



# Magnetic Stimulation May Ease Migraine Pain

**By Amanda Gardner**

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THURSDAY, June 22 (HealthDay News) -- A magnetic device that seems to help depression and seizures may also short-circuit migraine headaches in their earliest stages, a new study finds. The transcranial magnetic stimulation (TMS) device, about the size of a hair dryer, was able to interrupt the development of migraines, according to data to be presented Thursday at the American Headache Society's annual meeting, in Los Angeles.

The study was funded by the device's maker, NeuraLieve, of Sunnyvale, Calif.

About 28 million Americans suffer migraine headaches and about 20 percent experience migraine with aura, characterized by changes in vision before the actual pain begins.

Scientists now believe that migraine attacks start because of nerve cell hyper-excitability, which is followed by fatigue and malfunction of the nerve cells, or neurons. These phases seem to correlate with the aura.

"This process spreads throughout the brain and the end result is the throbbing headache," said Dr. Yousef Mohammad, principal investigator of the study and an assistant professor of neurology at Ohio State University Medical Center.

"If we can interrupt this with two pulses of magnetic stimulation, we can abort the headache," he added.

The TMS device used in this study is approved by the U.S. [Food and Drug Administration](#) as an investigational device. It sends an electric current through a metal coil, creating a magnetic field that activates nerve cells in the brain.

The study involved 43 people who had migraines with aura and were randomly picked to receive either TMS or treatment with a placebo device. Participants were instructed to give themselves two pulses to the back of the head at the first sign of an aura.

Seventy-four percent of people in the TMS group said they had no or only a mild headache two hours after using the device, compared with 45 percent in the control group. Participants also reported a reduction in noise and light sensitivity: 74 percent of people in the TMS group experienced a reduction in light sensitivity while 75 percent

experienced less noise sensitivity. In the placebo group, only 20 percent or so experienced such reductions.

A larger study of TMS involving nine medical centers and 200 patients will begin next month, Mohammad said.

Another study presented at the meeting found that the anti-seizure medication Topamax (generic name topiramate) provided relief to people who have migraine headaches virtually every day.

The drug is approved by the FDA for prevention of migraine headaches, but had not been specifically studied in migraine sufferers who also experienced chronic daily headaches.

About 4 percent of U.S. adults, or nearly 9 million people, have headaches 15 or more days a month, known as chronic daily headache.

For this study, more than 300 patients were randomly chosen to receive Topamax or a placebo for 16 weeks. The study was funded by the drug's maker, Ortho McNeil Pharmaceutical.

At the end of the study period, 41.2 percent of people taking Topamax had fewer headaches or days with headaches, compared to 28.8 percent in the placebo group.

Half of the people in the Topamax group had a 40 percent or greater reduction in migraines or days with migraine. Headache severity was also reduced significantly in the Topamax group.

There were, however, side effects in the Topamax group: 29 percent of these patients experienced numbness or tingling in the hands or legs, compared to 7 percent of those in the placebo group.

"It's extraordinarily important that not only headache frequency decreased, but also severity," said Dr. Stephen Silberstein, study author and director of the Jefferson Headache Center at Thomas Jefferson University Hospital, in Philadelphia. "It's important to have a medication that works for difficult-to-treat patients."

### **More information**

To learn more, visit the [American Headache Society](#).

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