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Parkinson's Disease Health Center

Multitasking Adds to Parkinson's Fall Risk

Study Shows Increased Risk of Falls When Walking and Talking

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WebMD Health News

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Sept. 30, 2010 -- Older adults with Parkinson's disease as well as those without neurological problems are at increased risk of injury-causing falls when [walking](#) and talking at the same time, a study shows.

Researchers at Florida State University say Parkinson's disease alters gait, stride length, and step velocity. It also alters the ability of older people to stabilize themselves on both [feet](#) when asked to perform increasingly difficult verbal tasks while walking.

A surprising finding of the study was that even older adults who do not have a neurological impairment also have trouble walking and talking at the same time.

The study is published in the October issue of the *International Journal of Speech-Language Pathology*.

"These results suggest that it might be prudent for health care professionals and caregivers to alter expectations and monitor cognitive-linguistic demands placed on these individuals while they are walking, particularly during increased risk situations, such as descending stairs, in low-light conditions, or avoiding obstructions," study researcher Charles G. Maitland, MD, of Florida State University's College of Medicine, says in a news release.

Simply put, older people with Parkinson's shouldn't give directions or be asked to provide a thoughtful response to a complicated question when they are walking, the researchers say.

Parkinson's and Falls

Researchers signed up 25 people with Parkinson's -- 19 men and six women -- to take part in the study. Their ages ranged from 41 to 91. The researchers then asked 13 people in the same age and education range but without a history of neurological impairment to walk and talk at the same time.

The researchers used a portable walkway system, a 14-foot mat containing 13,824 sensors that measured, interpreted, and recorded gait data as participants walked on it.

All participants were asked to walk while counting by ones, a low-load task. They also were instructed to perform a mid-level task: serial subtraction by threes. The participants also were given a high-load task that asked them to recite an alpha-numeric sequence, such as D-7, E-8, F-9, and so forth.

Researchers say that while there were no significant differences between the two groups in stride length and step velocity, members in the comparison group -- those without a known neurological impairment -- significantly increased the time they spent stabilizing on two feet from the low-load to the high-load tasks.

Risks of Walking and Talking

"Perhaps one of the most common dual tasks that we perform is talking while walking," the researchers write. "In isolation, neither task would be considered difficult to perform, yet when coupled, the relative ease of each task may change."

This seems to be particularly true for people with Parkinson's disease and even for older people who do not suffer from a neurological disorder, the researchers say.

The findings of the study "highlight the importance of efforts to reduce falls and illuminate how injurious falls contribute to human suffering, [emergency department] overcrowding, hospital costs and admission to long-term care facilities."

Injurious falls accounted for 2.1 million emergency room visits by adults over 65 in a recent calendar year. People between 75 and 84 accounted for 40.3% of the visits, followed by those over 85 at 32.4% and 27.3% for people 65 to 74.

Women accounted for 70.2% of these emergency room visits.

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SOURCES:

News release, Florida State University.

LaPointe, L. *International Journal of Speech-Language Disease*, October 2010.

Agency for Healthcare Research and Quality: "Emergency department visits for injurious falls among the elderly, 2006."

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