

# Dinner at 5 p.m.? New research suggests eating early and within a 10-hour window is healthier

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Researchers have provided more evidence that eating earlier in the day might be good for you—and eating all of your meals within a 10-hour window could be healthier, too.

The takeaway from this latest wave of research on eating? Eat breakfast and try to confine your meals closer to a 10-hour window.

A reason to eat earlier in the day? Participants who ate meals four hours later in the day were more hungry, burned calories at a slower rate and

had body changes that promoted fat growth, according to a study from researchers at Brigham and Women's Hospital. The research was published this week in *Cell Metabolism*.

"In this study, we asked, 'Does the time that we eat matter when everything else is kept consistent?'" first author Nina Vujovic, a researcher in the hospital's division of sleep and circadian disorders, wrote in a description of the research on the hospital's website. "And we found that eating four hours later makes a significant difference for our hunger levels, the way we burn calories after we eat, and the way we store fat."

Researchers had 16 [overweight patients](#) eat the same exact meals on two schedules: one with meals earlier in the day and the other with meals about four hours later in the day. (For example, a participant in the early group might eat at about 9 a.m., 1 p.m. and 5 p.m.; the other group at 1 p.m., 5 p.m. and 9 p.m.)

Participants logged their hunger and appetite. Researchers gathered [blood samples](#), levels of body temperature and energy expenditure, and samples of body fat tissue from some subjects.

Late eating more than doubled the likelihood of being hungry, researchers said. When study participants ate later in the day, they had lower levels of the hormone leptin, which is present when we feel full, researchers said.

Genetic tests also suggested fat growth accompanied later eating. Eating late resulted in about 60 fewer calories being burned, the study says.

"We wanted to test the mechanisms that may explain why late eating increases obesity risk," senior author Frank Scheer, director of the medical chronobiology program in Brigham's division of sleep and

circadian disorders, said in a statement.

The study is small but was specifically designed to assess eating schedules' effects on the body. Researchers hope to expand on the findings.

"This study shows the impact of late versus early eating. Here, we isolated these effects by controlling for confounding variables like caloric intake, physical activity, sleep, and light exposure, but in real life, many of these factors may themselves be influenced by meal timing," Scheer said. "In larger scale studies, where tight control of all these factors is not feasible, we must at least consider how other behavioral and environmental variables alter these biological pathways underlying obesity risk."

## **Should breakfast be your biggest meal?**

If you try to eat earlier in the day, making breakfast your biggest daily meal may not be so important, suggests another study, published in *Cell Metabolism* last month. Researchers had 30 subjects who were overweight follow two four-week diets: one with 45% of the day's calories in the morning, the other with 45% of the day's calories at dinner.

Researchers at the University of Aberdeen in Scotland and the University of Surrey in England had expected those who had a big breakfast and small dinner would burn more calories and lose more weight. Instead, they found no differences in subjects after they followed the two meal patterns.

But those following the morning-loaded diet did report less hunger pains. "We know that appetite control is important to achieve weight loss, and our study suggests that those consuming the most calories in the morning

felt less hungry," said one of the study's authors, Alexandra Johnstone, a nutrition professor at the University of Aberdeen's Rowett Institute, in a news release.

The two complementary and "rigorous" studies on overweight and obese healthy people "show how 'front-loading' calories is a beneficial strategy to reduce overall hunger," Satchidananda Panda, a professor in the regulatory biology laboratory at the Salk Institute for Biological Studies in La Jolla, California, told U.S. TODAY.

He was not involved in the front-loading food research studies but was among the authors of a study on time-restricted eating published this week in *Cell Metabolism*.

## **A 10-hour window for eating?**

Your overall meal schedule—and how close together meals are—might be worth a look, too, that study suggests.

That's because researchers found that firefighters who ate all of their meals within a 10-hour window significantly decreased levels of bad cholesterol, improved mental health, and reduced alcohol intake by about three drinks a week.

Subjects in the study who had elevated [blood sugar](#) and blood pressure levels saw significant improvements, too, they said.

Researchers at the Salk Institute and the University of California, San Diego, tracked 137 San Diego Fire-Rescue Department firefighters who were encouraged to follow a Mediterranean diet and used an app to track their diet for three months. Half ate meals within a 10-hour window, the other half within a 14-hour window.

"Our study showed that shift workers with high blood pressure, blood sugar or cholesterol can benefit from a simple lifestyle intervention called time-restricted eating," Panda said in a statement. "It's not a pill, but a healthy habit that can significantly reduce these three risks of disease without any adverse side effects."

Participants picked any 10-hour window with breakfast within two or more hours after waking and dinner three hours or more before going to bed on their off days, Panda told U.S. TODAY. Most chose 8 to 10 a.m. for breakfast; noon to 1 p.m. for lunch; and 6 to 8 p.m. for dinner, he said.

"Putting all these together, it is safe to say that the [general public](#) can try to choose a 10-hour window that will fit with their lifestyle for at least 5-6 days a week," Panda said.

He suggests eating a bigger breakfast, preferably at home because it's typically healthier, then a small lunch—"to reduce post-lunch dip," he said—and a healthy dinner. "If they choose a window that ends before 8 p.m., they are also likely to reduce their evening/nightly alcohol and dessert intake."

There are some limitations. "Those with Type 1 or Type 2 diabetes, expecting mothers, and people taking prescription medications should consult with their physicians before starting any dietary changes, including time-restricted eating," Panda said.

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