

MRI-guided ultrasound surgery beneficial for essential tremor

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(HealthDay)—Patients with severe, medication-refractory essential tremor benefit from the use of transcranial magnetic resonance imaging (MRI)-guided focused ultrasound thalamotomy, according to a study published in the Aug. 15 issue of the *New England Journal of Medicine*.

W. Jeffrey Elias, M.D., from the University of Virginia Health Sciences Center in Charlottesville, and colleagues investigated the use of transcranial MRI-guided [focused ultrasound](#) thalamotomy for treatment of [essential tremor](#) in an open-label uncontrolled study involving 15 patients with severe, medication-refractory essential tremor.

Transcranial MRI-guided focused ultrasound was used to target the unilateral ventral intermediate nucleus of the thalamus. Safety data were

recorded and the effectiveness of [tumor suppression](#) was measured using the Clinical Rating Scale for Tremor. Patients' perceptions of treatment efficacy were assessed using the Quality of Life in Essential Tremor Questionnaire.

The researchers found that, in all patients, thermal ablation of the thalamic target occurred. Transient sensory, cerebellar, motor, and speech abnormalities were adverse effects of the procedures, with four patients experiencing persistent paresthesias. From baseline to 12 months, scores for hand tremor improved significantly, from 20.4 to 5.2. There were also significant improvements in total tremor scores (54.9 to 24.3), disability scores (18.2 to 2.8), and quality-of-life scores (37 to 11 percent).

"In this pilot study, essential tremor improved in 15 patients treated with MRI-guided focused ultrasound thalamotomy," the authors write. "Large, randomized, controlled trials will be required to assess the procedure's efficacy and safety."

The study was funded by the Focused Ultrasound Surgery Foundation.

More information: [Full Text \(subscription or payment may be required\)](#)

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