

GOOD PRACTICE: VR is driving a revolution in surgery

Region: Cantabria

Interreg Europe projects Participation: DEVISE/DIGITAL REGIONS



Organisation: Virtual Hospital Valdecilla, a center leader at European level in the use of clinical simulation as a training methodology and in the promotion of innovation, research and the use of innovative technologies as key tools to improve patient safety and increase professional skills.

Summary: Emerging technologies are currently transforming the paradigm in Healthcare. One example is the application of VR to surgery. Surgical techniques require a deep understanding of anatomy and procedures for each specific patient. VR allows surgical team to personalize the planning prior to the operation. Hospital Universitario Marqués de Valdecilla and Hospital virtual Valdecilla both in Santander, Cantabria, Spain have developed a platform to transform patient CT/MRI into a VR experience. It gives surgical team the opportunity to plan complex procedures before the event.

Description: It is necessary to find innovative ways of surgical planning that allow the surgical team to understand the anatomy that will be found in the operating room in order to reduce uncertainty and improve the quality and safety of the patient.

In order to understand the surgical case in a greater depth, the Surgery Department requested a 3D / VR study to the VR surgical planning laboratory at Hospital virtual Valdecilla. Once the engineers created the VR model, the surgical team was able to visualize and navigate inside the complex tumor, walk around the liver organ in search of the best angle and direction of entry and understand anatomical relations in the VR lab facilities at HvV. During VR planning, the surgical team was able to discuss and map the procedure prior to the surgery. The dilemma between open surgery vs. minimally invasive surgery was solved after the VR experience.

Other COVID 19 Projects: Training activities, 3Dprinting techniques for swabs (clinical specimens), personal and medical protection materials, medical respirators.

Further information: <https://www.hvvaldecilla.es/proyectos/>
https://www.youtube.com/watch?v=OTOLlacf5C4&feature=emb_logo
<https://www.youtube.com/watch?v=ho9AjwZhDHg>

