

Validation of Bioreactance Non-Invasive Cardiac Output Monitoring in a Male College-Aged Population

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Purpose: The purpose of this study was to compare the cardiac output (CO) and oxygen consumption (VO₂) regression formulated from a bioreactance non-invasive cardiac output monitoring system to regressions previously published using other CO measuring systems. **Methods:** Nineteen college aged males (23±2yrs.) who had no contraindications to exercise nor participated in physical activity greater than 10 hours per week were recruited. Subjects' average height was 179±9 cm and average weight being 91±18 kg. The NICOM bioreactance and Parvo Medics metabolic cart measures cardiac output (CO) and oxygen consumption (VO₂) during incremented work rates on a cycle ergometer. Linear slope and Y-intercept were computed for the CO/VO₂ regression. The slope and intercept were then compared to previously published regressions. **Results:**

	Slope	Intercept	SD Slope	SD Inter
Bioreactance	6.02	6.32	2.02	2.35
Jones et al. 1982.	5.08	5.37		
Crisafulli et al. 2005.	5.95	3.06		
Rowell. 1994	6.00			

Conclusions: Although not previously validated for healthy young men, Bioreactance appears to provide a valid measure of CO in this population.