Neuromodulation techniques for disorders of cognition and behavior

Neurosurgery to modify behavior is known to have been in practice for thousands of years. It was more than likely that for the majority of this timespan the success of any such interventions were those for either space-occupying tumors or blood clots. In the 20th century, the disastrous forays into disconnecting ‘aberrant circuits’ in the brain, although initially performed with the best of intentions, set back surgical modification of behavior back to its neolithic roots. With the more recent advent of advanced imaging modalities, connectomics and methods for stimulating brain structures, neuromodulation has seen resurgence in efficacy for treating cognitive disturbance, heralding a new era of highly specific therapies for refractory neuropsychological conditions. In this talk, we will be looking at the various treatments currently available and discuss potential techniques that could prove to be revolutionary in the decades to come.

Biography
James Montgomery Barber has obtained his MBBS from University College London in 1999. He has been working in Neurosurgery since 2005, having been a Consultant in The Royal London Hospital for the past two years. His main areas of practice are neurotrauma, neuromodulation, complex CSF-flow disorders and craniofacial reconstruction. He has published the first case series in the UK of the implantation of a wireless intracranial pressure monitor.

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