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DO WE REALLY HAVE A NEW INNOVATIVE NAVIGATION NON-INVASIVE TOUCHLESS GESTURE-BASED INTERACTION TOOL IN IMAGE-GUIDED (VIRTUAL) SINUS SURGERY IN OTORHINOLARYNGOLOGY?

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The navigation-Leap Motion-virtual endoscopy and virtual surgery suggests that real and virtual objects definitely need to be integrated[1] by use of real 'in the air'[9,10] control with simulation of virtual activities that requires real-time visualization of 3D-virtual endoscopy motions, following the action of the surgeon that may be moving in the virtual reality area. It is achievable with simple hand gestures of the surgeon, which do not differ in any way from all other natural everyday hand or body movements. In this way, the surgeon can predict the course of the surgery[6]. He 'travels' through the virtual space[3], 'plays' without additional body, head and/or hand gesture changes[2]. Simply, solely with his gaze, the surgeon coordinates his right hand movements, thus enabling, with contact free commands[7], the course of their preference or needs through the world of 3D-model[8], virtual endoscopy or virtual surgery, without stopping the endoscopic procedure in process (the endoscope is held by the left hand in the real surgery field)[4,9,10]. With this, all assumptions that the surgeon/tele surgeon is positioned in this virtual world which they entirely control but which realistically does not exist are achieved[10].

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Otolaryngol H&N Surgery(6,7,8)2002/2003/2005
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Biography

Professor Klapan graduated from Zagreb University School of Medicine. He has completed two postdoctoral studies from the same University (Clinical Immunology&Allergology, Otorhinolaryngology-Head&Neck Surgery) and his PHD (Zagreb University and Eye&Ear Institute, Pittsburgh University, PA, USA) at the age of 30 years. He is the founder/director of Klapan Medical Group University Polyclinic. He has published more than 110 papers in reputed journals; citations>450; h-index: >25; 14 medical books (7/Croatian and 7/English language; editor, author and co-autor); chaired and headed a number of international surgical courses and symposia (>400 lectures; invited lecturer/moderator/president/ USA/EU/Asia/Australia).
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