

Just one minute of exercise a day could prevent diabetes researchers find

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Dr. Niels Vollaard and a volunteer

(Medical Xpress) -- Volunteers were asked to perform two 20-second cycle sprints, three times per week for researchers in the University's Department for Health

After six weeks researchers saw a 28 per cent improvement in their insulin function.

Type 2 diabetes occurs when [blood sugar](#) levels build up to dangerously high levels due to reduced insulin function, often caused by a sedentary lifestyle.

The condition can cause life-threatening complications to the heart, kidneys, eyes and limbs, and costs the NHS £1 million an hour in treatments and care.

Regular [exercise](#) can help keep blood sugar levels low but busy lifestyles and lack of motivation mean 66 per cent of the population is not getting the recommended five 30-minute sessions of moderate exercise a week.

Dr. Niels Vollaard who is leading the study, said: “Our muscles have sugar stores, called glycogen, for use during exercise. To restock these after exercise the muscle needs to take up sugar from the blood. In inactive people there is less need for the muscles to do this, which can lead to poor sensitivity to insulin, high blood sugar levels, and eventually type 2 diabetes.”

“We already knew that very intense sprint training can improve insulin sensitivity but we wanted to see if the exercise sessions could be made easier and shorter.”

In the study the resistance on the exercise bikes could be rapidly increased so volunteers were able to briefly exercise at much higher intensities than they would otherwise be able to achieve. With an undemanding warm-up and cool-down the total time of each session was only 10 minutes.

Dr. Vollaard said: “We know of no quicker and easier way of getting the muscles to use glycogen than with the short sprints we used in our study. These sprints break down as much glycogen in 20 seconds as moderate endurance exercise would in an hour.”

He added: “This is completely new. No one has ever found a programme this easy and short to provide health benefits. At the moment it has only been done in lab conditions but it would be easy to create a bike that

does this in a gym setting. It could even be done in the workplace.”

This type of exercise is not suitable for weight loss as the sprints are too short to burn many calories, but it was shown to improve general fitness.

The study, published in the [European Journal of Applied Physiology](#), is now being extended with more volunteers to determine if the exercise sessions can be made even shorter.

Provided by University of Bath

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