New research could help millions of Americans reduce leg pain from peripheral artery disease

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A new approach to treating peripheral artery disease could lead to happier and healthier lives for millions of Americans.

Peripheral artery disease (PAD) limits the flow of oxygen-rich blood to your legs and other parts of the body. This debilitating affliction can make walking painful and affects an estimated 12 million Americans.

"The best thing for this patient population is to try and get them moving," said Jack Rejeski, a professor of health and exercise science and the director of the Behavioral Medicine Laboratory at Wake Forest. "If you don't, they become further impaired, an effect that can severely compromise quality of life."

Rejeski is a co-author of a new study that shows for the first time a home-based exercise program can increase the walking distance and reduce the lower leg pain of people with PAD.

He said previous studies have shown supervised treadmill exercise improves mobility and can reduce leg pain during activity for people with PAD. However, supervised exercise typically is not covered by medical insurance and requires the availability of and access to such programs.

"Unfortunately what happens with PAD is that many people can't afford

supervised care or do not have access to such care," Rejeski said. "To make matters worse, there has been no evidence that patients with PAD will engage in or can benefit from home-based exercise."

Until now.

Rejeski is the senior author of a new study that shows for the first time that home-based exercise training can be implemented with success for people with PAD.

The Group Oriented Arterial Leg Study (GOALS) was performed in collaboration with researchers at Northwestern University's School of Medicine in Chicago with Dr. Mary McDermott as the principal investigator. It appeared in the July 3, 2013 issue of the *Journal of the American Medical Association*.

Rejeski said participants in the study, aged 65 and older, were randomly assigned to either an intervention group or a control group. Each group met one time weekly for six months. Participants in the intervention group were taught how to develop a home-based program with a focus on goal-setting, self-monitoring and pain management. They were instructed to engage in 50-minute walking exercises at home up to five times a week. Rejeski said the intervention group also benefited from the support of other participants and their group leader. Participants in the control group attended weekly 60-minute lectures by health professionals on topics like managing hypertension, cancer screening and vaccinations.

Prior to and at the end of six months, both groups performed a six-minute walking test. Rejeski said participants in the intervention group were able to walk 53.5 meters further than the control group.

"From a clinical standpoint, this is a significant result," Rejeski said. "It

will change the current clinical practice guidelines that apply to people with PAD."

Rejeski said the key to a successful home-based PAD program is a group-mediated approach which provides the support and skills needed to sustain an independent program of physical activity for patients with PAD.

"The participants can identify with other people with the disease and also talk about what has and hasn't worked for them," he said. "What this study shows is that if you can get people to understand the value of being physically active, and they can work with and feel supported by others who understand what they facing, they can and often become accountable for self-managing the symptoms of their disease. "

Rejeski is currently working with his colleagues at Northwestern University on a follow-up grant using mobile technological to deliver this invention to PAD patients so that it can be accessible to a larger segment of the population.

The study, still in its early stages, uses iPhones equipped with accelerometers to track and provide real-time feedback on physical activity performed at home. The group-based component of the intervention is delivered via telephone and is coordinated and facilitated by a coach.

"This new study will not only help keep participants accountable, but is also a way to feed information back to them so they can monitor their progress," Rejeski said. "The idea is to merge technology with state-of-the-art methods for behavioral change."

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