Novel Method for Determining Aortic Compliance and Peripheral resistance

Organization
University of Missouri – Columbia

Industry:
Human Health, Cardiovascular Health Technology

Researchers:
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Status of Intellectual Property:
Patent pending

Next Steps:
- More validation with more patients,

- Determine if direct measurement of ejection period and stroke volume is necessary using an echocardiogram,

- Find an entrepreneur/licensee with cardio vascular expertise to assist in validation and/or a commercial deployment

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Customer Problem

Arteriosclerosis is the inflammatory thickening, hardening and loss of elasticity of the walls of arteries. This process gradually restricts the blood flow to one's organs and tissues and can lead to severe health risks. Cardiovascular diseases that were caused to a significant extent by arteriosclerosis also caused almost 812,000 deaths in 2008, more than any other cause, including cancer. This disease can begin at a very young age and progress through life.

A pulse wave velocity (PWV) test is currently used to estimate the stiffness of the arteries. While PWV testing receives vast attention in the literature (nearly 1,000 publication each year), this test is not commonly performed in the clinic and remains a topic of research only. Today, there is no widely used method for diagnosing arteriosclerosis when assessing cardiovascular health.

Potential Market Uses

An echocardiogram is routinely used to evaluate heart function. Researchers at the University of Missouri have developed a technique for extending the use of an echocardiogram for accurately calculating arterial capacitance and total peripheral resistance of the body – both measures being important for assessing overall cardio-vascular health.

A company who advertises the ability of their echocardiogram machine to compute these cardiovascular properties will have a market advantage over their competitors.

Market

Similar tests are routine for all patients suffering for high blood pressure. See potential customer segments below:
- Internal medicine
- Nephrology
- Cardiology

Innovation

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Stage of Development

Must be tested with more patients.

Competitive Advantages

- Noninvasive
- Based on measurements routinely taken of patients
- Inexpensive, simple solution