

*Hello all,*

Welcome to this special edition of *Alternativz* and thank you for your continued interest and support.

COHERENCE is seeking investors who would like to bring an end to “essential” hypertension, the form of high blood pressure that according to the NIH and CDC has no known physical cause. Essential hypertension makes up 90-95% of all cases in the US, affecting 60 million Americans and hundreds of millions more around the world. High blood pressure and its complications cost the US ~90 billion dollars in 2010. Given that essential hypertension does exist and that the numbers are staggering, it stands to reason that while the cause may be unknown, there is a cause...



Figure 1: Essential Hypertension Affects 60 Million Americans - Yet Is Of Unknown Origin?

The NIH refers to hypertension or high blood pressure, as “the silent killer” because it has few symptoms and if it persists it damages internal organs including the heart, the vascular system, the kidneys, and the brain. The incidence of Alzheimer’s correlates with that of high blood pressure, as Alzheimer’s is also fundamentally related to circulatory function.

The fact is that essential hypertension is preventable via education. We intend to offer this education by adding detection and measurement of the Valsalva Wave, a blood wave that rises and falls in the arterial tree each time we exhale and inhale, to conventional oscillometric blood pressure measurement. When the wave is present and of significant amplitude, blood pressure cannot be high. When blood pressure is high and the wave is absent, it’s absence indicates the circumstances for blood pressure to be high.

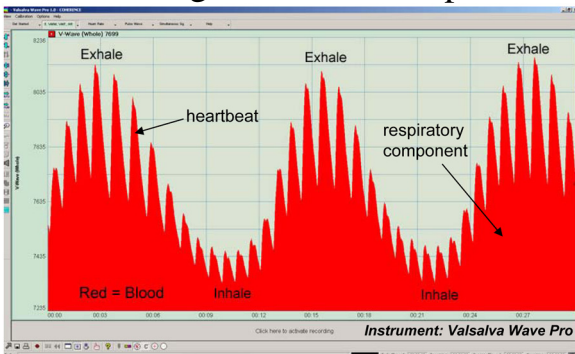


Figure 2: The Valsalva Wave When Breathing Coherently or user is experiencing “essential” hypertension - the form of high blood pressure that “has no known etiology”. The amplitude of the Valsalva Wave is the key diagnostic measure that instructs and educates the user or health care provider regarding the state of their circulatory effectiveness.

Figure 2 depicts the Valsalva Wave when one is breathing “coherently”. By contrast, the wave presented by the typical adult breather is “flat”, there is only a steady heartbeat, hence the conditions are right for hypertension.

Instructing the patient or user to breathe with greater depth and regularity causes the wave to increase in amplitude and blood pressure to drop. This is generally true if the patient

This is because the root cause of essential hypertension is sub-optimal breathing. Breathing (movement of the diaphragm) plays a key role in moving the blood, particularly the flow of venous blood from the extremities to the chest, which occurs every time we inhale with significant depth. When venous blood fails to move with adequate flow, arterial blood has nowhere to go and the entire circulatory system pressurizes. It’s about that simple.

Why the NIH and CDC are silent regarding this physiologic fact remains a matter of concern.

Today's state-of-the-art blood pressure measurement almost universally employs "oscillometric" detection and measurement. This is the common blood pressure measurement technology that is used in hospitals, doctors offices, clinics, and homes throughout the world, with many 10s of millions of devices in use.

The oscillometric method involves measuring pressure oscillations in the occlusion cuff - whereby the systolic pressure - the pressure of the blood pushed by the heartbeat, and the diastolic pressure - the pressure in between heartbeats is measured. Typically, this device offers nothing more that can aid a health practitioner or user to understand "why" their blood pressure may be high.

COHERENCE owns 2 patents on the detection and feedback of the Valsalva Wave:

US patent #4458937: *Method And System For Assessing Breathing Effectiveness Via Assessment Of The Dynamic Arterial Pressure Wave Using The Oscillometric Measurement Technique*, and

US patent #7922664: *Method And System For Improving Physiologic Status And Health Via Assessment Of The Dynamic Respiratory Arterial Pressure Wave Using Plethysmographic Technique*

The Valsava Wave is the phenomenon of the arterial pressure wave followed by the relatively lower venous pressure wave. To my knowledge, I am the first to discuss the wholistic arterial/venous phenomenon. Patent #7922664 is the basis of [COHERENCE Valsalva Wave Pro.](#)

We intend to integrate these innovations with oscillometric measurement to produce an instrument or series of instruments that offer this educational advantage. Incorporation of Valsalva Wave measurement also addresses a shortcoming of present oscillometric devices, this being measurement error caused by ignoring breathing induced changes in blood pressure. For this reason, 20 years after global adoption oscillometric measurement is not considered highly accurate. This deficiency is overcome by detecting and measuring the wave as opposed to trying to negate its effects which heretofore have been considered an annoying anomaly or artifact.

Medical instrumentation is presently undergoing a major disruption/transformation, largely due to innovations in computing and wireless technologies. Where blood pressure measurement devices are presently purpose built "boxes", the blood pressure device of the future will be small, portable and relatively intelligent with a graphical user interface. The tablet and "smart phone" form factors are emerging as the future medical instrument package paradigm.

This sets the stage for more intelligent instruments that offer health care professionals and their clients the opportunity to engage in a more proactive and wholistic approach to maximizing health and well-being. For more information or to express interest, please reply.

Thank you for your interest, Stephen Elliott, President, COHERENCE LLC

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