

## Blood Pressure, Body Composition, and Plasma Lipids Are Not Related to Indices of Vascular Health

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### ABSTRACT

Blood pressure, body composition and plasma lipoprotein concentrations are important markers for cardiovascular disease (CVD) risk. **PURPOSE:** To examine potential relationships between blood pressure, body composition, plasma lipoprotein concentrations and indices of vascular health as assessed with carotid-femoral pulse wave velocity (PWV) and flow mediated dilation (FMD). **METHODS:** Fourteen male subjects (age  $32 \pm 13$  yrs, height  $177.6 \pm 6.6$  cm, weight  $83.3 \pm 9.0$  kg, lean mass  $61.7 \pm 6.3$  kg, fat mass  $18.4 \pm 6.8$  kg) volunteered for lab testing as part of a health assessment program, which included resting blood pressure, dual energy x-ray absorptiometry (DXA), FMD, PWV, and blood analysis. All testing was completed on the same day after an overnight fast. The vascular measures were taken via ultrasound, in a temperature controlled room with dim lighting. Each subject would lay supine for 10 minutes prior to the vascular measures. FMD was assessed in the brachial artery in response to a 5-minute distal occlusion. FMD results are given as a percent change from baseline. The PWV measure was assessed on the carotid and femoral arteries using 80% of the total distance between measure sites. PWV results are given in meter per second. All PWV and FMD measures were completed according to previously published procedures (Bortel, 2011; Corretti, 2002.). Body composition was assessed via DXA. Relationships among the data were analyzed with Pearson's  $r$  ( $\alpha = 0.05$ ). **RESULTS:** No significant relationships were found with PWV or FMD and any of the CVD risk factors measured. **CONCLUSION:** Based on our results, accepted risk factors for CVD, including blood pressure, plasma lipoproteins, and body composition, are not related to indices of vascular health as assessed with PWV and FMD. Reference lists are not generally included.