DBS THERAPY FOR PARKINSON’S DISEASE

LIVE YOUR BEST LIFE

Take Control with DBS Therapy
Relaxing on a park bench, taking a brisk walk or going out on the town. Simple activities that once were easy and natural can be challenging when you have Parkinson’s disease. What if you could take control of your symptoms and return to the activities you enjoy? With safe, clinically proven deep brain stimulation (DBS) therapy, people with Parkinson’s disease are finding greater control over their symptoms and more time to live their best lives.
DBS is a treatment option providing personalized, clinically proven control of Parkinson’s disease symptoms. Since its introduction over 15 years ago, DBS therapy has proven to be an effective treatment option. A DBS system is similar to a pacemaker and provides therapy by stimulating areas of the brain associated with involuntary movements using a thin, implanted wire connected to an implanted stimulator. The DBS system can be turned off or removed, and the stimulation does not alter brain tissue.

Often, physicians consider DBS therapy four to five years after the onset of Parkinson’s disease. DBS therapy is an option when patients are still benefiting from medication but are beginning to experience:
• Medication side effects
• Motor complications
• Significant off-times, when the medication is not working and symptoms return
DBS THERAPY IS PROVEN TO INCREASE ON-TIMES AND DECREASE OFF-TIMES\textsuperscript{2}

In a study of people with Parkinson’s disease, those who received DBS therapy versus other medical therapy experienced:

- **2½ MORE DAILY HOURS OF GOOD QUALITY ON-TIME**
  (time periods when medications were helping to control symptoms) without dyskinesia, or involuntary movements caused by certain medications

- **ABILITY TO REDUCE MEDICATION**
  among patients surveyed at one year

- **SUSTAINED IMPROVEMENT IN QUALITY OF LIFE**
DBS IS ONE OF YOUR BEST OPTIONS FOR LIVING YOUR BEST LIFE

DBS is an effective therapy option for Parkinson’s disease, but it is important to understand that some symptoms are more responsive to stimulation than others. Symptoms that typically respond well to DBS therapy include:

- Tremor
- Rigidity
- Bradykinesia
- Akinesia
- Dyskinesia

Other symptoms of Parkinson’s disease that are less responsive to DBS therapy include:

- Speech dysfunction
- Swallowing
- Micrographia
- Postural instability
- Freezing of gait

It is important to talk with your doctor as you are considering DBS to understand what outcomes you might expect from the therapy. There is no cure for Parkinson’s disease, but DBS therapy can help manage several of the debilitating symptoms.
THE TIME TO CHOOSE DBS THERAPY

DBS therapy can be considered as early as five years after the onset of the disease. When medications start to lose their effectiveness in controlling symptoms, it may be time to consider DBS. You may notice that your medications are wearing off sooner, that you are taking larger or more frequent doses, or you are experiencing side effects such as dyskinesia as a result of your medications. All of these are signs that it may be time to consider DBS therapy.
There is a time when DBS will no longer be a therapy option. If you reach a point where medication is no longer having an effect on your symptoms, it’s unlikely that DBS will be an effective therapy. DBS therapy might be a choice you make to live your best life, but it’s not a choice that will always be available.
THE ST. JUDE MEDICAL INFINITY™ DBS SYSTEM OVERVIEW

The St. Jude Medical Infinity™ DBS system is made up of three components:

**DIRECTIONAL LEAD.** The lead is a thin wire that will be placed in the area of your brain that affects involuntary movement. The lead will connect to the stimulator and deliver electrical pulses to help return abnormal brain communication that causes some symptoms back to a more normal state.6

**STIMULATOR.** The stimulator is the device that sends the electrical stimulation to restore more normal communication within the brain. It is similar to a pacemaker battery and is typically placed in your chest below your collarbone.

**PATIENT CONTROLLER AND CLINICIAN PROGRAMMER.**

Wireless programmers are what you and your doctor use to manage your therapy. The doctor turns the therapy on and fine-tunes the settings. You can turn the therapy on and off or adjust programs and intensity as determined by your doctor.
HOW THE ST. JUDE MEDICAL INFINITY™ DBS SYSTEM WORKS

1  Stimulator sends electrical pulses to the directional lead.

2  Directional lead delivers this stimulation to a targeted area of your brain.

3  Stimulation stabilizes the brain’s signals that cause involuntary movements, helping to reduce symptoms.
The St. Jude Medical Infinity™ DBS System: Precision and Convenience

EFFECTIVE THERAPY WITHOUT COMPROMISE. A revolutionary directional lead provides your doctor options to precisely target your therapy to help maximize your “on times” while potentially limiting side effects.5

DISCREET AND EASY TO MANAGE. With wireless communication through an app on an Apple‡ mobile digital device, managing your therapy is as simple as checking your email or sending a text message.

COMFORT AND CONVENIENCE. The smallest recharge-free DBS battery on the market with the ability to upgrade without having to undergo surgery. As new technologies are approved, you receive software upgrades easily and painlessly — similar to how cellphone software upgrades are done.6,7
The directional lead provides multiple programming options to precisely target therapy. Directional leads allow your doctor to precisely target the areas of the brain associated with involuntary movements. This precision also provides options to potentially limit undesirable side effects that can result from stimulating areas outside the intended target. Unlike previous DBS leads that send stimulation out in all directions, like a lamp, the directional lead is segmented so stimulation can be directed towards a desired area, like a spotlight. This gives your doctor more programming options in situations where you may have to trade optimal symptom control to limit side effects.
DBS PROCEDURE OVERVIEW

DBS is a well-established therapy and hundreds of thousands of patients have benefited from it since its introduction. While the specifics of the procedure will vary by surgical center based on the surgeon’s preference, the basic steps are fairly standardized and the procedure is less invasive than other types of brain surgery.

1 **Imaging and planning:** An image will be taken of your brain to help the surgeon identify the exact location and path to take to implant the lead. With this imaging, the surgery can be entirely planned before you enter the operating room.

2 **Lead placement and verification:** The surgeon will create a small, dime-sized hole in the skull and place the lead in the target location. The surgeon will then use one or more techniques to verify that the lead is in the desired location.

3 **Secure lead and close:** Once proper lead placement has been verified, the lead will be secured in place and the incision closed.

4 **Connect lead to stimulator:** The surgeon will connect the lead to an extension wire and run it to where your stimulator will be placed. This may be done immediately following the lead or leads being implanted, or it may be done a few days or weeks later.

5 **Check stimulation and close:** Once the stimulator is connected, the system will be turned on to make sure it is operating properly. Upon confirmation, the stimulation is turned off, then the stimulator is implanted and the incision is closed.
Your doctor will decide the appropriate amount of time to wait between your surgery and turning the system on again. This allows your body time to recover from the procedure and may range from a few days to a few weeks.

There is no cure for Parkinson’s disease, but there are options available to treat symptoms. The first-line therapy is medication. Surgical treatments are also available. It’s important to discuss with your doctor what’s right for you along with the risks and side effects of each option, such as motor fluctuations or permanent neurological impairment.

As with any surgery or therapy, deep brain stimulation has risks and complications. Most side effects of DBS surgery are temporary and correct themselves over time. Some people may experience lasting, stroke-like symptoms, such as weakness, numbness, problems with vision or slurred speech. In the event that the side effects are intolerable or you are not satisfied with the therapy, the DBS system can be turned off or surgically removed. Risks of brain surgery include serious complications such as coma, bleeding inside the brain, paralysis, seizures and infection. Some of these may be fatal.
"The results from my DBS surgery were dramatic—the symptoms were probably rolled back four to five years.”*

JOHN, DBS patient

*This is one DBS patient’s experience. Not everyone will experience the same results.

VISIT SJM.COM/DBS to learn more about DBS and hear about a patient’s experience with the therapy.
Learn more about the
St. Jude Medical Infinity™ DBS System
at SJM.com/DBS


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SJM.com
St. Jude Medical is now Abbott.

Rx Only
* Brief Summary: Prior to using these devices, please review the User’s Guide for a complete listing of indications, contraindications, warnings, precautions, potential adverse events, and directions for use. The system is intended to be used with leads and associated extensions that are compatible with the system. *Indications for Use: U.S.: Bilateral stimulation of the subthalamic nucleus (STN) as an adjunctive therapy to reduce some of the symptoms of advanced levodopa-responsive Parkinson’s disease that are not adequately controlled by medications, and unilateral or bilateral stimulation of the ventral intermediate nucleus (VIM) of the thalamus for the suppression of disabling upper extremity tremor in adult essential tremor patients whose tremor is not adequately controlled by medications and where the tremor constitutes a significant functional disability. *International:* Unilateral or bilateral stimulation of the thalamus, internal globus pallidus (GPi), or subthalamic nucleus (STN) in patients with levodopa-responsive Parkinson’s disease, unilateral or bilateral stimulation of the ventral intermediate nucleus (VIM) of the thalamus for the management of tremor, and unilateral or bilateral stimulation of the internal globus pallidus (GPi) or the subthalamic nucleus (STN) for the management of intractable, chronic dystonia, including primary and secondary dystonia. *Contraindications: U.S.: Patients who are unable to operate the system or for whom test stimulation is unsuccessful. Diathermy, electroshock therapy, and transcranial magnetic stimulation (TMS) are contraindicated for patients with a deep brain stimulation system. *International:* Patients who are unable to operate the system or for whom test stimulation is unsuccessful. Diathermy and magnetic resonance imaging are contraindicated for patients with a deep brain stimulation system.

*Adverse Effects:* Loss of therapeutic benefit or decreased therapeutic response, painful stimulation, persistent pain around the implanted parts (e.g. along the extension path in the neck), worsening of motor impairment, paresis, dystonia, sensory disturbance or impairment, speech or language impairment, and cognitive impairment. Surgical risks include intracranial hemorrhage, stroke, paralysis, and death. Other complications may include seizures and infection. User’s Guide must be reviewed for detailed disclosure.

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