

## Fast food just as effective for recovery as sports supplements, study finds

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Credit: Maliz Ong/public domain

University of Montana researchers have good news for endurance athletes hankering for a burger and fries after an intense workout: Dig in.

In moderation, that is.

A new study, recently published by the *International Journal of Sport Nutrition and Exercise Metabolism*, found there was no significant difference in glycogen recovery when cyclists ate fast food after a workout versus when they ingested traditional sports supplements such as Gatorade, Powerbar and Clif products.

Brent Ruby, director of UM's Montana Center for Work Physiology and Exercise Metabolism, graduate student Michael Cramer, and a team of researchers in UM's Department of Health and Human Performance detailed these findings in a paper titled "Post-exercise Glycogen Recovery and Exercise Performance is Not Significantly Different Between Fast Food and Sport Supplements."

In the study, 11 male cyclists completed two experimental trials in randomized order. Each trial included a 90-minute glycogen-depletion ride followed by a four-hour recovery period. Immediately following each ride and again two hours later, researchers provided participants with either sports supplements or fast food, such as hamburgers, french fries and hash browns. Following a four-hour recovery period, participants completed a 12.4-mile (20-kilometer) time trial.

The UM researchers analyzed muscle biopsies and blood samples taken in between the two rides and found no differences in blood glucose and insulin responses. Rates of glycogen recovery from the feedings also were not different between the diets. Most importantly, there were no differences in time-trial performance between the two diets.

"Our results show that eating fast food - in the right amounts - can provide the same potential for muscle glycogen as sports nutrition products that usually cost more," Ruby said.

Dozens of publications, from the Washington Post and the Daily Mail to Runner's World and Outside magazine, have picked up the results of the study since it first appeared online in late March. But not all of the articles are accurate, Ruby said.

"A lot of the articles out there are totally misrepresenting the study," he said. "We had participants eating small servings of the [fast-food](#) products, not giant orders of burgers and fries. Moderation is the key to the results we got."

**More information:** Post-exercise Glycogen Recovery and Exercise Performance is Not Significantly Different Between Fast Food and Sport Supplements, [dx.doi.org/10.1123/ijsnem.2014-0230](https://doi.org/10.1123/ijsnem.2014-0230)

### **Abstract**

A variety of dietary choices are marketed to enhance glycogen recovery after physical activity. Past research informs recommendations regarding the timing, dose, and nutrient compositions to facilitate glycogen recovery. This study examined the effects of isoenergetic sport supplements (SS) vs. fast food (FF) on glycogen recovery and exercise performance. Eleven males completed two experimental trials in a randomized, counterbalanced order. Each trial included a 90-minute glycogen depletion ride followed by a 4-hour recovery period. Absolute amounts of macronutrients ( $1.54 \pm 0.27$  g·kg<sup>-1</sup> carbohydrate,  $0.24 \pm 0.04$  g·kg<sup>-1</sup> fat, and  $0.18 \pm 0.03$ g·kg<sup>-1</sup> protein) as either SS or FF were provided at 0 and 2 hours. Muscle biopsies were collected from the vastus lateralis at 0 and 4 hours post exercise. Blood samples were analyzed at 0, 30, 60, 120, 150, 180, and 240 minutes post exercise for insulin and glucose, with blood lipids analyzed at 0 and 240 minutes. A 20k time-trial (TT) was completed following the final muscle biopsy. There were no differences in the blood glucose and insulin responses. Similarly, rates of glycogen recovery were not different across the diets ( $6.9 \pm 1.7$  and  $7.9 \pm 2.4$  mmol·kg<sup>-1</sup> weight<sup>-1</sup>·hr<sup>-1</sup> for SS and FF,

respectively). There was also no difference across the diets for TT performance ( $34.1 \pm 1.8$  and  $34.3 \pm 1.7$  minutes for SS and FF, respectively). These data indicate that short-term food options to initiate glycogen resynthesis can include dietary options not typically marketed as sports nutrition products such as fast food menu items.

Provided by University of Montana

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