Transcript Details
This is a transcript of an educational program. Details about the program and additional media formats for the program are accessible by visiting: https://reachmd.com/programs/Audioabstracts/structured-interventions-cognitive-support-ms/54242/

ReachMD
www.reachmd.com
info@reachmd.com
(866) 423-7849

Evaluating Structured Interventions for Cognitive Support in MS

Slowed thinking, memory lapses, trouble concentrating—for patients with multiple sclerosis, these symptoms often show up early, linger quietly in the background, and impact independence and quality of life.

This is *AudioAbstracts* on ReachMD. I'm Dr. Hallie Blevins, and today, I'll be talking about a recent study exploring what happens when cognitive training and exercise are put head-to-head—*and* side-by-side—for cognitive impairment in multiple sclerosis.

Pharmacologic options remain limited, so non-drug strategies are gaining traction and that's where this study comes in; if we want to support cognition in people with multiple sclerosis, is it better to train the brain, move the body, or do both?

To find out, the researchers conducted a randomized comparative effectiveness study involving 61 adults with mostly relapsing-remitting MS who had measurable or emerging cognitive slowing. After accounting for adherence, 46 participants completed enough of the intervention to be included in the final analysis.

They were randomized into one of three intervention approaches: computerized cognitive training using a program called BrainStim, treadmill walking exercise, or a combination of both. The study's intervention phase lasted for 12 weeks and included a six-month follow-up to look at sustainability.

The design itself mirrors real-world rehabilitation. Cognitive training focused on working memory through adaptive computer-based tasks, while exercise training involved supervised treadmill walking at moderate intensity—about 30 to 70 percent of heart rate reserve. Each single-modality group trained twice weekly for 45 minutes, while the combined group doing both interventions totaled four sessions per week. And the statistician analyzing the results was blinded to help reduce bias.

Getting into the results, no matter which intervention participants received, patients reported feeling cognitively better after the 12-week program. Scores on the Perceived Deficits Questionnaire, or PDQ-20, dropped significantly in all three groups.

But at the six-month follow-up, the most durable benefit was seen in the combined cognitive plus exercise group. Participants in the exercise group also saw sustained benefits, but participants who did cognitive training alone drifted back toward their baseline perceptions.

A similar pattern was observed with the Symbol Digit Modalities Test, also called SDMT, which measures information processing speed. Both the treadmill-only group and the combined group showed meaningful gains after 12 weeks, and those improvements were still there six months later. But cognitive training alone failed to reach significance at 12 weeks follow-up.

So, exercise appears to be the main engine driving measurable improvements in processing speed. That aligns with broader evidence suggesting aerobic activity supports neuroplasticity, reduces fatigue, and improves cerebral efficiency—even though this study didn't directly measure the biology behind it.

The authors also looked at clinical relevance. Over half of participants improved by at least four points on the SDMT, a change associated with real-world functional benefits. And nearly one-third improved by eight points or more, which is a conservative threshold for individual-level cognitive change. Once again, the combined group stood out, with nearly half of its participants falling into this "best responder" category.

Now, to be clear, the study didn't find statistically significant differences *between* groups on the primary outcomes. That means the combined approach can't officially be labeled superior. The sample size was modest, and participants generally had mild-to-moderate cognitive impairment—both factors that limit the ability to detect between-group effects.

Still, the pattern is hard to ignore. Exercise clearly matters for cognitive improvement in patients with multiple sclerosis, and combining it with cognitive training seems to support more durable, patient-perceived benefits. So, when feasible, pairing exercise with structured cognitive training may help those gains feel more meaningful and long-lasting in everyday life.

This has been an *AudioAbstract*, and I'm Dr. Hallie Blevins. To access this and other episodes in our series, visit ReachMD.com, where you can Be Part of the Knowledge. Thanks for listening!

Reference

Gyger N, Monschein T, Filser M, et al. Cognitive training, exercise training or combined training? A comparative effectiveness research study on subjective and objective cognitive outcomes in multiple sclerosis. *J Neurol*. 2026;273(2):82. doi:10.1007/s00415-025-13535-w