The government has approved the first noninvasive brain stimulator to treat depression — a device that beams magnetic pulses through the skull.

A graphic shows how magnetic stimulation is used to treat depression.

(AP)

If it sounds like science-fiction, well, those woodpecker-like pulses trigger small electrical charges that spark brain cells to fire. Yet it doesn’t cause the risks of surgically implanted electrodes or the treatment of last resort, shock therapy.

Called transcranial magnetic stimulation or TMS, this gentler approach isn’t for everyone. The Food and Drug Administration approved Neuronetics Inc.’s NeuroStar therapy specifically for patients who had no relief from their first antidepressant, offering them a different option than trying pill after pill.

“We’re opening up a whole new area of medicine,” says Dr. Mark George of the Medical University of South Carolina in Charleston, who helped pioneer use of TMS in depression. “There’s a whole field now that’s moving forward of noninvasive electrical stimulation of the brain.”

While there’s a big need for innovative approaches — at least one in five depression patients is treatment-resistant — the question is just how much benefit TMS offers.

The FDA cleared the prescription-only NeuroStar based on data that found patients did modestly better when treated with TMS than when they unknowingly received a sham treatment that mimicked the magnet. It was a study fraught with statistical questions that concerned the agency’s own scientific advisers.

For a more clear answer, the National Institutes of Health has an independent study under way now that tracks 260 patients and may have initial results as early as next year.

Quantifying the benefit is key, considering the price tag. TMS is expected to cost $6,000 to $10,000, depending on how many treatments a patient needs, says Dr. Philip Janicak of Rush University Medical Center in Chicago, who helped lead the NeuroStar study. That’s far more expensive than medication yet thousands of dollars cheaper than invasive depression devices.
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