

What CardioVision® Measures

CardioVision® is an automated blood pressure cuff which measures:

- (1) unloaded brachial artery distensibility and
- (2) systolic, diastolic, mean, and pulse pressure, and
- (3) calculates the 10-year Framingham Heart Study coronary heart disease risk, if lipid data are available.

This FDA-approved device employs computerized oscillometry to generate an index of brachial artery distensibility at minimal arterial wall tension (outside cuff pressure equal to mean blood pressure). Under these conditions, arterial distensibility is most reflective of intrinsic atherosclerotic/arteriosclerotic stiffness, rather than blood pressure loading conditions. This Arterial Stiffness Index (ASI) is an inverse measure of the fall-off in arterial distensibility as the cuff pressure is lowered below mean arterial pressure. Stiff arteries have the least fall-off in distensibility, whereas, elastic arteries have the most fall-off. The Arterial Stiffness Index is calculated as the pressure width (mmHg x 10) of the oscillometric curve at 80% of the mean blood pressure. Elastic arteries (below left) have narrow oscillometric peaks, whereas, stiff arteries (below right) have rounded peaks, and therefore high Arterial Stiffness Indexes. Both the Arterial Stiffness Index and pulse pressure are estimates of cardiovascular risk.

