

# Swishing with mouth rinse may improve athletic performance

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Jamie Cooper is an associate professor in the department of foods and nutrition in the UGA College of Family and Consumer Sciences. Credit: Cal Powell/University of Georgia

Endurance athletes looking to improve their times might consider swishing with a mouth rinse that contains a little sugar during their next performance.

Researchers at the University of Georgia have shown that endurance athletes who swished—but didn't ingest—a sucrose solution during a time trial significantly improved their running times compared to those who swished with only water.

The sucrose solution, which was sweet-tasting but also provided a small amount of [energy](#), is thought to boost [endurance performance](#) by stimulating "reward areas" in the brain related to motor control, researchers said.

On average, researchers noted about a 5 percent improvement in time when the athletes swished with sucrose compared to water, the unsweetened control used in the study.

"It was surprising to us how drastic the improvement in times was," said Jamie Cooper, an associate professor in the department of foods and nutrition in the UGA College of Family and Consumer Sciences. "These were endurance-trained individuals, so to see a 5 percent improvement in performance—almost three minutes on average—was huge."

As part of the study, 16 endurance athletes (nine men, seven women) between the ages of 18 and 45 completed a 12.8-kilometer (7.9-mile) time trial on an indoor track, swishing and then spitting out a solution eight times during the run.

The athletes completed four time trials using a different mouth rinse each time: a sucrose, or table sugar, solution; a low-intensity sucralose, an artificial sweetener that provides no energy but tastes sweet; a high-intensity sucralose; and water.

Results indicated the presence of energy in the mouth rinse appeared necessary for improvements in time, as the artificial sweeteners did not improve performance more than water alone.

"It's more the presence of energy in the mouth rinse than it is the [sweet taste](#)," Cooper said. "Sweet taste might have a small effect because we did have some trends for differences, but the energy definitely seems to be the main driving force behind it."

Cooper, herself an avid runner and author of "The Complete Nutrition Guide for Triathletes," said the study of mouth rinses as a means to improve athletic performance has become popular in recent years.

Future studies likely will look at testing different types of energy sources, amounts and sweetness intensities to create an ideal solution for maximizing results, she said.

"If someone is doing a marathon, this is not going to help them—they need to take in carbohydrates because they need the calories in their body," Cooper said. "But if someone is going to run a 10K or 15K or they're a cyclist who's doing a 20-mile time trial or even a sprint triathlon, if they do a mouth rinse with a sweet-tasting carbohydrate, they should see some improvements in [performance](#)."

**More information:** Keely H. Hawkins et al. Running Performance with Nutritive and Non-Nutritive Sweetened Mouth Rinses, *International Journal of Sports Physiology and Performance* (2017). DOI: [10.1123/ijsp.2016-0577](https://doi.org/10.1123/ijsp.2016-0577)

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