Arterial stiffness and central pressures have been identified as a strong, and independent risk factors for developing cardiovascular disease (CVD). Exercise has been shown to beneficially change arterial stiffness, central pressures and traditional risk factors in select clinical settings. However, the effects of a standard cardiac rehabilitation (CR) program on measures of arterial stiffness and central pressure have not been well studied. The purpose of this study was to investigate if a standard Phase II CR program changed measures of arterial stiffness and central blood pressures (BP). Secondarily, this study sought to determine if change in any traditional risk factors was associated with a reduction in these measures. There were no significant changes in central systolic blood pressure (SBP), diastolic blood pressure (DBP), pulse pressure (PP), AIx, AIx @ 75 beats per minute, and PWV at 18 and 36 sessions. Brachial SBP was significantly greater (p<0.05) than aortic SBP measured by PWA at both time points but there was no significant difference found between brachial and aortic DBP. No difference in traditional risk factors (BP, BMI, or waist circumference) before and after 18 sessions of standard care Phase II CR was found. There were no significant relationships found between changes in traditional risk factors, central blood pressures and arterial stiffness.