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AUGMENTED REALITY DYNAMIC HOLOGRAPHY FOR NEUROLOGY

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The aim of this study was to observe the impact of learning of neurology using augmented reality dynamic holography (ARDH).

Methods A cohort of 50 medical students were recruited and exposed to presentations on neurological topics such as stroke, neuronal degeneration and brain physiology following injuries.

Primary outcomes consisted of subjective metrics on education impact by (i) answering a 10-point questionnaire on a 7-point Likert scale (ii) undergoing a 5-minute semi-structured interview using thematic analysis.

Results Subjective metrics: 45 (90%) participants completed the 10-point perception questionnaire using a 7-point Likert scale. 1 being strongly disagree and 7 being strongly agree. Out of 10 questions, 6 questions had a median of 5, 3 questions had a median of 4 and only one question had a median of 3.

Semi-structured interviews Thematic analysis was conducted on semi-structured interviews. Students commented on a clear preference for the visualization of animation graphics, the use of colors, 3D dynamic motion associated to different perspective tools, a sequential approach and interaction with the holographic display.

Conclusion Dynamic holography has been applied to common neurological topics as short presentations to medical students. ARDH was well received and represents a new educational tool for teaching complex topics.