

Morning exercise improves brain health in older, overweight adults

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An international research team led by The University of Western Australia and The Baker Institute in Melbourne has found a morning bout of exercise reduces the detrimental impact on the pattern of brain

blood flow of prolonged sitting in older adults who are overweight or obese.

Lead researcher Michael Wheeler, a Ph.D. candidate in UWA's School of Sport Science, Exercise and Health, said strategies to maintain healthy blood flow to the [brain](#) were a public health priority given the prevalence of stroke and dementia among Australia's ageing population.

Previous studies had demonstrated that [exercise](#) was linked to a reduced incidence of stroke and may also delay the progression of dementia, Mr Wheeler said.

The study, published in the *Journal of Applied Physiology*, compared how exercise and sedentary behaviour affected [brain blood flow](#) in older, overweight adults.

A group of 12 men and women aged 55 to 80 were tested in three laboratory sessions. The first session involved sitting uninterrupted for eight hours while the second involved sitting for an hour before 30 minutes of moderate-intensity walking on the treadmill then another 6.5 hours of uninterrupted sitting.

The third session involved sitting for an hour, followed by 30 minutes of moderate-intensity treadmill walking then sitting for another 6.5 hours interrupted by three minutes of light-intensity treadmill walking every 30 minutes.

"What we found was that during uninterrupted sitting, there was a pattern of decline in brain blood flow over eight hours," Mr Wheeler said.

"However, when participants performed a morning bout of exercise with or without subsequent breaks in sitting, brain blood flow improved in the

afternoon, several hours after exercise.

"Interestingly, the afternoon recovery seemed to occur more quickly when exercise was followed by subsequent breaks in sitting.

"Since preventing declines in brain [blood](#) flow is important in maintaining brain health as we age, these findings are relevant from a clinical and public [health](#) perspective."

More information: Michael J. Wheeler et al. Morning exercise mitigates the impact of prolonged sitting on cerebral blood flow in older adults, *Journal of Applied Physiology* (2019). [DOI: 10.1152/jappphysiol.00001.2019](#)

Provided by University of Western Australia

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