

Sedentary lifestyles more harmful if type 2 diabetes in the family

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Credit: University of Liverpool

Scientists at the University of Liverpool have found that a reduction in physical activity and an increase in sedentary behaviour has detrimental effects on the body, and could be more harmful if a first degree relative

has type 2 diabetes.

The Diabetes UK-funded study looked at 45 [people](#) with active lifestyles, including 16 who have close blood relatives with type 2 diabetes. After 14 days of reduced [physical activity](#), all participants had higher levels of fat and their bodies were less able to respond to the hormone, insulin (known as insulin resistance). In those closely related to someone with type 2, a greater amount of fat was gained around their waist and in their blood, which are strong [risk](#) factors for the development of the condition.

The participants were assessed again 14 days after resuming normal [activity](#) and the researchers found the adverse effects were reversed. This stresses how beneficial physical activity can be, and the important role it plays in reducing the risk of developing type 2 diabetes.

Previous research has shown that being physically inactive can have [harmful effects](#) on the body, but this research takes these findings further by suggesting these effects could be even greater if there is a family history of type 2 diabetes.

type 2 diabetes is a serious, lifelong condition where your [blood glucose level](#) is too high. More than 4.6 million people in the UK have diabetes, and around 90 per cent of these have type 2 diabetes. It is estimated that 12.3 million people are at an increased risk of developing type 2 diabetes.

It is not fully understood what causes type 2 diabetes, but family history, age, weight and ethnic background can put people at greater risk of developing the condition.

Dr. Kelly Bowden Davies, from the University's Institute of Ageing and Chronic Disease, who conducted the study said: "The results of our study

highlight the critical importance of avoiding low levels of physical activity and sedentary behaviour, for example too much sitting, television viewing, computer gaming and so on. We know the benefits of exercise, the challenge now is to encourage people to simply move more and sit less."

Dr. Daniel Cuthbertson, who led the study added: "Our day to day physical activity is key to abstaining from disease and health complications. In a group of physically active, healthy young individuals that met the recommended physical activity guidelines, just 14 days of increased sedentary behaviour induces small but significant changes in their health."

Dr. Elizabeth Robertson, Director of Research at Diabetes UK, said: "This Diabetes UK study sheds light on the potential harmful effects that short-term inactivity could have on our health, especially if we have a close family history of type 2 diabetes.

"People with type 2 diabetes in the family are two to six times more likely to develop the condition than those who do not have a [family history](#) of the condition. Living an active lifestyle and eating a healthy balanced diet are the key ways to reduce your risk of type 2 [diabetes](#)."

More information: Metabolic decompensation and altered body composition after short-term physical inactivity in first-degree relatives of patients with type 2 diabetes vs healthy controls, Diabetes UK Professional Conference

Provided by University of Liverpool

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