

The Effects of Acute Fasting on Anaerobic Performance in NAIA Softball Players

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ABSTRACT

Intermittent fasting has become a popular method for athletes to help manage body weight. Additionally, athletes with early morning athletic practice often omit breakfast and arrive in a fasted state. It is unclear how fasting impacts performance in softball players. **PURPOSE:** The purpose of this study was to evaluate anaerobic performance in NAIA Softball players following an overnight fast. **METHODS:** Eight NAIA female softball players participated in this randomized cross-over study. Athletes were on the active roster at Our Lady of the Lake University. Athletes were 20.7 ± 0.5 years old, 163.1 ± 2.1 cm tall, 151.5 ± 10.0 lb. After subjects signed an informed consent, body composition was analyzed using bioelectrical impedance analysis ($24.8 \pm 2.2\%$ body fat). Subjects were randomized to a fed or fasted condition. If fed, subjects were asked to eat within 2 hours of testing. If fasted, athletes were asked to eat between 12:00pm and 8:00pm the day before testing and to refrain from eating the morning of testing. Athletes arrived at the lab between 6:00am and 8:00am. All subjects were led through a standardized dynamic warm-up. After, subjects completed one modified YMCA Bench Press test (using a 45lb bar). After, subjects completed a 100m shuttle run and three trials of a 120ft sprint (1 minute recovery, best time used). Subjects were then led through a standardized cool-down. Subjects repeated the battery of tests in the other condition at least 48 hours later. Data is presented as means \pm SE. Paired-sample t-tests were used to determine significance between conditions. Significance was defined as $p < 0.05$. **RESULTS:** Subjects completed 26.7 ± 3.4 reps while fed and 29.4 ± 3.5 reps while fasted ($p = 0.61$). Subjects completed the shuttle test in 21.4 ± 3.6 sec while fed and 20.7 ± 2.4 sec while fasted ($p = 0.317$). Subjects fasted sprint time was 7.4 ± 4.0 sec while fed and 7.3 ± 2.7 sec while fasted ($p = 0.650$). **CONCLUSION:** Based on our findings, it does not seem that fasting hinders anaerobic performance in athletes. While we did not observe any significant differences in any of our three performance measures, subjects performed better in the fasted state in all three tests. While sound nutrition programs should be included for all athletes, requiring or forcing nutrition pre-workout may not be necessary.