



## MEDICAL POLICY

Date Reviewed: 10/27/06, 11/16/07, 02/15/08, 01/23/09, 02/05/10, 01/14/11

Subject: Deep Brain Stimulation (DBS)

Description: Deep brain stimulation (DBS) is a treatment for patients with essential tremor (a progressive neurological disorder usually affecting the arms that can result in severe disability) or advanced Parkinson's disease that can no longer be improved by medication. With DBS, electrodes are implanted in specific areas of the brain and a generator usually implanted in the chest provides electrical stimulation to these areas. The stimulator can be adjusted to optimize a reduction in symptoms while minimizing side effects and the device can be inactivated by placing a magnet over the stimulator.

### Indications of Coverage:

DBS (either unilateral or bilateral) of the thalamic ventralis intermedius nucleus (VIM) for the treatment of essential tremor (ET) and/or Parkinsonian tremor is considered medically necessary when all of the following criteria are met:

The device has been approved for use by the FDA (Food and Drug Administration)

The following condition-specific symptoms are described:

Essential tremor - postural or kinetic tremors of hand(s) without other neurologic signs

**OR**

Parkinson's disease - presence of at least two Parkinsonian features (for example, tremor, rigidity, or bradykinesia) which is of a tremor-dominant form

Marked disabling tremor of at least level 3 or 4 on the Fahn-Tolosa-Marin Clinical Tremor Rating Scale (or equivalent scale) in the extremity intended for treatment, causing significant limitation in daily activities despite optimized medical therapy.

Willingness and ability to cooperate during conscious operative procedure, as well as during post-surgical evaluations, adjustments of medications and stimulator settings

DBS (either unilateral or bilateral) of the subthalamic nucleus (STN) or globus pallidus interna (GPi) for the treatment of Parkinson's disease (PD) **only** (this type of stimulation is not indicated for essential tremor) is considered medically necessary when all of the following criteria are met:

The device has been approved for use by the FDA (Food and Drug Administration):

Diagnosis of PD based on the presence of at least two Parkinsonian features (tremor, rigidity, or bradykinesia)

Advanced idiopathic PD as determined by the use of Hoehn and Yahr stage or Unified Parkinson's Disease Rating Scale (UPDRS) part III motor subscale

Documentation that the patient is L-dopa responsive with clearly defined "on" (improved muscle functioning) periods.

Persistent disabling Parkinson's symptoms or drug side effects (for example, dyskinesias, motor fluctuations, or disabling "off" periods) despite optimized medical therapy.

Willingness and ability to cooperate during conscious operative procedure, as well as during post-surgical evaluations, adjustments of medications and stimulator settings.

#### Limitations of Coverage:

Review contract and endorsements for exclusions and prior authorization or benefit requirements.

If used for a condition/diagnosis other than is listed in the Indications of Coverage, deny as experimental or investigative.

If used for a condition/diagnosis that is listed in the Indications of Coverage, but the criteria are not met, deny as not medically necessary.

DBS is considered not medically necessary when any of the following are documented:

Non-idiopathic Parkinson's disease or "Parkinson's Plus" syndromes

Cognitive impairment, dementia or depression, which would be worsened by or would interfere with the patient's ability to benefit from DBS.

Current psychosis, alcohol abuse or other drug abuse.

Structural lesions such as basal ganglionic stroke, tumor or vascular malformation as etiology of the movement disorder.

Previous movement disorder surgery within the affected basal ganglion.

Significant medical, surgical, neurologic or orthopedic co-morbidities contraindicating DBS surgery or stimulation.

#### Documentation required:

Office notes

Procedure report

Rationale: This policy follows the CMS (Medicare) approved indications for DBS.

References: Center for Medicare and Medicaid Services (CMS). National Coverage Determination (NCD) for Deep Brain Stimulation for Essential Tremor and Parkinson's Disease. NCD 160.24. Baltimore, MD. Effective date: 04/01/03. Available at: [www.cms.hhs.gov/mcd/index\\_list.asp?list\\_type=ncd](http://www.cms.hhs.gov/mcd/index_list.asp?list_type=ncd). Accessed: 5 Jan 11.

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*Approved by the Medical Director*