

A WORLDWIDE FIRST**REVINAX INTRODUCES MIXED REALITY IN THE OR**

The Revinax team has achieved a worldwide breakthrough by introducing mixed reality during live surgery. The surgical procedure was performed successfully on November 7th, 2017 under the guidance of Dr. Lonjon, a neurosurgeon from the Montpellier University Hospital in France. During the procedure, the surgical team was equipped with HoloLens glasses, which provided extra information throughout the surgery.

A worldwide breakthrough in surgical training

The Revinax team has just added a worldwide first to their track record. They've combined their real-life virtual reality tools with the Microsoft HoloLens to create a mixed reality environment in the operating theatre. The system was used during a standard spinal osteosynthesis procedure at the University Hospital of Montpellier in France. Wearing HoloLens glasses, the surgeon operated under the usual conditions, without additional constraints. When he raised his head, however, he had direct access to a 3D video of a similar surgery, performed earlier by his tutor, Dr. Lonjon. During the procedure, the surgeon was also able to consult patient imagery and have all relevant information within view. The operation was carried out successfully and the team's enthusiasm may well be an indication that Revinax has just achieved a major breakthrough in surgical training and guidance.



"This is the perfect tool for any surgery. As a teaching surgeon, I can create my own tutorials to deliver them to students before and, now also, during surgery. They can use the tutorial as a reminder during the operation. The patient imagery and planning feature also avoids unnecessary distractions: we now no longer need to check these data on the computer during the operation."

Dr. Nicolas LONJON, neurosurgeon and teacher at the Montpellier University Hospital

Mixed Reality to improve access to surgical training

Every day, a large number of medical innovations (operative techniques, medical devices) are launched on the market and surgeons often struggle to keep their knowledge up to date [1]. Even though new teaching techniques are gaining momentum, demonstrations are still the most common method for surgeons to continue their medical education [2]. However, this approach requires surgeons to visit an expert in the field or attend symposia [3]. Both students and teachers are expected to travel, which can be very costly and time-consuming. Moreover, during demonstrations, only the performing surgeon has a clear view of the operating site. Students watch everything from a certain distance, which implies that they don't see the operation from the same perspective and with the same precision as the surgeon. As a consequence, high-precision, minute gestures may be missed, which may negatively impact training outcome.

“When it comes to surgery, a certain amount of “watch and learn” will always be necessary. Virtual reality and mixed reality provide new opportunities to efficiently train surgeons by giving them a direct view of the operating site. Students can now observe the entire procedure from the perspective of the performing surgeon.”

Dr. Maxime Ros, neurosurgeon and co-founder of Revinax



[1] J. Tapia Jurado, Retos de la cirugía en el siglo XXI, 85 2017:1

[2] Nilsson et al, BMC Medical Education, 10:9 2010:6.

[3] S.E. Nissen, Reforming the Continuing Medical Education System. JAMA. 313:18 2015:1813

ABOUT REVINAX

Revinax was founded in 2015 in Montpellier (France) by neurosurgeon Dr. Maxime Ros and business strategist, Jean-Vincent Trives. The company combines pedagogical expertise and technical know-how in virtual and mixed reality to create high-quality immersive training tutorials. For more information about Revinax: <http://www.revinax.net> or visit our [press corner](#).