Cardiac output is the most important marker of cardiac function. Measurements of colic output are commonly made by invasive heart catheterization or by using time-consuming and expensive methodologies such as echocardiography or magnetic resonance imaging.

Dr. Meyer and his colleagues have conceived a new method to measure circulation time without using injected agents or the need for blood samples. This method is accomplished by brief changes in blood oxygen saturation achieved by taking a breath of nitrogen, the most prevalent gas in ambient air.

This approach uses pulse oximetry to measure circulation times. For this purpose the oxygen concentration off the inhaled air will be changed to either hyperbaric or hypobaric conditions. The time it takes to change the oxygen saturation at a peripheral site is directly related to cardiac output.

**Advantages**

- Non-invasive
- Easy to use
- Low cost
- Immediate results
- Assesses pulmonary gas exchange

**Applications**

Medical & Combat settings, Cardiovascular & Pulmonary equipment manufacturers

O₂ saturation transients & circulation times at 3 body sites

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