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The Influence of Serial Carbohydrate Mouth Rinsing on Power Output during a Cycle Sprint

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Received: 10-09-2013 -- Accepted: 26-11-2013 -- Published (online): 01-05-2014

ABSTRACT

The objective of the study was to investigate the influence of serial administration of a carbohydrate (CHO) mouth rinse on performance, metabolic and perceptual responses during a cycle sprint. Twelve physically active males (mean (± SD) age: 23.1 (3.0) years, height: 1.83 (0.07) m, body mass (BM): 86.3 (13.5) kg) completed the following mouth rinse trials in a randomized, counterbalanced, double-blind fashion; 1. 8 x 5 second rinses with a 25 ml CHO (6% w/v maltodextrin) solution, 2. 8 x 5 second rinses with a 25 ml placebo (PLA) solution. Following mouth rinse administration, participants completed a 30 second sprint on a cycle ergometer against a 0.075 g·kg<sup>-1</sup> BM resistance. Eight participants achieved a greater peak power output (PPO) in the CHO trial, resulting in a significantly greater PPO compared with PLA (13.51 ± 2.19 vs. 13.20 ± 2.14 W·kg<sup>-1</sup>, p < 0.05). Magnitude inference analysis reported a likely benefit (81% likelihood) of the CHO mouth rinse on PPO. In the CHO trial, mean power output (MPO) showed a trend for being greater in the first 5 seconds of the sprint and lower for the remainder of the sprint compared with the PLA trial (p > 0.05). No significant between-trials difference was reported for fatigue index, perceived exertion, arousal and nausea levels,

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Mykolas Kavaliauskas, Marie Clare Grant, Scott Findlay, Shaun M. Phillips, (2014) The Influence of Serial Carbohydrate Mouth Rinsing on Power Output during a Cycle Sprint. *Journal of Sports Science and Medicine* (13), 252 - 258.

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