

DEEP BRAIN STIMULATION FOR PARKINSON'S DISEASE

Information Sheet for Medical Professionals

Contact Information

Programming Nurse: Office: 612-624-5939

Neurologist: Paul Tuite
Office: 612-625-8685; Pager: 612-899-2127

Neurosurgeon: Aviva Abosch
Office: 612-626-8786

In Emergencies

Turn the generator device OFF with a Therapy Controller, which the patient should have in their home. See attached instructions on turning the generator off.

If you have questions about the device call:

- Kathleen Lynch, Therapy Consultant, Medtronic: 651-270-2244
- Medtronic Neurological Products 24-hour Emergency Technical Support (for physicians and medical professionals): 1-800-328-0810

Sometimes the patient may need to be transferred to hospital.

TROUBLESHOOTING

Symptoms

1. Worsening motor function and/or increased dyskinesias (excessive movements)?

Increased dyskinesias are usually the result of excessive medication and/or over stimulation from the DBS device. If dyskinesias are unbearable, have the patient turn the device OFF. Otherwise, have the patient call the Neurology Nurse Triage line at 612-625-1735 or the programming nurse at 612-624-5939 to set up a clinic visit for medication tapering. For worsened motor function, the device or medications may need to be adjusted, but not turned OFF.

2. Medication adjustments?

Physicians often decrease patient anti-parkinsonian medications up to 50% after undergoing DBS surgery. There is no algorithm on how to do this; however, typically the least effective medications are eliminated first. Often patients remain on levodopa/carbidopa with or without a dopamine agonist such as Mirapex or Requip. Sometimes Amantadine is still needed to control dyskinesias.

DBS Device

3. Is the device functioning?

The patient or family member should be able to test their device at home with the hand-held controller to determine if it is working. If the patient is unsure of how to test the device and it is not urgent, have them call the programming nurse at 612-

624-5939. If urgent, the patient may call Medtronic's Patient Services Department at 1-800-510-6735.

4. Diathermy contraindications?

DO NOT use or prescribe shortwave diathermy, microwave diathermy or therapeutic ultrasound diathermy (all now referred to as diathermy) for patients implanted with any type of Medtronic neurostimulation system. Use of diathermy on patients with any implanted neurostimulation device can cause heating of the tissue near the site of the electrode or connecting wires, which can result in tissue or nerve damage. This damage can be permanent and potentially cause death. The exact extent and nature of damage that occurs depends on the location of the stimulating electrodes implanted in the patient (e.g., brain, spinal cord, sacral nerve, stomach) and the extent of the exposure to diathermy treatment.

What are shortwave diathermy, microwave diathermy and therapeutic ultrasound diathermy treatments?

Diathermy treatments are used by health care professionals, including physical therapists, nurses, chiropractors, dentists, sports therapists, and others. Treatment with diathermy may be described as using "deep heat" or similar terms. Diathermy means deep heat, but these devices may also be used in a way that causes little or no heating. Diathermy that uses these forms of energy (shortwave, microwave or ultrasound) can cause permanent nerve or tissue damage in patients with a neurostimulation system even if the diathermy is set at power levels that do not cause deep heating.

5. Contraindications to MRIs?

A send-and-receive head coil must be used for all brain MRIs for DBS patients. If the patient is scheduled to undergo an MRI for an area other than the brain, the MRI not recommended. X-rays or CT scans can be performed. All other questions about MRIs should be referred to Medtronic (1-800-328-0810) and/or the implanting neurosurgeon.

6. Contraindications to other surgical procedures and clinical tests (e.g., colonoscopy, etc.) using electrocautery?

Refer to the implanting neurosurgeon with questions about electrocautery.

After Surgery

7. Suture removal?

Suture removals are done approximately 10 to 12 days after surgery. Dr. Aviva Abosch is in clinic on Thursday afternoons. The patient can schedule an appointment with Dr. Abosch by calling 612-626-8786. If urgent, you can page the Neurosurgery resident on call (612-273-3000) for a clinic visit or proceed to the emergency room (ER).

8. Follow-up appointments with the DBS programming nurse or the neurologist, Dr. Paul Tuite?

- ❑ Call the DBS programming nurse at 612 624 5939.
- ❑ Call Scheduling at 612-626-3004 for an appointment with Dr. Paul Tuite (clinic days: Monday PM, Tuesdays AM and PM, and Thursday AM and PM)

9. Adverse events that may occur:

Adverse events related to the therapy, device, or procedure can include: confusion/thinking problems, pain, dyskinesia, dystonia, speech disorders including dysarthria, infection, paresthesia (skin sensations with no apparent cause), intracranial hemorrhage, electromagnetic interference, cardiovascular events, visual disturbances, sensory disturbances, device migration, paresis/plegia (paralysis), asthenia (weakness), abnormal gait, incoordination, headaches, lead fracture, seizures, respiratory events, and shocking or jolting sensations.

Encourage the patient to turn OFF the device if he/she is unable to tolerate the side effects.

Additionally, sometimes the stimulation is not effective and may require lead repositioning.