

Evidence shows noninvasive nerve stimulation may help with hand tremor

April 19 2018

People with tremors in their hands from a condition called essential tremor may find some relief from a new, non-invasive type of nerve stimulation, according to a preliminary scientific abstract released today that will be presented at the American Academy of Neurology's 70th Annual Meeting in Los Angeles, April 21 to 27, 2018.

Essential tremor is the most common type of tremor disorder and can be disabling for the over 7 million people in the United States living with the disorder. The condition affects the hands, head and voice and may cause problems with daily activities such as eating, writing or shaving.

The abstract describes two randomized controlled studies: an in-clinic study that included 77 participants and an at-home study that included an additional 61 participants. All had [essential tremor](#).

The treatment, a wrist-worn neuromodulation device, stimulates the median and radial nerves in the wrist and delivers a stimulation pattern that is tuned to interrupt a person's tremor.

For the in-clinic study, participants received one session of either the treatment stimulation or sham stimulation to the wrist of the hand with the more severe tremor. The tremor was evaluated before and after the session.

Physicians assessed the severity of tremor in the entire arm and the assessments showed a 65 percent improvement in the treatment group

compared to 32 percent in those who received sham stimulation.

Participants performed certain activities of daily living in the clinic and were asked to rate their performance before and after stimulation. Those who received treatment stimulation showed a 27 percent improvement compared to 16 percent for sham stimulation. Overall, 88 percent of those receiving the treatment reported improvement in their tremor after receiving treatment stimulation.

"The study conducted in the clinic showed that treatment stimulation was safe and produced significant improvements in both physician-rated and patient-rated measures of tremor severity compared to sham stimulation," said study author Rajesh Pahwa, MD, of the University of Kansas Medical Center in Kansas City and a Fellow of the American Academy of Neurology.

Participants had no serious side effects, and only 3 percent in the in-clinic study had mild side effects such as skin redness and irritation, which went away on their own. Pahwa said the therapy has few side effects when compared to other available treatments.

For the at-home study, 61 participants received either treatment stimulation, sham stimulation or their usual treatment. Those who received treatment stimulation had a minimum of two sessions a day for up to one month.

Tremor severity was measured using sensors on the device before and after each therapy session. People receiving treatment stimulation showed a reduction in their tremor severity after 89.5 percent of the [treatment](#) stimulation sessions as measured by the sensors.

"Our research suggests that this non-invasive therapy may offer meaningful relief from the symptoms of hand tremor for people with

essential tremor," Pahwa said.

A limitation of the studies is that the therapy was tested in small groups of people and for short durations. Additional studies will look at larger groups of people over longer periods of time.

Provided by American Academy of Neurology

Citation: Evidence shows noninvasive nerve stimulation may help with hand tremor (2018, April 19) retrieved 27 April 2024 from <https://medicalxpress.com/news/2018-04-evidence-noninvasive-nerve-tremor.html>

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