

# Intermittent fasting

Intermittent fasting (IF) is an umbrella term that encompasses a number of different fasting regimens, which involve consuming few or no calories for a predetermined period of time. The concept of fasting in religious and medical practice has been established for thousands of years. Even research on human evolution indicates that early humans in hunter-gatherer societies spent extended periods of time with access to very little or no food. Today, individuals still choose to follow fasting regimens for spiritual and health reasons.

## How intermittent fasting works

The purpose of fasting is to shift the body into a metabolic state known as ketosis. When the body's available glucose (sugar) and glycogen (glucose stores) are depleted, it will then utilize fatty acids and fatty acid-derived ketones as its primary source of energy. The point at which our bodies switch from utilizing glucose to fatty acids as fuel is sometimes referred to as the "metabolic switch", which typically occurs approximately 12 to 36 hours after cessation of food intake but varies by individual, depending on physical activity, metabolism, age, and stored glycogen levels.

Intermittent fasting results in changes in certain factors, including circadian biology, gut microbiome, and lifestyle behaviors. These mechanisms are suggested to contribute to intermittent fasting benefits.

## Health benefits of intermittent fasting

- Decreased oxidative damage and inflammation
- Improved glucose metabolism
- Enhanced insulin sensitivity
- Reduced fasting insulin levels
- Improved cardiovascular risk factors (e.g., blood pressure, triglyceride, LDL cholesterol, and total cholesterol levels)
- Weight loss and improved body composition

Intermittent fasting has also been shown to benefit patients with obesity and overweight, type 2 diabetes, hypertension, metabolic syndrome, and inflammatory conditions, such as rheumatoid arthritis (RA) and asthma. Some evidence suggests that IF may also improve athletic performance and longevity.



# Types of intermittent fasting

Fasting method	Description	Feeding window	Fasting window
<b>Alternate day fasting (ADF)</b>	Abstain from all calorie-containing food and beverages during the fasting window. Consume food <i>ad libitum</i> during the feeding window.	Every other day	Every other day
<b>Modified alternate day fasting (mADF)</b>	Restrict energy intake to 20-25% of daily caloric requirement during the fasting window. Consume food <i>ad libitum</i> during the feeding window.	Every other day	Every other day
<b>Time-restricted feeding (TRF)</b>	Abstain from all calorie-containing food and beverages during the fasting window. Consume food <i>ad libitum</i> during the feeding window.	4-12 hours/day	12-20 hours/day
<b>Early time-restricted feeding (eTRF)</b>	Abstain from all calorie-containing food and beverages during the fasting window. Consume food <i>ad libitum</i> during the feeding window.	6 hours/day, early (e.g., 8 a.m.-2 p.m.)	The remainder of the day
<b>5:2 diet - Periodic or cyclic fasting</b>	Restrict energy intake to 20-25% of daily caloric requirement during the fasting window. Consume food <i>ad libitum</i> during the feeding window.	5 days/week	2 non-consecutive days/week
<b>6:1 diet - Periodic or cyclic fasting</b>	Abstain from all calorie-containing food and beverages during the fasting window. Consume food <i>ad libitum</i> during the feeding window.	6 days/week	1 day/week

\**ad libitum* = without restrictions

## Special considerations

While IF is generally considered to be safe, potential side effects include feeling cold, having low energy, feeling hungry, and experiencing mood or behavioral changes. Diabetic patients, particularly those with type 1 or advanced type 2 diabetes, should exercise special caution with fasting. Ketoacidosis is a life-threatening complication of diabetes in which ketone bodies accumulate in the body as a result of insufficient insulin. Be sure to consult your integrative healthcare practitioner for guidance before implementing an intermittent fasting regimen.



## References

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This handout was developed and medically reviewed by Fullscript's Integrative Medical Advisory team.

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