

Multiday Fasting Gaining Popularity as a Powerful Biohack for Health and Longevity



By [Dr. Joseph Mercola](#) | [mercola.com](#)

STORY AT-A-GLANCE

- Fasting is the oldest dietary intervention in the world. Modern science confirms it can have a profoundly beneficial influence on your health and longevity
- Increasing your daily intermittent fasting to 20 or 21 hours will enable you to transition into more extended fasts without significant side effects. You can also ease into it using a “fat fast” or bone broth
- Contrary to popular belief, water fasting is safe for most people. Groups that should NOT fast include those

who are underweight or malnourished, children and pregnant or breast-feeding women

One lifestyle factor that appears to be driving not only [obesity](#) but also many [chronic disease](#) processes is the fact that we avoid ever going without food for very long. Our ancestors didn't have access to food 24/7, and biologically your body simply isn't designed to run optimally when continuously fed. If you eat throughout the day and never skip a meal, your body adapts to burning sugar as its primary fuel, which down-regulates enzymes that utilize and burn stored fat.

If you struggle to lose weight, this may well be a significant part of the problem – your body has simply lost the metabolic flexibility to burn [fat for fuel](#). To correct this, you need to reduce net carbs and, ideally, the frequency of your meals. Fasting is one of the oldest dietary interventions in the world, and modern science confirms it can have a profoundly beneficial influence on your health. As noted by Fitness and Power:¹

“An increasing number of researchers are saying that the intermittent fasting method is a sure-fire way for people to shred the excess fat. A study published in 2015 in the European Journal of Clinical Nutrition found that intermittent fasting gives a safe rate weight loss of 0.5 to 1.7 lbs/week, along with decreasing the overall body fat percentage.”

Research has also confirmed that many important biological repair and rejuvenation processes take place in the absence of food, and this is another reason why all-day grazing triggers the disease. In a nutshell, your body was designed to a) run on healthy fat as its primary fuel, and b) cycle through periods of feast and famine. Today, most people do the opposite.

Intermittent Fasting Versus Longer Fasts

[Intermittent fasting](#) is an umbrella term that covers many different meal timing 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.² The key is the cycling of feasting/feeding and famine/fasting. By mimicking the eating habits of our ancestors, who did not have access to food around the clock, you restore your body to a more natural state that allows a whole host of biochemical benefits to occur.

“Peak fasting” involves fasting anywhere from 14 to 21 hours each day and eating all of your meals within the remaining window of three to 10 hours. Obviously, to make this schedule work, you need to skip at least one main meal. One of the easiest ways to ease into it is to gradually push back the time you eat breakfast until you eliminate it completely and simply have lunch, then dinner.

Just be sure to eat your dinner at least three hours before bedtime. When you’re sleeping, your body needs the least amount of energy, and if you feed it at a time when energy is not needed, your mitochondria end up creating excessive amounts of damaging free radicals. Avoiding late-night eating is a simple way to protect your mitochondrial function and prevent cellular damage from occurring.

Once you’re used to intermittent fasting, you may want to consider longer fasts, where the only thing you consume is water and mineral supplements. I had previously been opposed to multiday water fasting if one was already at ideal body weight. What I failed to realize is that longer fasts provide “metabolic magic” that really cannot occur even with intermittent daily fasting.

Multiday fasting is basically akin to “taking out the trash.” It allows your body to upregulate [autophagy](#) and mitophagy to remove damaged senescent cells in your body, including premalignant cells. I believe it can be a great way to significantly reduce your risk of cancer. It’s also an extremely effective way to shed excess weight and extend your life span.

Silicon Valley Embraces Multiday Fasting

More and more people are now starting to recognize the [health benefits of fasting](#). The strategy has quickly become popular with Silicon Valley executives, who recognize it as biohacking, opposed to mere dieting.^{3,4} The Guardian writes:⁵

“Over the last eight months [Phil Libin] the former CEO of Evernote and current CEO of AI studio All Turtles has shunned food for stretches of between two and eight days, interspersed with similar periods of eating. He’s lost almost 90 lbs and describes getting into fasting as ‘transformative.’

‘There’s a mild euphoria. I’m in a much better mood, my focus is better, and there’s a constant supply of energy. I just feel a lot healthier. It’s helping me be a better CEO,’ he said ... ‘Getting into fasting is definitely one of the top two or three most important things I’ve done in my life.’ Libin is one of a growing number of Silicon Valley types experimenting with extended periods of fasting, claiming benefits including weight loss, fewer mood swings, and improved productivity.”

Another staunch advocate of multiday water fasts is Geoffrey Woo, CEO of the biohacking company HVMN (pronounced “human”). He told The Guardian: “Ketones are a super-fuel for the brain. So a lot of the subjective benefits to fasting, including mental clarity, are down to the rise in ketones in the system.”

Why Fasting Bolsters Brain Power:

Mark Mattson

Contrary to popular belief, going without food for several days does not progressively deteriorate mental and physical functioning. As noted by Woo, whose experience I too can vouch for, right around the three-day mark your hunger significantly decreases and mental clarity increases, thanks to rising ketone levels. In the video above, Mark Mattson, chief of the laboratory of neurosciences at the National Institute on Aging and a professor of neuroscience at Johns Hopkins University, explains this process.

Breaking Down Myths About Fasting

Last fall I interviewed Dr. Jason Fung, a Canadian nephrologist (kidney specialist) and author of "[The Complete Guide to Fasting](#)." Fung is a proponent of extended water fasts, especially for patients who are obese and/or Type 2 diabetic. Fung's book provides easy-to-follow basic guidelines for fasting and reviews some of the most common myths and fears that keep many from implementing a fasting regimen.

One common myth is that multiday fasting will lead to muscle loss. The book clearly describes the process of protein catabolism, explaining how your body actually downregulates protein catabolism and upregulates growth hormones in response to fasting. As noted by Fung:

"If you follow the biochemistry, your body stores energy as glycogen in the liver, which is links or chains of sugar, and then it stores [it as] body fat. During fasting, you start by burning off all the glycogen in the liver, which is all the sugar. There's a point there where some of the excess amino acids in your body need to get burnt as well.

That's where people say, 'That's where you're burning muscle.' That's not actually what happens. The body never upregulates its protein catabolism. Never is it burning muscle; there's a normal turnover that goes on. There is a certain amount of protein that you need for a regular turnover. When you start fasting, that starts to go down and then fat oxidation goes way up. In essence, what you've done is you switched over from burning sugar to burning fat.

Once you start burning fat, there's almost an unlimited amount of calories there. You could go for days and days. What's interesting is that if you take a pound of fat, that's roughly 3,500 calories. If you eat somewhere around 1,800 to 2,000 calories a day, it takes two full days of fasting to burn a single pound of fat, which is very surprising to people.

If you're trying to lose 100 pounds, you could theoretically go 200 days of fasting just to burn all that fat ... People worry about fasting for 24 hours. I'm like, 'You could go 200 days.' Then it's like, 'OK. Maybe it's OK to go 24 hours without eating.'"

The Man Who Fasted for 382 Days

It has been my observation that most people fear to fast, thinking they will be unable to tolerate the suffering, but as Fung says, an obese individual could theoretically go without food for months without starving to death. The 1965 medical case of a 27-year-old man who fasted for 382 days is a powerful case in point.^{6,7} When he started, he weighed 456 pounds. In the end, he'd lost just over 275 pounds, and five years after breaking his fast, he'd gained back a mere 11 pounds.

Please understand, I am not recommending months- or yearlong fasts. This man was under strict medical surveillance, and you should be too if you're planning on fasting for an extended

period of time. He took multivitamins and potassium daily, and I recommend taking a high-quality multimineral supplement any time you do a water-only fast. What's so interesting about this case is that it clearly demonstrates that extreme fasting can be safely done.

Provided you're not anorexic, old and frail, pregnant or have some other serious health issue, fasting for three to seven days is not going to kill you. This case also demonstrates that loss of muscle mass is an overrated concern. ABC Science, which reported the case, notes:⁸

"After two or three days of fasting, you get your energy from two different sources simultaneously. A very small part of your energy comes from breaking down your muscles – but you can avoid this by doing some resistance training ... The majority of your energy comes from breaking down fat.

But very soon, you move into getting all your energy from the breakdown of fat. The fat molecules break down into two separate chemicals – glycerol (which can be converted into glucose) and free fatty acids (which can be converted into other chemicals called ketones). Your body, including your brain, can run on this glucose and ketones until you finally run out of fat."

Why Fasting Improves Rather Than Depletes Energy

Another major concern is that fasting will leave you physically drained and lethargic. While you may certainly feel less than optimal during the first few days the first time you do it, fasting actually tends to have the complete converse effect on energy levels. As explained by Fung:

"[A]fter four days of fasting, the basal metabolic rate is actually 10 percent higher than when you started. The body has

not shut down at all. In fact, what it's done is it switched fuel sources. It switched from burning food to burning [body] fat. Once it's burning [body] fat, it's like, 'Hey, there's plenty of this stuff.'"

In other words, if you're overweight and lethargic, fasting helps unlock energy already lodged in your body that you previously had no access to. Fasting forces your body to start accessing those stores of energy, and once that happens, your body suddenly has a near unlimited supply of energy! Insulin plays a role here as well. Insulin is the primary hormone that tells your body whether to store energy or burn it.

When you eat, you're taking calories in and insulin goes up. Higher levels of insulin signal your body to store energy. When insulin falls, it tells your body to release energy, i.e., the energy stored in your fat cells. This is why it's so difficult to lose weight when you're insulin resistant.

Fasting also helps improve other biochemical systems in your body. There's an interplay of hormonal systems like the mammalian target of rapamycin (mTOR), AMPK, leptin, and IGF-1 – all of which are optimized in the right direction when fasting. It also improves your mitochondrial function, allowing your mitochondria to regenerate.

How to Ease Into Multiday Fasting

While the idea of fasting for several days may seem daunting, there are ways to ease into it that will minimize any discomfort. The way I graduated into four-day fasting was by increasing my intermittent daily fasting from 16 hours (which I did for 18 months) to 21 hours, leaving only a three-hour window in which I ate all my food for the day. After two months of that, I did a four-day fast where my only sustenance was water and a multimineral supplement.

I don't think you need to do intermittent fasting for 18

months before trying water-only fasts, but doing it for a few months would radically decrease any negative side effects. I experienced no hunger pains whatsoever, which I find fascinating as most people who fast are really hungry by the second day. I believe getting used to 21-hour daily fasting had a lot to do with that.

So, if you want to try a multiday fast, consider extending your intermittent fasting first, then work your way into 24-, 48-, 72-hour and even longer fasts. And remember, you are in complete control and can break your fast any time you want.

In fact, one of the major benefits of extended fasting is an increased sense of self-control and freedom. Once you finally understand that you can easily go for days without food, you're no longer a victim of your surroundings. If you're traveling and cannot find healthy food, you don't have to resort to junk food. You can simply go without. If you're in a disaster situation, you can rest easier knowing you can handle a temporary food shortage without losing your mind.

After four days of water fasting, I'd lost 10 pounds, primarily from cleaning out my colon and expelling water attached to glycogen, i.e., "water weight." In the end, my ketones were 5.1 and my blood sugar 45, which is double the ketone/glucose index threshold Dr. Thomas Seyfried says is necessary to treat cancer. After the fast came the feast. Upon breaking my fast, I had 130 grams of net carbs with sweet potatoes and fruits and extra protein.

Variations of Fasting

You also have a number of other options that can help ease you into an extended water-only fast. The following are some of the most common variations:

- Water plus noncaloric beverages.** A slight variation on the water fast is to include other noncaloric beverages, such as

herbal tea and coffee (without milk, sugar or other sweeteners, including artificial non-caloric sweeteners).

•**Bone broth variation.** Another variation Fung often recommends for longer fasts is to allow the use of bone broth. In addition to healthy fats, [bone broth](#) also contains lots of protein, so it's not really a true fast. Still, in his clinical experience, many who take bone broth in addition to water, tea and coffee experience good results.

•**Fat fasting.** Here, you allow healthy fats during the fast in addition to water and/or noncaloric beverages. While you probably would not eat a stick of butter, you could have bulletproof coffee (black coffee with butter, [coconut oil](#) or MCT oil), for example. Alternatively, you could add the fat to your tea.

Dietary fat produces a very minor insulin response, and since you're keeping your insulin levels low, you're still getting most of the benefits of fasting even though you're consuming plenty of calories. Adding healthy fats such as butter, coconut oil, MCT oil, and [avocado](#) can make fasting experience a lot easier.

My personal assistant, who tried a water-only fast, complained of severe fatigue three days in. While this is a normal response in the initial stages, I made her a "fat-bomb drink" with some coconut oil, MCT C8 oil, butter, and a little stevia, which perked her right back up.

The key is to avoid protein as it activates mTOR, and may actually be more metabolically damaging than excess carbs. While the level of protein at which you'll counteract the benefits of fasting varies from person to person, you'll likely see results as long as you stay below 10 or 20 grams of protein per day.

Important Contraindications and Cautionary Advice

While most people would likely benefit from water fasting, there are several absolute contraindications. If any of the following apply to you, you should NOT do extended types of fasting:

- Underweight, defined as having a body mass index (BMI) of 18.5 or less.
- Malnourished (in which case you need to eat healthier, more nutritious food).
- Children should not fast for longer than 24 hours, as they need nutrients for continued growth. If your child needs to lose weight, a far safer and more appropriate approach is to cut out refined sugars and grains. Fasting is risky for children as it cuts out ALL nutrients, including those they need a steady supply of.
- Pregnant and/or breastfeeding women. The mother needs a steady supply of nutrients in order to assure the baby's healthy growth and development, so fasting during pregnancy or while breast-feeding is simply too risky for the child.

I would also caution you to avoid fasting if you struggle with an eating disorder such as anorexia, even if you are not clinically underweight. In addition to that, use caution if you're on medication, as some may need to be taken with food. This includes metformin, aspirin and any other drugs that might cause stomach upset or stomach ulcers. Risks are especially high if you're on diabetic medication.

If you take the same dose of medication but don't eat, you run the risk of having very low blood sugars (hypoglycemia), which can be very dangerous. So, if you're on diabetic drugs, you must adjust your medication before you fast. If your doctor is adverse toward or unfamiliar with fasting, you'd be wise to

find one that has some experience in this area so that they can guide you on how to do this safely.

Multiday Fasting Is a Powerful Biohack for Health and Longevity

I will be interviewing experts on fasting in the future to go into more detail of all the benefits provided by extended water fasts, but until then, I would encourage you to increase your daily intermittent fasting toward the 18- to 21-hour range, which will enable you to transition into more extended fasts without significant struggle. If you are on medication or have a chronic health condition, work with your doctor to make sure you don't complicate your situation.

For example, you need to make sure you're taking a high-quality multimineral supplement daily. Ideally, educate yourself about the process before you get started. Fung's book, "The Complete Guide to Fasting,"⁹ is an excellent resource. Also, before you jump into dayslong water-only fasting, start with intermittent fasting. I believe it will significantly ease the process and raise your chances of success.

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