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Article Title

VALIDITY OF THE CARDIOCOACH METABOLIC SYSTEM FOR THE DETERMINATION OF VO2 PEAK

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Abstract

Many physiology labs use the Parvo Medics TrueOne 2400 metabolic measurement device to measure VO_2 peak. This device is one of the most reliable methods stavof measuring oxygen consumption during exercise but is also very expensive. There are more affordable devices which also measure VO_2 peak but their validity may be questionable. PURPOSE: This study sought to determine the validity of VO_2 peak measurement using the CardioCoach device compared to the Parvo Medics device. If the results are similar then use of the CardioCoach to determine an accurate measurement of VO_2 peak is a viable alternative. METHODS: VO_2 peak of five young athletic individuals (aged 22.4 +/- 3.3 y) were tested on the Parvo Medics (Sandy, UT) and CardioCoach CO_2 (KORR Medical Technologies, Salt Lake City, UT) devices. The same test protocol (1-min increments) was used for both tests. Tests were separated by one week and subjects were asked to refrain from strenuous activity the day before each test. Dependent t-tests were used to analyze mean differences between subjects for each device at the p2 peak of the Parvo Medics device was 39.4 +/- 62.4ml/kg/min while the CardioCoach was 40.5 +/- 65.1 ml/kg/min ($p>0.722$). CONCLUSION: Based on the results, there is statistical evidence to conclude that the two devices produce similar VO_2 peak values, meaning that the CardioCoach CO_2 is a valid method to test VO_2 peak. Future studies, however, should replicate this study with more subjects to improve statistical power.

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