



The Efficacy of Chocolate Milk as a Recovery Aid

Jason R. Karp, Jeanne D. Johnston, Sandy Tecklenburg, Timothy D. Mickleborough, Alyce Fly, and Joel M. Stager, FACSM

*Counsilman Center for the Science of Swimming
Human Performance Laboratory, Department of
Kinesiology, Indiana University, Bloomington, IN*

Purpose

To test the efficacy of chocolate milk as a recovery aid following exhausting exercise.

Hypotheses

- Time to exhaustion during a second bout of endurance exercise would be greater following ingestion of chocolate milk during recovery period than following ingestion of fluid replacement drink (Gatorade®).
- There would be no difference in time to exhaustion during a second bout of endurance exercise following ingestion of either chocolate milk or carbohydrate replacement drink (Endurox R4®).

Methods

- 9 male, endurance-trained cyclists (22.1 yrs, 179.9 cm, 73.0 kg, $\text{VO}_{2\text{max}} = 65.0 \text{ ml/kg/min}$) performed interval workout to deplete muscle glycogen.
- 4 hours recovery
- Endurance performance trial to exhaustion at 70% $\text{VO}_{2\text{max}}$.
- Immediately after exercise and at 2 hours of recovery, subjects given isovolumic amounts of chocolate milk, Gatorade[®], or Endurox[®].
- Blood lactate, body mass, and total body water were measured pre- and post-exercise.
- Time to exhaustion, average heart rate (HR), rating of perceived exertion (RPE), and total work were recorded for endurance exercise.

Results

- Time to exhaustion and total work were significantly different between treatments.
- No significant differences in exercise HR, end-exercise RPE, or post-exercise lactate between treatments.
- No difference in body mass and total body water between treatments and within trials.
- No differences in % CHO, protein, and fat in subjects' diets prior to each trial.

Conclusion

Chocolate milk, with its high carbohydrate content, may be considered an effective alternative for recovery following exhausting exercise.

WORK HARD...DRINK MILK

