

# Nutritional OUTLOOK

Nitrosigine as effective as higher dose of Citrulline Malate for vasodilation, says new study

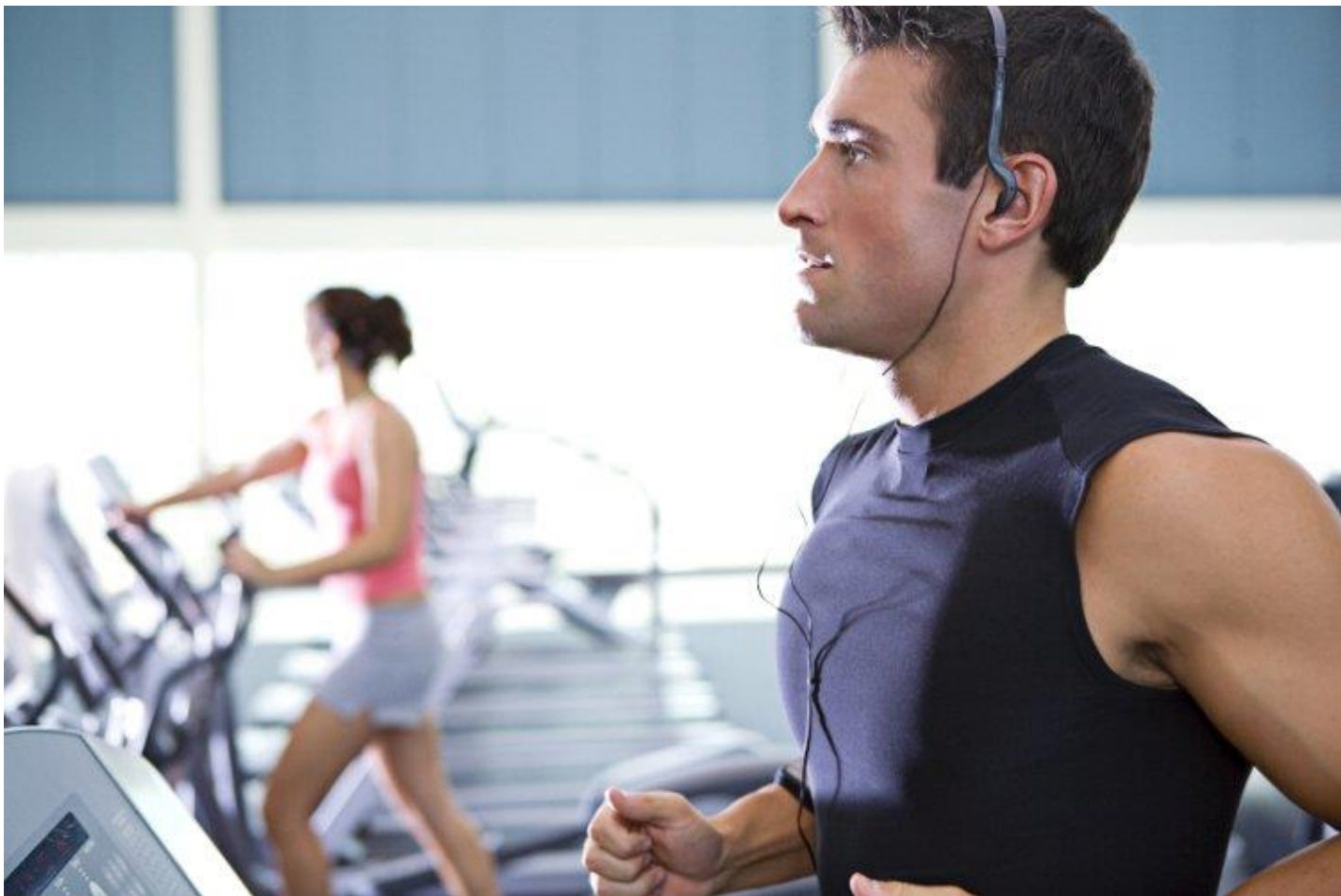


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[Sports & Energy, Science](#)

At the 2019 ISSN (International Society of Sports Nutrition) Annual Conference, researchers from the University of Arkansas presented the results of an independent study showing the impact of the patented Nitrosigine (from Nutrition21; Purchase, NY) on blood flow. Entitled “The Acute Effects of Citrulline Malate and Bonded Arginine Silicate Supplementation on Vasodilation of Young Adults,” results were presented by lead author Jeffrey Rogers. Nutrition 21 provided no support and did not participate in the design or implementation of the study.

The study compared arginine silicate (Nitrosigine) to another popular ingredient called citrulline malate (CM). Nitrosigine is added to formulations in order to increase serum arginine and nitric oxide (NO) levels, reduce markers of post-workout muscle damage and increase cognitive processing speed. CM is also used to increase blood serum concentrations of arginine, resulting in nitric oxide production.

The double-blind, placebo-controlled, crossover design study was conducted with 22 healthy, normotensive, and moderately active male and female young adults. They were randomized to receive either 1.5 g of Nitrosigine, 8 g of CM, or placebo, with a 7-day washout period between tests.

“Current research has yet to compare CM and Nitrosigine in vivo using a flow-mediated dilation (FMD) technique, a validated measure of the vascular endothelium’s NO producing ability,” said Michelle Gray, associate professor and the director of the Exercise Science Research Center at the University of Arkansas, in a press release. “We identified a need and designed the experiment with the purpose of determining the effectiveness of Nitrosigine and CM compared to placebo, in up-regulating NO production in blood vessels as measured by acute changes in vasodilation.”

Results showed that Nitrosigine and CM both significantly increased FMD, compared to placebo. Increased FMD denotes increased vasodilation and blood flow, which is driven by NO production. However, CM requires a much higher dose compared to Nitrosigine.