sole distal fixation in long thoracolumbar posterior constructs, there is a high rate of failure, due to loosening, breakage, and pseudarthrosis.[1]

Adult spinal deformity correction surgery is a widely researched area in spine surgery because of the unique clinical and biomechanical challenges associated with these procedures. The estimated incidence of pseudarthrosis is 24% in patients with long fusions that end caudally at the sacrum.[2] A solid foundation able to resist the robust moment and load present at the lumbosacral junction may help prevent mechanical failure at the base of the construct.[3]

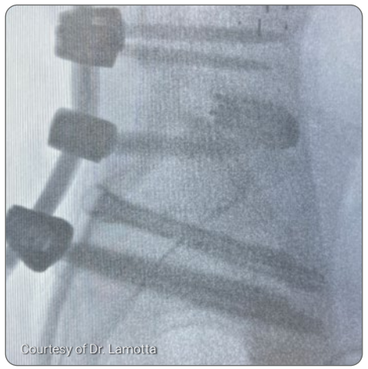
"Why would I use MySpine Anchor? The SI screw placement is really challenging and if I can do it in a safe, in a fast and in an accurate way without more dissection as I'm used to, I think I have to go for it. MySpine Anchor technology allows me to put my screws exactly in the way I planned before: they are well aligned, and that rod placement is really simple."

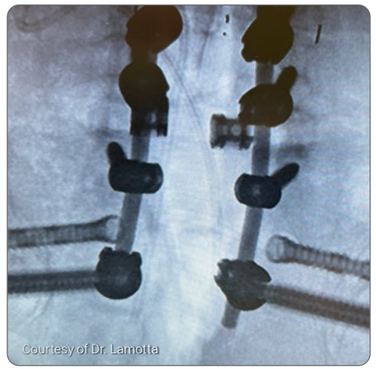
Dr. Geert Mahieu, MD

MYSPINE ANCHOR TECHNIQUE

The **MySpine Anchor** technique represents a solution to **minimize instrumentation failure** at the end of long constructs and **reduce risk of screw loosening**. This technique could provide additional stability and fusion in spinal deformities where there is a tendency of SI joint dysfunction.[3]

The stabilizing effect of S2 alar-iliac screws in combination with posterior SI fusion devices **may reduce the risk of mechanical failure of S1 pedicle screws**.[4] Divergent S2-Alar-Iliac trajectories may support a **smaller incision and less lateral retraction**.[5] The medial entry points allow for quick rod connections.

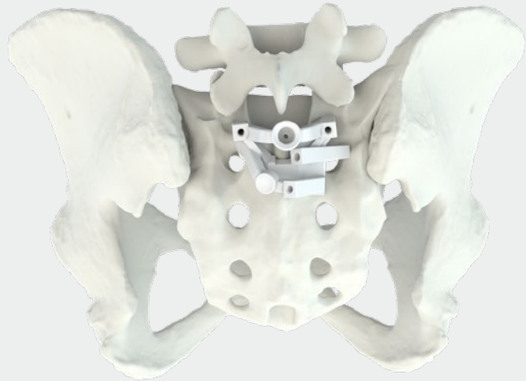


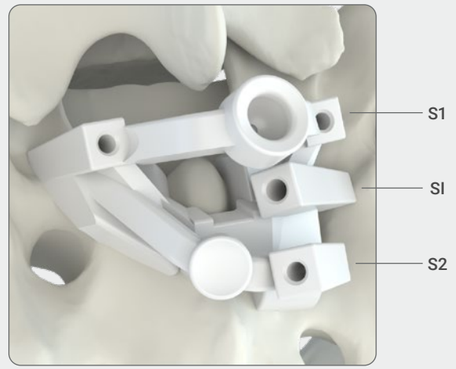


MYSPINE ANCHOR KEY FEATURES

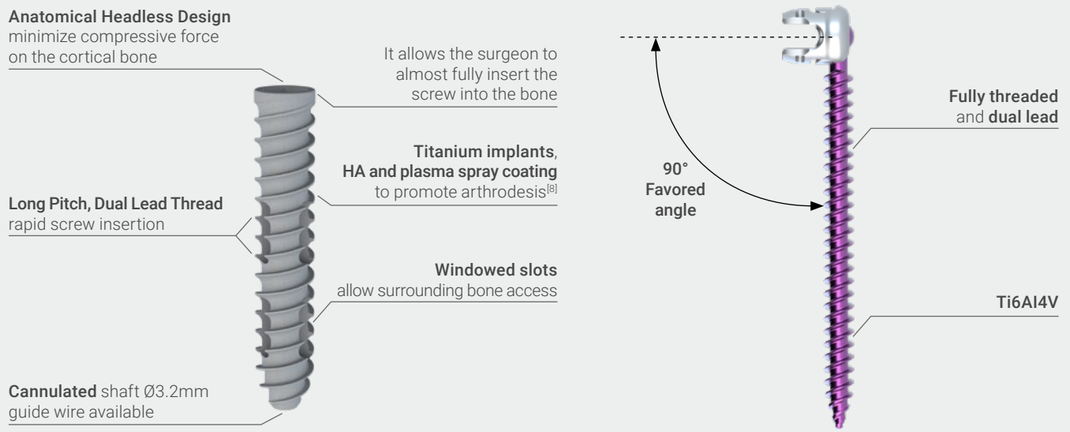
MySpine Anchor is Medacta's Patient-Matched Solution for posterior Sacro-Iliac fusion as an adjunct to thoraco-pelvic fixation. This minimally invasive solution is for long constructs designed to overcome potential insufficient lower spine fixation.

This guided technique leads to **accurate screw positioning** and potential **reduction in radiation exposure** and **surgical time**.[6,7] The all-in-one guide performs S2AI and SI pilot hole preparation without increasing operation time.

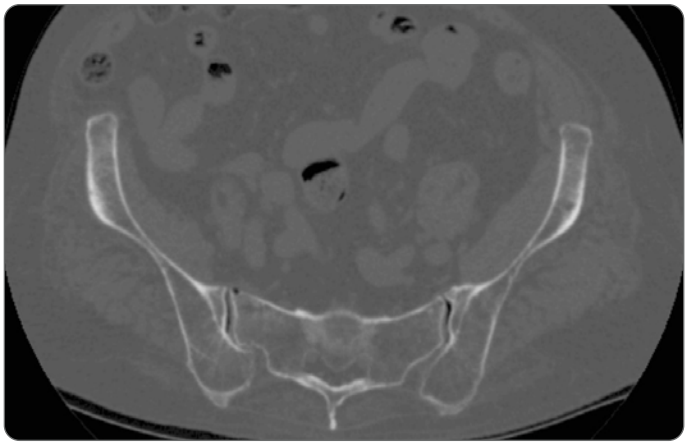




The MySpine Anchor patient specific drill guide is accompanied with the M.U.S.T. Pedicle screw system, which has a unique low- profile screw head design and is available in **8.0, 9.0, and 10.0 mm** screw sizes. This technique also accompanies the **M.U.S.T. Sacro-Iliac Headless Screw** system, which has an anatomical headless design to minimize compressive force on the cortical bone and a **hydroxyapatite rough plasma spray coating** to promote fusion.[8]

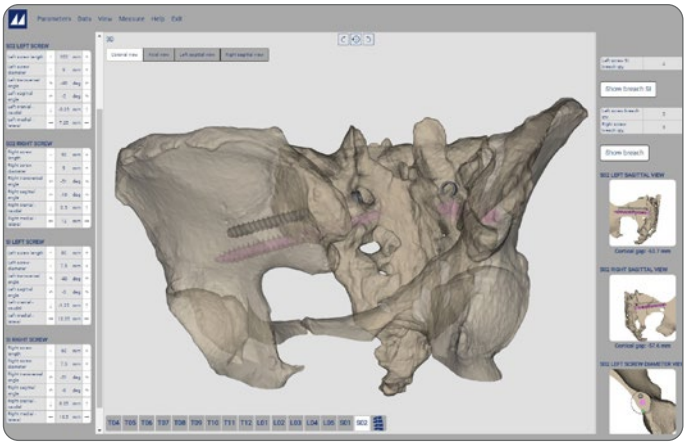


THE MYSPINE JOURNEY



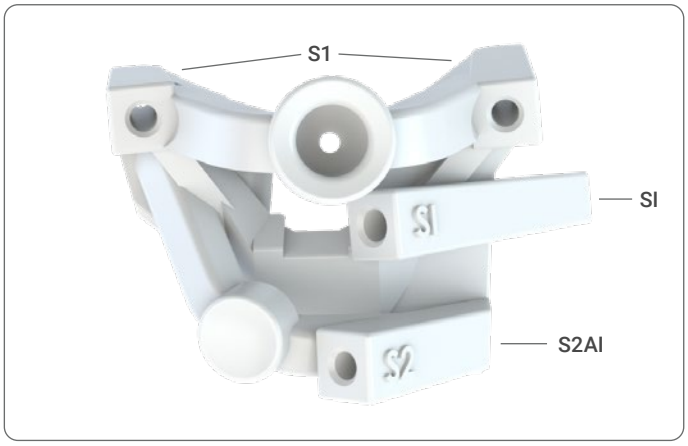
1. IMAGE ACQUISITION

Low Dose CT scan to deliver 3D reconstructed vertebrae



2. 3D PRE-OP PLAN MANAGEMENT

The surgeon defines optimal implant parameters



3. 3D PRINTING

Patient matched guides are sent to the hospital

4. PROCTORED SURGERY

An experienced surgeon will support your first cases

REFERENCES

[1] Emami A. et al., "Outcome and Complications of Long Fusions to the Sacrum in Adult Spine Deformity: Luque-Galveston, Combined Iliac and Sacral Screws, and Sacral Fixation", Spine, April 1, 2002.
[2] Kim YJ, Bridwell KH, Lenke LG, et al. Pseudarthrosis in long adult spinal deformity instrumentation and fusion to the sacrum: prevalence and risk factor analysis of 144 cases. Spine (Phila Pa 1976). 2006; 31(20): 2329–2336.
[3] Kebaish KM. Sacropelvic fixation: techniques and complications. Spine (Phila Pa 1976). 2010; 35(25): 2245–2251.
[4] Casaroli et al. "Evaluation of iliac screw, S2 alar-iliac screw and laterally placed triangular titanium implants for sacropelvic fixation in combination with posterior lumbar instrumentation: a finite element study". European Spine Journal (2019) 28:1724–1732. https://doi.org/10.1007/s00586-019-06006-0.
[5] S.M.Krieg et al. "Revision by S2-alar-iliac instrumentation reduces caudal screw loosening while improving sacroiliac joint pain—a group comparison study". Neurosurgical Review (2021) 44:2145–2151.
[6] Ai-Min Wu et al. "The technique of S2-alar-iliac screw fixation: a literature review". http://amj.amegroups.com/article/view/4197/4924.
[7] Matsukawa K. et al., Cortical pedicle screw trajectory technique using 3D printed patient-specific-guide, M.O.R.E. Journal, September 2018.
[8] Strnad Z., Strnad J., HYPERLINK "https://www.researchgate.net/profile/Ctibor-Povysil" Povýsil C., Effect of Plasma-Sprayed Hydroxyapatite Coating on the Osteoconductivity of Commercially Pure Titanium Implants. HYPERLINK "https://www.researchgate.net/journal/The-International-journal-of-oral-maxillofacial-implants-1942-4434" The International journal of oral & maxillofacial implants. July 2000; 15(4):483-90.

Medacta International
Strada Regina, 34 - 6874 Castel San Pietro - Switzerland
Phone +41 91 696 60 60 - Fax + 41 91 696 60 66
Info@medacta.ch - www.medacta.com

Medacta USA
6640 Carothers Pkwy - Franklin, TN 37067
Phone +1 866 830 1063 / +1 615 622 4715 - Fax +1 312 896 9138
info@medacta.us.com

MySpine® Anchor Leaflet
ref: 99.MY46AN.11US
rev.00
Last update: August 2022

swiss made