

Benefits of modified Story Memory Technique may be adversely affected by deficit in processing speed

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Dr. Chiaravalloti. Credit: Kessler Foundation

Kessler Foundation researchers published a subanalysis of their MEMREHAB trial, which shows that treatment with the modified Story Memory Technique (mSMT) may be affected by cognitive dysfunction. Investigators looked at the influence of processing speed on benefits of the mSMT, a 10-session cognitive intervention protocol shown to improve new learning and memory in individuals with MS. The influence of cognitive dysfunction on benefit from learning and memory rehabilitation in MS: A subanalysis of the MEMREHAB trial, was published online ahead of print on February 6 by *Multiple Sclerosis Journal*. The authors are John DeLuca, PhD, and Nancy Chiaravalloti, PhD, of Kessler Foundation.

Deficits in processing speed, which are common in MS, have been shown to adversely affect [cognitive](#) and everyday functioning. "This evidence supports the need to investigate the influence of processing speed in performance on [cognitive interventions](#)," said Nancy Chiaravalloti, PhD, director of Neuroscience & Neuropsychology and Traumatic Brain Injury (TBI) Research at Kessler Foundation."

The MEMREHAB trial included 85 participants with MS; 45 received the intervention and 40 were controls. Half were found to have processing speed deficits; all had [memory](#) impairment as a criterion for participation in the trial. Among the participants with deficits in processing speed, the mSMT was not as beneficial. Performance on SDMT (Symbol Digit Modalities Test) was determined to be an indicator for mSMT benefit.

"Processing speed may be an indicator of cognitive decline, which may be a factor in the reduced benefit with mSMT," said Dr. Chiaravalloti. "Also, learning and memory impairments can have different mechanisms. In individuals with deficits in processing, impaired learning and memory may stem from difficulties with working memory and attention, as well as slowed processing speed. This could also affect

outcomes on the mSMT."

This subanalysis was based on the Foundation's MEMREHAB Trial, which provided the first Class I evidence for the efficacy of cognitive rehabilitation in MS.

More information: 1. *Multiple Sclerosis Journal*, [DOI: 10.1177/1352458514567726](https://doi.org/10.1177/1352458514567726)

2. Chiaravalloti N, et al: An RCT to treat learning impairment in MS. *Neurology* 2013 81(24):2066-72. [DOI: 10.1212/01.wnl.0000437295.97946.a8S](https://doi.org/10.1212/01.wnl.0000437295.97946.a8S)

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