

Risk Factors for Atherosclerosis (Poster Session)
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A Comparison of Brachial Artery Stiffness and Pulse Pressure With Framingham Cardiovascular Risk

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Background: Peripheral artery stiffness, measured directly or indirectly as pulse pressure, has been proposed as an index of cardiovascular disease risk. To test this hypothesis, we compared direct and indirect measurements of arterial stiffness with the Framingham risk-factor generated score.

Methods: At a recent national cardiology meeting, 250 attendees (167 men, 83 women) had brachial artery stiffness (ASI) and pulse pressure (PP) measured with an automated blood pressure cuff (CardioVision) which uses computerized oscillometry to derive an index of arterial stiffness. Using the blood pressure measured by the device, along with on-site measurements of lipoproteins and glucose, we employed built-in software to calculate the 10-year Framingham cardiovascular risk. We evaluated predefined abnormal values for ASI (>80) and PP (>60 mmHg) alone and together for their ability to predict a Framingham risk score >10%, which was found in 26 attendees (23 men, 3 women).

Results: (see table)

Conclusions: These data suggest that simple, inexpensive indexes of arterial stiffness, as measured by an automated blood pressure cuff in a health screening effort, are reasonably predictive of cardiovascular risk, as determined by the Framingham risk factor approach

Diagnostic Accuracy of Arterial Stiffness and Pulse Pressure

	SENSITIVITY	SPECIFICITY	PREDICTIVE ACCURACY
ASI >80	42%	91%	86%
PP >60 mmHg	46%	86%	82%
ABNORMAL ASI or PP	62%	81%	79%

Coronary heart disease
Blood pressure determination