Precautions for those with Deep Brain Stimulators (*Some Content Courtesy of Monica Volz, NP, UCSF*)

You must alert all of your health care providers that deep brain stimulators are in place. When exposed to strong electrical fields, the deep brain stimulator system can carry unintended electrical energy capable of causing brain injury even if the system is turned off. For this reason, patients with stimulators must avoid circumstances in which they may be exposed to electrical currents. It is also necessary to turn off the deep brain stimulator for some routine medical testing such as an electrocardiogram (ECG or EKG) and an electroencephalogram (EEG). Accordingly, patients should bring their DBS controller (such as the Medtronic Patient Programmer) to turn it off if necessary when they come into the hospital or the clinic, or whenever they travel or go on vacation.

**Diathermy:** Patients should avoid diathermy, a form of treatment that delivers heat to tissue using an electrical energy. Diathermy is used by a variety of healthcare professionals, including physical therapists, nurses, chiropractors, dentists, sports therapists, and others. Healthcare professionals may refer to diathermy using the term "deep heat" or similar terms. These electrical devices (shortwave, or therapeutic ultrasound diathermy) may cause damage even if no heat is created.

**MRI:** Once any DBS device component(s) have been implanted, you should not have an MRI of any region of your body, except for the head, and then only under very specific protocols to ensure safety. **You should NOT undergo an MRI of your neck, back, chest, abdomen, arms, legs, or any other body part.** If any MRI of the head (brain) is required, then it should be performed only at an imaging center that is able to perform the scans using the specified protocols. Such head MRIs can be performed at LSU and Willis-Knighton Health System.

**Dentistry:** As of 2012, the American Dental Association (ADA) and the American Association of Orthopedic Surgeons no longer recommend antibiotic prophylaxis for everyone with orthopedic implants. Based on these guidelines, we no longer recommend antibiotics for everyone with DBS. However, your dentist may rely more on your personal medical history to determine when antibiotics are appropriate. For example, antibiotic prophylaxis might be useful if you have DBS and also have a compromised immune system (due to, for instance, diabetes or rheumatoid arthritis). Also, if you have a heart condition and a deep brain stimulator, talk with your dentist or physician about whether antibiotic prophylaxis before dental treatment is right for you.

**Physical Activities:** After incisions have completely healed, it is o.k. to perform all physical activities, except for those that may result in repeated hard blows to the device, e.g., American football, ice hockey, and boxing. Wear helmets for the activities you would normally have a helmet for, e.g., bicycling, skiing, snowboarding, and horseback riding.

**Security Devices & Traveling:** Security devices will not harm your DBS. However, they may cause stimulation to switch ON or OFF, and some patients may experience a momentary increase in perceived stimulation when passing through theft detectors and security screening devices. Security personnel at most airports will conduct a "pat-down" security check instead of requiring the DBS patient to go through the security gate. You may have to present your device identification card to airport security personnel prior to being screened. Always bring your patient programmer with you when you travel.

**Electrocautery/Surgical Procedures:** When performing electrocautery for a surgical procedure, the grounding pad should not be placed near the DBS device. **The voltage needs to be turned down to zero, and your device needs to be turned OFF prior to ALL elective surgery.** A physician should document the DBS settings prior to surgery in case the device resets during the operation and complete re-programming is needed postoperatively. If exposure of the DBS hardware is anticipated (e.g., wide excision of a skin cancer on the scalp) please notify our office prior to undergoing the procedure.

If you, your provider, or your surgeon, have specific questions about your DBS therapy, please contact **Medtronic Technical Services at 800-707-0933.**