

# TMS TRENDS

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## Study Supports Efficacy and Safety of Shorter TMS Treatments

A meta-analysis of transcranial magnetic stimulation (TMS) studies supports having only an 11-second break between each series of pulse sequences, thereby shortening the overall length of treatment sessions, researchers reported in a poster abstract presented at Psych Congress 2017. The poster was sponsored by Malvern, Pennsylvania-based Neuronetics, Inc. which developed the NeuroStar TMS system, a treatment for depression. Patients using NeuroStar undergo several sessions of TMS treatment, each lasting approximately 37.5 minutes. “Due to the treatment session duration, a reduced treatment time would promote patients’ comfort and convenience,” the study team wrote in the abstract. “Also, shorter treatment sessions of retained efficacy and safety would increase access to treatment. This reduction could be accomplished by decreasing the time between TMS pulse sequences.” The meta-analysis encompassed 301 articles comprising 3359 patients. It focused on the ratio between the duration of the pulse sessions’ “on-time,” also called train, and the “off-time,” also called the inter-train interval (ITI). The meta-analysis examined the proportion of patients in each study who had a 50% reduction in baseline score on the primary outcome measure used in that study. To assess treatment risk, researchers looked at the frequency of adverse events reported, specifically seizures. They found that, as reported in other studies, the main drivers of treatment efficacy were the number of treatment sessions, the number of pulses per session, and the percent motor threshold. Varying the ratio between on- and off-time from 2 to 14 did not show any impact on efficacy or safety. “Shortening the ITI to 11 seconds does not impact the safety and antidepressant effectiveness of the NeuroStar TMS and would result in shortening of each treatment session from approximately 37.5 to 19 minutes,” the authors concluded.

## Repetitive TMS Shows Promise for Treating Depression in BPD

Repetitive transcranial magnetic stimulation (rTMS) may help improve refractory depression in patients with borderline personality disorder, according to research presented at the American Psychiatric Association’s annual meeting. “Borderline personality disorder patients have a high lifetime prevalence of major depressive disorder,” wrote poster presenter Hyewon Helen Lee, MD, in an abstract presented May 7. “However, it has been previously found that there are poorer outcomes of electroconvulsive therapy and antidepressants among this population.” Study Supports Efficacy and Safety of Shorter TMS Treatments The study randomized 20 patients with borderline personality disorder experiencing a major depressive episode to 15 days of twice-daily 20-Hz rTMS treatment of the dorsomedial prefrontal cortex, followed by 15 days of sham rTMS therapy, or vice versa, in a crossover design. Over time, rTMS treatment demonstrated a statistically significant effect on scores on the Hamilton Depression Rating Scale (HAM-D), Dr. Lee reported. The treatment was well tolerated. “Our findings support dorsomedial prefrontal cortex rTMS as a potential treatment for major depressive disorder in patients with borderline personality disorder,” she wrote. “Further replication with larger sample size and adequate washout period is warranted.”

If you are suffering from treatment resistant depression, please contact us or visit our website at [www.psychfirst.com](http://www.psychfirst.com) for more information about the possible benefits of TMS.

## HAPPY MEMORIAL DAY!!