



Toward the development of 3-dimensional virtual-reality video tutorials in the French neurosurgical residency program

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Résumé en anglais	<p>BACKGROUND: The present study developed 3D video tutorials with commentaries, using virtual-reality headsets (VRH). VRHs allow 3D visualization of complex anatomy from the surgeon's point of view. Students can view the surgery repeatedly without missing the essential steps, simultaneously receiving advice from a group of experts in the field.</p> <p>METHODS: A single-center prospective study assessed surgical teaching using 3D video tutorials designed for French neurosurgery and ENT residents participating in the neuro-otology lateral skull-base workshop of the French College of Neurosurgery. At the end of the session, students filled out an evaluation form with 5-point Likert scale to assess the teaching and the positive and negative points of this teaching tool.</p> <p>RESULTS: 22 residents in neurosurgery (n=17, 81.0%) and ENT (n=5) were included. 18 felt that the 3D video enhanced their understanding of the surgical approach (81.8 %). 15 (68.2%) thought the video provided good 3D visualization of anatomical structures and 20 that it enabled better understanding of anatomical relationships (90.9%). Most students had positive feelings about ease of use and their experience of the 3D video tutorial (n=14, 63.6%). 20 (90.9%) enjoyed using the video. 12 (54.5%) considered that the cadaver dissection workshop was more instructive.</p> <p>CONCLUSIONS: 3D video via a virtual reality headset is an innovative teaching tool, approved by the students themselves. A future study should evaluate its long-term contribution, so as to determine its role in specialized neurosurgery and ENT diploma courses.</p>

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