Electronic Supplementary Materials (ESM)

ESM Table 1. Participant eligibility criteria for study participation.

Inclusion criteria	Exclusion criteria
• 30-75 years old • physician-diagnosed type 2 diabetes • performing <150 minutes of moderate-to-vigorous intensity aerobic exercise per week • body mass index (BMI) between 18.5-40 kg/m^2 • no changes to prescribed medications for at least 6 months • able to maintain current medication doses • able to maintain current physical activity patterns • HbA_{1c} ≤8.5%, access to a computer, tablet, or smartphone • able to travel to a study site for laboratory testing • able to read, write, and understand English • anticipated internet access throughout the intervention • cleared to participate in exercise based on the Canadian Society for Exercise Physiology Get Active Questionnaire [1].	• Taking ≥4 glucose-lowering medications • taking insulin • taking beta-blockers • taking ≥3 prescribed medications for the prevention of cardiovascular disease (e.g., statins, antihypertensives) • episode of severe hypoglycemia in the past 6 months • cigarette smoker • chronic musculoskeletal condition that would prevent participation in exercise • recent (within the last 2 years) cardiovascular event that prevents participation in exercise • angina upon exertion (self-reported and screened for using survey questions based on those in the Rose Cardiovascular Questionnaire V1 Section A [2]) • uncontrolled hypertension or an atypical blood pressure or pulse rate at rest or during exercise as determined by a physician • surgical procedure scheduled during the intervention that would prevent exercise participation • current diagnosis of a cardiac or pulmonary disease that would prevent exercise participation • a psychiatric disorder that could prevent completion of the study procedures or visits • donated >0.5 L of blood within the last 4 weeks • following an extreme diet (e.g., very low carbohydrate/calorie, ketogenic) • taking dietary/nutritional supplements that impact glucose control (e.g., exogenous ketones) • diabetic ulcers, peripheral vascular disease, or diabetic neuropathy that would prevent participation in exercise • undergoing dialysis treatment • participating in another clinical trial that would interfere with the study procedures • pregnant or planning to become pregnant during the intervention.

1. Canadian Society for Exercise Physiology (2017) Get Active Questionnaire. Accessed March 19, 2026 at: https://csep.ca/2021/01/20/pre-screening-for-physical-activity/
2. Rose GA (1962) The Diagnosis of Ischaemic Heart Pain and Intermittent Claudication in Field Surveys. Bull World Health Organ 27:645-658.

ESM Table 2. Accelerometer derived physical behaviours.

Outcome	Exercise (N=31)	Control (N=31)	Effect Estimate (Exercise – Control)	P-value
Wear compliance and data quality				
Average valid days	2±0	2±0	/	/
Average wear time (valid hours per day)	24±0	24±0	/	/
Device alignment %	97.4±2.9	97.1±3.4	/	/
Measures of physical activity				
Total daily steps	6648 (5513, 7783)	5387 (4252, 6522)	1261 (512, 2009)	**0.002**
Total stepping time (min)	87 (73, 101)	71 (57, 85)	16 (7, 25)	**0.001**
Sit-to-stand transitions	55 (48, 61)	45 (38, 51)	10 (5, 15)	**<0.001**
MVPA	13 (8, 18)	11 (6, 16)	2 (-1, 5)	0.146
Measures of sedentary behaviour				
Total sitting time (min)	475 (414, 536)	495 (434, 556)	-20 (-71, 20)	0.432
Measures of sleep/time in bed				
Primary lying time (min)	524 (480, 567)	517 (473, 560)	7 (-35, 49)	0.968

Data are presented as estimated marginal means (95% CI) for each condition and between-condition effect estimates (95%CI). Device alignment %, alignment of the device while attached to the thigh; Primary lying time, longest amount of time spent lying down throughout the day. MVPA; moderate-to-vigorous physical activity, derived from time in stepping cadence >=100 steps per minute

ESM Table 3. Effect estimates for differences in CGM-derived metrics of glucose regulation.

	ES	CON	Difference Between Conditions
Full condition metrics			
Mean glucose, mmol/l	6.8 (6.4, 7.3)	7.0 (6.6, 7.5)	-0.2 (-0.4, 0.0), p=0.07 [1]
Daytime	7.0 (6.5, 7.5)	7.3 (6.8, 7.8)	-0.3 (-0.4, -0.1), p =0.01
Night-time	6.3 (5.8, 6.7)	6.2 (5.8, 6.6)	0.1 (-0.2, 0.3), p =0.70
Standard deviation, mmol/l	1.4 (1.2, 1.5)	1.5 (1.3, 1.7)	-0.1 (-0.2, -0.1), p <0.001
Daytime	1.4 (1.2, 1.6)	1.5 (1.3, 1.7)	-0.1 (-0.2, -0.1), p <0.001
Night-time	0.9 (0.6, 1.1)	0.8 (0.6, 1.1)	0.0 (-0.1, 0.2), p =0.64
Coefficient of variation, %	20 (17, 22)	21 (19, 23)	-1 (-2, 0), p =0.007
Daytime	20 (17, 22)	21 (18, 23)	-1 (-2, 0), p =0.02
Night-time	13 (10, 17)	13 (10, 17)	0 (-2, 2), p =0.82
MAGE, mmol/l	3.5 (3.0, 4.1)	3.8 (3.3, 4.4)	-0.3 (-0.5, 0.0), p =0.04
Daytime	3.5 (3.0, 4.1)	3.9 (3.3, 4.4)	-0.3 (-0.6, -0.1), p =0.01
Night-time	2.1 (1.5, 2.7)	2.0 (1.4, 2.5)	0.1 (-0.3, 0.6), p =0.56
Time in range, (3.9-10.0 mmol/l), %	92 (88, 96)	91 (87, 95)	2 (-1, 5), p =0.29
Daytime	91 (87, 96)	89 (85, 94)	2 (-1, 5), p =0.25
Night-time	96 (91, 100)	95 (90, 99)	1 (-3, 6), p =0.62
Time in tight range, (3.9-7.8 mmol/l), %	75 (66, 84)	72 (63, 80)	3 (0, 6), p =0.04
Daytime	70 (60, 80)	67 (56, 77)	4 (0, 7), p =0.07
Night-time	85 (77, 93)	86 (78, 93)	-1 (-8, 6), p =0.84

Note: Time above range (>10.0 mmol/l) and time below range (<3.9 mmol/l) are not shown for daytime and night-time periods due to insufficient number of participants with any values at night-time, resulting in poor model fit.