

Effect of resistance training on VCAM-1 and Cortisol in HIV+ men with chemical dependence

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Category: Masters

ABSTRACT

Resistance training can reduce the effects of inflammatory diseases and contribute to skeletal muscle repair and regeneration. Cortisol functions to reduce inflammation in the body however, it can impair the immune system. Elevated levels of Vascular Cell Adhesion Molecule 1 (VCAM-1) are associated with an increased risk of cardiovascular disease. Chemical dependency is also associated with immune impairment. **Purpose:** The purpose of this study was to look at the impact of resistance training on the level of cortisol and VCAM-1 as an inflammatory response to resistance training. **Methods:** Sixteen HIV+ men (Age: 41.5 ± 10.9 , Height: 180.4 ± 9.1 cm, Weight: 89.2 ± 20.7 kg) enrolled in an in-patient chemical dependence rehabilitation program were recruited and assigned to one of two groups using randomization: supervised resistance training 3 times per week (Exercise) or no exercise training (Control) for six weeks. Before and after the 6-week period, a resting and fasted blood sample was obtained and analyzed for cortisol and VCAM-1 concentrations. **Results:** Resting levels of VCAM-1 were statistically unchanged in both the Control group (6.05 ± 4.5 vs. 6.13 ± 4.5) and in the Exercise group (7.05 ± 3.4 vs. 7.6 ± 3.6). Levels of Cortisol were also statistically unchanged in both the Control group (26.33 ± 9.3 vs. 26.08 ± 7.9) and the Exercise group (21.84 ± 3.5 vs. 22.37 ± 4.8). **Conclusion:** A six week resistance training program might not be long enough to illicit the benefits of lower Cortisol levels and an increase in VCAM-1 levels in this given population.

