

## Interval-walking training for the treatment of type 2 diabetes: a randomized, controlled trial

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**Formål:** To evaluate the feasibility of free-living walking training in type 2 diabetes patients, and to investigate the effects of interval-walking training (IWT) versus continuous-walking training (CWT) upon self reported health, physical fitness, body composition and glycemic control.

**Metoder:** Subjects with type 2 diabetes were randomized to a control (n = 8), CWT (n = 12), or IWT group (n = 12). Training groups were prescribed five sessions per week (60 min/session) and were controlled with an accelerometer and a heart-rate monitor. CWT performed all training at moderate intensity, whereas IWT alternated 3-min repetitions at low and high intensity. Before and after the 4-month intervention, the following variables were measured: Self-reported health, Physical fitness (VO<sub>2</sub>max), body composition, and glycemic control (fasting glucose, HbA1c, oral glucose tolerance test, continuous glucose monitoring [CGM]).

**Resultater:** Training adherence was high (89 + 4%), and training energy expenditure and mean intensity were comparable between training groups. Nine and four of the subjects reported "Improved Health" in the IWT and CWT group, respectively. VO<sub>2</sub>max increased 16.1 + 3.7% in the IWT group (P<0.05), whereas no changes were observed in the CWT or control group. Body mass and adiposity (fat mass and visceral fat) decreased in the IWT group only (P<0.05). Glycemic control (elevated mean CGM glucose levels and increased fasting insulin) worsened in the control group (P<0.05), whereas mean (P=0.05) and maximum (P<0.05) CGM glucose levels decreased in the IWT group. The CWT group showed no changes in glycemic control.

**Konklusion:** Free-living walking training is feasible in type 2 diabetes patients. CWT offsets the deterioration in glycemia seen in the control group, and IWT is superior to energy expenditure-matched CWT for improving self-reported health, physical fitness, body composition and glycemic control.