

Just 30 minutes of exercise has benefits for the brain

October 27 2014, by David Ellis



Left hemisphere of J. Piłsudski's brain, lateral view. Credit: public domain

University of Adelaide neuroscientists have discovered that just one session of aerobic exercise is enough to spark positive changes in the brain that could lead to improved memory and coordination of motor skills.

A study conducted by researchers in the University's Robinson Research Institute has found changes in the [brain](#) that were likely to make it more "plastic" after only 30 minutes of vigorous [exercise](#).

The study involved a small group of [healthy people](#) aged in their late 20s to early 30s who rode exercise bikes. They were monitored for changes in the brain immediately after the exercise and again 15 minutes later.

"We saw positive changes in the brain straight away, and these improvements were sustained 15 minutes after the exercise had ended," says research leader Associate Professor Michael Ridding.

"Plasticity in the brain is important for learning, memory and motor skill coordination. The more 'plastic' the brain becomes, the more it's able to reorganise itself, modifying the number and strength of connections between nerve cells and different brain areas."

Associate Professor Ridding says past research has shown that regular physical activity can have positive effects on brain function and plasticity, but it was unknown whether a stand-alone session of exercise would also have similar positive effects.

"We now have evidence suggesting that it does," he says. "This exercise-related change in the brain may, in part, explain why [physical activity](#) has a positive effect on memory and higher-level functions."

Associate Professor Ridding says there is now mounting evidence that engaging in [aerobic exercise](#) positively influences brain function in many ways – at cellular and molecular levels, as well as in the brain's architecture.

"Although this was a small sample group, it helps us to better understand the overall picture of how exercise influences the brain," he says.

"We know that plasticity is also important for recovery from brain damage, so this opens up potential therapeutic avenues for patients.

"Further research will be required to see what the possible long-term benefits could be for patients as well as healthy people."

Provided by University of Adelaide

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