

Aerobic Energy Expenditure Comparisons Between One Traditional and CrossFit-Based Exercise Session

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ABSTRACT

This study sought to compare aerobic energy expenditure, recovery VO_2 , peak heart rate, and peak VO_2 achieved across 45 min of exercise and 15 min of recovery performing both traditional and CrossFit®-based exercise. Thirty healthy, physically active participants of both genders (15 men, 15 women) performed a workout following the guidelines of the American College of Sports Medicine (traditional) and a workout following the CrossFit® method. Each workout consisted of a 5 min warm-up (light aerobic exercise and stretching), resistance exercise (both focused on leg exercises), cardiorespiratory exercise (a treadmill run for the traditional exercise and circuit training for the CrossFit®-based exercise) and 5 min cool-down (walking). The cool-down was followed by 10 min of sitting to record recovery values. During each workout the participants wore a K4b2 Cosmed unit to measure energy expenditure and VO_2 , and a Polar heart rate monitor to measure heart rate. Each measure was compared using a Dependent t-Test. Energy expenditure (468 ± 116 vs. 431 ± 96 kcal, $p < 0.001$), peak heart rate (189 ± 8 vs. 172 ± 8 bpm, $p < 0.001$), peak VO_2 (3.22 ± 0.73 vs. 2.81 ± 0.63 L/min, $p < 0.001$) and average 15 min recovery VO_2 (0.89 ± 0.24 vs. 0.78 ± 0.18 L/min, $p < 0.001$) were significantly greater in the CrossFit®-based workout. The present study suggests that CrossFit®-based exercise may result in greater aerobic energy expenditure than traditional exercise.

