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Place of virtual simulation in Neurosurgery: a comparison between Pediatric and Adult Neurosurgery

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Introduction: The classical surgical training has to face the new constraints of reduction in working time and volume related quality. Virtual stimulation (VS) might play a role in compensating the reduced exposure of residents to the surgical theater. The purpose of this study was to compare the opinions of pediatric neurosurgery teachers and their students to the ones of American neurosurgical program directors (APD) for the role of surgical simulation.

Material: A questionnaire of 17 items was sent by individual e-mail to the faculty and the trainees of the last European Society for Pediatric Neurosurgery (ESPN) courses. The answers were compared to that of the APD reported from Ganju et al.^[1]

Results: 70% of the teachers (21/30) and 53% of trainees (65/122) answered the questionnaire. The majority of them thought that it is necessary to develop the VS: 81% of teachers and 78% for students. Both teachers and students of the ESPN prefer an integrated system with surgical instruments and force feedback. The VS could be the first step of the neurosurgical training but should not be the last according to both students and teachers of ESPN.

Thought only mild differences could be found between the faculty and the trainees of the ESPN course, their answers differ significantly from that of the APD who were favorable to VS development only at 42% and considered it at 45% as the last step before being allowed to work on patient.

Conclusion: The American program managers had a conservative view, probably attributable to the current limits of VS. Unlike them, trainees and faculty of the ESPN courses seemed very interested by the VS.

References:

¹ Ganju A, Aoun SG, Daou MR, El Ahmadieh TY, Chang A, Wang L, Hunt Batjer H, Bendok BR, The Role of Simulation in Neurosurgical Education: A Survey of 99 United States Neurosurgery Program Directors, *World Neurosurgery* (2012), doi: 10.1016/j.wneu.2012.11.066.