

SphygmoCor®

Cardiovascular Risk Report

General Details

Name **Michaela Johnson** DOB **08-Dec-1972 (52 yrs)** Sex **Female** Date of Report **25-Jul-2025**

Cardiovascular Risk Profile - Arterial Intelligence™

Low Cardiovascular Risk	Intermediate Cardiovascular Risk	High Cardiovascular Risk
All measurements are within the normal range.	1 or more measurements are above the normal range.	1 or more measurements are above thresholds.
<input type="checkbox"/> Central Blood Pressure (SYS) is within or below normal range for your age. <input type="checkbox"/> Central Pulse Pressure is within or below normal range for your age. <input type="checkbox"/> Augmentation Pressure and Augmentation Index are within or below normal range for your age. <input type="checkbox"/> Pulse Pressure Amplification is $\geq 130\%$ ¹ .	<input checked="" type="checkbox"/> Central Blood Pressure (SYS) is above normal range for your age. <input checked="" type="checkbox"/> Central Pulse Pressure is above normal range for your age. <input type="checkbox"/> Augmentation Pressure or Augmentation Index are above normal range for your age.	<input type="checkbox"/> Central Blood Pressure (SYS) is above a threshold of >130 mmHg. <input type="checkbox"/> Central Pulse Pressure is above a threshold of >50 mmHg. <input checked="" type="checkbox"/> Augmentation Pressure is >10 mmHg above normal or Augmentation Index is $>10\%$ above the normal range for your age. <input checked="" type="checkbox"/> Pulse Pressure Amplification is $<130\%$ ¹ .

Results & Clinical Interpretation

Measurement	Central Blood Pressure ²	Central Pulse Pressure ²	Pulse Pressure Amplification ¹	Augmentation Pressure	Augmentation Index ²
Threshold	>130 mmHg	>50 mmHg	$<130\%$ ¹	Each 10 mmHg increase in AP	Each 10 % increase in Alx
Risk of CV Events ³	3 times increased risk of CV events	2-3 times increased risk of CV events	2-3 times increased risk of CV events	Increases the risk of CV events by 30%	Increases the risk of CV events by 35-40%

A 4-mmHg reduction in central pressure can lower CV risk by 20%. Beyond lifestyle changes, reductions in arterial stiffness have been shown with ACE-inhibitors, calcium channel blockers, statins, PCSK9 inhibitors, and SGLT2 inhibitors.

Cardiovascular Risk Treatment Considerations

Coronary Artery Disease and Atherosclerosis Detection <ul style="list-style-type: none"> Coronary artery calcium score Coronary CT Angiography (CCTA) Artificial intelligence coronary plaque phenotyping (e.g., Cleerly) Carotid artery ultrasound 	Advanced Cholesterol and Metabolic Profiling <ul style="list-style-type: none"> Lipid particle size, Lp(a) hsCRP, ApoB Insulin resistance, HbA1c Homocysteine, testosterone, and estrogen
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1. Huang QF, An DW, Aparicio LS, et al. An outcome-driven threshold for pulse pressure amplification. Hypertens Res. 2024;47(9):2478-2488. doi:10.1038/s41440-024-01779-4. **5,204 patients followed for 4 years.** The threshold presented is intended solely for informational purposes and should not be used to guide clinical decisions or actions.

2. Vlachopoulos C, Aznaouridis K, O'Rourke MF, Safar ME, Baou K, Stefanadis C. Prediction of cardiovascular events and all-cause mortality with central haemodynamics: a systematic review and meta-analysis. Eur Heart J. 2010;31(15):1865-1871. doi:10.1093/eurheartj/ehq024. **5,648 patients followed for 4 years.**

3. CV events are defined as a myocardial infarction, coronary revascularization, stroke, heart failure, or CV mortality.

SphygmoCor Cardiovascular Risk Assessment – Patient Report

Name **Michaela Johnson**

DOB **08-Dec-1972 (52 yrs)**

Sex **Female**

Parameter	Value ⁶	Classification	Normal Range
Central Blood Pressure (SYS) ⁵	129 mmHg	Above Range	99-126
Central Pulse Pressure ⁵	48 mmHg	Above Range	27-47
Pulse Pressure Amplification	128 %	Below Range	≥130 ⁸
Brachial Blood Pressure (SYS/DIA) ⁷	135/82 mmHg	HTN Stage 1	<120/<80
Augmentation Pressure ⁵	29 mmHg	Above Range	5.2-17.8
Augmentation Index ⁵	32 %	Within Range	20.7-43.7
Subendocardial Viability Ratio	104 %	Below Range	136-187

Actions for Elevated Risk Levels

Measurements in the high-risk category (red) highlight areas that need attention, while those in the intermediate risk category (yellow) indicate factors that could benefit from early intervention to help maintain cardiovascular health and reduce the likelihood of conditions like hypertension or coronary artery disease. Your healthcare provider may suggest further testing to explore how central blood pressure and/or arterial stiffness could impact your cardiovascular health.

Yellow Zone: Intermediate Cardiovascular Risk

Focus on Lifestyle Changes

- Increase physical activity (e.g., 150 minutes of moderate exercise per week).
- Adopt a heart-healthy diet rich in fruits, vegetables, whole grains, and lean proteins.
- Reduce sodium intake to help manage blood pressure.
- Maintain a healthy weight by balancing calorie intake and energy expenditure.

Monitor Your Cardiovascular Health Regularly

- Track blood pressure and other biomarkers regularly to spot changes early.
- Schedule routine follow-ups with your healthcare provider.

Consider Preventive Support & Advanced Testing

- Discuss potential therapies with your physician such as medications to lower cholesterol or blood pressure, and tests such as coronary artery calcium score and/or lipid and metabolic profiling.

Red Zone: High Cardiovascular Risk

Seek Medical Advice

- Consult a physician to review abnormal measurements and follow up with a specialist as needed for additional tests.

Understand Your Cardiovascular Risk With Advanced Testing

- Discuss with your physician tests such as coronary artery calcium score or carotid artery ultrasound to detect plaque and better understand the root cause of your elevated risk.

Start Treatment

- If prescribed, adhere to medical therapy for managing your cholesterol, blood pressure, and other CV risk factors.

Implement Targeted Changes

- Work with a nutritionist or fitness specialist to optimize your diet and exercise plan.
- Quit smoking and limit alcohol consumption.

5. Normal ranges are based on the ACCT Trial of 10,000 individuals with Pulse Wave Analysis measurements.

6. These measurements were captured using the SphygmoCor® XCEL system.

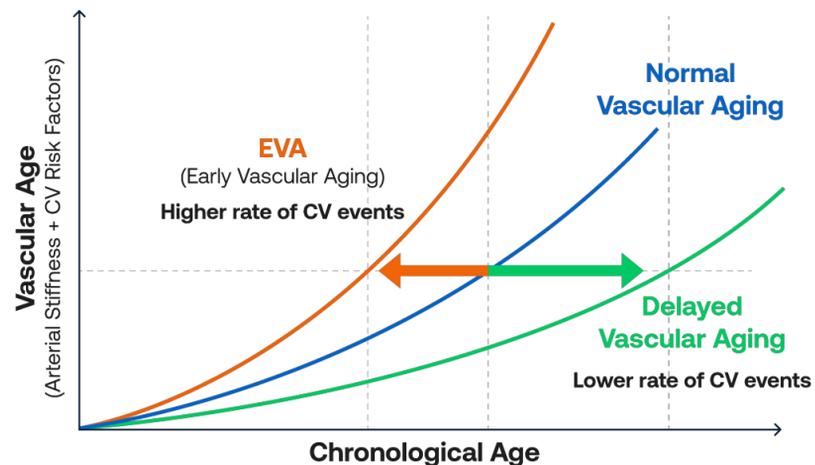
7. Blood pressure classification is based on AHA/ACC 2017 clinical guidelines.

8. Huang QF, An DW, Aparicio LS, et al. An outcome-driven threshold for PPA. For informational purposes only.

Vascular Aging – Are Your Arteries Aging Faster than Normal?

All arteries age over time but some age faster (known as accelerated vascular aging) or slower than others (known as delayed vascular aging). Accelerated vascular aging can lead to early arterial stiffness and increased risk of heart disease. Delayed vascular aging is healthier and occurs more gradually.

Measuring arterial stiffness can identify accelerated vascular aging. Knowing the health and stiffness of your arteries is an important step in understanding your arterial health and helps to inform what you can do to lower your cardiovascular risk.



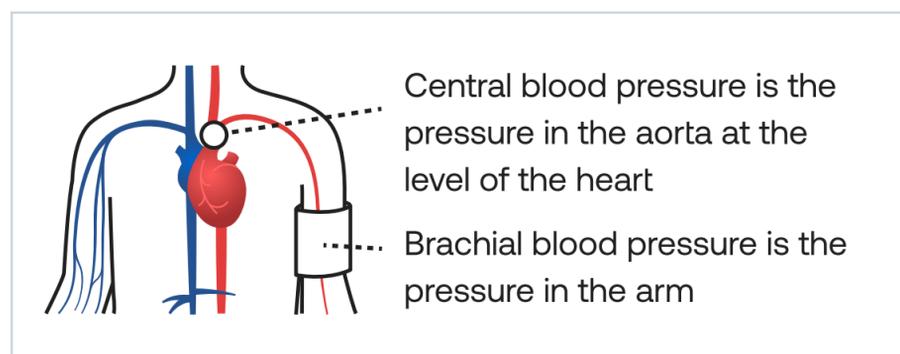
This Cardiovascular Risk Assessment summarizes central hemodynamic and vascular biomarkers obtained during your in-clinic evaluation using the SphygmoCor XCEL system. Unlike conventional brachial blood pressure readings, this assessment includes metrics that reflect the mechanical load on the heart and the condition of your circulatory system. These values are derived through Pulse Wave Analysis (PWA), a validated method that analyzes the shape and timing of the central blood pressure waveform to quantify arterial stiffness and wave reflection. Together, these measurements offer a more direct and sensitive assessment of cardiovascular risk, supporting early detection of vascular aging and informing personalized prevention or treatment strategies.

What is Arterial Intelligence™?

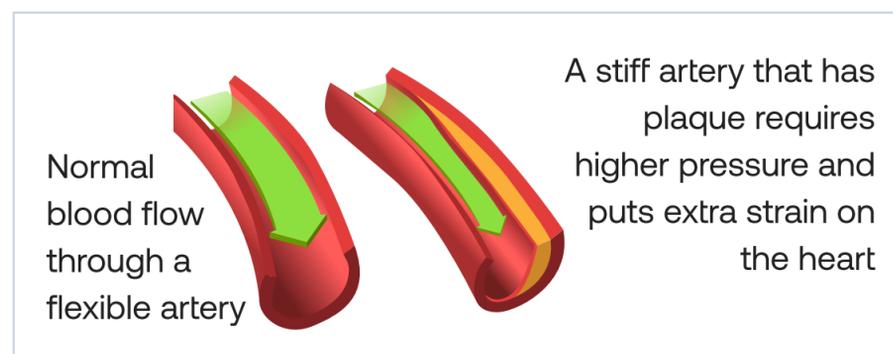
Arterial Intelligence™ is an advanced approach to cardiovascular assessment that focuses on central blood pressure and arterial stiffness, derived through Pulse Wave Analysis (PWA) by the SphygmoCor XCEL System, two key markers of vascular health often missed by standard cuff measurements. By analyzing the pressure waveforms generated by the heart, PWA provides deeper insight into the mechanical stress on the cardiovascular system and the early signs of arterial aging. This methodology enables more precise risk stratification and supports proactive strategies to prevent cardiovascular disease before symptoms emerge.

Why Are Central Blood Pressure and Arterial Stiffness Important?

Central blood pressure (or CBP) is the pressure in the ascending aorta, the large artery next to the heart. It is the pressure exerted on the target organs of the body such as the brain, kidneys, and the heart itself. CBP is a more direct indicator of cardiovascular risk than brachial blood pressure—the higher it is, the greater the risk.



Arterial stiffness is a process when arteries of the body lose their elasticity because of age, atherosclerosis (or plaque), diabetes, obesity, among other causes. Arterial stiffness is important because stiff arteries require the heart to work harder and increases the risk of cardiovascular disease such as hypertension, heart attacks, and stroke.

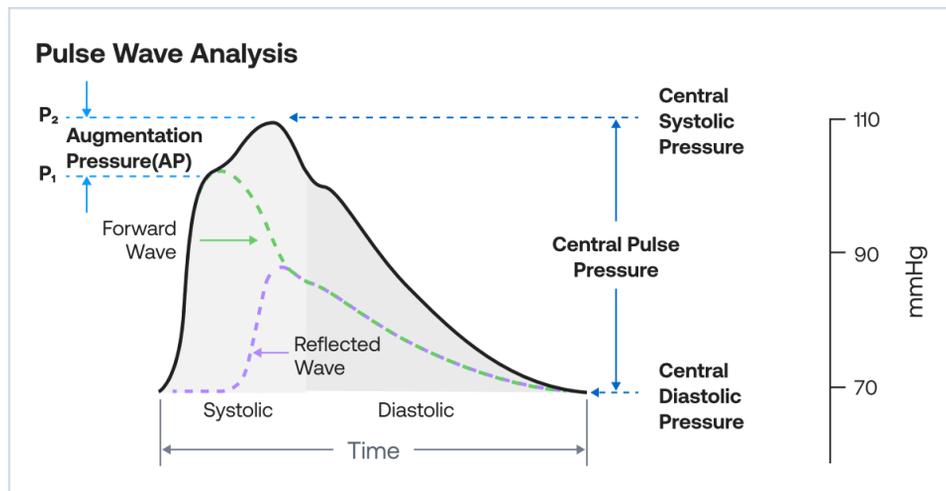


How is Arterial Stiffness Measured?

When your heart pumps through your arteries, it creates a pressure wave. In healthy arteries, this pressure wave flows forward and smoothly (green arrow) and then is reflected back towards the heart (purple arrow). This reflected wave creates an added pressure, known as Augmentation Pressure (AP) and Augmentation Index (AIx). In stiffer arteries this reflected wave travels back faster which increases the amount of augmentation, in turn making your heart work harder to pump blood.

Multiple large clinical trials have identified that arterial stiffness measured by high AP and/or AIx is associated with a greater cardiovascular risk of a heart attack, stroke, heart failure, and kidney failure.

Backed by decades of research, Pulse Wave Analysis (PWA) is a validated and widely used method for measuring central blood pressure and evaluating parameters linked to arterial stiffness. Your healthcare provider used the SphygmoCor XCEL to measure arterial stiffness non-invasively by analyzing the central blood pressure waveform using PWA, providing deeper insights into your cardiovascular health.



Learn More About Improving Your Heart Health.

This Cardiovascular Risk Assessment helps you evaluate your cardiovascular risk and track key metrics like blood pressure and arterial stiffness over time. Elevated central pressure and arterial stiffness are not only more predictive of cardiovascular events than standard measures, but they are also linked to conditions like kidney disease, vascular dementia, and sexual dysfunction.

This report is part of a broader health program to monitor your cardiovascular risk. Under your physician's guidance, additional tests may help assess your risk for hypertension, coronary artery disease, and other serious health issues.

Visit [CONNEQT Health](#) to discover how these insights can guide you and your healthcare provider toward better heart health.



Your 28-Day Kickstart to Better Arterial Health

Created by CONNEQT Health in collaboration with the American Heart Association. This guide is your day-by-day roadmap to better arterial and cardiovascular health, with practical tips for eating well, moving more, sleeping better, and reducing stress — all backed by science.



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