

TMS TRENDS

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Terrence A. Boyadjis, MD, Director*

TMS in the Treatment of Off-Label Conditions

Although TMS is FDA approved as a treatment for medication resistant depression, research is showing that TMS is also effective at treating numerous off-label conditions.

A study by Passard et al. showed that TMS may be a useful tool in pain management for people with fibromyalgia. It was discovered that TMS stimulation of the primary motor cortex induced a long-lasting decrease in pain. Patients reported an improved quality of life with little to no effect on their mood or anxiety levels.

TMS has also been used to treat various symptoms of schizophrenia. Research suggests that activation of the pre-frontal cortex is impaired in people with schizophrenia. People with schizophrenia may experience withdrawal, poverty of speech, and blunted affect. A meta-analysis by Dlabac de Lange showed that rTMS applied to the dorsolateral pre-frontal cortex might be beneficial in treating these symptoms of schizophrenia.

Auditory hallucinations are another distressing side effect of schizophrenia. Studies suggest that auditory hallucinations of speech arise from activation of brain areas underlying speech perception, located in the temporoparietal cortex. Researchers at Yale discovered that rTMS was able to improve this condition. Frequency and attentional salience were the two aspects of hallucinatory experience that showed greatest improvement.

Another area in TMS research is addiction. Craving is associated with the brain reward center. A study by B. R. Mishra, et al. hypothesized that patients with alcohol dependence who received rTMS on a specific site associated with reward center would see a change in the frequency and duration of cravings for alcohol. They discovered that TMS applied to the right dorsolateral pre-frontal cortex had significant anti-craving effects.

TMS has also been successful in treating symptoms related to PTSD. A study by Boggio, et al. studied the effects of rTMS applied to both the right and left prefrontal cortex. They found a significant increase in the relief of core PTSD symptoms (hyperarousal, vigilance, intrusive thoughts, emotional numbness, withdrawal) at days 5 and 10 of the treatment.

TMS is also proving to be effective in managing postpartum depression. In a study published in 2009, Keith Garcia observed improvement of postpartum related symptoms in nine anti-depressant free women who received rTMS for four weeks. All nine women achieved remission after the acute treatment phase, and eight of the nine women remained in remission six weeks after the treatment (with the ninth woman lost to follow-up).

At the TMS Institute of Pennsylvania, we have treated patients not only for depression, but for a number of off-label conditions, including PTSD, depersonalization disorder, auditory hallucinations, OCD, alcohol craving management, tinnitus and generalized anxiety disorder. As more research is compiled, TMS is proving to be a viable treatment for a multitude of brain related illnesses.

Erin Hipple, Clinical Coordinator

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