

# Exercise improves memory, thinking after stroke, study finds

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Just six months of exercise can improve memory, language, thinking and judgment problems by almost 50 per cent, says a study presented today at the Canadian Stroke Congress.

Toronto researchers found that the proportion of [stroke patients](#) with at least [mild cognitive impairment](#) dropped from 66 per cent to 37 per cent during a research study on the impact of exercise on the brain.

"People who have cognitive deficits after stroke have a threefold risk of mortality, and they're more likely to be institutionalized," says lead researcher Susan Marzolini of the Toronto Rehabilitation Institute. "If we can improve cognition through exercise, which also has many physical benefits, then this should become a standard of care for people following stroke."

Forty-one patients, of whom 70 per cent had mild to moderate walking problems requiring a cane or walker, followed an adapted aerobic and strength/resistance training program five days a week. Exercises designed to imitate daily life included walking, lifting weights and doing squats.

The research team found "significant improvements" in overall [brain function](#) at the conclusion of the program, with the most improvement in attention, concentration, planning and organizing. Muscular strength and walking ability also increased.

The study did not use a control group of people who didn't exercise. However, Ms. Marzolini says, "these results provide compelling evidence that by improving cardiovascular fitness through [aerobic exercise](#) and increasing muscle mass with resistance training, people with stroke can improve [brain health](#)."

Ms. Marzolini emphasizes the need to give people with stroke-related impairments access to exercise programs. "Modified exercise programs are desperately needed – they can be adapted for people following stroke, and we think they can provide huge health benefits."

"Healthy living is important for reducing your risk for stroke, [recovering from stroke](#) and preventing another," says Ian Joiner, director of stroke for the Heart and Stroke Foundation. "All of us should manage our risk factors for stroke and, when needed, have access to information and counseling about strategies to modify our lifestyle choices."

"These healthy lifestyle studies emphasize how important it is to exercise and stay active after stroke," says Dr. Mark Bayley, Co-Chair of the Canadian Stroke Congress and Medical Director of the Neurological Rehabilitation Program at Toronto Rehab. "By doing so, we can increase our chances of a better outcome after stroke."

The Canadian Stroke Congress is co-hosted by the Canadian Stroke Network, the Heart and Stroke Foundation and the Canadian Stroke Consortium.

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