

Transcranial magnetic stimulation effective in treating major depression

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Researchers at the University of Pennsylvania School of Medicine and other study sites have found that transcranial magnetic stimulation (TMS) – a non-invasive technique that excites neurons in the brain via magnetic pulses passed through the scalp – is a safe and effective, non-drug treatment with minimal side effects for patients with major depression who have tried other treatment options without benefit.

This study – the largest to-date studying TMS as a standalone treatment for major depression – appears in the December 1st issue of *Biological Psychiatry*.

“TMS provides a well-tolerated treatment option to patients whose depression is otherwise treatment resistant,” says John P. O’Reardon, MD, Associate Professor of Psychiatry at Penn, and lead study author. “Since TMS is administered via the scalp and therefore goes directly to the brain, it allows the patient to avoid bodily side effects such as weight gain, sedation and/or sexual function.”

The study was conducted at 23 sites in the U.S., Australia, and Canada, and involved 301 medication-free patients with major depression who had not benefited from prior treatment. The patients were randomized to active or sham TMS for 4-6 weeks. Response and remission rates with active TMS were approximately twice those of sham. Additionally, there were no unexpected, serious side effects, and less than 5% of patients discontinued their TMS due to side effects. This is about three times better tolerated and safer than standard medications, which have about a

15% discontinuation rate due to side effects.

Dr. O'Reardon further comments, "As indicated by recent large scale, government-sponsored, studies of existing treatment options for major depression conducted by the National Institute of Health (the STAR-D reports), there is a great need to develop new, effective treatments for patients, especially those not benefiting from first line interventions. The results of this study indicate that TMS offers new hope to patients in this regard."

Source: University of Pennsylvania

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