

The Effects of a Carbohydrate/Protein Drink on Skating Performance in Collegiate Hockey Players

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INTRODUCTION: Hockey players skate in short, intense shifts, of 30-60 sec duration, where both aerobic and anaerobic metabolism play important roles. Muscle glycogen depletion of up to 80% during a game has been reported. Having an exogenous fuel source may be a crucial factor in improving skating performance.

PURPOSE: To investigate if ingesting a carbohydrate/protein sports drink (CHO/P) during practice resulted in improved performance in elite collegiate hockey players.

METHODS: Five collegiate (NCAA D-I) male hockey players volunteered. Players included one goalie and four skaters. Treatments were an 8% CHO/P fluid replacement drink and a noncaloric placebo (PL). Treatments were blinded and counterbalanced. Skaters ingested 960 mL/day of the given treatment during two 90-min practice days. Treatments were then switched for following week. Practice drills, duration, and contact were similar from week to week. Shooting was assessed in skaters by shooting 25 pucks at .09m² targets from 10m in the slot at 3 sec intervals. Skating performance was measured by a time to- complete task as players weaved through six cones as they handled the puck (91m distance). The goalie completed a skating drill of 10.5m and then an auditory/hand reaction time test using both hands. Performances were tested after practice on the second day. All players were experienced with the testing protocol.

RESULTS: Skaters improved their skating time by 8% when the CHO/P was ingested, 23.2 ±1.6 sec vs. 25.1 ±2.0 sec for the PL ($p = .004$). Skaters scored an average of 3.5 shots with CHO/P and 3.25 shots with PL ($p = .09$). Goalie skating times were 4.34 sec for CHO/P and 4.38 sec for PL. Reaction time for the goalie was 0.126 sec and 0.126 sec for right and left hands with CHO/P and 0.138 and 0.146 sec with PL.

CONCLUSION: Performance in high intensity, short duration activities can be enhanced with supplementation. Improvements in speed performance and reaction time were highly significant (8% and 12%) which strongly suggest that ingestion of a CHO/P drink become part of in-game regimen for hockey players. Lastly, the CHO/P drink was well accepted by players without report of GI distress that has been associated with certain formulations.

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