Powered by EVBP U.S. Patented Technology

HealthSTATS
Enhancing life • Be Pro active
www.healthstats.com

A-PULSE CASPal®

Central Aortic Systolic Pressure Monitoring Device

A-PULSE CASPal®

A-PULSE CASPal® is a simple and yet revolutionary device for the measurement of Central Aortic Systolic Pressure (CASP) in a simple clinic or home setting. It is a world-first portable CASP device developed by HealthSTATS International.

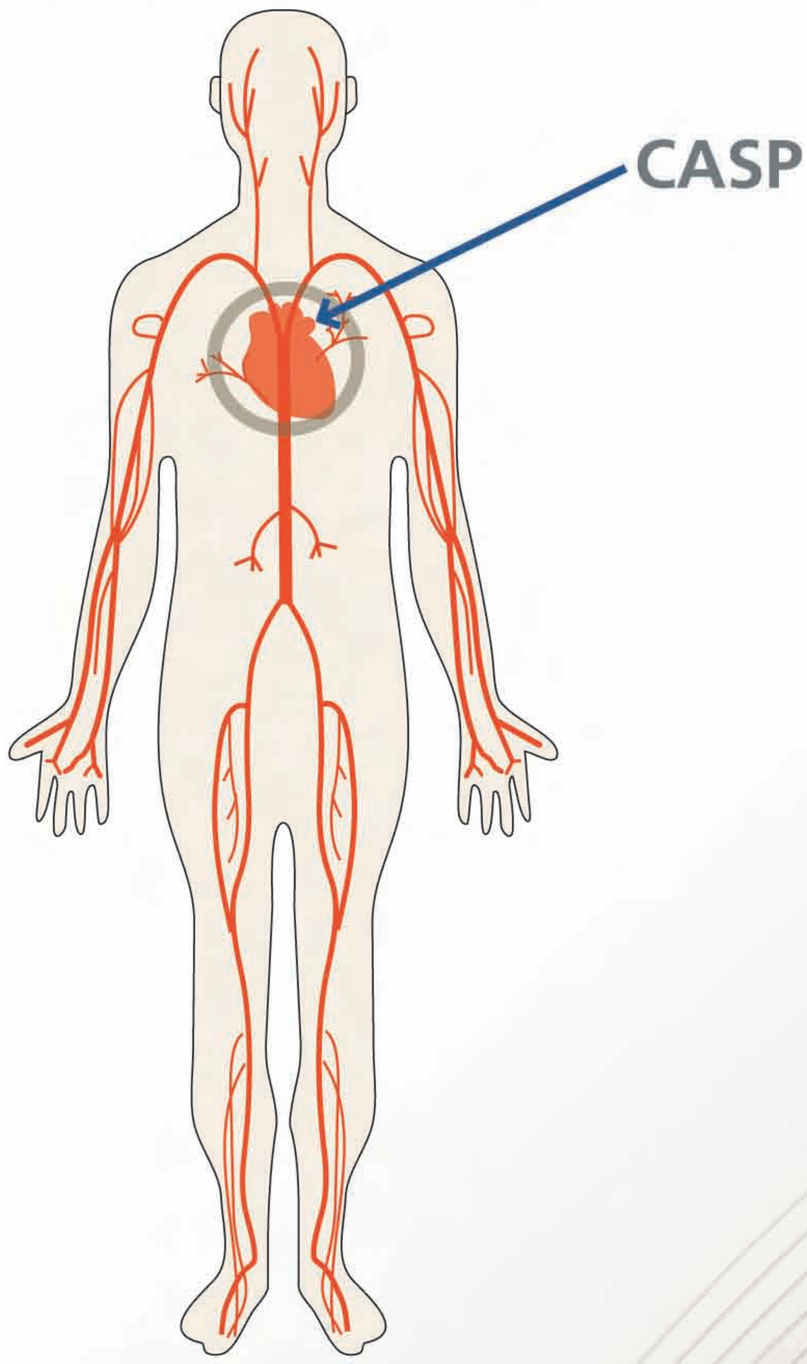
It is empowered by EVBP technology, a FDA listed and patented technology using modified applanation tonometry on the radial artery at the position of the wrist. It is completely non-invasive, painless and easy-to-operate.

Key Features

- Complete - no software installation, no additional PC or laptop needed
- Built-in calibrator
- Displays patient's blood pressure and CASP
- Easy to use
- Memory for up to 200 readings
- Large digital display

What is Blood Pressure?

Blood Pressure (BP) is the pressure exerted by blood on the wall of an artery. It varies within each heart beat and from beat to beat. The highest pressure is called systolic pressure and the lowest pressure is called diastolic pressure. Blood pressure is usually measured in millimeters of mercury (mmHg) and is represented as systolic / diastolic e.g. 120/80 mmHg.



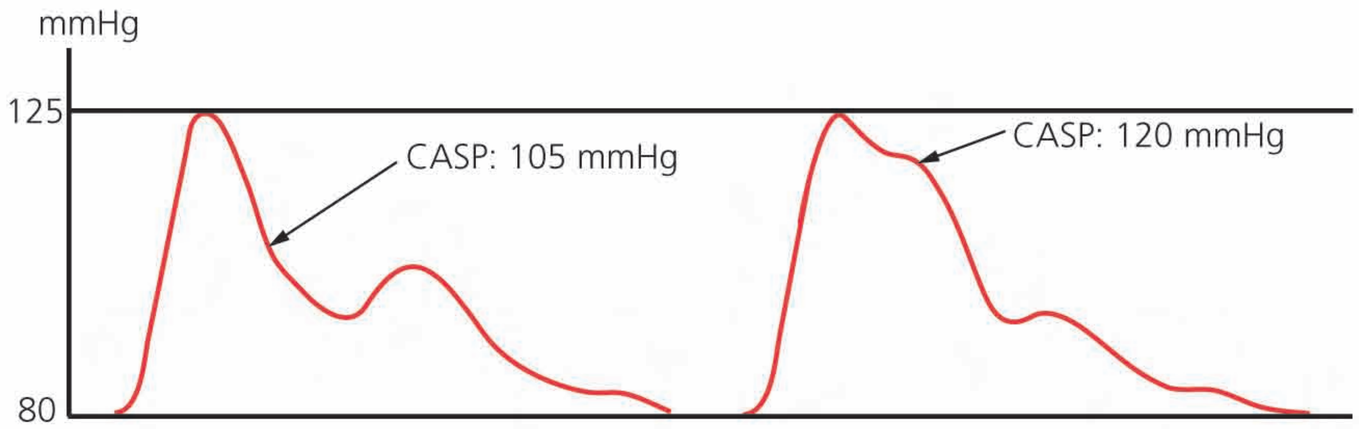
What is CASP?

Central Aortic Systolic Pressure (CASP) is the pressure at the root of the Aorta, the largest artery of the body as it emerges from the heart (see diagram).

The CASP is usually lower than brachial pressure (the blood pressure measured at the arm). This difference can be as much as 30 mmHg in young healthy adults but approximates that of the brachial pressure when one gets older. It also becomes closer to the brachial pressure when one is suffering from conditions like Hypertension, uncontrolled Diabetes Mellitus, etc.

Is it sufficient to measure the brachial BP alone?

As seen from the diagram, 2 persons can have exactly the same brachial BP (125 / 80), but different CASP (105 vs 120 mmHg). It is important to know the CASP as it has been shown in recent studies to be the strongest independent indicator for strokes, heart disease and their survival rate.



More importantly, different drugs can have different and varying effects on the CASP even as they lower the brachial pressure.* As a result, some may be detrimental to the patient even as the brachial BP is being lowered.

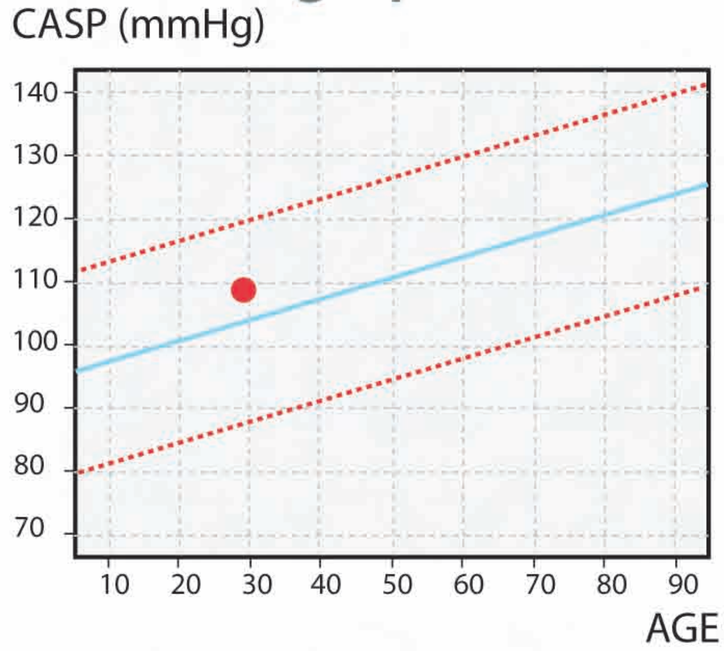
The reason for not measuring the CASP widely is mainly due to the fact that, **to-date**, there is no device accurate, affordable and simple enough to be used in a home or clinic setting.

The present technique is either an invasive angiographic measurement, or using a very expensive and cumbersome system which is only used in research labs.

With A-PULSE CASPal®, we can do this easily now.

*) Williams B, Lacy P. Central aortic pressure and clinical outcomes. *J Hypertens* 2009; **27**:1123-1125.

The CASP graph



The normal value of CASP is different for each person, depends on their age. The CASP is considered normal when the pressure is within the two red lines.

How can we use A-PULSE CASPal®?

It can be used in:

- Home setting - Measure your BP and CASP by yourself at your own convenient time.
- Clinic setting - Screen patient's vascular status immediately and accurately.
- Clinical trials - The technology has already been used in various huge global drug trials.
- Research and development.

A-PULSE CASPal®

Central Aortic Systolic Pressure Monitoring Device

A-PULSE CASPal® Method

Wear the cuff

Put on the wrist sensor

Start measurement

General	
Model	T7200 series
Display	▪ 51.3 x 75.5 mm (5 lines) monochrome LCD
Battery life	Approximately 200 measurements with 4 new standard alkaline "AA" batteries and inflating the cuff to 160mmHg at a room temperature of 22°C
Control buttons	▪ ON/OFF ▪ BP ▪ CASP ▪ MEMORY
Display	
Parameters	▪ Systolic pressure in mmHg ▪ Diastolic pressure in mmHg ▪ Pulse rate in BPM (Beats Per Minute) ▪ Central aortic systolic pressure in mmHg
Blood Pressure & CASP Measurement	
Calibration method	Oscillometric, performed before use
Measurement site	▪ Arm (left or right) for blood pressure measurement ▪ Radial artery at the wrist (left or right) for wave acquisition
Cuff inflation method	Automatic, by electric pump
Cuff deflation method	Electronic control valve (modulated)
Rapid pressure release method	Electronic control valve (open)
Blood pressure measurement time	Less than 45 seconds (typically)
Blood pressure range	40 to 280 mmHg
Measurement accuracy	Meets ANSI/AAMI SP10:1992 Standard
Pulse waveform acquisition device	Radial pulse wave acquisition module
Pulse waveform acquisition method	Modified applanation tonometry
Pulse rate range	30 to 180 beats/minute
Pulse rate accuracy	±3%
Pulse waveform acquisition time	Approximate 10 seconds
Memory capacity	200 sets of blood pressure measurements and CASP readings
Auto power off time	5 minutes of non-use
Dimensions and Weight	
Main unit dimensions	W117 x D131 x H86 mm (W4,6 x D5,2 x H3,4 inch)
Main unit weight	Approximately 330g (12 oz.)
Environmental	
Operating conditions	• 10°C to 40°C • 15% to 90% relative humidity (non-condensing) • 80 to 106 kPa atmospheric pressure
Storage conditions	• -20°C to 50°C • 10% to 95% relative humidity (non-condensing)
Others	
Cuffs	• Regular adult cuff, for arm circumferences 21 to 30cm (8.3 to 11.8 inches), (included with system) PART NUMBER: P1500B • Large adult cuff, for arm circumferences 29 to 42 cm (11.4 to 16.5 inches) (optional) PART NUMBER: P1501B
Patient safety	Automatic cuff deflation if any of the following conditions is encountered: • Cuff pressure exceeds 290 mmHg • Measurement time exceeds 180 seconds • Safety timer detects microprocessor failure

Note: The above specifications are subject to change without notice.

HealthSTATS International
6 New Industrial Road #04-01/02
Hoe Huat Industrial Building
Singapore 536199
Phone: +65 6858 2190
+65 6858 6190
Fax: +65 6858 0148
www.healthstats.com

Call us or the local agents for a demo now!!