

# CWRU nursing school develops how-to exercise pamphlet for people with MS

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Fatigue and pain, along with other symptoms, prevent many people with multiple sclerosis (MS) from exercising. But a new how-to guide for a home-based exercise program, tested by researchers at Case Western Reserve University's nursing school and the Lerner Research Institute at the Cleveland Clinic, offers a way for people with MS to stay more physically active.

The researchers developed a 24-week [exercise](#) program based on a series of pamphlets with varying levels of difficulty. The program helps inactive individuals start at a lower, shorter level of activity and gradually build to longer, more difficult [exercise routines](#).

"The printed pamphlets have shown promise in helping people with [multiple sclerosis](#) engage in exercise and offset the disabling effects of multiple sclerosis," said Matthew Plow, assistant professor at Case Western Reserve's Frances Payne Bolton School of Nursing and an exercise trainer for people with MS.

MS is thought to be caused by an abnormal immune response that attacks the central nervous system. An estimated 2.3 million people worldwide suffer from MS symptoms, which can vary from person to person, according to the National Multiple Sclerosis Society.

Along with pain and fatigue, other symptoms of MS include numbness and tingling, weakness, dizziness, feelings of stiffness, vision problems and walking difficulties.

But [physical activity](#) (PA) may help counter the debilitating physical symptoms and delay cognitive impairment associated with the autoimmune disease.

Plow is lead investigator on a study that tested a home-based exercise program to help people maintain their ability to balance, walk and use their hands and arms.

A series of pamphlets is designed to meet the individual's starting exercise level and unique symptom profile. The program was adapted from a distance-learning intervention designed by one of the study's researchers, Bess Marcus, from the Department of Family and Preventative Medicine at the University of California at San Diego.

Marcus' work focused on increasing the motivation to exercise and taking people through the five stages of readiness to exercise and change behavior: pre-contemplation, contemplation, preparation, action and maintenance of an exercise program.

Researchers recruited 30 women with doctor-confirmed diagnoses of relapsing-remitting MS to test the new [exercise program](#).

The women suffered similar symptoms of fatigue and pain and also lacked the time or motivation to use a gym or take exercise classes. Each received instructions for exercise to do at home or in the neighborhood to increase their physical activity.

Participants started with the pamphlet that matched their PA levels. The step-by-step instructions helped participants establish an exercise routine that consists of aerobics balance exercises and strength training.

Researchers called the participants every three weeks with questions about the women's PA habits and barriers that may have prevented them

from exercising. The participants also were interviewed and underwent a physical assessment at 24 weeks to track changes.

Results from the pilot study indicate the program shows promise in improving physical function and reducing symptom severity.

According to Plow, the program was well received—even by some of the women who had shied away from workout facilities.

Their findings were reported in the *Health Research Education and Clinical Rehabilitation* articles: "A Formative evaluation of customized pamphlets to promote physical activity and symptom self-management in women with multiple sclerosis," and "Randomized controlled pilot study of customized pamphlets to promote physical activity and symptom self-management in women with multiple sclerosis."

Provided by Case Western Reserve University

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