

Exercise, behavioral therapy may help MS patients

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A South Dakota State University researcher will determine whether exercise alone or in combination with cognitive behavioral therapy is more effective at improving mobility and quality of life for patients diagnosed with multiple sclerosis.

Leg weakness can make it difficult for those with [multiple sclerosis](#) to stand up from a sitting position, but resistance, balance and flexibility training can help improve mobility, according to assistant professor Bradley Bowser.

He is director of the biomechanics laboratory in the Department of Health and Nutritional Sciences.

In a previous study, multiple sclerosis patients increased their strength and the speed of their sit-to-stand movement after 16 weeks of training. However, when Bowser analyzed how they moved, he found that participants experiencing leg weakness were thrusting their upper bodies forward to create the momentum needed to push themselves up.

"If they don't change the mechanics, they may increase stress on the lower back that could lead to pain or injury," he said.

The new study will look at whether exercises that strengthen [leg muscles](#) and improve balance will improve the sit-to-stand movement. The research is supported through grants from the Women and Giving Program at the SDSU Foundation and the SDSU Research and

Scholarship Support Fund.

Through collaboration with assistant professor Kristin Bruns of the counseling and human development department, the researchers will also investigate whether behavioral therapy will help participants cope mentally with their symptoms and further improve their quality of life.

The 10-week intervention will involve 20 [participants](#) with multiple sclerosis who can walk 20 feet unassisted. Participants will exercise one hour twice a week to strengthen muscles and improve balance, but half will also participate in a one-hour [cognitive behavioral therapy](#) session each week.

Provided by South Dakota State University

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