

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

Elliott G, Weymers, R., Green, M., McConnell T.R. Bloomsburg University, Bloomsburg, Pa.

[ge06958@huskies.bloomu.edu](mailto:ge06958@huskies.bloomu.edu), [rjw14780@huskies.bloomu.edu](mailto:rjw14780@huskies.bloomu.edu), [mag49070@huskies.bloomu.edu](mailto:mag49070@huskies.bloomu.edu),  
[tmcconne@blomu.edu](mailto:tmcconne@blomu.edu)

**Purpose:** The purpose of this study was to compare the cardiac output (CO) and oxygen consumption (VO<sub>2</sub>) 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 (VO<sub>2</sub>) during incremented work rates on a cycle ergometer. Linear slope and Y-intercept were computed for the CO/VO<sub>2</sub> regression. The slope and intercept were then compared to previously published regressions. **Results:**

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

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