

Research finds older women who are more physically fit have better cognitive function

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New research published in the international journal *Neurobiology of Aging* by Marc Poulin, PhD, DPhil, finds that being physically fit helps the brain function at the top of its game. An Alberta Heritage Foundation for Medical Research Senior Scholar, Poulin finds that physical activity benefits blood flow in the brain, and, as a result, cognitive abilities.

"Being sedentary is now considered a risk factor for stroke and dementia," says Poulin, a scientist in the Faculties of Medicine and Kinesiology at the University of Calgary. "This study proves for the first time that people who are fit have better blood flow to their brain. Our findings also show that better blood flow translates into improved cognition."

The study, *Effects of Cardiorespiratory Fitness and Cerebral Blood Flow on Cognitive Outcomes in Older Women*, compares two groups of women whose average age was 65 years old. From a random sample of 42 women living in Calgary, the study observed women who took part in regular aerobic activity, and another group of women who were inactive. Poulin's team recorded and measured the women's cardiovascular health, resting brain blood flow and the reserve capacity of blood vessels in the brain, as well as cognitive functions. The team included scientists, doctors and graduate students, with MSc student Allison Brown taking a lead role.

The scientists found that compared to the inactive group, the active

group had lower (10 per cent) resting and exercising arterial blood pressure, higher (5 per cent) vascular responses in the brain during submaximal exercise and when the levels of carbon dioxide in the blood were elevated, and higher (10 per cent) cognitive function scores.

One study participant, Calgarian Merceda Schmidt, 91 years old, walks about six kilometres per week to her volunteer schoolteaching and piano playing commitments. "It's just in my nature - the batteries I got when I was born. My legs want to go," says Schmidt. "I have to admit, I was nervous before the bike test. I could've done better if my shoe hadn't fallen off."

Source: University of Calgary

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