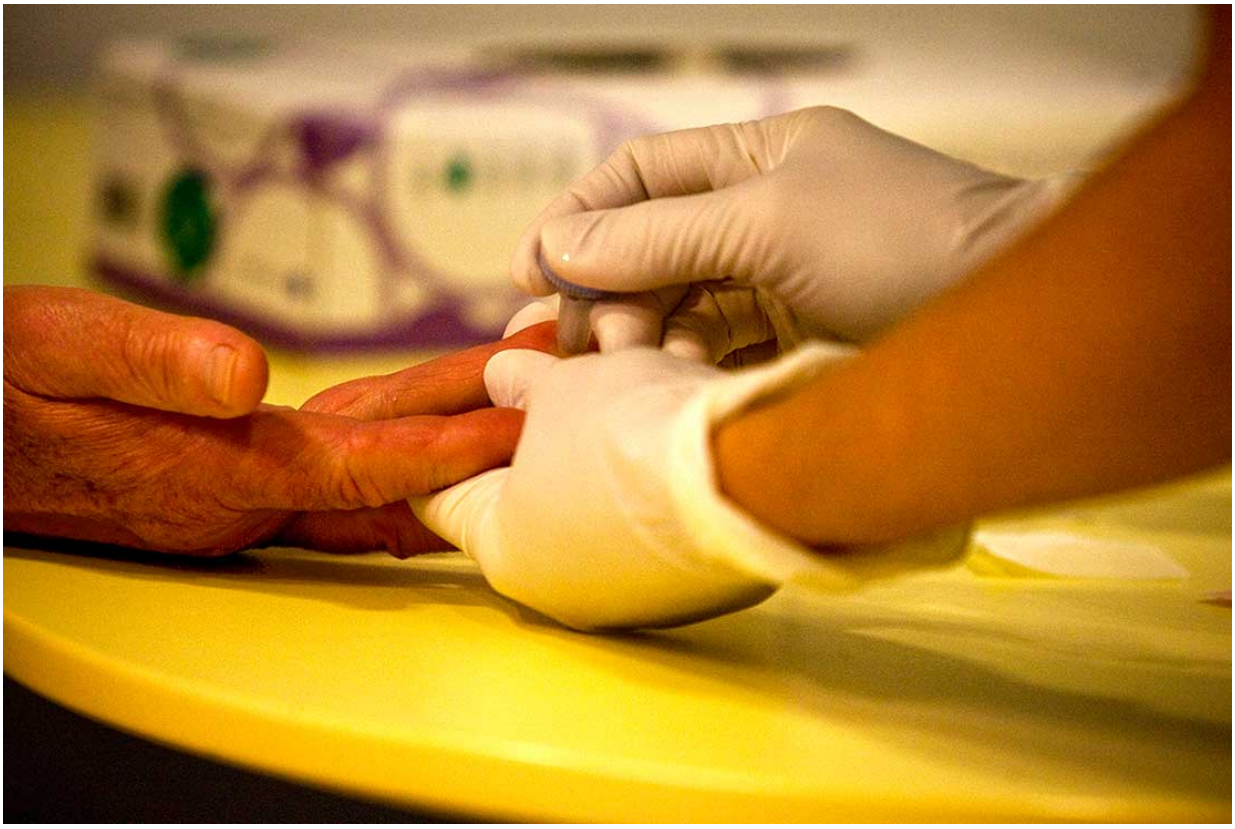
Can protein plus exercise improve type 2 diabetes?

August 15 2016



Massey researchers are investigating whether a novel keratin-derived protein extract can enhance the benefits of exercise in people with type 2 diabetes. Credit: Massey University

Exercise has been shown to improve the health of people with type 2

diabetes. But the benefits of exercise vary greatly between people, meaning some benefit more than others. Now, researchers from Massey University's School of Sport and Exercise believe they may have discovered why.

Dr Martin Gram, Dr Lee Stoner and Dr David Rowlands are studying whether a novel keratin-derived protein extract developed in New Zealand, can enhance the benefits of exercise in people with type 2 diabetes.

Research officer Dr Gram says while the study is ongoing, results so far are promising. "One of our participants who has now completed taking part in the study, says he is sleeping much better and he finds his alertness and concentration have improved. Another came on board at a time where her doctors wanted her to go on insulin treatment as her sugar levels had been increasing at an alarming rate. At completion of the study she experienced a massive drop. Naturally she felt fantastic when she got the results from her blood test, and her aim now is to get it even lower."

Preliminary results from the study have been shown to Dr Nick Oscroft from Newtown Medical Centre in Wellington. He says patients have shown meaningful improvements in the control of their diabetes, as well as other measures of general health. "Speaking with those who have completed the study period, many have come out with a renewed sense of control over their long term condition and knowledge of how their body responds to exercise."

Four of the eight participants who have now completed the study no longer qualify to be considered type 2 diabetic, as their sugar level has dropped below 50.

Dr Gram says the reason for the beneficial effects might be caused by

the unique amino acid and mineral composition of the protein, which may protect the body's tissues through anti-oxidant mechanisms. "Ingestion of the keratin protein may help diabetics lower blood glucose levels. Consequently, the study will provide an opportunity to assess this promising practical, natural and non-drug intervention for diabetic therapy."

Approximately seven per cent of the New Zealand population has type 2 diabetes, and prevalence of the disease is expected to increase. Diabetes results from a reduced ability of the body's tissue to take glucose (sugar) out of the blood stream. Most of the glucose is taken up and used by skeletal muscle. An impaired capacity for skeletal muscle to take up and use glucose eventually leads to increased risk for eye or kidney damage as well as cardiovascular disease.

The study is ongoing and the research team is currently looking for participants who are sedentary, aged between 35–65 years and has been diagnosed with type 2 diabetes but is not on insulin treatment. The study is 17 weeks long and includes 14 weeks of exercise supervised by clinical specialists. During the study health tests are done to evaluate the effects of the training and protein intervention.

The study is a collaboration between: Massey University's College of Health; the Centre for Endocrine and Diabetes Research at Wellington Hospital; the Free Radical Research Group at Christchurch Hospital; and the Department of Anatomy at the University of Otago. The study is funded by a Smart Ideas grant from the Ministry of Business, Innovation and Employment, and Massey University.

More information: Individuals with type 2 diabetes interested in being involved in the programme are welcome to contact the coordinating researcher Dr Martin Gram on 022 169 2343 or m.gram@massey.ac.nz

Provided by Massey University