

# Deep Brain Stimulation (DBS)

## Treatment Options



### What is Deep Brain Stimulation?

Deep brain stimulation (DBS) functions like a pacemaker for the brain. Electrodes are surgically implanted deep into a precisely targeted area of the brain that controls movement; these electrodes then produce electrical impulses that affect certain cells and chemicals within the brain resulting in symptom improvement. The amount of stimulation is controlled by a pacemaker-like device placed under the skin in one's upper chest with a wire (that travels under the skin) connecting this device to the electrodes in the brain. Just how, exactly, DBS works is still somewhat of a mystery; with many possible answers, research is essential and ongoing.

### Who is it for?

Not everyone who has Parkinson disease is a candidate for DBS surgery. Typically, candidates are those with moderate to severe Parkinson's symptoms who are unable to get their symptoms under control with medication. Ideal candidates are those who have had PD for five or more years, are continuing to experience on/off fluctuations, and are still responsive to PD medications. DBS is not recommended for individuals who have balance, walking, or freezing issues that are not improved by medication; suffer from confusion, disorientation, or other cognitive issues on a daily basis; or who have other serious health conditions. It is important to acknowledge that DBS does *not* replace medication; however, often times dosages can be reduced once desired programming levels are obtained.

### About the DBS Procedure:

The surgery is done while the patient is awake, first one side – then roughly a week later the other side. The patient will go home for two weeks *without* the neurostimulator turned on. During the following two weeks, the system is turned on with the electrical impulses being sent from the device up along the extension wire and into the brain. The impulses generated by the device interfere with, and block, the electrical signals that cause Parkinson's symptoms. Programming of the neurostimulator is done on an out-patient basis and is completed by a DBS nurse. Multiple programming visits may be required within the first six months of receiving DBS surgery. The procedure is projected to last for multiple years with a general rule of thumb being that DBS will remain effective so long as Parkinson's symptoms respond to dopaminergic meds.

### DBS Side Effects:

As with any surgical procedure, there is the potential for complications. Temporary or reversible complications associated with DBS include changes in memory, thinking, and mood patterns, seizures, infection, problems with movement and speech, along with headaches, dizziness, tingling, and electrical jolt sensations.

Though the idea of undergoing a surgical procedure can be intimidating, these innovative technologies have proven effects for those suffering from Parkinson's; talk to your neurologist if this treatment is something you might be interested in.