

VIRTUAL ENDOSCOPIC TOOL IN NEUROSURGERY

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The use of endoscopy in neurosurgical applications has become increasingly popular as tools become more advanced. Unfortunately due to technical limitations its use is not widespread. One limitation lies in the difficulties of the surgeon to become anatomically orientated in a two dimensional environment. Certain visual cues that are relied upon to navigate in a three dimensional environment have become a challenging task via traditional endoscopy. We describe the Intelligent Omnidirectional Neuroendoscope (ION) that is based on fundamental premises. The achievement and validation of three specific aims are described. We believe that the ION is a significant advance in endoscopic technology and will play a large role in modern micro-neurosurgical practices.