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Press Release

For immediate release

Has Workwell Foundation Identified a Diagnostic Biomarker for Chronic Fatigue Syndrome?

New Study by Workwell Foundation Demonstrates Diagnostic Value of 2-Day Test Protocol

Ripon, CA. August 8, 2013 - Workwell Foundation announces the publication of a new study supporting previous findings that a 2-day Cardiopulmonary Exercise Test (CPET) protocol objectively documents post-exertional malaise (PEM), the most commonly recognized symptom in Chronic Fatigue Syndrome/Myalgic Encephalomyelitis (CFS/ME). The study revealed a statistically significant performance decrease on Day 2 in workload at ventilatory threshold (VTWL), workload at peak exercise (WL_{peak}), volume of oxygen consumed at ventilatory threshold (VTO_2) and volume of oxygen consumed at peak exercise (VO_{2peak}). In short, individuals with CFS/ME were unable to reproduce their Day 1 performance on Day 2. The statistical classification analysis points to a **diagnostic biomarker** for CFS/ME with a **95.1% accuracy**.

The study "*Discriminative Validity of Metabolic and Workload Measurements to Identify Individuals with Chronic Fatigue Syndrome*" was published on June 27th in the Physical Therapy Journal (PTJ). The statistical analysis correctly classified 49 of 51 CFS/ME patients and 9 of 10 matched, non-disabled, sedentary individuals based on 2 day CPET.

Staci Stevens, the study's co-author and Program Director at Workwell Foundation, developed the 2 day CPET protocol. She states it "provides the CFS/ME community an objective, quantitative marker of post exertional malaise. To date, diagnosis has been qualitative based on a list of symptoms, resulting in wide variability in the patient population."

Workwell who pioneered the use of the 2 day test states there are some mandatory features of their protocol: (1) two identical tests, separated by 24 hours; (2) collection of gas exchange data; and (3) use of bicycle ergometry to accurately measure work output. Results from a single CPET can be misinterpreted as deconditioning and can lead to an exercise prescription that is inappropriate for CFS/ME patients. The objective measurements in CPET, including indicators of maximal effort, remove issues of self-report bias and the question of effort – the test cannot be faked.

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Who Benefits?

Patients: Workwell's 2 day CPET provides patients with a functional assessment based on objective measurements. Knowledge of their ventilatory threshold allows them to pace their activities by wearing a heart rate monitor, an effective intervention to reduce PEM.

Physical Therapists: Can develop appropriate activity management programs using results of the 2 day CPET. VT often occurs at very low levels of oxygen consumption and workload. Normal activities of daily living may exceed a patients VT necessitating very limited and gradual activity interventions.

Medical Researchers: Clinical trials that employ Workwell's CPET protocol to qualify study participants and to measure outcomes, reduce confounding problems of patient heterogeneity that have hampered CFS/ME research for years.

Attorneys: Can use the functional assessment of 2 day CPET to provide objective clinical evidence disability.

What Are The Next Steps in Research?

This study proposes key future research directions including exercise test protocol selection and the inclusion of lactate measurement as an additional validation of VT. While the etiology of PEM in CFS/ME remains unclear, this study moves the field forward.

About Workwell Foundation:

Workwell specializes in the evaluation of disability for individuals with CFS/ME, Fibromyalgia Syndrome (FMS), and other fatiguing conditions. CPET is the gold standard for determining disability. Workwell employs their unique 2 day protocol to support diagnoses and document the disabling consequences of physical activity, including post-exertional malaise (PEM) and symptom exacerbation. The objective measures taken accurately assess an individual's capacity for work; www.workwellfoundation.org.

Citations:

Christopher R. Snell, Staci R. Stevens, Todd E. Davenport and J. Mark VanNess. (2013). Discriminative Validity of Metabolic and Workload Measurements to Identify Individuals with Chronic Fatigue Syndrome. PHYS THER. Published online June 27, 2013 doi: 10.2522/ptj.20110368.