

# AtCor Medical SphygmoCor XCEL

## PATIENT REPORT



The Global Standard in Pulse Wave Analysis

Patient Details	
First Name:	Michael
Last Name:	ORourke
Patient ID:	
Age:	76
Date Of Birth:	2/22/1948
Gender:	Male
Height:	
Date of measurement:	7/2/2024 1:05 PM

These results are for information only as an aid to understanding and do not imply or diagnose a medical condition.

AtCor Medical SphygmoCor XCEL 1.3.2.19 7/10/2024 11:17 AM

This report explains your Pulse Wave Analysis measurement, a test used to assess your Central Blood pressure (the pressure at your heart) and the stiffness of your arterial system.

### **How is Pulse Wave Analysis different to normal cuff Blood pressure measurements?**

When your Blood pressure is measured at your arm, your Doctor is measuring:

- a) the highest pressure reached in your arm (the systolic pressure).
- b) the lowest pressure measured in your arm ( the diastolic pressure).

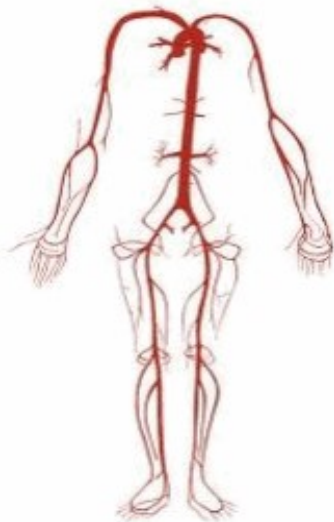
If your Doctor tells you your Blood pressure is 120 over 80 (often written like 120/80) then your systolic pressure is 120 and your diastolic pressure is 80.

The SphygmoCor Pulse Wave Analysis device provides this information, and 2 other important measurements:

- a) Central Blood pressure – this is the pressure at the aorta close to the heart, the large artery carrying blood from the heart to the body. Many studies have shown that your central blood pressure is a better indicator of your risk of heart attack, stroke, diabetes and kidney disease than normal cuff pressure.
- b) Arterial stiffness – this is a measure of the elasticity of your arteries. The less elastic your arteries (or the stiffer your arteries are), the more likely you are to have or develop high blood pressure (hypertension).

### **What is arterial stiffness and how is this related to my Blood pressure?**

High central blood pressure is often caused by stiffening or hardening of the arteries. Your heart pumps blood through your arteries via the aorta, the major artery in your body. The blood moves around the arterial system in waves.



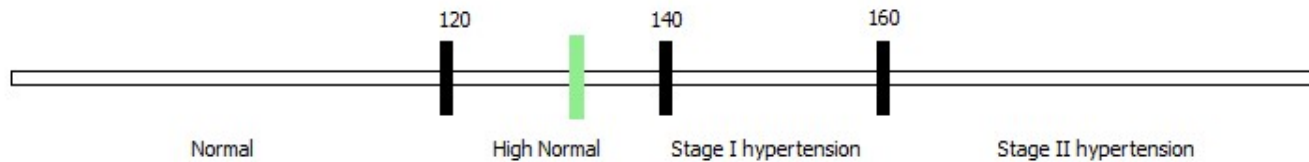
Wherever the arteries break into smaller arteries, some of the pressure from the wave can be reflected back towards the heart. In young patients, the arteries are elastic which will stretch reflecting small or non-existent backward pressure to the heart.

However, as we get older, our arteries get stiffer reflecting more pressure back to the heart. Over time, this increased pressure creates more work for the heart as it must pump the blood against this “back pressure” caused by the stiffness of the arterial system. This is why it is important to measure the pressure at your heart as well as at your arm, and your arterial stiffness.

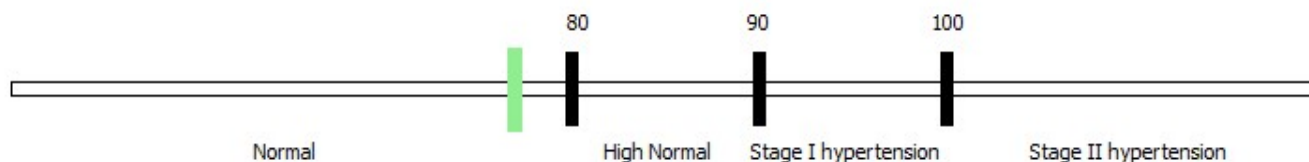
**Brachial (cuff) Blood pressure.**

High Blood pressure measured at the arm is a traditional method for determining cardiovascular risk. Your cuff Blood pressure Measurement is:

Systolic: **132 High Normal**



Diastolic: **77 Normal**



Your current cuff Blood pressure is **132/77**, which is considered at pre-hypertensive stage.

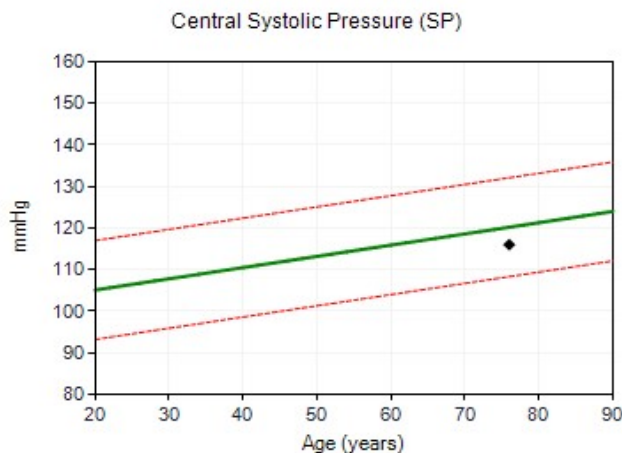
**Central Systolic Blood pressure.**

Your central Systolic Blood pressure is the highest blood pressure measured during heart beat at your heart (not at your arm).

High central Systolic Blood pressure is associated with higher risk of heart attacks and strokes, even in people with normal cuff Blood pressure.

Your Central Systolic Blood pressure is **116**.

The middle (green) line on the graph below shows the level of central systolic blood pressure from the age of 20 to the age of 90 years old. The dashed (red) lines show the range of central systolic blood pressure for each age that is within the normal limits.



If your measurement is on or below the middle (green) line: Congratulations your central Systolic Blood pressure is normal for your age or lower than normal for your age. Lower central Systolic Blood pressure is always better.

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If your measurement is between the middle (green) line and the top dashed (red) line, then your central Systolic Blood pressure is normal but is at the higher end of the normal range. You should continue to monitor your central Blood pressure regularly with your Doctor to make sure it is not increasing.

If your measurement is above the top dashed (red) line, your central Systolic Blood pressure is high compared to others your age. Talk to your Doctor about things you can do to reduce your central systolic Blood pressure, such as:

<ul style="list-style-type: none"> <li>• Stopping smoking</li> </ul>	<ul style="list-style-type: none"> <li>• Reducing your weight if you are overweight</li> </ul>
<ul style="list-style-type: none"> <li>• Increasing cardiovascular exercise such as walking or swimming</li> </ul>	<ul style="list-style-type: none"> <li>• Increasing your fruit, vegetable and whole grain intake</li> </ul>
<ul style="list-style-type: none"> <li>• Improving your diet by cutting down on fat and salt</li> </ul>	<ul style="list-style-type: none"> <li>• Reducing stress</li> </ul>
<ul style="list-style-type: none"> <li>• Taking anti-hypertensive medication</li> </ul>	<ul style="list-style-type: none"> <li>• Reducing excessive alcohol consumption</li> </ul>

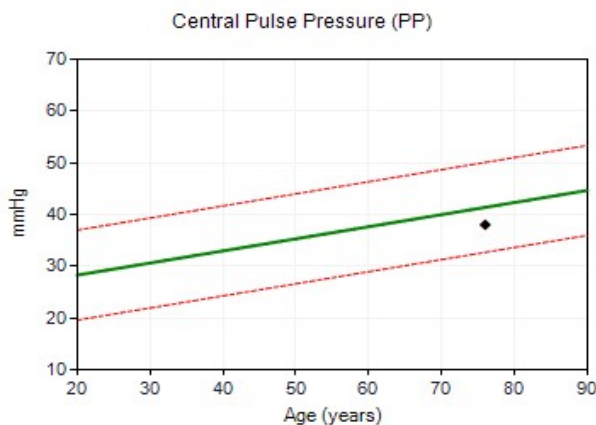
**Central Pulse Pressure (Aortic PP).**

Your central Pulse pressure is your central systolic pressure minus your central diastolic pressure. It represents the change in pressure in your arteries every heart beat.

Studies in the USA have shown that a central Pulse pressure of more than 50mmHG increases your risk of heart attack and stroke.

Your central Pulse pressure is **38**.

Based on clinical studies from the UK and China, the middle (green) line on the graph below shows the healthy level of central Pulse pressure from the age of 20 to the age of 90 years old. The dashed (red) lines show the range of central Pulse pressure for each age that is within the normal limits.



If your measurement is on or below the middle (green) line: Congratulations, your central Pulse pressure is normal for your age or lower than normal for your age.

If your measurement is between the middle (green) line and the top dashed (red) line, then your central Pulse pressure is normal but is at the higher end of the normal range. You should continue to monitor your central Pulse pressure regularly with visits to your Doctor to make sure it is not increasing.

If your measurement is above the top dashed (red) line, or above 50mmHG, your central Pulse pressure is high compared to others your age. Talk to your doctor about things you can do to reduce your central Pulse pressure, such as:

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<ul style="list-style-type: none"> <li>• Stopping smoking</li> </ul>	<ul style="list-style-type: none"> <li>• Reducing your weight if you are overweight</li> </ul>
<ul style="list-style-type: none"> <li>• Increasing cardiovascular exercise such as walking or swimming</li> </ul>	<ul style="list-style-type: none"> <li>• Increasing your fruit, vegetable and whole grain intake</li> </ul>
<ul style="list-style-type: none"> <li>• Improving your diet by cutting down on fat and salt</li> </ul>	<ul style="list-style-type: none"> <li>• Reducing stress</li> </ul>
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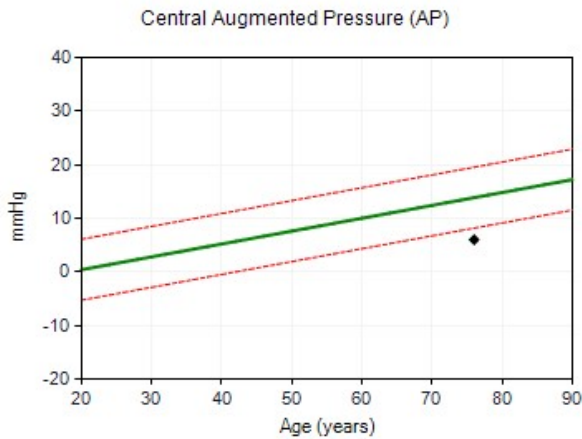
**Central Augmented Pressure (Aortic AP).**

Your central Augmented pressure is the additional pressure measured at your heart due to the stiffness of your arteries. When your arteries are not stiff, the Augmented pressure will be low.

Studies have shown that high central Augmented pressure is related to kidney failure and dementia, as increased arterial stiffness increases the pressure in the small arteries in the kidney and the brain.

Your central Augmented pressure is **6**.

Based on a study from the University of Cambridge, the middle (green) line on the graph below shows the healthy level of Augmented pressure from the age of 20 to the age of 90 years old. The dashed (red) lines show the range of Augmented pressure for each age that is within the normal limits.



If your measurement is on or below the middle (green) line: Congratulations, your central Augmented pressure, and therefore your arterial stiffness, are normal for your age or lower than normal for your age.

If your measurement is between the middle (green) line and the top dashed (red) line, then your central Augmented pressure and arterial stiffness are normal but at the higher end of the normal range. You should continue to monitor your arterial stiffness regularly with your Doctor to make sure it is not increasing.

If your measurement is above the top dashed (red) line, your central Augmented pressure and arterial stiffness are high compared to others your age. Talk to your Doctor about lifestyle changes and/or medication that can reduce your arterial stiffness.

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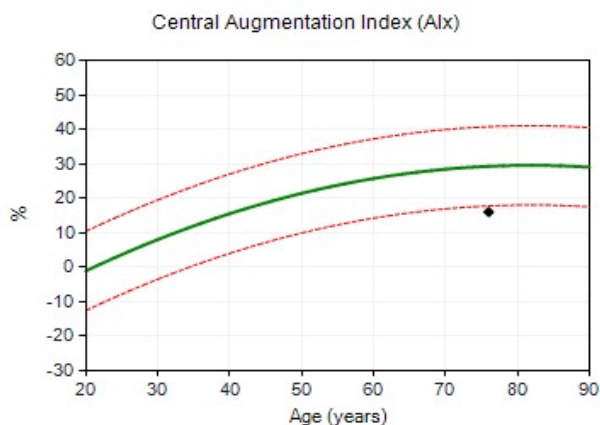
**Central Augmentation Index.**

Your central Augmentation index is another measure of your arterial stiffness. When your arteries are not stiff, the central Augmentation index will be lower.

Central Augmentation index can provide an early indication of arterial stiffness, well before the arterial stiffness results in an increase in cuff pressure.

Your central Augmentation index is **16**.

The middle (green) line on the graph below shows the healthy level of central Augmentation index from the age of 20 to the age of 90 years old. The dashed (red) lines show an acceptable range of central Augmentation index for each age.



If your measurement is on or below the middle (green) line: Congratulations, your central Augmentation index, and therefore your arterial stiffness are normal for your age or lower than normal for your age.

If your measurement is between the middle (green) line and the top dashed (red) line, then your central Augmentation index and arterial stiffness are normal but at the higher end of the normal range. You should continue to monitor your Central Augmentation index when you visit your Doctor to make sure your arterial stiffness is not increasing.

If your measurement is above the top dashed (red) line, your central Augmentation index and arterial stiffness are high compared to others your age. Your Doctor will discuss appropriate lifestyle modifications and /or medication with you.

**Your SphygmoCor Reference age.**

Your SphygmoCor Reference age measures the stiffness of your arteries and compares them with other people your age.

Your SphygmoCor reference age is not calculated.

If this age is less than your actual age: Congratulations you have young arteries.

If this age is the same as your actual age: Your arterial stiffness is normal for your age.

If this age is greater than your actual age: Your arteries are stiffer than is normal for your age and you should discuss this with your Doctor, who may suggest lifestyle changes and/or medication to reduce your arterial stiffness.