Table 4: Acute Effects of High-Intensity Intermittent and Sprint Interval Training on Metabolism

Reference	Baseline Population	Protocol	Metabolism
47	7 adults (sex n.r.), type 2 diabetes, 63±3 years, BMI 31±2, VO_{2peak} n.r.	**HIIT**: 10 x 60 s cycling at ~89% WR_{max} with 60 s passive rest periods	Relative to values on a non-exercising control day: 3 hr postprandial GAUC ~↓35%, post meal peak glucose ↓16%, time in hyperglycaemia ↓65%
40	4 men & 7 women, metabolic syndrome, 55±13 years, BMI 30±2, VO_{2max} 34±3	**HIIT**: 4 x 4 min incline treadmill walking at 90-95% HR_{max} with 3 min recovery periods at 70% HR_{max}	FG ↓~15% below baseline for 72 hr vs CON
	4 men & 4 women, metabolic syndrome, 52±11 years, BMI 29±2, VO_{2max} 36±3	**CME**: 47 min at 70% HR_{max} (matched for energy expenditure with HIIT)	FG ↓~15% below baseline for 24 hr
	5 men & 4 women, metabolic syndrome, 50±9 years, BMI 32±1, VO_{2max} 32±3	**CON**: resting	FG n.s.
44	8 men, healthy, 42±4 years, BMI 29±1, VO_{2max} 53±3	**HIIT**: 4 x 4 min intervals of treadmill running at 85-95% HR_{max} interspersed with 3 min at 50-60% HR_{max} followed by high fat meal 16-18 hours later	N.s. effect on 30 min, 2 hr, and 4 hr postprandial glucose, TAG or HDL between groups.
		CME: 47 min of treadmill walking at 60-70% HR_{max} (to achieve an isocaloric protocol to HIIT) followed by high fat meal 16-18 hours later	
		CON: no exercise followed by high fat meal 16-18 hours later	
42	5 men & 7 women, sedentary or active, 24±3 years, BMI 26±4, VO_{2peak} 38±12	**SIT**: 6 bouts of 30 s cycle sprints at 7.5% BW resistance x 1 session with 4 min active or passive recovery between sprints	72 hours post exercise: FG, insulin & ISI (hyperinsulinemic euglycemic clamp) n.s.

Reference	Baseline Population	Protocol	Metabolism
43	6 men, active, 22±3 years, BMI 25±n.r., & 6 women, active 21±1 years, BMI 22±n.r., VO_{2peak} n.r.	**SIT1**: 30 s cycle sprint at 8.8% BW resistance with 4 min active recovery (no resistance) x 4 in the evening; a high fat mixed meal was consumed after a 13 hour overnight fast	Fasting: glucose, TAG, glucose, insulin & NEFA n.s. from SIT2 & CON; Postprandial AUC vs CON: TAG ↓21%; glucose, insulin & NEFA n.s. Postprandial AUC vs SIT2: TAG ↓12%; glucose, insulin & NEFA n.s.
		SIT2: as above, but the energy used during exercise was replaced immediately post exercise	FG, TAG, insulin & NEFA n.s. from SIT1 & CON; Postprandial AUC vs. CON: TAG ↓10%; glucose, insulin & NEFA n.s.
		CON: no exercise followed by a high fat mixed meal consumed after a 13 hour overnight fast	CON used as comparison group only with no within group baseline vs. post meal comparisons
45	9 men, active, 24±3 years, BMI 25±n.r., VO_{2peak} n.r.	**SIT**: 30 s cycle sprint at 7.5% BW resistance with 4 min active recovery (no resistance) x 5 at 1400 hr; see next day meal below	Insulin & glucose response n.s. between groups; TAG AUC ~↓30% v.s. CON
		CME: 30 min brisk (~7 km/h) treadmill walking at 1400 hr; ; see next day meal below	Insulin, glucose, and TAG AUC n.s. vs CON
		CON: 30 min resting at 1400 hr; ; see next day meal below	CON used as comparison group only with no within group baseline vs. post meal comparisons
		Test day: at 0900 the next day a high fat (~59 g fat, ~76 g carbohydrate, 26 g protein) was consumed. An identical meal was consumed at lunch	

Study population demographics (sample size by sex, health or activity description, body mass index in kg/m2, and either VO_{2peak} or VO_{2max} in mL/kg/min as reported by study authors in are provided as means ± standard deviation, where reported, rounded to nearest whole number. Sample sizes are based on those included in the final analysis. Results have been converted to percentage change from baseline if the change was statistically significant followed by indication if this was significant relative to comparison group(s). Results are provided to two significant figures. Where data was reported in graph form it may not have feasible to accurately calculate percentage change so ~ is used to indicate this. The protocol column contains the core exercise but does not describe warm up and cool down protocols, which consisted predominantly of 5-10 minutes periods of light-to-moderated intensity activity. **Abbreviations**: AT, anaerobic threshold; AUC, are under the curve; BMI, body mass index in kg/m^2; BW, body weight; FAS, fatty acid synthase; FG, fasting plasma glucose concentration; h, hour(s), ISI, insulin sensitivity index; MAP, maximal aerobic power; min, minutes; n.r., not reported or data not presented in non numerical formats; s, seconds; TAG, triacylglycerol.