



ISPN 2024 Post-Congress Course 2:

Deep brain stimulation in the pediatric population: Case-based decision-making, surgical techniques and future perspectives

Date: Thursday, October 17, 2024

Time: 08:00 - 12:30

Course Co-Directors: George Ibrahim (Toronto), Jeffrey Raskin (Chicago)

Faculty/Speakers:

Carolina Gorodetsky (Toronto):	Pathway for medical and surgical management of dystonia in children
Jeffrey Raskin (Chicago):	Surgical decision-making in the management of spasticity and mixed tone in children with cerebral palsy: when to choose DBS, SDR, ventral rhizotomy or ITB
Jeffrey Raskin & Alex Weil & Aria Fallah & George Ibrahim:	<u>Case discussion and video presentation:</u> Surgical techniques, targeting and nuances in children
Aria Fallah (UCLA) & Alex Weil (Montreal):	RNS and DBS in the management of drug-resistant epilepsy: Indications, targets and surgical nuances
George Ibrahim (Toronto):	Future avenues of neuromodulation for neurodevelopmental disorders in children

Course Description:

The field of pediatric functional neurosurgery is rapidly growing and evolving. Deep brain stimulation (DBS) remains underutilized in children with movement disorders and hypertonia. Despite off-label indications, with growing experience, DBS and responsive neurostimulation (RNS) are emerging as important tools for the treatment of epilepsy in children. Furthermore, the ability to modulate neural circuitry holds tremendous potential for the treatment of multiple neurodevelopmental disorders of childhood. The current work will utilize a case-based approach to discuss decision-making for DBS in children with hypertonia & movement disorders, epilepsy and neurodevelopmental disorders. Nuances of DBS (and other select functional neurosurgical procedures) in pediatric populations will be emphasized through an expert panel discussion.

Course Objectives:

1. To explain a rational pathway for management of subclasses of dystonia in children
2. To describe the role of DBS in children with dystonia and other movement disorders
3. To understand nuances of surgical technique of DBS and targeting in children
4. To describe decision-making algorithms for DBS, SDR, ITB and ventral rhizotomy in children with cerebral palsy
5. To review off-label use of DBS and RNS in childhood epilepsy
6. To appreciate novel and emerging indications for neuromodulation for neurodevelopmental disorders of childhood