

Patient Selection Criteria

Deep Brain Stimulation for Essential Tremor

Essential (familial) tremor is a common neurological condition and the most common cause of postural or action tremor. Deep brain stimulation of the ventral intermediate nucleus of the thalamus (VIM) is an effective way to treat this form of tremor.

Which patients should consider DBS for essential tremor?

DBS therapy should be considered for patients whose tremor does not respond to traditional pharmacologic therapy such as propranolol or pyrimidine. It should also be considered if patients are unable to tolerate therapeutic doses of anti-tremor medications due to side effects.

Diagnostic criteria

- Clear diagnosis of essential (familial) tremor. Higher-amplitude cerebellar-type tremors, specifically tremors caused by ischemic disease or demyelination, are unlikely to respond.
- Essential tremor that is no longer well controlled with medications, or patient cannot tolerate therapeutic doses. Tremor that causes significant functional disability, e.g., interferes with activities of daily living like feeding, drinking, writing, interferes with work, etc.
- Neuropsychological testing is not required, but may be requested for patients with essential tremor and cognitive concerns.

Surgery and anesthesia risks

- Patients must be cleared for general anesthesia.
- No anticoagulation or aspirin therapy for a limited time before the procedure.

Specific risks of DBS

- Procedural complications – such as infection, coma, intracranial hemorrhage, seizures, paralysis, cerebral spinal fluid leakage and weakness.
- Complications of implanted device – infection, system migration and skin erosion and device failure.
- Speech and language impairments.

Contraindications

Deep brain stimulation is contraindicated in the following situations:

- Patient will be exposed to full-body MRI or certain head and chest MRI scans.
- Brain lesions, such as ischemic disease at the target, demyelinating plaques or tumor.
- Certain comorbidities, including serious cardiac disease and uncontrolled hypertension.
- Pregnancy.

Refer a patient for DBS evaluation

To refer a patient or consult with our movement disorders team, please call the OHSU Physician Consult & Referral Service at **800 245-6478** or fax **503 346-6854**.