Focused Ultrasound To Treat Hand Tremors

Focused Ultrasound Treatment

The Sentara Comprehensive Movement Disorders Program provides expert treatment for those living with movement disorders. The focused ultrasound treatment may be an option for patients with tremor-dominant Parkinson's disease or essential tremor. Using advanced technology, neurosurgeons can treat deep in the brain with no surgical incisions. Sound waves pass safely through a patient's skull to heat and precisely ablate (destroy) the target cells in the thalamus responsible for the tremor.

What to Expect

- Patients must undergo a CT scan to determine if they are candidates for MRI Guided Focused Ultrasound treatment.
- The patient will often meet with the treating physician at least twice. At the first consultation, the physician will evaluate the CT scans to determine whether the patient is a candidate for the treatment. The second is on treatment day. Sometimes, there is a third meeting for follow-up imaging on the day after treatment. The treating team will also discuss any additional follow-up visits needed and will share that information with the referring physician.
- The patient will have their head shaved at the hospital on the day of the procedure. This is necessary for two reasons:
  - Ultrasound waves do not travel well through the air. In this treatment, water is used (like a gel used when having an abdominal ultrasound) as a conductive medium. The smooth-shaven scalp and a silicone cap enable a tight interface with the ultrasound transducer.
  - Air bubbles could get trapped in the hair, blocking the ultrasound waves and absorbing energy, potentially leading to skin burns.
- During the procedure, the patient will have a stereotactic head frame attached to the skull.This is to help ensure the patient's head does not move during the treatment.
- The procedure is performed in the MRI scanner, and the patient is awake. Feedback from the patient during the treatment is necessary to assess the patient's ability to do different neurological tasks, such as drawing spirals. This is so the physician can evaluate the improvement of the tremor and identify and address any potential side effects.
- The treatment time is, on average, 2.5 hours, and the treatment is usually performed on an outpatient basis.

Continued >

Sentara Comprehensive Movement Disorders Program

Treatment Benefits

Tremor improvement: In a clinical study, patients reported an immediate improvement in tremor which was mostly maintained at three years.[1]

Incisionless: Focused ultrasound technology allows sound waves to pass safely through the skull without incisions.

Quick recovery: With no surgical cuts, there is minimal to no risk of infection. The treatment is often performed on an outpatient basis, and you can expect to resume normal activities within days.

FDA approved: Safe and effective with minimal side effects.[1]

Important to share with your physician: It is extremely important to discuss all medical conditions with your physician so your suitability for the procedure can be properly evaluated.

Risks & Side Effects

Be sure to discuss with your physician all the risks involved with the focused ultrasound treatment.

Short term – Day of Treatment up to 3-months post-treatment: The most common potential risks associated with the treatment device (Exablate) and thalamotomy procedure are transient numbness and tingling. These sensations are typically mild to moderate in intensity and can last as briefly as the length of the sonication or up to several days. Headaches or head pain and nausea/vomiting may occur during sonication. Imbalance, unsteadiness, and bruising in the area of the IV catheter are also potential risks but usually end within a week after treatment.

Long term – Longer than 3-months post-treatment: Infrequent complications that have been reported following Exablate treatment include long-term numbness and tingling. If you experience a blood clot or deep vein thrombosis after the procedure - seek emergency care.

To schedule a consult with a neurologist, call 1-877-310-8713.

If you have a current ET or PD diagnosis and want to schedule a Focused Ultrasound consult, call 757-252-9128 or email FUSprogram@sentara.com.

[1] Pre-Market Approval (PMA) P150038