

UW MEDICINE / FUNCTIONAL AND RESTORATIVE NEUROSURGERY PROGRAM



The Functional and Restorative Neurosurgery Program at the UW Medicine Neurosciences Institute employs Deep Brain Stimulation (DBS), lesion surgery and other innovative technologies to treat patients with movement disorders such as Parkinson's disease, essential tremor, dystonia (abnormal movement) and other complex neurological conditions affecting movement. Our team takes a multidisciplinary approach to preoperative evaluation for diagnosis and treatment planning, as well as postoperative management of therapies.

Our services

The Functional and Restorative Neurosurgery Program offers innovative treatments to help patients with movement disorders improve their quality of life by addressing some of their symptoms.

- Medical and surgical management of movement disorders
- Procedure planning using high-resolution MR imaging
- Preoperative evaluation and postoperative management
- Asleep implantation of DBS system with intraoperative imaging
- Awake implantation of DBS system with intraoperative imaging
- Clinical trials in patient-responsive Deep Brain Stimulation

As part of the UW Medicine health system, the program also enables patients to access the latest in research discoveries and clinical innovations. We offer consultations and treatment at the Neurological Surgery Clinic at the UW Medical Center.

(over)



For more information about the UW Medicine Functional and Restorative Neurosurgery Program, please visit uwmedicine.org/health-library/Pages/deep-brain-stimulation-dbs.aspx. For an appointment or to refer a patient, call the UW Medicine Contact Center at 206.520.5000.

Multidisciplinary care

Once referred to the Functional and Restorative Neurosurgery Program, patients will be evaluated by our multidisciplinary team, which is led by a neurosurgeon. At that time, the team may schedule further evaluation with a neuropsychologist, neurophysiologist, physical therapist and/or the Movement Disorders neurology team. Our surgical approach combines proven approaches with technological innovation to provide patient-centric, multidisciplinary care that acknowledges the complexity of treating movement disorders.



How DBS works

The symptoms of diseases such as Parkinson's disease, essential tremor and dystonia are caused by abnormal communication between nerve cells. Deep brain stimulation delivers an electrical current to small areas of brain tissue near the brainstem. This electrical current changes, or modulates, the communication between nerve cells in the brain. By silencing this abnormal communication, DBS can effectively improve symptoms of movement disorders, such as slowness of movement, stiffness or tremor.

Key technologies

The UW Functional and Restorative Neurosurgery Program offers a comprehensive set of the most current imaging technologies and Deep Brain Stimulation procedure techniques. Here is just a sampling of some of the technology that our team relies upon to maximize patient comfort and ensure optimal outcomes.

- High-field MRI with diffusion tensor imaging, and customized software for use in tractography (a 3-D modeling technique) and operative planning
- Intraoperative CT
- Microelectrode recording
- Patient-responsive DBS (in development)