

## **Reduced oxidative muscle metabolism in chronic fatigue syndrome.**

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The purpose of this study was to determine if chronic fatigue syndrome (CSF) is characterized by abnormalities in oxidative muscle metabolism. Patients with CFS according to Centers for Disease Control (CDC) criteria (n = 22) were compared to normal sedentary subjects (n = 15). CFS patients were also tested before and 2 days after a maximal treadmill test. Muscle oxidative capacity was measured as the maximal rate of postexercise phosphocreatine (PCr) resynthesis using the ADP model (V<sub>max</sub>) in the calf muscles using <sup>31</sup>P magnetic resonance spectroscopy. V<sub>max</sub> was significantly reduced in CFS patients (39.6 ± 2.8 mmol/L/min, mean ± SE) compared to controls (53.8 ± 2.8 mmol/L/min). Two days postexercise there was no change in resting inorganic phosphate (Pi)/PCr or V<sub>max</sub> in the CFS patients (n = 14). In conclusion, oxidative metabolism is reduced in CFS patients compared to sedentary controls. In addition, a single bout of strenuous exercise did not cause a further reduction in oxidative metabolism, or alter resting Pi/PCr ratios.

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