

# Research review shows intermittent fasting works for weight loss, health changes

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Krista Varady, professor of nutrition, UIC College of Applied Health Sciences.  
Credit: Roberta Dupuis-Devlin/UIC

Intermittent fasting can produce clinically significant weight loss as well as improve metabolic health in individuals with obesity, according to a

new study review led by University of Illinois Chicago researchers.

"We noted that [intermittent fasting](#) is not better than regular dieting; both produce the same amount of [weight loss](#) and similar changes in blood pressure, cholesterol and inflammation," said Krista Varady, professor of nutrition at the UIC College of Applied Health Sciences and author of "Cardiometabolic Benefits of Intermittent Fasting."

According to the analysis published in the Annual Review of Nutrition, all forms of [fasting](#) reviewed produced mild to moderate weight loss, 1 percent to 8 percent from baseline weight, which represents results that are similar to that of more traditional, calorie-restrictive diets.

Intermittent fasting regimens may also benefit health by decreasing blood pressure and insulin resistance, and in some cases, cholesterol and triglyceride levels are also lowered. Other health benefits, such as improved appetite regulation and positive changes in the gut microbiome, have also been demonstrated.

The review looked at over 25 research studies involving three types of intermittent fasting:

- Alternate day fasting, which typically involves a feast day alternated with a fast day where 500 calories are consumed in one meal.
- 5:2 [diet](#), a modified version of alternate day fasting that involves five feast days and two fast days per week.
- Time-restricted eating, which confines eating to a specified number of hours per day, usually four to 10 hours, with no calorie restrictions during the eating period.

Various studies of time-restricted eating show participants with obesity losing an average of 3 percent of their body weight, regardless of the time of the eating window.

Studies showed alternate day fasting resulted in weight loss of 3 percent to 8 percent of [body weight](#) over three to eight weeks, with results peaking at 12 weeks. Individuals on alternate day fasting typically do not overeat or binge on feast days, which results in mild to moderate weight loss, according to the review.

Studies for the 5:2 diet showed similar results to alternate day fasting, which surprised the study's reviewers. The subjects who participate in the 5:2 diet fast much less frequently than alternate-day fasting participants do, but the weight loss results are similar.

Weight loss with alternate day and 5:2 fasting are comparable to more traditional daily calorie-restrictive diets. And, both fasting diets showed individuals were able to maintain an average of 7 percent weight loss for a year.

"You're fooling your body into eating a little bit less and that's why people are losing weight," Varady said.

Varady added the review set out to debunk some myths regarding intermittent fasting. Intermittent fasting does not negatively affect metabolism, nor does it cause disordered eating, according to the studies reviewed.

"Fasting people are worried about feeling lethargic and not being able to concentrate. Even though you are not eating, it won't affect your energy," Varady said. "A lot of people experience a boost of energy on fasting days. Don't worry, you won't feel crappy. You may even feel better."

The study review includes a summary of practical considerations for those who may want to try intermittent fasting. Among the considerations are:

- Adjustment time—Side effects such as headaches, dizziness and constipation subside after one to two weeks of fasting. Increased water intake can help alleviate headaches caused by dehydration during this time.
- Exercise—Moderate to high-intensity endurance or resistance training during food abstinence can be done, and some study participants reported having more energy on fast days. However, studies recommend those following alternate day fasting eat their fasting day meal after exercise.
- Diet during fasting—There are no specific recommendations for food consumption during intermittent fasting, but eating fruits, vegetables and whole grains can help boost fiber intake and help relieve constipation that sometimes accompanies fasting.
- Alcohol and caffeine—For those using an alternate day or 5:2 fasting plan, alcohol is not recommended on fast days as the limited calories should be used on healthy foods that provide nutrition.

There are several groups who should not intermittent fast, according to the studies. Those individuals include:

- Those who are pregnant or lactating.
- Children under 12.
- Those with a history of disordered eating.
- Those with a body mass index, or BMI, less than 18.5.
- Shift workers. Studies have shown they may struggle with fasting regimens because of shifting work schedules.
- Those who need to take medication with food at regimented times.

"People love intermittent fasting because it's easy. People need to find diets that they can stick to long term. It's definitely effective for [weight loss](#) and it's gained popularity because there are no special foods or apps

necessary. You can also combine it with other diets, like Keto," Varady said.

Varady has recently been awarded a National Institutes of Health grant to study time-restricted eating for 12 months to see if it works long term.

**More information:** Krista A. Varady et al, Cardiometabolic Benefits of Intermittent Fasting, *Annual Review of Nutrition* (2021). [DOI: 10.1146/annurev-nutr-052020-041327](https://doi.org/10.1146/annurev-nutr-052020-041327)

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