

# People who eat a late dinner may gain weight

June 11 2020

---



Credit: CC0 Public Domain

Eating a late dinner may contribute to weight gain and high blood sugar, according to a small study published in the Endocrine Society's *Journal of Clinical Endocrinology & Metabolism*.

Over [2.1 billion adults](#) are estimated to have overweight or obesity which make health complications like diabetes and [high blood pressure](#) more likely. Some studies suggest that consuming calories later in the day is associated with obesity and [metabolic syndrome](#).

"This study sheds new light on how eating a late dinner worsens glucose tolerance and reduces the amount of fat burned. The effect of late eating varies greatly between people and depends on their usual bedtime," said

the study's corresponding author Jonathan C. Jun, M.D., of the Johns Hopkins University School of Medicine in Baltimore, M.d. "This shows that some people might be more vulnerable to late eating than others. If the metabolic effects we observed with a single meal keep occurring chronically, then late eating could lead to consequences such as diabetes or obesity."

The researchers studied 20 healthy volunteers (10 men and 10 women) to see how they metabolized dinner eaten at 10 p.m. compared to 6 p.m. The volunteers all went to bed at 11 p.m. The researchers found that blood sugar levels were higher, and the amount of ingested fat burned was lower with the later dinner, even when the same meal was provided at the two different times.

"On average, the peak glucose level after late dinner was about 18 percent higher, and the amount of fat burned overnight decreased by about 10 percent compared to eating an earlier [dinner](#). The effects we have seen in [healthy volunteers](#) might be more pronounced in people with obesity or diabetes, who already have a compromised metabolism," said the study's first author Chenjuan Gu, M.D., Ph.D., of the Johns Hopkins University.

This is not the first study to show effects of late eating, but it is one of the most detailed. Participants wore activity trackers, had blood sampling every hour while staying in a lab, underwent sleep studies and body fat scans, and ate food that contained non-radioactive labels so that the rate of fat burning (oxidation) could be determined.

"We still need to do more experiments to see if these effects continue over time, and if they are caused more by behavior (such as sleeping soon after a meal) or by the body's [circadian rhythms](#)," Jun said.

Other authors include Nga Brereton, Amy Schweitzer, Daisy Duan, Luu

V. Pham and Vsevolod Y. Polotsky of the Johns Hopkins University; and Matthew Cotter, Elisabet Børsheim and Robert R. Wolfe of the University of Arkansas for Medical Sciences in Little Rock, Ark.

**More information:** Chenjuan Gu et al. Metabolic Effects of Late Dinner in Healthy Volunteers – A Randomized Crossover Clinical Trial, *The Journal of Clinical Endocrinology & Metabolism* (2020). DOI: 10.1210/clinem/dgaa354

Provided by The Endocrine Society

Citation: People who eat a late dinner may gain weight (2020, June 11) retrieved 25 April 2024 from <https://medicalxpress.com/news/2020-06-people-late-dinner-gain-weight.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.