

**Supplementary Table 1.** Crude and adjusted linear associations between time spent sedentary and time in MVPA (using fixed value definition for 1MET) with subcomponents of metabolic risk and clustered metabolic risk in the *ADDITION-Plus* trial cohort (n=394)

Outcome	Sedentary time (h/day), $\beta$ (95% CI)			MVPA (h/day), $\beta$ (95% CI)		
	Crude	Adjusted <sup>a</sup>	Adjusted <sup>a</sup> + MVPA	Crude	Adjusted <sup>a</sup>	Adjusted <sup>a</sup> + sedentary
<b>Waist (cm)</b>	0.89 (0.35, 1.43)*	1.43 (0.88, 1.98)*	0.71 (0.04, 1.37)*	-2.79 (-4.35, -1.23)*	-4.83 (-6.42, -3.25)*	-3.63 (-5.57, -1.69)*
<b>Systolic blood pressure (mmHg)</b>	0.21 (-0.50, 0.93)	0.00 (-0.75, 0.75)	-0.46 (-1.36, 0.43)	-1.40 (-3.46, 0.66)	-1.76 (-3.96, 0.45)	-2.50 (-5.13, 0.13)
<b>HbA<sub>1c</sub> (%)</b>	0.00 (-0.04, 0.04)	0.01 (-0.03, 0.05)	0.02 (-0.03, 0.06)	0.02 (-0.09, 0.13)	0.03 (-0.09, 0.15)	0.06 (-0.08, 0.20)
<b>Logged triacylglycerol (mmol/l (ln))</b>	0.01 (-0.02, 0.03)	0.01 (-0.01, 0.04)	0.03 (0.00, 0.05)	0.04 (-0.02, 0.11)	0.03 (-0.04, 0.11)	0.07 (-0.01, 0.16)
<b>HDL-cholesterol (mmol/l)</b>	0.00 (-0.01, 0.02)	-0.01 (-0.02, 0.00)	-0.01 (-0.03, 0.00)*	-0.04 (-0.07, 0.00)	0.00 (-0.04, 0.04)	-0.02 (-0.07, 0.02)
<b>zMS</b>	0.08 (-0.04, 0.19)	0.19 (0.08, 0.30)*	0.15 (0.02, 0.28)*	-0.07 (-0.39, 0.25)	-0.45 (-0.77, -0.14)*	-0.21 (-0.59, 0.17)
<b>zMS<sup>b</sup></b>	0.18 (-0.08, 0.44)	0.45 (0.19, 0.70)*	0.35 (0.04, 0.66)*	-0.06 (-0.32, 0.21)	-0.37 (-0.63, -0.11)*	-0.22 (-0.51, 0.07)

Values for sedentary time and MVPA use a fixed value of 20.35 J ml O<sub>2</sub> x 3.5 ml O<sub>2</sub> kg<sup>-1</sup> min<sup>-1</sup>.

<sup>a</sup> All coefficients are adjusted for age, sex, intervention group, occupational socio-economic class, smoking status, sleep duration, total energy intake, percentage of energy from fat, and alcohol intake. All outcomes except zMS and waist circumference are additionally adjusted for waist circumference. Systolic and diastolic blood pressure are additionally adjusted for use of anti-hypertensive drugs (yes/no); HbA<sub>1c</sub> is additionally adjusted for use of glucose lowering drugs (yes/no); triacylglycerol is additionally adjusted for use of lipid-lowering drugs (yes/no); HDL-cholesterol is additionally adjusted for use of lipid-lowering drugs (yes/no); and zMS is additionally adjusted for use of anti-hypertensive drugs (yes/no), glucose lowering drugs (yes/no), and lipid-lowering drugs (yes/no).

zMS is a continuously distributed variable for clustered metabolic risk calculated by summing standardised values for waist circumference, triacylglycerol, HbA<sub>1c</sub>, systolic blood pressure and the inverse of HDL-cholesterol.

<sup>b</sup> Difference in zMS per SD difference in sedentary time or MVPA

\*  $p < 0.05$ .