

How Intermittent Fasting Can Help You Live Healthier, Longer

Analysis by [Dr. Joseph Mercola](#)

✓ Fact Checked

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STORY AT-A-GLANCE

- › Fasting has a number of health benefits, including improved cardiovascular health, reduced cancer risk, gene repair and increased longevity
- › Research shows you can get most, if not all, of the same benefits of severe calorie restriction through intermittent fasting, when you feast on some days and cut calories on others
- › One of the primary mechanisms that makes intermittent fasting so beneficial for health is related to its impact on your insulin sensitivity
- › Intermittent fasting helps reset your body to burn fat for fuel
- › Mounting evidence shows that when your body becomes adapted to burning fat instead of sugar as your primary fuel you dramatically reduce your risk of chronic disease
- › People who would be best served to avoid fasting include those living with chronic stress (adrenal fatigue), and those with cortisol dysregulation. Pregnant or nursing mothers should also avoid fasting

This article was previously published June 14, 2014, and has been updated with new information.

In the featured documentary, “Eat, Fast, and Live Longer,”¹ British author and journalist Dr. Michael Mosley documents his journey as he decides to try fasting, to see if it might

improve his health.

At the outset, his blood work revealed he was borderline diabetic and his cholesterol was high, which his doctor wanted to treat with medication. Concerned by this diagnosis – especially as he considers himself somewhat of an expert on conventional health strategies – Mosley sets out to investigate his alternatives.

"I have always been interested in self-experimentation as a research device because so many of the most important discoveries came from scientists and doctors who used themselves as test subjects," he says, "but I had never before performed a series of trials on my own health."

His journey takes him across the United States, where he meets with both long-lived, healthy folks, and health and longevity experts to learn the secrets of their success.

Your Body Was Built for Periodic Cycles of 'Feast and Famine'

Fasting, it turns out, has a number of health benefits that most people seek: from improved cardiovascular health and reduced cancer risk, to gene repair and longevity.

In short, he discovers that part of what appears to be driving the disease process is the fact that we're eating too frequently. When you're in constant "feast mode," your body actually forgoes much of its natural "repair and rejuvenation programming."

It's true that severe calorie restriction promotes both weight loss and longevity in animal models, but this kind of "starvation diet" is not a very appealing strategy for most people.

However, newer research shows that you can get most if not all of the same benefits of severe calorie restriction through intermittent fasting, i.e., an eating schedule when you feast on some days, and dramatically cut calories on others.

This effectively mimics the eating habits of our ancestors, who did not have access to grocery stores or food around the clock. They would cycle through periods of feast and

famine, and modern research shows this cycling produces a number of biochemical benefits. In short, by altering what and when you eat, you can rather dramatically alter how your body operates. And that's great news.

Health Benefits of Intermittent Fasting

Fasting is historically commonplace as it has been a part of spiritual practice for millennia. But modern science has confirmed there are many good reasons for fasting, including the following:

- **Normalizing your insulin and leptin sensitivity, and boosting mitochondrial energy efficiency** – One of the primary mechanisms that makes intermittent fasting so beneficial for health is related to its impact on your insulin sensitivity.

While sugar is a source of energy for your body, it also promotes insulin resistance when consumed in the amounts found in our modern processed junk food diets. Insulin resistance, in turn, is a primary driver of chronic disease – from heart disease to cancer.

Intermittent fasting helps reset your body to use fat as its primary fuel, and mounting evidence confirms that when your body becomes adapted to burning FAT instead of sugar as its primary fuel, you dramatically reduce your risk of chronic disease

- **Normalizing ghrelin levels**, also known as "the hunger hormone"
- **Promoting human growth hormone (HGH) production** – Research has shown fasting can raise HGH by as much as 1,300% in women, and 2,000% in men,² which plays an important part in health, fitness and slowing the aging process. HGH is also a fat-burning hormone, which helps explain why fasting is so effective for weight loss
- **Lowering triglyceride levels and improving other biomarkers of disease**

- **Reducing oxidative stress** — Fasting decreases the accumulation of oxidative radicals in the cell, and thereby prevents oxidative damage to cellular proteins, lipids, and nucleic acids associated with aging and disease

There's also plenty of research showing that fasting has a beneficial impact on longevity in animals. There are a number of mechanisms contributing to this effect. Normalizing insulin sensitivity is a major one, but fasting also inhibits the mTOR pathway, which plays an important part in driving the aging process.

Intermittent fasting is by far the most effective way I know of to shed unwanted fat and eliminate your sugar cravings. Since most of us are carrying excess fat we just can't seem to burn, this is a really important benefit. When sugar is not needed as a primary fuel, your body will also not crave it as much when your sugar stores run low.

As mentioned above, the other mechanism that makes fasting so effective for weight loss is the fact that it provokes the secretion of HGH — a fat-burning hormone that has many well-recognized "antiaging" health and fitness benefits.

Last but not least, intermittent fasting has also been identified as a potent ally for the prevention and perhaps even treatment of dementia. First, ketones are released as a byproduct of burning fat, and ketones (not glucose) are actually the preferred fuel for your brain.

In addition to that, intermittent fasting boosts production of a protein called brain-derived neurotrophic factor (BDNF), which activates brain stem cells to convert into new neurons, and triggers numerous other chemicals that promote neural health.

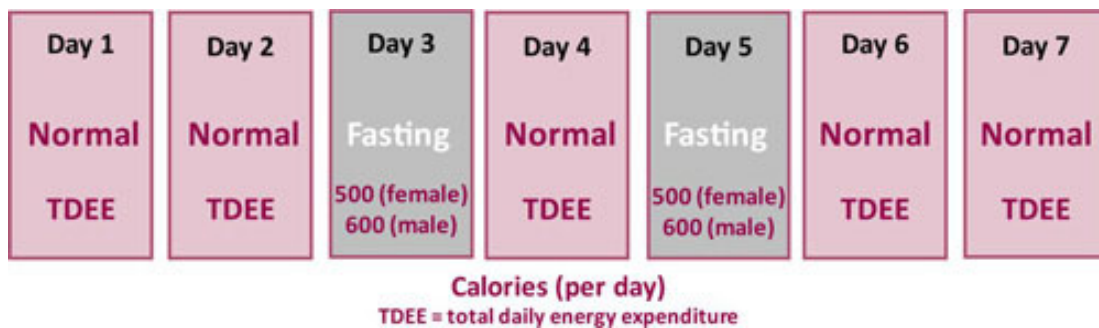
It also protects your brain cells from changes associated with Alzheimer's and Parkinson's disease. Research by Mark Mattson, former chief of the Laboratory of Neurosciences at the National Institute on Aging, suggests that alternate-day fasting (restricting your meal on fasting days to about 600 calories), can boost BDNF by anywhere from 50 to 400%, depending on the brain region.³

The 5:2 Intermittent Fasting Plan

Intermittent fasting is an umbrella term that covers a wide array of fasting schedules. As a general rule, it involves cutting calories in whole or in part, either a couple of days a week, every other day, or even daily. Mosley became so convinced of the health benefits of intermittent fasting he wrote a book on the subject, "The Fast Diet: Lose Weight, Stay Healthy, and Live Longer with the Simple Secret of Intermittent Fasting."⁴

The fasting schedule he ultimately suggests in the book (after trying a couple of variations in the film), is to eat normally for five days a week, and fast for two. This schedule is sometimes referred to as the "5:2" intermittent fasting plan.

On fasting days, he recommends cutting your food down to one-fourth of your normal daily calories, or about 600 calories for men and about 500 for women, along with plenty of water and tea. Dr. Mosley claims to have lost 19 pounds in two months by following this 5:2 intermittent fasting plan.



Alternate-Day Fasting – Another Alternative

Yet another variation that is quite common is the alternate-day fast. This fasting protocol is exactly as it sounds: one day off, one day on. When you include sleeping time, the fast can end up being as long as 32-36 hours. The drawback is that it requires you to go to bed with an empty stomach every other day, which can be tough for most people – at least initially.

However, according to scientist Krista Varady, author of "The Every-Other-Day Diet: The Diet That Lets You Eat All You Want (Half the Time) and Keep the Weight Off," the alternate-day fasting schedule does have a much higher compliance rate than many

other fasting schedules. In the end, the best fasting schedule is the one that you will comply with. If you're constantly cheating, it won't work.

Varady's research shows that alternate-day fasting, where you consume about 500 calories on fasting days and can eat whatever you want on nonfasting days, works equally well for weight loss as complete fasting, and it's a lot easier to maintain this type of modified fasting regimen.

In her study, participants ate their low-calorie fasting day meal either for lunch or dinner. Splitting the 500-calorie meal up into multiple smaller meals throughout the day was not as successful as eating just one meal, once a day. The main problem relates to compliance. If you're truly eating just 500 calories in a day, you will lose weight. But when eating tiny amounts of food multiple times a day, you're far more inclined to want more, so the cheat rate dramatically increases.

My Personal Recommendation

A third version of intermittent fasting, and the one I recommend and personally use, is to simply restrict your daily eating to a specific window of time, such as an eight-hour window.

I have experimented with different types of scheduled eating for years, and this is my personal preference as it's really easy to comply with once your body has shifted over from burning sugar to burning fat as its primary fuel. Just be sure your last meal is at least three hours before you go to sleep. I typically do six hours.

Fat, being a slow-burning fuel, allows you to keep going without suffering from the dramatic energy crashes associated with sugar. And, if you're not hungry, well, then not eating for several hours is no big deal! You do this every day until your insulin/leptin resistance improves (weight, blood pressure, cholesterol ratios or diabetes) normalizes.

Then you continue to do it as often as you need to maintain your healthy state. I used a six-hour window until I was burning fat for fuel, and now eat in a nine- to 10-hour

window, and will snack on macadamia nuts during that period. I rarely eat anything for four or more hours before going to bed.

Compliance is always a critical factor in any of these approaches and it seems this is one of the easiest intermittent fasting schedules to implement. It really is beyond amazing to me how the food cravings literally disappear once you have regained your ability to burn fat for fuel.

You don't need iron willpower or enormous levels of self-discipline to maintain this eating schedule. Yes, you will get hungry, but your hunger will be appropriate and you will be surprised at how much less food will completely satisfy you once you regain your metabolic flexibility and no longer need to rely on stored sugar in your body for your primary fuel.

What Should You Eat on Nonfasting Days?

In the featured documentary, Varady takes Mosley out for lunch at a local fast food restaurant, noting that it doesn't seem to matter what you eat on your nonfasting day, as long as you're fasting properly every other day. However, I would caution against versions of intermittent fasting that give you free reign to eat all the junk food you want when not fasting, as this seems awfully counterproductive. From my perspective, I simply cannot agree with or promote this idea.

I view intermittent fasting as a lifestyle, not a diet, and that means making healthy food choices every time you eat. Your goal is to seek to emulate the eating patterns of your ancient ancestors, which was a constant feast and famine pattern.

Besides, if alternating between feasting on junk food and fasting can produce the favorable metabolic results demonstrated in the video, just imagine the health benefits you'd get if you were actually making healthy food choices each time you eat!

Unfortunately, Varady doesn't appreciate the dangers of processed foods and trans fats in particular. She focuses mostly on the quantity, not the quality, of the calories. A healthy diet includes minimizing non-starchy, carb-rich processed foods and replacing

them with healthy fats like coconut oil, olive oil, olives, butter, eggs, avocados and nuts (macadamia are particularly beneficial, as they are high in fat and low in protein).

I also recommend being moderate in your protein consumption, and making sure meat and other animal products like dairy and eggs come from organic, pasture-raised animals.

I would also caution against eating enormous amounts of fruit, like Joe Cordell, the calorie-restricting enthusiast at the beginning of the film. He starts his day with a supersized bowl of fruit, and even though he tosses out certain parts that are particularly high in fructose, I believe most people would be wise to refrain from excessively large amounts of fruit – at least until your weight and health have normalized.

While a fruit-rich diet may work for some people, in the end you need to pay close attention to your metabolic parameters, and getting your vitamins and antioxidants from vegetables would be a more appropriate strategy for most.

Speaking of sugar, if you have a sweet tooth, don't despair. It typically takes several weeks to shift to burning fat as your primary fuel, but once you do, your cravings for unhealthy foods and carbs will automatically disappear. Again, this is because you're now actually able to burn your stored fat and don't have to rely on new fast-burning carbs for fuel.

Once you are at your ideal body weight, and do not have diabetes, high blood pressure, or abnormal cholesterol levels, you can be less rigid with your fasting. However, it is probably best to resume some type of scheduled eating regimen once in a while, to make sure you don't slip back into old habits.

Who Should Use Extra Caution When Fasting?

Intermittent fasting is appropriate for most people, but if you're hypoglycemic or diabetic, you need to be extra cautious. People who would be best served to avoid fasting include those living with chronic stress (adrenal fatigue), and those with cortisol

dysregulation. Pregnant or nursing mothers should also avoid fasting. Your baby needs plenty of nutrients, during and after birth, and there's no research supporting fasting during this important time.

My recommendation would be to really focus on improving your nutrition instead. A diet with plenty of raw organic foods and foods high in healthy fats, coupled with high-quality proteins, will give your baby a head start on good health. You'll also want to be sure to include plenty of cultured and fermented foods to optimize your – and subsequently your baby's – gut flora.

Hypoglycemia is a condition characterized by an abnormally low level of blood sugar. It's commonly associated with diabetes, but you can be hypoglycemic even if you're not diabetic. Common symptoms of a hypoglycemic crash include headache, weakness, tremors, irritability, and hunger. As your blood glucose levels continue to plummet, more severe symptoms can set in, such as:

- Confusion and/or abnormal behavior
- Visual disturbances, such as double vision and blurred vision
- Seizures
- Loss of consciousness

One of the keys to eliminating hypoglycemia is to eliminate sugars, especially fructose, from your diet. It's also helpful to eliminate grains and replace them with higher amounts of quality proteins and healthy fats. You can use coconut oil to solve some of these issues as it is a rapidly metabolized fat that can substitute for sugar, and since it does not require insulin, it can be used during your fast. However, it will take some time for your blood sugar to normalize.

You'll want to pay careful attention to hypoglycemic signs and symptoms, and if you suspect that you're crashing, make sure to eat something, like coconut oil. Ideally, you should avoid fasting if you're hypoglycemic, and work on your overall diet to normalize your blood sugar levels first. Then try out one of the less rigid versions of fasting.

Sources and References

- ¹ YouTube July 10, 2015
- ² EurekaAlert April 3, 2011
- ³ Washington Post December 31, 2012
- ⁴ BBC News January 2, 2013