

Magnetic pulses to brain can treat depression: study

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Stimulating the brain with rapid bursts of magnetic energy is a safe and effectively treatment for major depression, a new large-scale study has found.

The finding offers a ray of hope to the 20 to 40 percent of patients who do not respond to antidepressants and psychotherapy and to those who do not wish to treat their illness with drugs.

"This study provides new support for the efficacy of TMS (transcranial magnetic stimulation) as a 'stand alone' treatment for depression," said John Krystal, editor of *Biological Psychiatry* which will publish the study on December 1.

"This finding could be particularly important for patients who do not tolerate antidepressant medications, for whom they are not safe, or who have not benefited from other alternative treatments."

The treatment works by sending very rapid bursts of magnetic energy into the brain through coils attached to the scalp.

These pulses cause the neurons in a small area of the brain to "fire off," said study co-author Philip Janicak, a psychiatry professor at Rush University Medical Center in Chicago.

"It also indirectly sends signals down to the deeper areas of the brain which controls the appetite and are linked to depression," he said in a telephone interview.

Transcranial magnetic stimulation has been used as an alternative to electroshock treatment since the mid 1980's but small-scale studies of its effectiveness have shown mixed results, Janicak said.

This is the first large-scale study of the technique and researchers also used much higher doses of the energy pulses.

Remission rates among those who received the treatment were twice as high as those receiving a "sham" treatment where a shield was placed on the coils.

They were also higher than average rates in antidepressant drug trials, Janicak said.

This is particularly significant given that most of the patients in the study had failed to respond to antidepressants - a criteria which would have excluded them from most drug trials, he said.

Researchers in at 23 sites in Canada, the United States and Australia randomly assigned 325 patients suffering from major depressive disorder to nine weeks of magnetic stimulation or a sham treatment.

Neither the patients nor the researchers knew who received the sham treatments and there was a very low drop-out rate, indicating that the treatment was well-tolerated by patients.

Side effects included headaches and scalp discomfort.