Improved, Simplified Method for Detection of Respiratory Compensation

The respiratory compensation point (RCP) has been studied for decades as a marker during graded exercise tests due to its strong relation to performance and its critical role in polarized training schemes for athletes. In practice, the RCP is visual confirmation that hyperventilation occurs during high intensity exercise - an important concept in applied and exercise physiology. However, currently available methods of determining RCP rely on visual examination of measured changes in multiple variables (VO_2, VCO_2, Ve and $PETCO_2$), and these methods are as much an art as a science and ultimately subjective. Fortunately, researchers at the University of Louisiana at Lafayette (UL Lafayette) have invented a simplified, automated, mathematical method for determination of the RCP. This novel method also eliminates the need for expired carbon dioxide data. In one embodiment, this automated method can empower a small device to assess RCP in real-time and provide health professionals and athletes a competitive edge in performance training.

Fig 1. Older Method: Based upon visual inspection of directional changes in multiple variables.

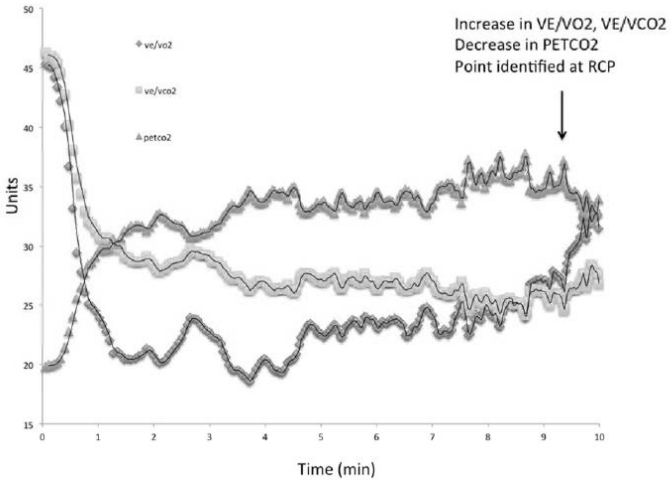
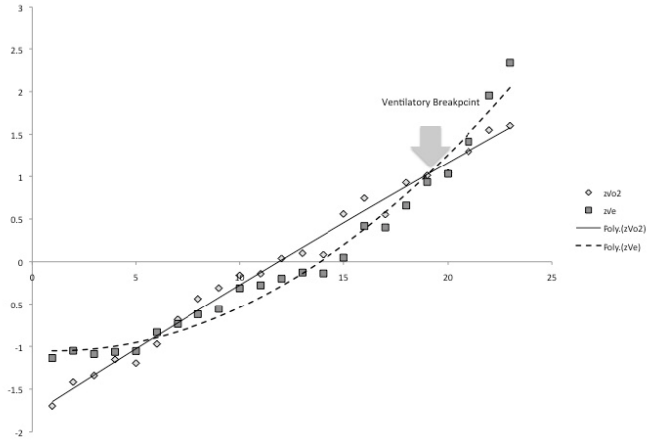


Fig 2. New Method: Simplified and based on the mathematical intersection of two lines of best fit.



KEY ASPECTS OF THE TECHNOLOGY:

- Provides for a simpler, automated method of detection;
- Detection method based upon intersection of two lines of best-fit;
- Precludes the need for expensive Carbon Dioxide Sensors;
- Provides an intuitive teaching / assessment tool for students and health professional;
- Based on UL Lafayette Patent Pending Technology.

UL Lafayette specializes in Research for a Reason. We recognize that the current technology may be brought into practical use for public benefit and yield economic value. Accordingly, we currently seek a commercial partner interested in commercial development of this technology via licensing and/or collaborative research partnerships. To learn more about this research and/or partnership opportunities please contact UL Lafayette's Office Of Innovation Management via the information provided below.

Office of Innovation Management

University of Louisiana at Lafayette · 537 Cajundome Blvd. Ste. 115 · Lafayette, LA 70506

Tel: 337-735-5483 · OIM@louisiana.edu