

The Acute Effect of Exercise on Heart Rate Variability and Blood Pressure Responses to Lower Body Negative Pressure in Trained and Untrained Men

Presenters: John Dixon and Vanessa Quintero

Advisor: Patricia Fehling PhD and Stephen Ives PhD

Abstract: Heart rate variability (HRV), blood pressure (BP) and heart rate (HR) in trained and untrained college-age men before and after a bout of moderate intensity exercise. Six trained and eight untrained college aged students participated in the study. Participants were

placed in a LBNP chamber for 22 minutes with pressures were steadily lowered until reaching -40mmHg. Participants biked on a cycle ergometer for 10 minutes at 75% HR_{max} then re entered the chamber to repeat the LBNP protocol. Trained participants had a significantly higher HRV. Exercise caused a significant decrease in HRV and increase in HR in both trained and untrained participants. Training status did not change the effects of exercise on HRV or HR. BP values were inconclusive due to small data sample. LBNP did not cause a significant change in HRV. Future research is needed to identify the necessary pressure to cause a change in HRV, HR and BP, as well as the effects of exercise on responses to LBNP.