

Research explores why interval walking training is better than continuous walking training

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New research published in *Diabetologia* (the journal of the European Association for the Study of Diabetes) suggests that training with alternating levels of walking intensity (interval training) could be better than walking at a constant speed to help manage blood sugar in people with type 2 diabetes. The research is by Dr Thomas Solomon, University of Copenhagen, Denmark, and colleagues.

The effects of exercise on blood sugar (glycaemic) control in individuals with type 2 diabetes are well documented but the optimal exercise intensity and type remains to be defined. Traditionally, high-intensity exercise has not been recommended for individuals with type 2 diabetes due to a fear of inducing injuries and discouraging patients from continuing with the exercise programme. Nevertheless, high-intensity exercise improves glycaemic control more than low-intensity exercise.

In other research by these same authors, it has been shown that interval-walking training (IWT), (where the intensity of the training alternates), more favourably improves glycaemic control in people with type 2 diabetes when compared to continuous-walking training (CWT) matched to have the same overall energy expenditure. In this new study, the authors analyse the potential mechanisms behind this effect.

Individuals with type 2 diabetes were randomised to 3 groups: a control group (CON), an IWT group and an energy-expenditure matched CWT

group. Training groups were prescribed highly standardised but free-living and unsupervised [training](#), five sessions per week (60 min/session). A hyperglycaemic clamp was used to measure [insulin secretion](#) (a standard method whereby glucose is infused at a constant rate and then used to work out how much insulin is being produced). Glucose isotope tracers were infused to measure glucose metabolism, and skeletal muscle biopsies were taken to assess insulin signalling. These variables were measured before and after a 4-month intervention.

The researchers found that improved [blood sugar control](#) was only evident in the IWT group, and this was likely to be caused by IWT-induced increases in insulin sensitivity and increased peripheral glucose disposal, indicative of improved glucose metabolism. No changes occurred in the CWT or CON groups. Furthermore, only IWT improved insulin signalling in skeletal muscle.

The authors conclude: "The most important finding of this study is that IWT, but not CWT, increased [insulin sensitivity](#) without a compensatory decrease in insulin secretion, thus improving the overall impact of insulin on [blood sugar](#) in these patients."

They add: "Whether these beneficial effects of IWT continue and result in better health outcomes in the long term must be determined in order to justify the clinical utility of [interval training](#) for people with [type 2 diabetes](#)."

Provided by Diabetologia

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