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## Microelectrode recording and deep brain stimulation

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The full potential of intra operative micro electrode recording is realized during the performance of so called functional neuro surgical procedures. During these interventions, therapeutic-lesions or stimulating electrode are stereotactically placed within deep brain structures to treat movement disorders such as PD, ET, dystonia, affective disorders, and chronic neuropathic pain. Intra-operative neurophysiology during these cases don't monitor surgical activity, it guides it. Inter-operative recording and stimulation techniques have been developed to aid target localization. Micro-electrode recording (MER) is a neurophysiological technique that detect and amplifies the activity of individual single neural units. The Food and Drug Administration (FDA) approved deep brain stimulation (DBS) as a treatment for Parkinson's disease in 2002. DBS does not cure PD, but it can help manage some of its symptoms and subsequently improve the patient's quality of life. At present, the procedure is used only for patients whose symptoms cannot be adequately controlled with medications, or whose medications have severe side effects. STN Anatomical Targeting by MER (Videos). Stimulation side effects during the operative procedures are important to evaluate the target. Safety of DBS greatly depends on the quality of the instruments. The method of stereotactic planning depends on the experience of the surgical and neurophysiology team. Complication of DBS can occur during placement of the electrode, infection or reaction to the electrode, and breakage of the device.

## Biography

Amal Abdullah Mokeem is a Consultant Clinical Neurophysiologist at King Faisal Specialist Hospital and Research Centre, Saudi Arabia. She has been in the Arab Board – Dec 2003 and Saudi Board – Feb 2004. She has done Pediatric Neurology Fellowship at King Faisal Specialist Hospital & Research Centre, Riyadh, Saudi Arabia during 2004-2006, at British Columbia's Children's Hospital, Canada during 2006-2007, Clinical Neurophysiology EEG Fellowship at British Columbia's Children's Hospital, Canada during 2007-2008, Clinical Neurophysiology Intraoperative Neurophysiology Monitoring (IOM) Fellowship at Vancouver General Hospital, Canada (2008-2009) and Neurophysiology and Deep Brain Stimulation Fellowship at Lahey Clinic/Tufts University, USA (2009-2010). She is having 2 Publications and gave more than 10 International Presentations.

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