

## Effects of Co-ingesting Carbohydrates and Caffeine on Anaerobic Recovery

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**Introduction:** Carbohydrate ingestion has been shown to improve anaerobic recovery by restoring muscle glycogen and indirectly stimulating creatine uptake. Caffeine has been shown to improve athletic performance by affecting factors such as balance, gross motor recruitment, and focus. Co-ingestion has been shown to increase the rate of glycogen synthesis, however the effects of a practical dose of caffeine equivalent to that found in most commercial pre-workout supplements has not been previously investigated.

**Purpose:** The purpose of this study was to examine and infer the possible effects of the co-ingestion of a practical dose of caffeine with carbohydrates on athletic performance.

**Methods:** 16 subjects participated in three different trials using three different treatments. Each of the treatments contained one of the following: carbohydrates, carbohydrates and caffeine, caffeine.

**Results:** ANOVA determined that there was no significant difference among treatment groups regarding peak-to-peak power values or among the comparison of the co-ingestion group to the caffeine group regarding 30-second power values. ANOVA determined a statistically significant difference among 30-second power values regarding the co-ingestion to the carbohydrate group ( $p \leq .05$ ). Paired-sample t-tests were run, and a negative correlation among the co-ingestion and carbohydrate group at the 30-second mark ( $r = -.472$ ) was calculated.

**Conclusion:** Our results conclude that the ingestion of 200mg of caffeine does not significantly improve short-duration anaerobic capacity.