

For more information

PROVIDERS

To refer a patient for consultation, please contact our Physician Referral Center at 800-4-UCDAVIS (800-482-3284) or submit online at health.ucdavis.edu/referrals.

PATIENTS

For more information, please have your neurologist or primary care provider submit a referral through the number or website above, or you may call 916-734-6797, 916-734-6282 or 916-734-6285 for assistance. You can also visit our website at deepbrainstimulation.ucdavis.edu.

UCDAVIS HEALTH

Deep Brain Stimulation Program

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Deep Brain Stimulation Program

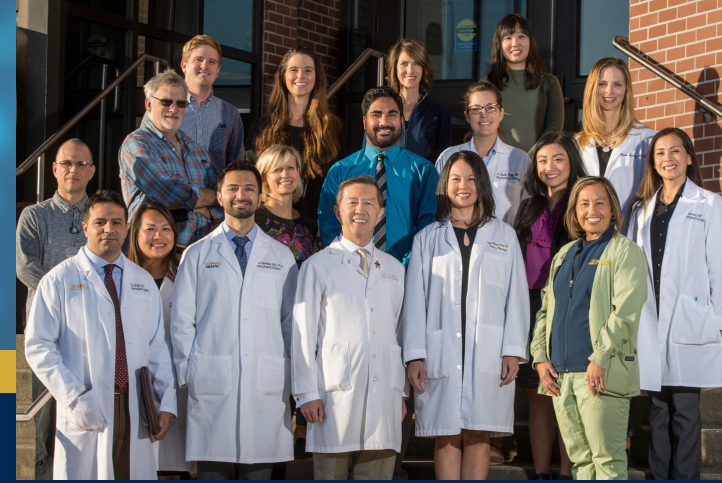
deepbrainstimulation.ucdavis.edu

 UC Davis Deep Brain Stimulation Program

HS-DBS@ucdavis.edu

Departments of
Neurology and
Neurological Surgery

Deep brain stimulation is designed to help patients maintain quality of life and avoid debilitating symptoms through use of a surgically implanted, adjustable brain pacemaker.



Deep Brain Stimulation

Deep Brain Stimulation

Deep brain stimulation (DBS) addresses certain neurological and psychiatric symptoms such as:

- 🧠 Tremor
- 🧠 Rigidity/stiffness
- 🧠 Slowed movement
- 🧠 Dystonia
- 🧠 Seizures
- 🧠 Obsessions and Compulsions

A neurostimulator – a battery-operated device similar to a heart pacemaker – delivers constant electrical stimulation to specific targets in the brain. Impulses from the device block electrical signals that cause abnormal symptoms, giving patients the benefit of treatment without the fluctuating symptoms and adverse side effects of medication.

Depending on symptoms, patients may have the stimulator implanted on one or both sides of the brain to help improve quality of life. It is important to note that DBS suppresses symptoms; it does not alter the disease path.

Approved Conditions and Use

DBS is currently FDA-approved to treat symptoms of Parkinson's Disease, Essential Tremor and Epilepsy. Dystonia and Obsessive Compulsive Disorder (OCD) are also approved under a FDA Humanitarian Device Exemption.

Studies on the effectiveness of DBS in minimizing symptoms of other neurological and psychiatric disorders are underway.

DBS is not suitable for patients with dementia or unresolved psychotic symptoms as it may produce a worsening of cognitive symptoms. Patients with uncontrolled high blood pressure, bleeding tendencies, severe brain atrophy or MRI evidence of large vessel ischemia are not candidates for DBS as these conditions may increase the risk of stroke or other cerebrovascular accident.

Minimally Invasive Procedure

Surgery for DBS uses the latest minimally invasive techniques, which can reduce the risk of complications, facilitate faster recovery times and result in less discomfort compared to traditional open surgery.

The three-part DBS system includes:

- 🧠 One or two leads (electrodes), implanted in the brain
- 🧠 One or two neurostimulators, implanted beneath the collarbone
- 🧠 Connectors, or extensions, threaded under the skin to connect the leads to the neurostimulators

Precautions

Though patient pre-screening helps minimize risks, it is important to note that there are some risks and side effects associated with DBS. These include:

- 🧠 Surgical risks — pain, bleeding, infection
- 🧠 Neurobehavioral risks — depression, anxiety, confusion
- 🧠 Device-related complications

Many stimulation-related side effects can be successfully managed by adjusting the stimulation settings.

Nationally Recognized Expertise

Nationally ranked among the best hospitals for Neurology and Neurosurgery by U.S. News & World Report in 2011 and 2014-2020. UC Davis offers patients the latest treatments for neurological disorders.

The Departments of Neurology and Neurological Surgery at UC Davis Health System are home to internationally recognized experts in neurological disorders – including a highly experienced, multidisciplinary team of physicians, nurses and researchers – who utilize state-of-the-art technologies combined with compassionate care to provide the most current and effective treatments for patients.