



## Medicrea Presents Patient-Specific UNiD™ Rod Clinical Results Showing Very Significant Reduction in Rod Breakage

**Lyon and New York, October 2, 2017** - The Medicrea Group (Euronext Growth Paris: FR0004178572 - ALMED), pioneering the convergence of healthcare IT and next-generation, outcome-centered device design and manufacturing with UNiD™ ASI technology, announced today the results of a new White Paper titled *Patient-Specific Rods show a reduction in rod breakage incidence*. The paper shows that, relative to manually bent rods, patient-specific rods generated using Medicrea’s UNiD ASI technology significantly reduce the incidence of postoperative rod breakage in adult complex spine surgical cases.

The study, authored by an international group of 11 complex spine surgeons from the U.S. and France, reviews a cohort of more than 450 Adult Spinal Deformity (ASD) patients with at least 1 year from the surgical implantation of patient-specific UNiD™ Rods, generated by Medicrea’s UNiD ASI™ systems-based technology for personalized spinal care. This cohort includes more than 120 patients who additionally had pedicle subtraction osteotomy (PSO) performed.

The White Paper demonstrates the rate of rod fracture is considerably less in ASD patients implanted with UNiD™ Rods, when compared to current literature, especially in those having undergone PSO. With a UNiD™ Rod, breakage was detected in 2.2% of all ASD patients and in 4.7% of cases with a PSO performed. These rates decrease further when you remove patient-specific rods that were adjusted during the operation. In the current literature involving non-personalized spinal implants, overall rod breakage incidence is reported as high as 14.9% of patients following ASD surgery [3-5]. When a PSO is performed, the rod fracture rate increases up to 22% and in these cases, 90% of failure is found to occur at, or adjacent to, the PSO level [3-4]. Furthermore, the time to failure is most often seen to occur within 10 months after surgery.

Rod Fracture Incidence	ASD Patients	ASD Patients with PSO	ASD Patients with no manual rod bending	ASD Patients with PSO and no manual rod bending
Standard Rod	14.9%	22.0%	--	--
Patient-Specific UNiD™ Rod	2.2%	4.7%	1.8%	3.1%
Fracture Reduction with UNiD™ Rod	-85%	-79%	-88%	-86%

Adult Spinal Deformity surgery is increasingly prevalent in an aging population and poses particular challenges with high complication rates that can lead to revision surgery in a reported 16.5% of cases [1] at a substantial cost to the healthcare system found to total around \$80,000 per surgery [2]. Thus, avoiding revision surgery can provide a significant savings to the health care system.

Dr. Themistocles Protopsaltis, of NYU Langone Medical Center and co-author of the White Paper, stated, “This review demonstrates that utilizing digitally planned, patient specific UNiD™ Rods which avoids manual rod contouring has a major impact on rod fracture incidence in the treatment of Adult Spinal Deformity. This is important because rod breakage leads to revision surgery at significant cost to the patient, hospital and payer.” Dr. Protopsaltis continued, “Adopting an iterative, data-based approach that is shown to make spinal surgery more efficient can change a surgeon’s practice, making UNiD ASI™ a true advance in our standard of care.”

Denys Sournac, President and CEO of Medicrea, stated, “These results highlight how our proprietary UNiD system can improve both clinical and economic outcomes in spine surgery. We will continue to follow these cases and add to our growing database of more than 1,700 cases. The advanced data science built into our recently FDA-cleared UNiD HUB™ software allows Medicrea to perform advanced surgical simulations as we further harness the power of big data to plan the optimal surgical strategy and design implants adapted to the specific requirements of each patient and surgeon.”

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To receive a pdf of *Patient-Specific Rods show a reduction in rod breakage incidence* please contact [clinicalstudy@medicrea.com](mailto:clinicalstudy@medicrea.com).

## References

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## About Medicrea ([www.Medicrea.com](http://www.Medicrea.com))

Through the lens of predictive medicine, Medicrea leads the design, integrated manufacture, and distribution of 30+ FDA approved spinal implant technologies that have been utilized in over 150,000 spinal surgeries to date. By leveraging its proprietary software analysis tools with big data and machine learning technologies and supported by an expansive collection of clinical and scientific data, Medicrea is well-placed to streamline the efficiency of spinal care, reduce procedural complications and limit time spent in the operating room.

Operating in a \$10 billion marketplace, Medicrea is a Small and Medium sized Enterprise (SME) with 175 employees worldwide, which includes 50 who are based in the U.S. The Company has an ultra-modern manufacturing facility in Lyon, France housing the development and production of 3D-printed titanium patient-specific implants.

For further information, please visit: [Medicrea.com](http://Medicrea.com).

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