Does Exercising Have an Afterburn Effect?

by ANNIE HAUSER, SENIOR EDITOR

Need a reason to go to the gym? How about this: Some scientists suggest that one simple workout can actually cause you to burn calories at a higher rate hours after you leave the gym. But is it too good to be true? Depends which exercise scientists you ask.

For the past 100 years, dozens of studies conducted by hundreds of researchers have attempted to prove whether the elusive concept of excess post oxygen consumption, informally known as afterburn, really exists. The theory: After a strenuous workout, your body takes in more oxygen and your breathing rate and core temperature are higher; as your body works to bring these back to your normal resting state, you burn extra calories in the hours following your workout session. Some dieters use this “calorie-burn bonus,” as a safety net for eating more because they’ve worked out.

Makes sense, right? Not so fast, researchers say.

The Latest Research on Workout Afterburn

Various studies on afterburn have reached different conclusions, in part because they use different methodology and technology, and in part because many different factors — including participants’ diets and fitness levels and the type of exercise performed — can affect the results.

A 2009 study conducted at the University of Colorado in Denver and published in the journal *Exercise and Sport Sciences Reviews* looked at endurance athletes, moderately active people, and sedentary people. When each of the three groups completed a regime of low-intensity biking, high-intensity biking, and resting, researchers found no evidence that they burned more fat or calories in the hours following any type of exercise — which was contrary to what they expected to find.

Researchers said they weren’t sure why they didn’t find a measureable caloric difference, though they can’t rule out that longer, more intense exercise could cause an afterburn. But still, the
researchers wrote that this new data indicates that exercise doesn’t boost metabolism as much as previously believed.

But Amy Knab, PhD, a researcher at Appalachian State University in Boone, N.C., more recently found different results. Dr. Knab’s team concluded, as other researchers have, that the key to the extra calorie burn was not the length of the workout, but rather, the intensity.

In the study, participants alternated between days of 45-minute sessions of vigorous exercise — intense enough that it was difficult to hold a conversation — and days of rest. To accurately monitor the minute-by-minute calorie burn of the study participants, they lived in a chamber that measured all their metabolic activity for 24-hour periods. Using such advanced technology, the researchers found that the days of intense exercise did produce a measurable caloric difference. In this study, less-intense exercises were not measured to see if they produced similar results.

“We found that in the 14 hours after the workout, participants burned an average of 190 extra calories,” Knab says. “The activity tapered off around 2 in the morning, so we saw it continue even while the participants were sleeping.”

Although burning an extra 190 calories won’t immediately cause a person to shed excess weight, this type of knowledge could help dieters plan more effective workouts, which will eventually add up to weight loss.

“The average person going to the gym, who is walking on the treadmill or doing something similar, may not realize how hard they have to work to produce a cardiac benefit,” Knab says. “Although walking does make you healthier, in order to experience an ‘afterburn,’ you have to work at a higher intensity than most people think.”

**Eating For a Calorie Burn**

Unfortunately, Knab says working harder is not the only key to reaping the afterburn benefit. Digesting food, which causes the body to burn calories, is another essential component of afterburn. If you’re on a restricted-calorie diet for weight loss, you will burn fewer calories after a workout than someone who is not on a low-calorie diet and eats immediately after exercise, Knab says.

“If you are eating more than your body needs after exercise, you will gain weight,” Knab explains.
“Yes, you expend energy digesting food, but that doesn’t equal out to weight loss.”

After a hard workout, eat a small, protein-dense snack (about 100 calories) to help your muscles recover. Eggs, lean meat, Greek yogurt, and nuts are all good choices. It’s also best to stick with water to rehydrate your body, as many sports drinks can pack unnecessary calories and sodium. There are no hard-and-fast guidelines, but it’s important to keep snacks small and avoid counteracting the amount of calories you just burned.

The Bottom Line

Don’t use the thought of an afterburn as an excuse to pig out after a workout since the effect is really not as large as most people think. Remember that most people (and most cardio machines) have a tendency to overestimate the amount of calories they burn during a standard sweat session, so track your calories consumed and calories burned carefully if you want working out to equal out to weight loss.

The good news is we now know that working out harder, not longer, could be the key to both a slimmer figure and a healthier body. As Knab and other researchers have shown, intense exercise can both boost your overall calorie burn and have additional benefits such as improved heart health. If you’re not sure how to up the intensity, try an intense-but-effective boot camp class at your gym, or swap your regular treadmill routine for fat-blasting high-intensity interval training.

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