Analysis of your Arterial Pulse Waveform

For a long time the consideration of blood pressure was based exclusively on measurements of *peripheral* (brachial) blood pressure. Understanding arterial stiffness, elevated central blood pressure and pulse pressure patterns gives us more information into the mechanisms of target organ damage such as the heart, etc. For this reason, measuring arterial stiffness and *central* blood pressure, and not just *peripheral* pressure from an arm cuff, gives added insights into the pathophysiology of cardiovascular disorders associated with aging, hypertension, diabetes, as well as end-stage renal disease.

SBP (Central Aortic Systolic Blood Pressure) is the pressure in your blood vessels when your heart contracts. Higher values indicate the need for greater heart force to pump the blood through the body.

Your value is _____ (an optimal range is estimated to be 105-120).

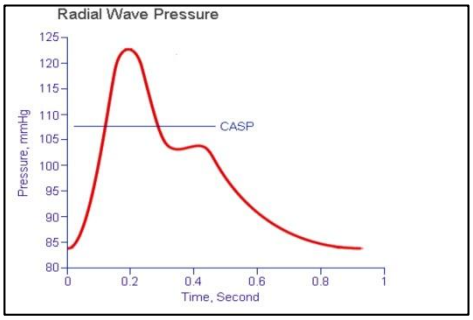
DBP (Central Aortic Diastolic Blood Pressure) is the pressure in your blood vessels when your heart relaxes. If the pressure is too low it will not have enough force to enter the blood vessels of the heart.

Your value is _____ (an optimal range is estimated to be 70-80).

PP (Central Aortic Pulse Pressure) is the difference between SBP and DBP represents the force that your heart generates each time it contracts and thus is an indicator of stress placed on the left ventricle of the heart. Because the conventional BP cuff provides only a poor estimate of LV load, pulse wave analysis is a better indicator of the systemic blood pressure and therefore the actual benefit of medications designed to lower blood pressure. Several studies have shown that high PP causes arterial damage and atrial fibrillation.

Your value is _____ (an optimal range is estimated to be 30-40).

CASP (Central Aortic Systolic Pressure) is the pressure at the root of the aorta, the largest artery of the body as the blood is being pumped out of the heart. CASP may more accurately predict cardiovascular structural damage and cardiovascular outcomes when compared to brachial pressures taken at the arm. The CASP becomes closer to the brachial pressure if there is aortic stiffness, hypertension, uncontrolled diabetes, etc. and correlates 99.17% to an angiogram. It has also been shown that certain class of drugs used in the treatment of high blood pressure can also have an adverse effect on the CASP, increasing it instead of reducing. By reducing the CASP of the patient, we are reducing the risks of stroke and heart events. The BPro has been validated in more than 10,000 patient waveforms.

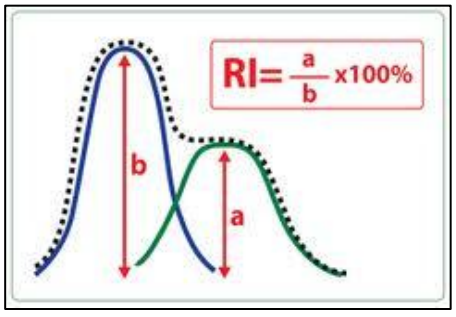


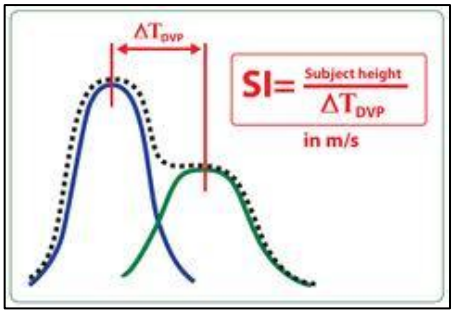
Your value is _____ (an optimal range is ~80-120 with higher values associated with age).

MAP2 (Mean Arterial Pressure) is defined as the average arterial pressure during a single cardiac cycle. MAP is the perfusion pressure seen by organs in the body. Conditions associated with inflammation have higher MAP2.

Your value is _____ (an optimal range is ~65-80 while 90+ reflects inflammation/infection).

rAI (Radial Augmentation Index) reflects arterial stiffing or atherosclerosis index (AI) in the central arteries, including the aorta and carotid arteries. The rAI obtained from the radial artery is an index for vascular aging or stiffness. Body height, heart rate, postural change, and gender influence the results with men having lower RAI than women.





Your value is _____ (an optimal level is estimated to 100%; i.e.- the "a" is low and late).

Patient Name:_____ Date:_____