

Study: Sports beverage with half carbs, fewer calories boosts endurance

November 25 2010

(PhysOrg.com) -- Compared to a carbohydrate-only supplement, a low-carb beverage with added protein increases endurance times in cyclists, according to a study out of The University of Texas at Austin's Department of Kinesiology and Health Education.

Research by Dr. Lisa Ferguson-Stegall, who conducted the study as part of her dissertation work in the Exercise Physiology and [Metabolism](#) Laboratory, reveals a low-carb supplement with protein can improve aerobic endurance in [cyclists](#), depending on how near they are to their ventilatory threshold (VT). Ventilatory threshold refers to the point at which breathing begins to become increasingly labored.

Ferguson-Stegall had 15 trained endurance cyclists ride for three hours, followed by an intense ride in which they cycled at 80 percent of their [aerobic capacity](#) for as long as they could before reaching exhaustion. They completed this ride twice, one time drinking a standard 6 percent carbohydrate supplement and the other time drinking a 3 percent carbohydrate supplement with 1.2 percent added protein.

The carbohydrate and protein supplement contained half the carbs and less than one-third of the calories of standard sports drinks. Cyclists were given drinks of the supplements every 20 minutes during each ride.

Ferguson-Stegall found the difference in endurance times for the rides was not substantial. Exhaustion was reached in 26 minutes with the carb-only supplement and 31 minutes with the low-carb plus protein

supplement.

The difference did become significant for cyclists who were performing at or below their VT. For those athletes, the average time to exhaustion was 45 minutes with the low-carb plus protein supplement, compared to 35 minutes with the carb-only drink. This means that for cyclists exercising at or below their VT, endurance improved an impressive 28 percent.

Ferguson-Stegall said many athletes and exercisers want the improved endurance carb supplements give, but would like a lower carbohydrate, lower calorie option. Her research shows a drink containing 50 percent less total [carbohydrate](#) and 30 percent fewer calories compared to the standard sports beverage does lead to improved endurance performance in trained long-distance cyclists.

"The difference is substantial only for athletes exercising at or below VT," said Ferguson-Stegall, "but the ability to exercise for long periods of time at or near VT is necessary in extended events like marathons, long-distance triathlons and long cycling races. A low-carb plus protein beverage may be helpful in increasing endurance and delaying fatigue when one needs that most."

Provided by University of Texas at Austin

Citation: Study: Sports beverage with half carbs, fewer calories boosts endurance (2010, November 25) retrieved 9 April 2024 from <https://medicalxpress.com/news/2010-11-sports-beverage-carbs-calories-boosts.html>

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