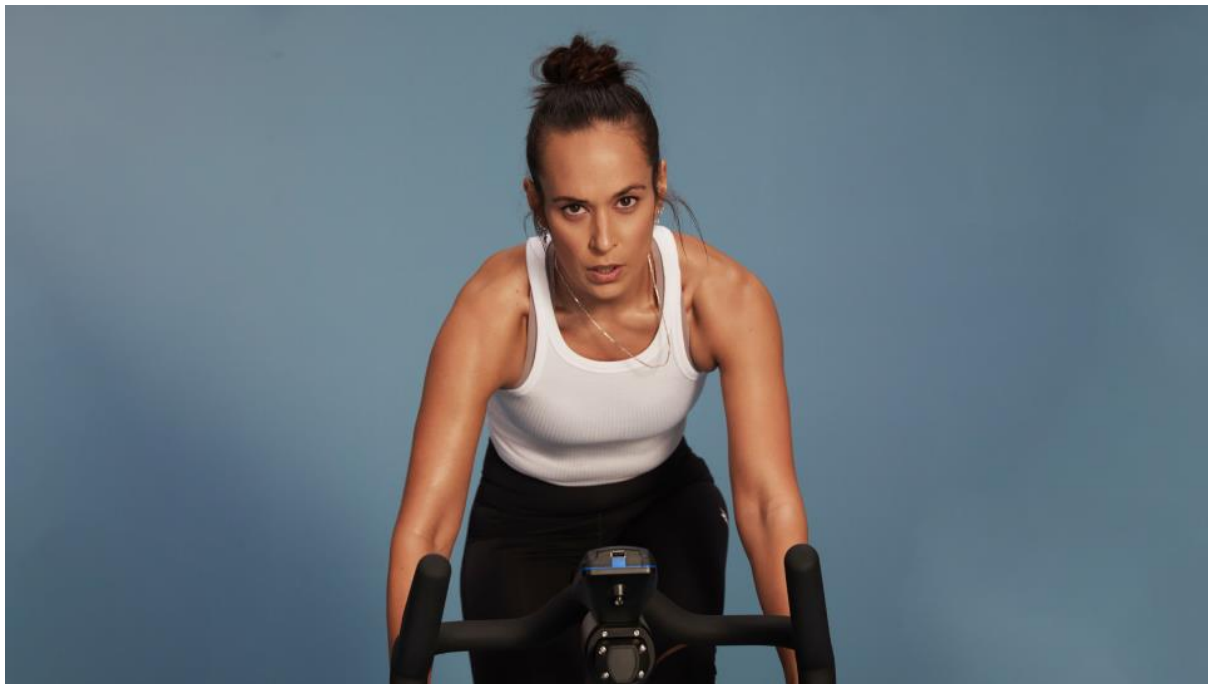


IS EXERCISE REALLY AN APPETITE SUPPRESSANT?

Emma Hogan

Scientists have revealed exercise can increase metabolism and curb hunger pangs. But the power of its appetite suppressing effects depends on the type of workout you do. Let's explore...



An elaborate study involving mice and men has revealed exactly how exercise can curb hunger pangs – showing the more intense the exercise, the more intense the effect.

High-intensity interval training (HIIT) is already well regarded as a time-efficient way to transform cardio fitness and body composition. And science shows it can be key to cutting dangerous visceral fat from your tummy. Another recent study has shown HIIT can increase and regulate proteins in skeletal muscle and create a chemical reaction called acetylation, which scientists believe drives increased metabolism. And now there's evidence to indicate this intense form of fitness can also help with weight management by driving an appetite suppressant effect.

It all comes down to a magical molecule called lac-phe. The production of lac-phe, which is a result of a reaction between two amino acids, lactate and phenylalanine, is shown to rapidly increase after exercise. When researchers tested the blood of eight healthy young men after different types of exercise, they found lac-phe levels spiked most significantly after high-intensity interval sprints on a cycle. Increases in lac-phe were also present after weight training, and to a lesser extent after 90 minutes of gentle cycling.

While there is currently scant insight into the biological advantages of surges in lac-phe in humans, the researchers have found it drives a powerful appetite suppression effect in mice.

First, the researchers began with mice on a treadmill, running them to exhaustion and measuring their blood to find the production of lac-phe peaked after exercise – just like in humans.

Then, after injecting obese mice with a daily dose of either lac-phe or a control solution, the researchers saw that the mice with increased lac-phe ate half as much food as the others. No longer hungrily gobbling back the kibble, these lac-phe-dosed mice lost a significant amount of weight in just eight days.

Interestingly, when lean mice were given lac-phe, their food consumption remained the same, which indicates lac-phe may only be a valid appetite suppressant for the obese.

To further check these findings, the scientists then bred mice unable to produce lac-phe. These mice were put to the test – running to exhaustion on treadmills five times a week for several weeks. After every exercise session, they were given as much high-fat kibble as they wanted. Despite the exercise, which would typically produce lac-phe and limit weight gain, the mice packed on the weight – gaining up to 25 percent more weight than the mice in the control group.

If we draw parallels between post-exercise lac-phe increases in humans and its appetite-suppressing effect found in mice, it's entirely conceivable that exercising could lead you to eat less.

Study author, Jonathan Z. Long, from Stanford University School of Medicine, says the idea of more intense exercise having a more powerful effect makes evolutionary sense. "If you're sprinting from a rhino or some other threat, the autonomic nervous system yells at the brain to shut down digestion and any other unneeded processes."

Bryce Hastings, Les Mills Head of Research, says the fact that exercise may help manage overeating is interesting, but certainly not the only reason to exercise. "Physical activity drives health benefits across the board. Focusing on these benefits is what drives healthy fitness habits, and that's when you enjoy long-term body composition changes."

Research shows that when it comes to health and longevity, [increasing physical activity beats weight loss tactics](#) hands down. The best approach is to [ditch weight loss from your fitness goals](#) and focus on the many and varied ways [exercise will improve your life](#).

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