

# Kids heading for diabetes could change their future

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(Medical Xpress) -- New research suggests exercise early in life could fend off diabetes and heart disease, even for those predisposed to such diseases.

The study by Victoria University's Professor Glenn McConell and Melbourne University's Associate Professor Mary Wlodek tested whether exercise could 'reprogram' rats with a predisposition to diabetes and [heart disease](#) due to being born underweight.

"Those born small are programmed for a higher chance of disease later in life because of their underdeveloped heart and pancreas, but we think you can reprogram yourself by exercising early in life," Professor McConell said.

In the trials on rats born small, those that exercised from five to nine weeks of age showed a small improvement in organ function at the end of that month, but remarkably, six months later their organs were the same as the healthy control group.

Another group of born small rats were not exercised and showed no improvement.

Professor McConell said a nine-week old rat correlated roughly with a five-year-old child and a six-month-old rat with a young adult person.

"We think this means more activity for children and more physical

education in school could really help set them up for better health later in life and even help those predisposed to [diabetes](#) and heart [disease](#) to re-program themselves in time to avoid it,” he said.

He said trials were now planned with sheep; a larger mammal model with more similar hormones to humans than rats. He said they would eventually like to try it on humans.

The study titled ‘Short-term exercise training early in life restores deficits in pancreatic  $\beta$ -cell mass associated with growth restriction in adult male [rats](#)’ was published recently in the *American Journal of Physiology-Endocrinology and Metabolism*.

The study was made possible by National Health and Medical Research Council funding.

Provided by Victoria University

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