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A-30 Free Communication/Poster - Exercise Expenditure and Weight Control: MAY 27,
2009 7:30 AM - 12:30 PM ROOM: Hall 4F

Validation Of The ReeVue(TM) And CardioCoachCo2 (TM) Metabolic Systems For Measuring Resting Energy Expenditure: 1525: Board #127 May 27 9:30 AM - 11:00 AM

**Sun, Stephanie; Reynolds, Jennifer; Erceg, David N.; Dieli-
Conwright, Christina M.; Song, Hyun Ho; Chakravarthy, Varshini;
Schroeder, E. Todd**



Author Information

University of Southern California, Los Angeles, CA.

(No relationships reported)

PURPOSE: To examine the validity of the ReeVue™ (RV) and CardioCoachCO₂™ (CC) metabolic systems to measure oxygen consumption by comparison to a reference criterion, the MedicalGraphics CardioO₂/CP™ (MG).

METHODS: Thirty subjects (10 men, 20 women; 26.0±3.9 years of age, 168.5±9.6 cm, 66.0±11.9 kg) completed two resting energy expenditure tests. The order of the RV and CC tests were randomly assigned. The MG system was simultaneously recorded during the RV or CC test to standardize the testing procedures. The MG mouthpiece and pneumotach were connected to the RV or CC one-way valve with disposable tubing using a rubber washer. Ten to twenty minutes of data were collected on each subject lying in a comfortable supine position before the metabolic systems (RV and CC) determined stabilization and subsequently terminated the test. One-way ANOVA ($\alpha=0.05$) was utilized to compare absolute VO₂ values between the 3 devices and a paired t test was used to compare the two MG tests.

RESULTS: There were no statistical differences between the two MG tests. Therefore, MG VO₂ values were averaged and compared to the RV and CC. No significant differences were found between the RV (202±45 mL O₂/min), CC (209±51 mL O₂/min), and MG (226±57 mL O₂/min) systems.

CONCLUSIONS: These findings indicate that the ReeVue™ and CardioCoachCO₂™ metabolic systems are comparable devices to the selected reference criterion for measuring oxygen consumption to assess resting energy expenditure.