

Study reports greater brain activation after cognitive rehabilitation for MS

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Neuroscientists at Kessler Foundation have documented increased cerebral activation in patients with multiple sclerosis (MS) following memory retraining using the modified Story Memory Technique (mSMT).

This is the first study to demonstrate that [behavioral interventions](#) can have a positive effect on [brain function](#) in MS, an important step in validating the clinical utility of [cognitive rehabilitation](#). According to Nancy Chiaravalloti, PhD, director of Neuropsychology & Neuroscience Research at Kessler Foundation, "This demonstrates that an effective cognitive rehabilitation protocol can lead to changes in the way the brain is actually processing information." Dr. Chiaravalloti is lead author of the article, which was published online by the *Journal of Neurology* on January 12.

Cognitive deficits are a common cause of disability in MS, though few studies have examined the efficacy of memory retraining in this population. Previous research conducted at Kessler Foundation demonstrated that mSMT improves new learning and memory in MS.

The new study utilized functional magnetic resonance imaging (fMRI) to document brain activation patterns before and after memory retraining. In the double-blind, placebo-controlled, randomized clinical trial, 16 individuals were randomly assigned to treatment (n = 8) or placebo (n = 8) groups. Each underwent 10 memory retraining sessions (twice weekly for 5 weeks). After treatment, greater activation was evident on fMRI in

the treatment group during performance of a memory task; no change was seen in the placebo group. Increased activation was associated with improved memory performance. These benefits may warrant third-party reimbursement for this intervention in selected patients.

More information: Increased cerebral activation after behavioral treatment for memory deficits in MS, [DOI:10.1007/s00415-011-6353-x](https://doi.org/10.1007/s00415-011-6353-x)

Provided by Kessler Foundation

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