Deep Brain Stimulation (DBS)

Deep Brain Stimulation (DBS) is an innovative new treatment option for patients struggling with Treatment-Resistant Depression (TRD). This procedure has been used for over 10 years to help patients with Parkinson's disease and is now successfully being used to treat TRD in Germany. Studies report 6 out of 7 patients experiencing a lasting good response with improved mood for at least 24 months post-surgery.

The UTHealth Center of Excellence on Mood Disorders is offering DBS through a clinical trial to patients between the ages of 22 and 65 who have been diagnosed with chronic, treatment resistant depression. DBS consists of a neurosurgeon implanting a small electrode that delivers electrical stimulation to an area of the brain that is malfunctioning in TRD. This area of the brain is responsible for symptoms such as feelings of sadness or guilt, fatigue, loss of interest in favorite activities, not being able to sleep or sleeping too much and/or suicidal thoughts.

Procedure:

- The small lead is made up of four insulated wires with four small electrodes at the end. The electrodes are used to stimulate the areas of the brain responsible for many depressive symptoms.
- There is a wire under the skin that connects the lead to the neurostimulator (battery pack).
- The neurostimulator (battery pack) is the power source of your system. This is very similar to what is used for pace makers with battery packs placed under the skin for patients with heart problems. The neurostimulator is a battery pack placed inside a metal case and under the skin below the clavicle. Depending on the model you receive, the battery pack will be about 2 or 3 inches in diameter and about 1/2 inch thick. The small battery produces the electrical impulses needed for stimulation to the electrodes. Like any battery, the battery will need to be replaced eventually. Replacing the neurostimulator battery is a minor surgical procedure. Battery life varies for each patient depending on the type and intensity of stimulation needed for good symptom relief. This is an experimental study and results are not guaranteed.
- Your physician will see you for follow-up after surgery. Three kinds of follow-up visits will be scheduled:
  - Your neurosurgeon will meet with you regarding your surgery.
  - Your psychiatrist will follow-up regarding improvement in your depressive symptoms.
  - A neuropsychological evaluation will occur once a year to ensure the DBS is not interfering with brain functions such as memory.
  - Your doctors will schedule you according to your individual circumstances. It is important that you do not skip these appointments. The study will follow you for at least 2 years post-surgery.
You may not experience immediate symptom suppression from the DBS. Frequent, non-invasive adjustment to the stimulation parameters may be required.

Our physicians will evaluate you to decide if this therapy might help you. This therapy is reserved for patients who have tried several other methods of treatment for depression that have been unsuccessful. The screening evaluation includes a thorough examination of your medical history, neuropsycho/psychological testing, blood work, drug screening, and physical. Candidates accepted for this experimental treatment must be available and attend all scheduled appointments for screening and follow-up. Not attending appointments may jeopardize continued participation in this study.