

Changing When You Eat, Not What, Could Help You Lose Weight

Written by Cameron Scott | Published on December 2, 2014



In mice, at least, avoiding food for at least 12 hours a day led to healthier weight, lower cholesterol, and reduced inflammation.



All-bacon diets, juice cleanses, and garbage-bag sweat suits: These are just a few examples of fad ways skeptics have tried to shed fat other than by eating less and exercising more. Though diet and exercise are still the most proven methods of weight loss, new research may give the deniers hope.

Mice who ate as much as they wanted only during an 8- to 12-hour stretch of the day weighed less and had healthier blood sugar levels than those who ate the same amount of food over the course of the entire day, [according to researchers](#) from the Salk Institute for Biological Studies in San Diego.

“When it comes to diet, weight gain, and diabetes, it’s not just what we eat, it’s when we eat it,” said Satchidananda Panda, Ph.D., the lead researcher.

Other research has [pointed](#) to time-restricted diets as a promising alternative to the formula of less sweet, more sweat. The new study showed that eating for fewer hours a day can improve weight — and related problems, such as type 2 diabetes risk, high cholesterol, and inflammation — even with a relatively unhealthy diet.

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Satchidananda Panda, Ph.D., Salk Institute of Biological Studies

Mice that had unlimited access to high-fat chow gained 65 percent of their body weight in 12 weeks. Limiting their access to 15 hours a day cut their weight gain down to 43 percent; reducing it to 9 hours kept weight gain to just 26 percent. Among mice eating normal chow, the difference in weight gain was minimal, but the animals eating during restricted hours were leaner.

“What we’re saying is that irrespective of what diet these mice had, as long as they were fasting for 12 hours or more, they were fine. So you actually don’t need a diet,” said Panda.

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The New Diet Math

The research is still in its early stages, but the theory is that humans evolved to eat during daylight hours and to pass through the night with no food.

Panda pointed to the diversity of global diets throughout history — the traditional Asian diet is high in carbohydrates, while the traditional French diet is high in fat, for example. Yet, before about 1950, obesity was not a significant problem anywhere.

“The commonality was that people used to eat only largely during the daytime, no matter what kind of diet they were eating,” Panda said.



We’ve been told for so long that weight is a simple math equation: calories in vs. calories out. How can changing the timing of meals make a difference?

“What we’re finding is at certain times your gut may be absorbing more energy, at other times, the liver may be burning that fat. There’s this interesting timing

component that no one was thinking of,” Panda said.

Dr. Phyllis Zee, director of the Center for Circadian and Sleep Medicine at Northwestern University, said that the same inner clock that tells the body it’s time to sleep also adjusts the activity of our other systems, including digestion.

“The circadian clock regulates all of the physical parameters — the liver and other tissues that are important for metabolic activity — and energy should be synced with when you’re actually using it,” she said.

It may also be that sleep helps recharge metabolic systems in the same way that it does brain function.

Perhaps that’s one of the benefits of sleep is that you’re not eating,” Zee said.

How Will This Change Nutrition Advice?

If humans are like mice — a big “if” — this new look at time-restricted diets suggests that they could help tackle the human world’s obesity epidemic.

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By looking at when animals *don’t* eat instead of when and what they do, Zee thought the study could give clinicians a concrete recommendation for patients with weight and metabolic problems.

“It’s so hard to count calories, but on the other hand if we say if we just stop eating for eight hours or 12 hours, even if you’re eating a diet likely to cause obesity, you can protect the body against the adverse effects,” she said.

It’s easier to deprive oneself for a few waking hours a day than for all of them, but it’s still not easy. Most people would only embark on a diet like this if they were already overweight. That means proving that time restrictions prevent health problems isn’t enough; scientists need to show that they roll back existing health issues.

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Dr. Phyllis Zee, Northwestern University

Extended overnight fasts did have that effect on mice. Obese animals that were put on the time-restricted diet lost 5 percent of their body weight, even if they continued to eat fattening or sugary food. The mice also saw lower blood sugar, cholesterol, and inflammation levels. Inflammation is thought to be a risk factor for health conditions such as heart disease and cancer.

The researchers also studied whether the mice could cheat on their diets while still reaping the benefits. Time restrictions still slowed weight gain, even when mice got two back-to-back “cheat days” of unrestricted access to unhealthy food.

The shortened eating periods did not, however, work as a temporary diet that one might go on and off of. When released from the time restrictions, the mice quickly gained weight, though not quite as much as their peers who had consistently enjoyed around-the-clock access to unhealthy food.

The 12-hour fast is a permanent way of life, more in line with the way our bodies evolved to handle food.

“The body is designed for eating occasionally and storing that food. We’re just stepping into what our body was designed for,” said Panda.

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