Focused Ultrasound
For the treatment of essential tremor
About essential tremor

Essential tremor (ET) is a common movement disorder, affecting nearly 3 percent of the population. Although the disease is benign, it can be challenging for day-to-day living. Holding a glass of water, writing a note or typing on a keyboard can seem daunting. Many people with ET give up hobbies or being social because of the disease.

Current treatments include medication, Gamma Knife®, which uses precise radiation delivery to destroy tissue in the area in the brain where the tremor originates, or deep brain stimulation, a surgical procedure where an electrode connected to a neurostimulator is surgically placed through a burr hole and placed in the thalamus of the brain.

The newest technology to treat essential tremor is focused ultrasound, also referred to as MR-guided focused ultrasound, Neuraverse, MRgFUS or thalamotomy. This procedure is FDA approved for the treatment of essential tremor and is a non-incisional approach to traditional surgery. By combining ultrasound technology and magnetic resonance (MR), doctors can use focused ultrasound technology to target tissue deep in the brain without incisions or radiation.

How focused ultrasound works

Focused ultrasound is performed while the patient is awake and involves no anesthesia, incisions in the scalp, burr holes through the skull or insertion of electrodes into the brain. During focused ultrasound therapy, target cells in the thalamus are visualized in real time using MR imaging. The highly precise treatment uses focused beams of acoustic energy to heat and destroy target cells without harming adjacent tissue.

The procedure takes place within an MRI scanner equipped with a high-energy ultrasound transducer—which allows doctors to target the area using the ultrasound with great accuracy. The patient usually goes home the same day. Focused ultrasound uses a non-incisional approach promoting fast recovery times for the patient and could be an option for ET patients who do not respond well to medication and who do not want to undergo surgery.

For more information about essential tremor treatment options, insurance questions or to schedule an evaluation, please call 206-320-4145.