

# Study yields promising results for patients with stroke

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One year after having a stroke, 52% of people who participate in either a physical therapy program that includes a walking program using a body-weight supported treadmill or a home-based program focused on progressive strength and balance exercises experience improved functional walking ability, according to the results of the Locomotor Experience Applied Post-stroke (LEAPS) trial being presented today at the American Stroke Association's International Stroke Conference 2011 in Los Angeles, and tomorrow at the American Physical Therapy Association's (APTA) 2011 Combined Sections Meeting in New Orleans.

The LEAPS trial, led by physical therapist and APTA member Pamela W. Duncan, PT, PhD, included 408 participants (average age 62) with recent stroke recruited from 6 US stroke rehabilitation centers between April 2006 and June 2009. Participants were 45% female, 58% Caucasian, 22% African American, and 13% Asian. All were assigned to 36 sessions of 75 to 90 minutes for 12 to 16 weeks in either a structured and progressive task-specific walking program that included body weight supported treadmill training provided early (2 months post-stroke) or late (6 months post-stroke), or a structured and progressive home-based exercise program of strength and balance provided 2 months post-stroke.

"The investigators hypothesized that the body-weight supported treadmill and walking program, especially early locomotor training, would be superior to a home exercise program; However at 1 year, the early walking group, late walking group, and exercise program targeting

strength and balance achieved similar important gains in walking speed, motor recovery, balance, functional status, and quality of life," said Duncan, professor at Duke University School of Medicine in Durham, North Carolina. "Additionally, walkers with severe and moderate limitations improved with all programs. In all groups, the biggest improvements in outcomes were made after the first 12 sessions of therapy, but 13% of the subjects continued to make functional gains in walking recovery by 24 sessions and another 7% improved by 30 to 36 sessions."

Individuals in the locomotor training groups were more likely to feel faint and dizzy during the exercise, and those who received early locomotor training experienced more multiple falls. Fifty-seven percent of all participants experienced 1 fall, 34% had multiple falls, and 6% had a fall resulting in injury. Falls are a common problem among stroke survivors, and the investigators say this study builds on evidence that additional research is needed to prevent falls.

A secondary finding of the study shows that at 6 months post-stroke, a group who had not yet received any therapy beyond usual care showed improved walking speed, but only about half as much as the participants who received either the walking or home-based program at 2 months. The 6-month findings, according to Duncan and colleagues, suggest that both programs are effective forms of [physical therapy](#) and are superior to usual care provided according to current standards of practice.

In the United States, nearly 800,000 people suffer a [stroke](#) each year and 2/3 of survivors have limited [walking](#) ability after 3 months, says Duncan. "The bottom line is that patients recover faster and sustain recovery when the intervention is given early."

Provided by American Physical Therapy Association

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