Researchers from the University of Maryland School of Medicine and the Baltimore VA Medical Center found that Parkinson’s patients who walked on a treadmill at a comfortable speed for a longer duration (low-intensity exercise) improved their walking more than patients who walked for less time but at an increased speed and incline (high-intensity exercise). The investigators also found benefits for stretching and resistance exercises.

The study results were presented at the 63rd Annual Meeting of the American Academy of Neurology meeting in Honolulu (April 2011).

“Difficulty walking is the greatest cause of disability in people with Parkinson’s disease,” said Lisa M. Shulman, MD, with the University of Maryland, School of Medicine in Baltimore and a Fellow of the American Academy of Neurology. “These results have important implications for how we manage Parkinson’s disease, since low-intensity exercise can be done by most people with Parkinson’s, and our patients frequently ask what type of exercise they should be doing.”

“Our study showed that low-intensity exercise performed for 50 minutes three times a week was the most beneficial in terms of helping participants improve their gait and mobility. People who were on the low intensity treadmill training performed better than the two other groups on the distance and speed tests. Walking difficulty is the major cause of disability in Parkinson’s disease. These results show that exercise in people with Parkinson’s disease can make a difference in their function. Exercise may, in fact, delay disability and help to preserve independence,” says Lisa Shulman, M.D., principal investigator and professor of neurology at the University of Maryland, School of Medicine.

“Many patients ask us what kind of exercise they should be doing. Now we can tell them that this research shows that low-intensity walking, which most people with Parkinson’s can do, combined with stretching and resistance training may be the best option,” adds Dr. Shulman, who is also co-director of the Maryland Parkinson’s Disease and Movement Disorders Center at the University of Maryland Medical Center.

The study compared 67 people with Parkinson’s disease who had problems walking were randomly assigned to one of three exercise groups: walking on a treadmill at low intensity for 50 minutes, higher-intensity treadmill training to improve cardiovascular fitness for 30 minutes, or stretching and resistance exercises, which included repetitions of leg presses, extensions and curls. Participants exercised three times a week for three months and were supervised by exercise physiologists at the Baltimore VA Medical Center. They were tested before and after the training with assessments of distance covered in a six-minute walk, walking speed at 10 meters and 50 feet, general fitness and ratings of their Parkinson’s symptoms.

Participants in the University of Maryland study on Parkinson’s disease and exercise walked on treadmills three times a week for three months. Training took place at the Baltimore VA Medical Center.

“We saw positive effects with all three types of exercise, but the low-intensity training showed the most consistent improvement in gait and mobility,” adds Dr. Shulman.
“To maintain the best possible quality of life, people with Parkinson’s disease need practical, evidence-based advice about what kind of exercise will most benefit them over the long term. The Michael J. Fox Foundation has aimed to answer this question in its exercise funding to investigators such as Dr. Lisa Shulman and her team,” says Todd Sherer, PhD, chief program officer of The Michael J. Fox Foundation for Parkinson’s Research.

The Maryland research team measured participants’ cardiovascular fitness before and after training, and found cardiovascular improvement in both the low- and high-intensity groups. Other measurements included the distance covered in a six-minute walk and timed tests of walking short distances, such as 50 feet.

“The results of this study provide practical information to people with Parkinson’s disease to make decisions about managing their health and well-being. Our University of Maryland faculty members are committed to testing new approaches, such as exercise, to help patients,” says E. Albert Reece, M.D., Ph.D., M.B.A, vice president for medical affairs, University of Maryland, and dean, University of Maryland School of Medicine.

Parkinson’s disease affects about 1 million people in the United States and Canada. Most people begin to develop symptoms in their late 50s or early 60s, although it can occur in younger people. Parkinson’s disease affects the brain’s ability to produce dopamine, the neurotransmitter involved in the communication between the brain cells for motor control. Physical symptoms include tremor, muscle rigidity, slowness of movement and gait impairment. There are also non-motor symptoms such as changes in cognitive function, sleep disturbance and depressed mood.

Lisa M. Shulman, MD, FAAN discusses the research findings at the 2011 American Academy of Neurology Annual Meeting.