



COMPARED TO conventional C-arms, the main difference of SIREMOBIL Iso-C^{3D} is its isocentric design, coupled with a motorized orbital rotation through 190° and 3D imaging software. An isotropic dataset in the isocenter is immediately available after the data acquisition for online MPR reconstructions and postprocessing.

When the World is 3D, Why Stay 2D in the OR?

3D imaging in the OR improves patient care. Moreover, numerous customers report that it also improves their clinical workflow. The result: increased quality at decreased costs.

By Dr. Axel Hebecker

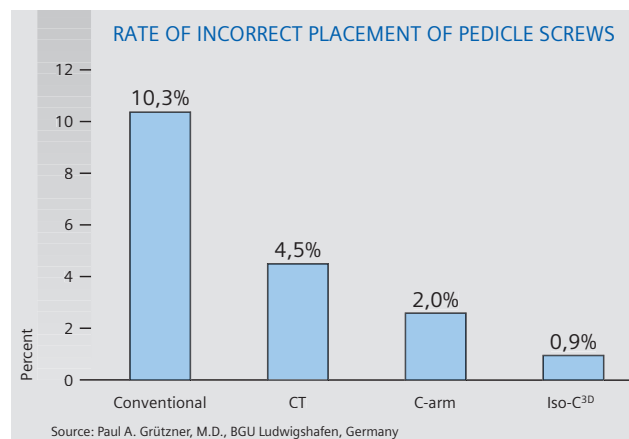
In orthopedic and trauma surgery it is important to verify the replacement of dislocated fracture fragments, the reconstruction of glenoid surfaces and the positioning of osteosynthetic material. Mispositioning of screws within a joint, for example, can result in complications such as painful, posttrauma arthroses. And preventing such complications can obliterate the otherwise necessary surgical intervention.

As the world's first mobile 3D C-arm, the syngo speaking SIREMOBIL Iso-C^{3D} delivers multiplanar, three-dimensional, CT-like images in as little as one minute. During surgery, screw positions can be directly confirmed in the OR and adjusted if necessary, before completion of the case. The benefits of this latest imaging technology: safer interventions, improved clinical workflow and better economics.

"We have found that image-guided 3D navigation with SIREMOBIL Iso-C^{3D} provides more predictable screw placement and allows for immediate verification of the construct, anatomy and decompression. We believe that this will provide benefits to the patients, to the treating physicians and to the hospitals with regards to improved safety, efficacy,

accuracy and cost," says Larry T. Khoo, surgeon at the UCLA Comprehensive Spine Center in Los Angeles.

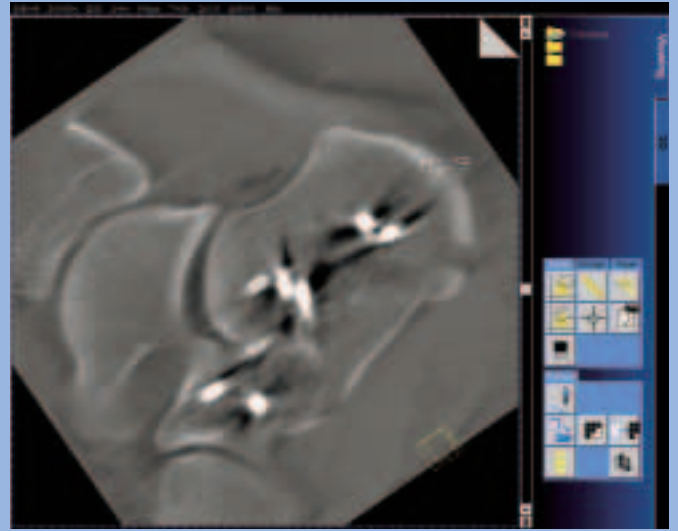
The C-arm is ideally suited to minimally invasive orthopedic and trauma surgery.



WITH SIREMOBIL Iso-C^{3D} navigation, the rate of incorrect placement of pedicle screws on the spine was reduced up to 90 percent, as compared to the conventional approach and other computer-assisted procedures like CT-based navigation or C-arm-based 2D navigation.



WITH CONVENTIONAL intraoperative fluoroscopy, a calcaneus dislocation after osteosynthesis was not recognized, because it can be seen only at a certain projection angle.



THE INTRAOPERATIVE 3D image generated by SIREMOBIL Iso-C^{3D}, however, clearly showed the calcaneus as being tilted to the talus.

»» SIREMOBIL Iso-C^{3D} allows intraoperative 3D imaging of osseous structures without increasing costs. This enables a direct check of the reconstructive surgery, allowing the physician to react intraoperatively. ««

Paul Alfred Grützner, MD, BGU Ludwigshafen, Germany

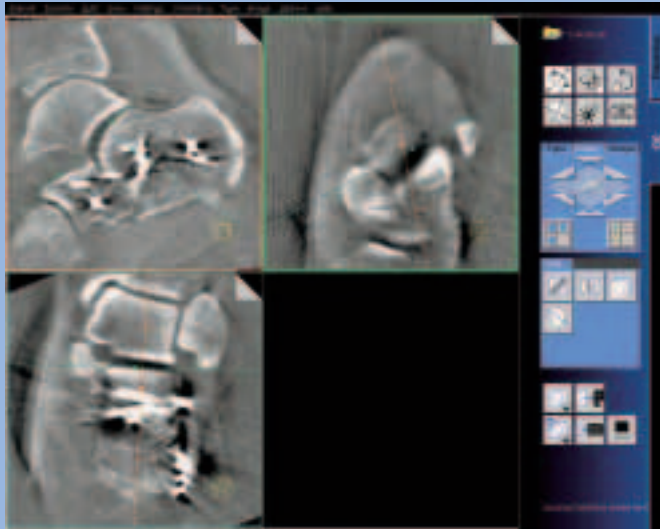
Thanks to NaviLink, the direct 3D-navigation interface, 3D intraoperative imaging data can be combined with high-accuracy surgical navigation for true real-time image guidance of the surgical instruments.

“NaviLink allows direct transfer of the 3D images generated by SIREMOBIL Iso-C^{3D} to the navigation system. The potential results are high accuracy and excellent screw placement even in the most problematic situations. Accurate insertion of pedicle screws can now be easier even under difficult circumstances like severe osteoporosis, revision cases or in

difficult anatomical regions like the cervico-thoracic junction, the upper thoracic and cervical spine,” explains Ekkehard Fritsch M.D., of the Orthopedic University Hospital in Germany’s Homburg/Saar.

What It All Leads to: Quality Up, Costs Down

Numerous successful installations worldwide of SIREMOBIL Iso-C^{3D} have proven its value to safety and quality in the OR. One striking example comes from a clinical study performed by Paul Alfred Grützner et al. at the



THE POSTOPERATIVE 3D control scan showed the repositioned calcaneus after intraoperative correction.

» SIREMOBIL Iso-C^{3D} leads to cost reduction and reimbursement increase by improving quality and safety of the intervention. «

Florian Gebhard, M.D.,
University Hospital Ulm,
Germany



BGU Ludwigshafen, Germany, showing a reduction of incorrect pedicle screw placement by up to 90 percent. (electromedica 1, 2003, pp. 58 – 67).

The outcomes of the unique 3D imaging capabilities of SIREMOBIL Iso-C^{3D} automatically lead to significant economic benefits.

Given a young patient without any other essential illnesses and a surgery without complications, the reimbursement according to German DRG (Diagnostic Related Groups) 2004 is € 4,639 for an intra-articular tibia head fracture and € 3,256 for a calcaneus fracture. By preventing re-operations with the use of SIREMOBIL Iso-C^{3D}, Florian Gebhard and his colleagues at the University Hospital of Ulm, Germany found they could save a minimum of € 1,500 per case. An additional reoperation would take away 32 to 46 percent of their reimbursement. Plus, by reducing the number of reoperations, the hospital has more capacity for newly reimbursed cases. "Overall SIREMOBIL Iso-C^{3D} leads to cost reduction and reimbursement increases by improving quality and safety of the intervention," says Florian Gebhard.

University Hospital Ulm, Germany

SURGICAL PROCEDURE	TIBIA HEAD FRACTURE DRG I13D	CALCANEUS FRACTURE DRG I20Z
CURRENT BASE RATE (UNIVERSITY HOSPITAL OF ULM)	€ 3,292.29	€ 3,292.29
RELATIVE WEIGHT (DRG)	1.409	0.989
REIMBURSEMENT	€ 4,638.84	€ 3,256.07
MINIMUM COST PER REOPERATION	€ 1,501.30	€ 1,501.30
MINIMUM PERCENTAGE OF REOPERATION COSTS PER CASE	32.4%	46.1%