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WHAT IS THE FUTURE OF MINIMALLY INVASIVE SINUS SURGERY: COMPUTER ASSISTED NAVIGATION, 3D-SURGICAL PLANNER OR AUGMENTED REALITY IN THE OPERATING ROOM WITH CONTACTLESS 'IN THE AIR' SURGEON'S COMMANDS?

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The use of modern technologies in head and neck surgery in the last 30 years (e.g., FESS, NESS, and robotic surgery) has enabled surgeons to demonstrate spatial anatomic elements in the operating field, which was quite inconceivable before. Simultaneous use of video image, 3D-forms of anatomic fields, navigation in space and since recently the use of robots in surgery certainly provides higher intraoperative safety and reduces operating time, as well as the length of patient postoperative recovery. In this work, we were focused on development of personal-3D-navigation system and application of augmented reality in the operating room, management of image 2D-3D-video-medical documentation (virtual endoscopy), and control marker-based virtual reality simulation in real time during real operation with per viam contactless 'in the air' surgeon's commands. This approach has not yet been used in rhinosinusology or otorhinolaryngology, and to our knowledge, not even in general surgery (http://www.poliklinika-klapan.com/en/image-gallery).

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