

## **MRgFUS (HIFU) for Essential Tremor (ET)**

The University of Calgary along with the Hotchkiss Brain Institute are conducting a clinical research study under the direction of; Dr. Zelma Kiss, Medical Director of the MR guided focused ultrasound program, Dr. Bruce Pike, Head of Image Science in the Department of Radiology at the University of Calgary, and Dr. Davide Martino, Director of Movement Disorders Program, on people who suffer from ET.

The goal of this study;

- 1) Determine the safety and efficacy of high intensity focused ultrasound thalotomy (non-invasive neurosurgery) in patients with essential tremor.
- 2) Optimize the way we map the brain using this technology.
- 3) Improve the MR imaging that is performed before, during and after the operation.

You will be assessed by research team consisting of a neurologist, neurosurgeon, neuropsychologist, you will have a CT and MRI of your brain, and have a videotaped tremor assessment by a nurse, to determine if you are appropriate for the study.

### **Who can participate?**

- Adults 18 years and older.
- A diagnosis of tremor confirmed by a Movement Disorder Clinic (MDC) neurologist.
- Essential tremor that has not responded to at least 2-3 medications, and determined by a MDC neurologist.
- Patients must be able to tolerate laying down in MRI for 5-6 hours.
- Patients must be stable on antidepressant medications for at least 3 months.

### **How long is the study and how often do I come?**

You will be seen:

- Pre-operatively for 6 different appointments (Neurology, Neurosurgery, Neuropsychology, CT, MRI, Essential Tremor (ET) Assessment).
- Surgical day.
- 1 day post operatively (MRI).
- 3 months; 4 appointments (neurology, neurosurgery, MRI, ET assessment).
- 1 year post operatively; 4 appointments (neurology, neurosurgery, MRI, ET assessment, neuropsychology).

Ethics ID: REB17-0649

Study Title: HIFU

PI: Dr. Zelma Kiss

Version number/date: V1, 5 December 2017



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- 2 years; 4 appointments (neurology, neurosurgery, MRI, ET assessment).
- 5 years; 4 appointments (neurology, neurosurgery, MRI, ET assessment).

The study will be approximately 5 ½ years, from beginning of appointments until finish.

**What will happen during study visits?**

- Your memory, mood, cognitive function, and well-being will be assessed through a series of activities and questionnaires.
- Your tremor and neurological health will be assessed.
- You will have 1 CT scan to measure skull density.
- You will have 7 MRI scans throughout the 5 ½ years of the study.

**Do you have any more questions?** Please contact our team at [hifu@ucalgary.ca](mailto:hifu@ucalgary.ca) for further information.

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