

# Deep Brain Stimulation

Is It Right for You?





# What is DBS?

Northwestern Medicine Central DuPage Hospital is a regional destination for the treatment of movement disorders, and has one of the few comprehensive programs in the United States to offer deep brain stimulation (DBS) as a treatment option to patients with Parkinson's disease, essential tremor and dystonia.

Deep brain stimulation delivers high-frequency electrical stimulation to precise areas of the brain, thereby reorganizing the abnormal signals that result in the symptoms caused by the illness.

In the case of Parkinson's disease, two brain regions have been identified where DBS is appropriate: the subthalamic nucleus (STN) and the internal segment of the globus pallidus (GPi). In essential tremor, the ventral intermediate nucleus (Vim) of the thalamus is the optimal target. In dystonia, the preferred target is the GPi. Although DBS is not curative, in most cases it can control symptoms very effectively for many years.

Approved by the Food and Drug Administration (FDA) as a

surgical treatment for Parkinson's disease since 2002, DBS should be considered when medications do not adequately control symptoms.

## **Your DBS surgical team**

The DBS team is composed of neurologists with specialized training in movement disorders, functional neurosurgeons, neurophysiologists, DBS nursing specialists, neuropsychologists, social workers and rehabilitative therapists.

Talk to your physician to learn how the DBS team at Northwestern Medicine Central DuPage Hospital can help get you moving in the right direction.

# When is it time to consider DBS?

DBS should be considered when symptoms are progressing and becoming more difficult to manage. At Northwestern Medicine Central DuPage Hospital, we can help patients and their care teams decide when and if DBS is the right course of treatment.

If DBS is determined to be appropriate for a patient, we have a dedicated team of experienced neurologists, neurosurgeons, neurophysiologists, neuropsychologists and specialized nurses who combine efforts to achieve an optimal outcome for each patient.

## Initial considerations to determine if DBS may be the right option for you

1

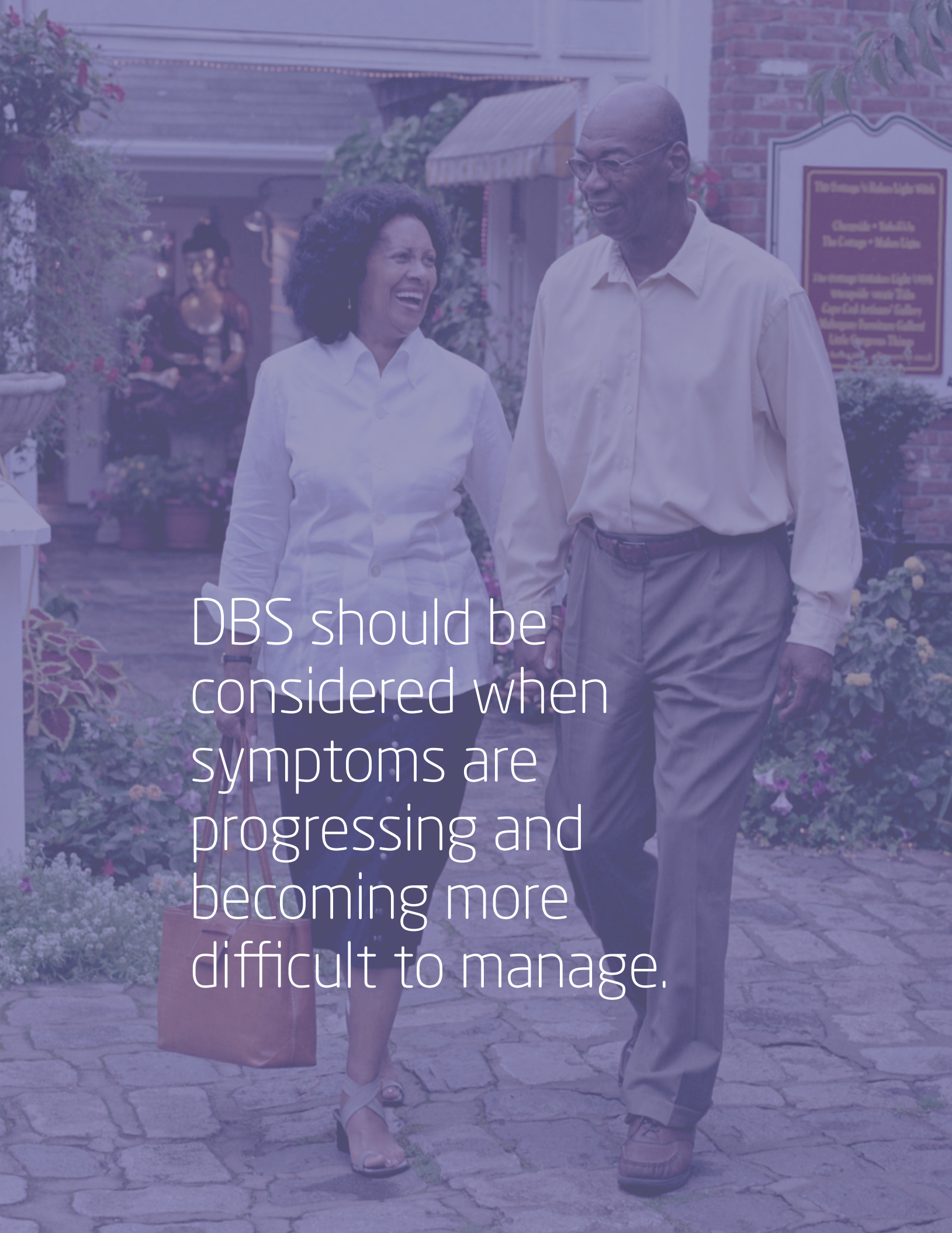
When medications are not adequately controlling symptoms despite best efforts to optimize treatment.

2

When medications meant to control symptoms result in side effects such as dyskinesias (involuntary extra movements), psychiatric problems or other complications.

3

When motor fluctuations and unreliable responses to medications begin to interfere with quality of life.



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## Considerations Included in the DBS Evaluation Process

<p>A diagnosis of idiopathic Parkinson's disease (PD)</p>	<p>This diagnosis is required and reinforced by L-dopa responsiveness. DBS is not beneficial in the other forms of parkinsonism.</p>
<p>Absence of significant cognitive impairment</p>	<p>This is objectively determined by formal neuropsychological testing as part of the preoperative evaluation process. Significant cognitive impairment will exclude a patient from undergoing the DBS procedure.</p>
<p>Motor fluctuations and dyskinesias</p>	<p>These respond extremely well to DBS. DBS can diminish these troublesome complications related to dopaminergic therapy.</p>
<p>Patients with medication-resistant PD tremor</p>	<p>Although PD medications help many motor symptoms, there are some patients whose tremors are poorly responsive to all medications. DBS is extremely effective for treating Medication-resistant PD tremor.</p>
<p>Patients with idiopathic PD who are intolerant of PD medicines</p>	<p>There is a small subset of patients who develop side effects even with small doses of medicine. These patients can greatly benefit from DBS.</p>
<p>Family support</p>	<p>The support of family is essential when considering DBS for a particular patient. Patients often need support in making their decision to proceed with DBS surgery and will need some assistance in the postoperative period, such as transportation to programming sessions and wound checks. This support lowers stress levels for the patient and reduces risks in the recovery period.</p>
<p>Presence of significant medical illness</p>	<p>Some illnesses may preclude consideration of DBS for a patient. This is ultimately determined in consultation with the primary care physician and all specialists caring for that patient.</p>
<p>Symptoms unresponsive to dopaminergic medications</p>	<p>There are symptoms, which may include gait and balance problems and memory disturbances that will not respond to DBS. The symptoms that are likely to respond to DBS, as well as those unlikely to respond, are clearly discussed in the preoperative meetings with the DBS team.</p>
<p>Realistic expectations</p>	<p>It is extremely important for the patient and his or her family to understand what can be realistically expected to result from DBS surgery. The DBS team takes great effort to clearly state the likelihood of particular symptoms responding to DBS, emphasizing that DBS surgery is not a cure.</p>



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