Does the ingestion of the different forms of Gatorade Prime 01 prior to submaximal exercise affect the distance traveled?

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Abstract

Carbohydrates are ingested by athletes to provide energy before a workout routine. Gatorade has been available for many years and has developed different forms of carbohydrates for an athlete to consume. Research has often been used to show the effect of liquid carbohydrates but not often the research done on the consumption of solid (S) vs liquid (L) carbohydrate ingestion and its effect on performance.

This study will examine not only the distance traveled, but the heart rate, blood pressure, and the rate of perceived exertion while ingesting different forms of Gatorade Prime 01.

Eight male students were used for this study and prior to testing, each subject was given a consent form to sign and a survey to fill out. Each subject was given either a solid or liquid carbohydrate on their first visit, and the opposite on their second visit. Counterbalancing was done to ensure validity. Resting values of heart rate and blood pressure were taken and at 5 minute intervals, heart rate, blood pressure, rate of perceived exertion, and distance were measured and recorded. Subjects cycled on a stationary bike for 30 minutes at 70% of their age predicted max heart rate. Workload was adjusted to each subject based on their heart rate.

The average resting heart rate following consumption of a solid was 70.1 ± 10.7 bpm and the resting heart rate after consuming the liquid was 76.1 ±11.2 bpm which was not significantly different (p = 0.1095). t-tests were used to determine differences in distance and time. But no significant differences were found.

The average resting heart rate following consumption of a solid was 70.1 ± 10.7 bpm and the resting heart rate after consuming the liquid was 76.1 ±11.3 bpm and were significantly different (p = 0.0228). The average heart rate at the conclusion of 30 min of exercise with a liquid was 147.5 ± 11.3 bpm resulting in no significant difference (p = 0.1095). The distance traveled after 30 minutes with a solid was 12.4 ± 1.7 km and the distance traveled after 30 minutes with a liquid was 12.6 ± 1.7 km which also resulted in no significant difference (p = 0.9095).

8 male students (age 22.4 ± 2.4 yrs)
Weight (kg) = 82.5 ± 11.28
Height (in) = 70.6 ± 2.67

Results (cont’d)

Purpose

The purpose of this study was to see if consuming a pre-workout supplement, Gatorade Prime 01, in different forms, Gatorade Prime 01 Pre-Game Fuel, or the G Series 01 Gatorade Prime Energie Chews, has an effect on heart rate, blood pressure, rate of perceived exertion (RPE), or distance traveled during a submaximal bike ride.

Results

The results of this study indicated that there is no significant difference in the different forms of carbohydrate ingestion. Although the resting heart rates were significantly different in the different forms, it did not affect the performance of the subjects. Perhaps research on a maximal exercise test could be done in the future to see if there is truly no difference in the forms.

Conclusions