



Mid Atlantic Regional Chapter of the American College of Sports Medicine

Annual Scientific Meeting, November 4th- 5th, 2017
Conference Proceedings

International Journal of Exercise Science, Issue 9, Volume 6



The Effects of Intermittent Fasting on Endurance Performance

Payton H. McCord, Meghan M. Lokay, Emily J. Sauers. East Stroudsburg University of Pennsylvania, East Stroudsburg, PA

Introduction: Proper diet and exercise can lead to a healthy life style and weight loss. In recent years Intermittent fasting (IF) has become one of the growing fad diets in our culture. **Purpose:** The aim of this study was to evaluate the effects of IF on aerobic cycling performance. **Methods:** Five physically active (participating in 30 minutes of exercise at least three days a week) subjects volunteered for this study. Subjects were randomly assigned to an IF diet (n=3) or a normal (CON) diet (n=2) that would be carried out over the span of one week. Subjects' body composition was recorded using a Bodpod (Cosmed, Chicago IL), along with a baseline VO_{2peak} graded exercise test preformed on a Monark cycle ergometer (Vansbro, Sweden). All subjects performed two graded cycle protocols in the fasted state, one before the start of the diet and immediately after the one-week diet. Following a five minute warm-up, subjects cycled at 50rpm with resistance increasing 3kp every 2 minutes until failure. Paired sample t-tests were used to determine significant differences between groups using Microsoft Excel (Microsoft, Redmond, WA). Significance was set at $p < 0.05$. **Results:** Body fat was not different before ($15.03 \pm 7.31\%$ IF, $14.35 \pm 1.91\%$ CON; $p = 0.89$) or after ($14.73 \pm 4.83\%$ IF, $15.4 \pm 0.42\%$ CON; $p = 0.83$) the diet. VO_{2peak} was 54.20 ± 7.71 ml/kg/min in IF group and 45.75 ± 8.27 ml/kg/min in CON diet group ($p = 0.36$). Time to exhaustion was not different before (944.00 ± 156.64 sec IF, 712.50 ± 355.67 sec CON; $p = 0.52$) or after (951.33 ± 158.20 sec IF; 701.50 ± 386.79 sec CON; $p = 0.52$) the diet. The total caloric intake for the IF group was 1968.3 ± 643.7 kcal, carbohydrate intake was 268.41 ± 128.9 g, protein intake was 101.05 ± 33.6 g, and fat intake was 52.7 ± 10.3 g. The CON diet group had a total kcal intake of 2172.6 ± 486.9 , carbohydrate intake of 237.6 ± 23.4 g, protein intake of 109.9 ± 59.4 g, and fat intake of 69.2 ± 33.6 g. There were no differences between groups in total calories consumed ($p = 0.71$), carbohydrate ($p = 0.72$), protein ($p = 0.87$), or fat ($p = 0.61$). **Conclusion:** IF induced no changes that aided in aerobic exercise performance compared to those who were not IF. IF had no ill effects on exercise performance.