

Could the timing of when you eat, be just as important as what you eat?

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Most weight-loss plans center around a balance between caloric intake and energy expenditure. However, new research has shed light on a new factor that is necessary to shed pounds: timing. Researchers from Brigham and Women's Hospital (BWH), in collaboration with the University of Murcia and Tufts University, have found that it's not simply what you eat, but also when you eat, that may help with weight-loss regulation.

The study will be published on January 29, 2013 in the [International Journal of Obesity](#).

"This is the first large-scale prospective study to demonstrate that the timing of meals predicts weight-loss effectiveness," said Frank Scheer, PhD, MSc, director of the Medical Chronobiology Program and associate neuroscientist at BWH, assistant professor of medicine at Harvard Medical School, and senior author on this study. "Our results indicate that late eaters displayed a slower weight-loss rate and lost significantly less weight than early eaters, suggesting that the timing of large meals could be an important factor in a weight loss program."

To evaluate the role of food timing in weight-loss effectiveness, the researchers studied 420 overweight [study participants](#) who followed a 20-week weight-loss treatment program in Spain. The participants were divided into two groups: early-eaters and late-eaters, according to the self-selected timing of the main meal, which in this Mediterranean population was lunch. During this meal, 40 percent of the total daily

calories are consumed. Early-eaters ate lunch anytime before 3 p.m. and late-eaters, after 3 p.m. They found that late-eaters lost significantly less weight than early-eaters, and displayed a much slower rate of weight-loss. Late-eaters also had a lower estimated insulin sensitivity, a risk factor for diabetes.

Researchers found that timing of the other (smaller) meals did not play a role in the success of weight loss. However, the late eaters—who lost less weight—also consumed fewer calories during breakfast and were more likely to skip breakfast altogether. Late-eaters also had a lower estimated [insulin sensitivity](#), a risk factor for diabetes.

The researchers also examined other traditional factors that play a role in weight loss such as total calorie intake and expenditure, appetite hormones leptin and ghrelin, and sleep duration. Among these factors, researchers found no differences between both groups, suggesting that the timing of the meal was an important and independent factor in weight loss success.

"This study emphasizes that the timing of food intake itself may play a significant role in weight regulation" explains Marta Garaulet, PhD, professor of Physiology at the University of Murcia Spain, and lead author of the study. "Novel therapeutic strategies should incorporate not only the [caloric intake](#) and macronutrient distribution, as it is classically done, but also the timing of food."

Provided by Brigham and Women's Hospital

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