

The Effect of Glycemic Index and Timing of Meal on Exercise to Fatigue: 1401: Board #40 9:30 AM - 10:30 AM

A-25 Free Communication/Poster - Carbohydrate WEDNESDAY, MAY 31, 2006 9:30 AM - 12:30 PM ROOM: Hall B]

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Pre-exercise meals have been studied in the past. In addition, the glycemic index (GI) of these meals has also been the subject of investigations. The timing of these meals may also have an impact on the efficacy of these pre-exercise meals to maintain blood glucose and to offset time to fatigue.

PURPOSE: The purpose of this study was to investigate and describe the influence of pre-carbohydrate (low and high glycemic) feedings and timing of meal prior to exercise to fatigue.

METHODS: Five individuals performed a peak bike test and four experimental trials, separated by 7 days. Upon arrival, subjects ingested 1g of carbohydrates (CHO) for every kilogram of body weight (BW) of a high glycemic index meal (H) or a low glycemic index meal (L) prior to exercise to fatigue. Subjects waited 30 or 60-minutes following each test meal, totaling four experimental conditions (H30, L30, H60, L60). These conditions were completed in a counterbalanced fashion. The exercise regiment was consistent following each meal; 90 minutes cycling at 70% peak oxygen consumption (VO_{2peak}) followed by an all-out sprint until fatigue. The subjects, for the 60 minute trial, had blood draws taken at -30, 0, +10, +30, +60, +90-min, and fatigue. One less blood sample was taken from the subjects waiting 30 minutes (0, +10, +30, +60, +90-min, and fatigue). Heart rate was taken at rest, every 10 minutes of exercise, and at fatigue. VO_2 and respiratory exchange ratio (RER) measurements were taken for the first 30 minutes of exercise and at 10 minutes surrounding each blood draw.

RESULTS: No significant statistical differences ($p>0.05$) were found for any of the variables between trials (H30, L30, H60, L60) including blood glucose, blood lactate, RPE, RER, VO_2 , and performance time.

CONCLUSION: The timing and GI of meals ^{Time(min)} used in this study did not effect time to fatigue. In addition, blood glucose levels remained essentially the same between conditions with no impact due to timing and/or GI.

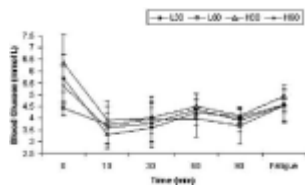


Figure. No caption available.