Supplemental Material

Supplemental Table 1. Exclusion criteria and reasons for terminating CPET assessment

Exclusion criteria
Acute serious cardiac or pulmonary illness within 6 months of exercise (myocardial infarction, unstable
angina, pulmonary embolus, deep vein thrombosis)
Acute illness (i.e., infection) anticipated to limit exercise performance
Mental impairment leading to the inability to cooperate with the exercise protocol
Uncontrolled asthma
Reduced pulse oximetry oxygen saturation (O ₂ saturation <88%)
Orthopedic injury anticipated to impact cycle-based lower extremity exercise performance
History of exercise induced ventricular arrhythmias
Neurologic disorder anticipated to impact cycle exercise performance
Exertional chest pain that has not been evaluated
Potentially unsafe to exercise in the opinion of the supervising physician
Reasons for CPET termination
Definitive ischemic ECG changes with associated chest pain
Complex ectopy (i.e., ventricular tachycardia)
Mobitz 2 second-degree or third-degree heart block
Symptomatic fall in systolic blood pressure >20 mmHg from the highest value during the test
Marked hypertension (systolic blood pressure >240 mmHg, diastolic blood pressure >120 mmHg)
Severe desaturation when accompanied by signs of severe hypoxia
Neurologic compromise such as mental confusion or loss of coordination
Supervising physician's discretion

Supplemental Table 2. Reasons that participants did not exercise (N=370, 10.6% of the total sample)

Reason	N (% of total sample)
Participant declined	124 (3.6)
Musculoskeletal or orthopedic issue	79 (2.3)
Anxiety, could not tolerate mouthpiece, or participant preference	28 (0.8)
Other medical concern	17 (0.5)
Excluded by supervising physician	185 (5.3)
Cardiovascular condition or symptom	97 (2.8)
Musculoskeletal or orthopedic issue	43 (1.2)
Pulmonary condition	12 (0.3)
Neurologic condition	15 (0.4)
Other medical condition	18 (0.5)
Short visit, technical issue, or staffing limitation	61 (1.7)

SUPPLEMENTAL FIGURE LEGENDS

Supplemental Figure 1. Box plots of gas exchange variables by testing sequence. The xaxis represents the sequence of that individual in the tests performed each day (tests usually performed in 30-minute intervals between 8AM and 12AM). Seven participants underwent CPET as the seventh test of the day but are not plotted here due to insufficient group size.

Supplemental Figure 2. Box plots of values for effort-dependent exercise variables by peak RER categories stratified by clinical variables. Panel (A) shows the relations of effort-dependent CPET variables by peak RER category separately for age greater than and below the median value of 54 years. Panel (B) displayed the relations of CPET variables and peak RER categories separately for men and women. Panel (C) displays the relations of CPET variables and peak RER categories separately for lean (BMI <25 kg/m²) and overweight/obese (BMI \geq 25 kg/m²) participants.

Supplemental Figure 1.









Supplemental Figure 2B.





Supplemental Figure 2C.



Obesity status 🚔 lean 🚔 overweight/obese