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Utilization Of 3d Medical Imaging and Touch-Free Navigation in Endoscopic Surgery: Does our Current Technologic Advancement Represent the Future Innovative Contactless Noninvasive Surgery in Rhinology? What is Next?

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Abstract

Objectives: There are many new, innovative approaches and techniques, as technological advances in the modern surgery, such as CAS, NESS and robotic surgery, but nowadays we also can use the „surgery in-the-air". We can understand this newest approach as a „contactless surgery", and as a part of adopting augmented and virtual reality for next generation of information technology and medical healthcare.

Methods: Our experience in using DICOM viewer and computer HD sensor device that supports hand and finger motions, to control the surgical system without touching anything, has definitely upgraded our understanding of the "human anatomical natural world" and enabled us to develop appropriate sensitivity and awareness of different coloration of normal and pathologic tissues in the pre/intraoperative diagnostics/surgical activities.

Results: In our experience, taking an innovative "virtual surgical ride" *per viam* top-class contactless-surgery system, through the human anatomy, is a completely nontraumatic, safe, and perfect starting point for exploring this surgical philosophy with many distinct and very pleasant anatomic neighborhoods of the human head, as we have already discussed.