

## Abstract

The effect of exercise training mode on reflex cardiovascular control was studied in a cross-sectional design. We examined the cardiovascular responses to progressive incremental phenylephrine (PE) infusion to maximal rates of 120 micrograms/min and the delta heart rate/delta blood pressure responses to lower body negative pressure (LBNP) to -50 Torr in 30 men who were either endurance exercise trained (ET), untrained (UT), or weight trained (WT). During PE infusion, measures of blood pressures, forearm blood flow, heart rate and cardiac output, and calculations of forearm vascular resistance, stroke volume, and peripheral vascular resistance were made at each infusion rate when steady-state blood pressure was attained. No significant differences ( $P$  less than 0.05) in forearm blood flow or resistance were observed between the groups at any dose of PE, suggesting that the vasoconstrictor response was similar among the groups. Regression analyses of heart rate against mean blood pressure during the PE infusion were performed to evaluate baroreflex function. A linear model was used and correlation coefficients ranging from 0.82 to 0.96 were obtained ( $P$  less than 0.05). The slope of the line of best fit for the ET subjects (-0.57) was significantly less ( $P$  less than 0.05) than the slopes obtained for either the UT (-0.91) or WT (-0.88) subjects. In addition, the delta heart rate/delta blood pressure measurements obtained during LBNP reflected a similarly significant attenuation of reflex chronotropic control in the ET subjects. (ABSTRACT TRUNCATED AT 250 WORDS)