

EFFECT OF CAPSAICIN SUPPLEMENTATION ON PERFORMANCE OF AND
PHYSIOLOGICAL RESPONSE TO REPEATED SPRINTING

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ABSTRACT

Aim: Fatigue during team sports requiring multiple sprints can result from the combined effects of metabolic, mechanical, neurological, and immune factors. The purpose of this study was to investigate the influence of capsaicin on performance of and the physiological response to an exercise test simulating the fitness demands of team sport game conditions. **Methods:** This study was a placebo-controlled, crossover design. Nineteen healthy male experienced athletes age 18-30 yr consumed either 3 g/d cayenne (25.8 mg/d capsaicin) or placebo for 1 wk. Directly following the supplementation period, they completed a repeated sprint test consisting of 15 30 m maximal effort sprints on 35 s intervals. Sprint times were recorded via electronic dual-beam timing system. Fasted blood draws for interleukin-6 (IL-6) were taken at baseline prior to supplementation, 45-min pretest, and immediately post test. Heart rate (HR), blood pressure (BP), rate of perceived exertion (RPE), muscle soreness (MS), and gastrointestinal distress (GD) were measured 1-min pretest, during, posttest, and 1-min posttest. MS was also measured for 3 d posttest. **Results:** Relative to the placebo, capsaicin significantly reduced maximum HR by 9.3%, total average HR by 8.5%, and sprinting average HR by 6.0% ($P < 0.05$). Capsaicin caused GD of at least 2/5 in 24.5% of subjects. There was no difference between treatments in fastest or mean sprint time, fatigue, percent change or difference in IL-6, BP, RPE, sprint or posttest MS. **Conclusion:** Capsaicin did not influence repeated sprint performance or the inflammatory response, but reduced HR during intense activity and causes substantial GD.

CALL FOR RESEARCH SUBJECTS.

The Human Nutrition, Foods, and Exercise Department is looking for subjects to participate in a research study on nutrition and sprint performance. Eligible candidates must be male, between the ages of 18 and 30, healthy non-smokers, and active in a sport involving repeated sprinting (such as soccer, rugby, ultimate Frisbee, tennis, etc.). Subjects will need to be able to meet in the morning once a week for three weeks to perform a maximal running test. Compensation up \$40. If interested, please email Maximilian Opheim at mopheim@vt.edu . You will be contacted soon and given additional information about the study. Thank you.

