

Differential response to Tabata interval versus traditional kettlebell training protocol

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Purpose: Time management may present as a major barrier to exercise participation. This study will investigate the cardiovascular and metabolic benefits of a Tabata versus a traditional resistance exercise protocol. **Methods:** Fourteen young (18-25y), healthy (BMI<25 kg/m²) participants reported to the lab on three separate occasions. On the first visit, the Physical Activity Readiness Questionnaire (PAR-Q), along with resting measures (height, weight, heart rate (HR), blood pressure) and an incremental aerobic capacity test were completed. All exercise testing, including the aerobic capacity test, incorporated measurements of HR, oxygen consumption, and blood lactate accumulation. On their second visit (TAB), each participant completed kettle bell swings (♂- 8kg, ♀- 4.5kg) following a Tabata protocol (8 intervals; 20 seconds maximal repetitions, 10 seconds rest). On the third visit (TRAD), the total kettle bell swings from the TAB protocol were evenly divided into 4 sets, with 90 seconds of rest in between sets. Outcome measures were compared using paired t-tests. **Results:** The TAB was completed more quickly than the TRAD protocol (240.0±0.0 v. 521.5±3.3 sec, P<0.01), at a higher perceived exertion (Borg RPE; 15.1±0.7 v. 11.7±0.9, P<0.01). As such, the TAB elicited a higher average VO₂ value (33.1±1.5 v. 27.2±1.6 ml/kg/min, P<0.01) and percent of VO_{2peak} achieved (71.0±0.3 v. 58.4±0.3%, P<0.01) than the TRAD protocol. In addition, maximal heart rate (162.4±4.6 v. 145.6±4.8 bpm, P<0.01), and post-exercise blood lactate concentrations (6.4±1.1 v. 3.7±0.5 mmol/L, P<0.01) were found to be higher during the TAB protocol. **Conclusion:** The findings of this study demonstrate that the Tabata interval protocol, while time-efficient, also raises cardiovascular and metabolic parameters, such as heart rate, percent of VO_{2peak}, and blood lactate concentrations, to a greater extent than a traditional resistance protocol.