

## **Salivary Cortisol and Testosterone Responses to a Farmer's Walk**

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### **ABSTRACT**

It is quite common that numerous populations must often carry large amounts of weight while moving (military, law enforcement, firefighters, farmers, and laborers) and/or benefit from the physiological stresses imposed on the body during competition. An exercise, such as the Farmer's Walk (FW), may provide beneficial results for these individuals by supplementing the demands encountered during the completion of these tasks within a training environment. Limited information is available concerning the hormonal responses associated with performing the FW and the amount of physiological stress that may occur as a result of repeated efforts has not been investigated. **PURPOSE:** The purpose of the study is to investigate the impact of the FW on cortisol and testosterone measures when compared to an individual's unloaded walking pattern. **METHODS:** Fourteen subjects (mean age  $\pm$  SE = 21.6 yrs.  $\pm$  0.45; height = 172.53 cm  $\pm$  2.34; weight = 81.80 kg  $\pm$  4.01; body fat percentage = 28.80%  $\pm$  2.10; 1RM deadlift = 121.24 kg  $\pm$  9.42) participated in two exercise sessions consisting of a 20-meter FW carrying 70% of their 1-RM deadlift (Farmer's walk condition; FWC) or a normal (unweighted) walk condition (NWC) for 5-sets of 2-repetitions. Saliva samples were collected before the exercise protocol, immediately and one-hour after exercise, and at 24-hour intervals for three days post-exercise. **RESULTS:** Significant differences between conditions for cortisol ( $F = 25.1$ ,  $p = .001$ ) and testosterone to cortisol (T/C) ratio ( $F = 11.16$ ,  $p = .04$ ) were shown, but no significant differences for testosterone were observed. **CONCLUSION:** Cortisol and the T/C ratios were significantly different between the FWC and NWC, however this appears to be a result of increased psychological stress due to midterm and final exams rather than from physiological perturbations.