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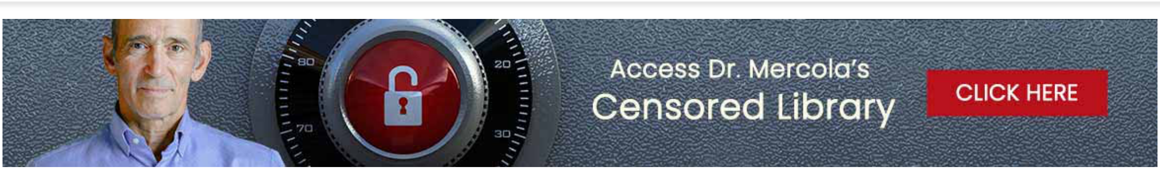

'Landmark Study' Shows Eating This Way Can Add Years to Life

Analysis by Dr. Joseph Mercola ✓ Fact Checked

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May 27, 2022
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STORY AT-A-GLANCE

- An animal study showed how a time-restricted and calorie-restricted diet could lengthen life by 35%, adding nine months over the typical two-year lifespan
- Past research showed calorie-restricted and time-restricted diets each confer health benefits, including activating autophagy, improving immunity and reducing the risk of neurodegenerative disorders such as dementia, Parkinson's disease and amyotrophic lateral sclerosis (ALS)
- Time-restricted eating increases certain metabolites that are connected to muscle maintenance and antioxidant activity, increases longevity, improves potential weight loss and lowers the risk of diabetes, certain cancers and dementia
- There are several strategies to help overcome hunger pangs as you begin to practice intermittent fasting, including staying hydrated, getting enough sleep, eating the right fat and drinking coffee with MCT oil

An animal study published in May 2022, found a time-restricted and calorie-restricted diet could lengthen life.[1,2] There are several approaches to fasting. Intermittent fasting is a way of restricting the time during which you consume food. However, it does not necessarily mean that you are also restricting calories over a 24-hour period.

For example, intermittent fasting generally implies that you restrict eating food during certain hours of the day and do not eat at night. The approach you use may depend on your daily circumstances. At first, you might be nervous about restricting food intake to certain hours during the day. However, if you approach it gradually, your body gets used to it and it's very doable.

A common method of intermittent fasting is to eat during four to eight hours of the day and fast for the remaining 16 to 20 hours. This is popular since you're already fasting while you're sleeping. You can extend the overnight fast by skipping breakfast or you may choose to eat breakfast and skip dinner.

Some people do this type of fasting daily, while others practice two to four times a week. The more consistently you use it, the less you'll feel hungry at the mealtime you choose to skip. Another approach to intermittent fasting is to cap your calorie intake two days a week at 500 calories. You pick whatever two days you want, as long as the days you choose are not back-to-back.

Another method is to water fast for 24 hours once a week. This can lead to symptoms of headaches, irritability and fatigue, which are triggered by the release of toxins. For this reason, I don't recommend multiday water fasting any longer, as most have inefficient detox systems and it could lead to more harm than good.

Fasting at Night Could Extend Lifespan by Years

Researchers from the University of Texas Southwestern Medical Center in the featured study began with the premise that calorie restriction can prolong life. Yet, they also knew that the exact mechanisms the body uses to accomplish this are poorly understood. Using an animal model, they found restricting calories by 30% could extend the animals' lifespan by 10%.[3,4]

However, when they combined calorie restriction with intermittent fasting, aligning the hours of feeding with the animals' circadian rhythms, they could extend the lifespan by 35%. This was apparently independent of the animal's body weight and did not result in weight loss.

The researchers wrote that calorie restriction and intermittent fasting helped reduce genetic expression associated with inflammation which could ameliorate age-related changes.[5] The scientists found that it is not as much about what was consumed but rather when the mice consumed it.

The animals were fed a healthy diet and were only fed during the night as they are nocturnal animals. Because humans spend most of their waking hours during the day, the authors suggested they should restrict their intake to daylight hours.[6]

The animals were tracked over four years and the researchers found that by restricting calories and only feeding at night, the mice could live an extra nine months over the typical two-year lifespan. Joseph Takahashi, lead author in the study, is a molecular biologist whose interest was in untangling the issues that surround time-restricted eating plans.

The results of the study have suggested that there are positive effects on health and longevity, even if the mice did not lose weight. The scientists believe that restricting calories and meal timing could positively affect the tendency toward inflammation and metabolic dysregulation that is common as mice age.[7]

Calorie Restriction Also Slows Aging

The featured study evaluated the effect of calorie restriction and timed feedings on longevity. This study found a smaller effect with just calorie restriction. Past research has also demonstrated that calorie restriction can activate autophagy[8] and suppress mammalian target of rapamycin (mTOR),[9] both of which are critical to health and longevity.

Autophagy is a process in which cells in your body are recycled. Very basically, it prevents the accumulation of worn-out cellular parts. Autophagy is activated when the body undergoes nutrient starvation and energy deprivation.[10]

A two-year study published by Yale University[11] engaged 200 participants who were split into two groups. One group was asked to reduce their total caloric intake by 14% for two years. The researchers' aim was to analyze if caloric restriction benefited humans in the same way that past animal studies had shown a positive response.

One of the ways that immunity was monitored was by analyzing the thymus gland, located behind the sternum and in front of the heart. The researchers used MRI imaging in participants who had limited their caloric intake and found that the gland was producing more T cells at the end of the two years than it was at the beginning of the study. After further analysis, the team found the changes were in the tissue microenvironment of the thymus gland and not the T cells.

The data also revealed "remarkable changes" in gene expression of fat tissue that were maintained through the end of the study.[12] Autophagy promotes cell survival and facilitates homeostasis. Studies have also shown that it helps promote cell death, which is a necessary part of survival.

While it has been studied extensively in eukaryotic cells, researchers[13] are also finding that deregulated autophagy may also contribute to neurodegenerative disorders, such as Alzheimer's disease, Huntington's disease and Parkinson's disease. Other observations have hypothesized that it may play a significant role in psychiatric disorders such as bipolar disorder and schizophrenia.

Analysis of cellular structures[14] during aging found that the process decreases with age, which worsens age-associated diseases. Scientists theorize that proper autophagy activity could extend longevity. Other studies[15] have shown that upregulating autophagy can reduce the protein aggregates that contribute to neurodegenerative disorders and may be a method of modulating age-related diseases and longevity.

Time-Restricted Eating Has Several Benefits

In addition to the lengthened lifespan demonstrated in the featured study, other research has shown that restricting the time in which you eat can have significant benefits to your overall health. For example, as you age, the production of metabolites leucine, isoleucine and ophthalmic acid decline. However, with fasting, individuals have higher levels of these metabolites.

Takayuki Teruya, the first author of the paper, commented that these particular metabolites are connected to muscle maintenance and antioxidant activity and may help increase longevity.[16] The results of the study suggest that fasting has a "rejuvenating effect."[17] A second study[18] showed the combination of intermittent fasting with carbohydrate restriction could improve weight loss.

Two groups of women were randomly selected to consume one of two breakfast choices. The remaining foods in their daily diet were identical. The group ate between 1300 and 1500 calories each day and at the end of the study, those eating a restricted carbohydrate breakfast experienced a 7.7-pound greater weight loss as compared to the control group.

Researchers are also considering autophagy a viable way to treat disease. A 2012 paper[19] noted that in addition to playing a role in homeostasis, it is involved in neurodegenerative diseases, cancer, metabolic condition and infectious diseases and is likely dysregulated in the same disorders.

Research also finds that fasting improves insulin sensitivity in the body, may reverse diabetes and can support your weight management efforts when combined with exercise. Research presented in 2019[20] was based on the fasting prayer practices of Muslims during Ramadan.

The study engaged 14 healthy individuals who routinely fasted 15 hours a day over 30 days. Biomarkers indicated that fasting improved insulin sensitivity and reduced the adverse effects of a high glucose diet. An editorial written in The BMJ[21] by noted research scientist James DiNicolantonio, Pharm.D., looked at several studies that found repeated episodes of fasting induced cell growth of pancreatic cells in mouse models.

According to other research,[22] intermittent fasting could drastically reduce a woman's risk of breast cancer. The group used three separate animal studies and found time-restricted feeding reduced tumor growth and delayed the development of breast cancer tumors.

Dementia and Blood Pressure Altered by Time-Restricted Eating

Two of the pathological hallmarks of Alzheimer's Disease are amyloid-beta plaques and neurofibrillary tangles formed by aggregates of tau protein. In one paper, scientists wrote about neurodegenerative disorders of aging:[23]

> *"They are often called proteinopathies owing to the presence of misfolded and aggregated proteins that lose their physiological roles and acquire neurotoxic properties. One reason underlying the accumulation and spread of oligomeric forms of neurotoxic proteins is insufficient clearance by the autophagic-lysosomal network. In other words, they occur when there's insufficient autophagy occurring in your body."*

Autophagy dysfunction has been identified in several neurodegenerative and neuropsychiatric disorders and diseases, including Alzheimer's disease, Parkinson's Disease, amyotrophic lateral sclerosis (ALS) and Huntington's disease.[24]

Several studies have also demonstrated that time-restricted eating helps prevent memory loss and improve cognition.[25,26] Fasting may also help lower high blood pressure. One study[27] of 174 participants with blood pressure higher than 140/ 90 underwent an interventional medically supervised water-only fast for an average of 10 to 11 days.

Before the fast started, their diet was limited to fruits and vegetables. Following the fast, the researchers found that 89% had blood pressure under 140/ 90, which was the cutoff for high blood pressure at the time of the study. The average reduction was a large jump of 37/13. Those who experienced the greatest impact were also those who had the highest blood pressure.

Simple Hacks Can Make Fasting Easier

Download Interview Transcript

In this hour-long interview with Dave Asprey, author of "Fast This Way: Burn Fat, Heal Inflammation, and Eat Like the High-Performing Human You Were Meant to Be," we discuss some of the myths around fasting and simple hacks that he's discovered that make the process easier.

One of his favorite ways to increase levels of a satiety hormone that makes you feel full longer is coffee. He uses Bulletproof Coffee, which is mycotoxin free. These toxins can be present in small amounts in coffee and affect inflammation by increasing your hunger. He also recommends adding MCT oil to the coffee, which raises ketones four times more than coconut oil. Other hacks include:

- **Start slowly —** Intermittent fasting is a habit and like other habits, you need time to get used to it.
- **Stay hydrated —** It's important to drink several glasses of water during the morning hours, which is a signal to your body that you are full.
- **Eat the right type of fat —** Consume healthy fats like avocado and pasture-raised organic butter. Steer clear of trans fats and processed fats that increase inflammation.
- **Get quality sleep —** Sleep helps repair your brain and body. When you are fatigued, you tend to eat more.[28] This means your perception of hunger may increase during your fasting hours if you are tired, making it more difficult to fast.
- **Exercise in a fasted state —** Exercising before you eat may help you burn more fat,[29] and intense exercise helps suppress your appetite.[30] There's no need to enroll in a gym since there are plenty of workouts that you can do from the comfort of your own home. You'll find a variety of exercises that fit your needs in our exercise video library.

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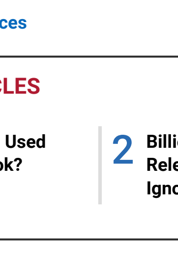

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grandmax4ever
Joined On 6/1/2017 12:34:10 PM
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I am 74 y/o and started IF about ten years ago. My BMI used to be as high as 24. I took control of my own health when my PCP wanted to add cholesterol meds to the high blood pressure meds I was taking already. Appears after my body reached its ideal BMI of 19, I could eat whatever I wish with no calorie restrictions. If my BMI goes above 20, I have no desire to eat. If my BMI goes below 19, my body signals me to eat more. My eating window is normally between 12:00-6:00 PM which I will move up or down depending on morning or evening events I may attend. The body is so amazing after it resets itself - I take no prescription meds whatsoever now.

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picwiccgmail.com
Joined On 1/4/2022 12:29:08 PM
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I have recently begun try to do the fasting. I have been only having coffee as I wake up and don't eat my breakfast until noon. However, I do have half n half in my coffee, does that effect the fast?

Mark as Spam | Posted On 5/27/2022 4:47:53 PM
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grandmax4ever
Joined On 6/1/2017 12:34:10 PM
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@picwiccgmail.com - my understanding is fat does not stop the autophagy process but proteins and carbs do. Milk contains 18g protein, cream 0.4g protein, and butter 0.1g protein - to stay on the safe side, I'd stay with full fat cream, butter, or MCT oil in your coffee. In the "Fast This Way" video above or see rumble.com/vjwlbp-fasting-hacks-interview-with-dave-asprey.html , the Tibetans used yak butter in their tea.

Mark as Spam | Posted On 5/28/2022 10:12:17 AM
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jea1613
Joined On 8/21/2017 7:54:21 AM
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Just like your previous comment I too am 74 and have followed this regime for many years and it works. I too do not take any drugs or medication except Homeopathy. Well done Dr. Mercola - brilliant article as always - thank you.

Reply | Mark as Spam | Posted On 5/28/2022 6:05:14 AM
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ono4884

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My wife and I do IF skipping breakfast, having lunch at noon and dinner at about 6-7 PM. Additionally we do a water fasting on Mondays. As you get used it's pretty easy. We also walk about 15000 steps/day.

Reply | Mark as Spam | Posted On 5/27/2022 2:24:41 AM
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ASIESLAVIDA
Joined On 4/18/2011 1:17:06 PM
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Water fasting is amazing for your health. It does not have to be done for more than two days to get the benefits. You can train your body to get used to it and it will keep you young. Nobody ever guesses my age and I have been water fasting since I was 15 and that is more than 35 years ago.

Reply | Mark as Spam | Posted On 5/27/2022 6:30:05 PM
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BicycleBoy
Joined On 6/26/2007 12:32:23 AM
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Intermittent fasting and doing resistance exercises before breaking the fast is a good routine. Especially if you are not working and can control the timing of your daily activities and don't have to sync up with your spouse and/or others who are not following your routine. Otherwise it takes more creativity. Balancing calorie intake and maintaining and/or adding muscle should be a no brainier. It does take some discipline to back off extra food on the non=strain days. I find getting sufficient fiber helps the process. I love rice (do the same for beans) and have been cooling and microwaving to reheat basmatti to change at least 50% of carb calories to soluble fiber non-carb. Not sure how badly it effects keto. Any comments for this method?

Reply | Mark as Spam | Posted On 5/27/2022 10:41:08 AM
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rrealrose
Joined On 11/10/2011 8:59:01 AM
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Dr. M, thank you for this article! My endocrinologist rattled off a long list of issues during my first visit. Cannot seem to fast for long; if has been helpful and also drinking bulletproof coffee whenever possible, it helps a lot. A LOT!!

Reply | Mark as Spam | Posted On 5/27/2022 9:35:33 AM
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lmoberoi
Joined On 3/7/2008 10:08:01 PM
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The only thing here to watch out for is how you break your fast. Avoid sudden glucose spikes and break your fast with raw vegetable juice or raw vegetable as such. Spikes of glucose will not be beneficial in the long run.

Reply | Mark as Spam | Posted On 5/27/2022 12:57:04 AM
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sschank
Joined On 12/6/2020 7:05:11 AM
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Time restricted eating is also a good way to prepare for the future. One meal per day...

Reply | Mark as Spam | Posted On 5/27/2022 6:52:12 AM
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Dave R
Joined On 11/2/2006 8:09:22 AM
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Wondering if Mercola Whole food multi vitamins, collagen , and other vitamins would break your morning fast can someone from Company or Dr. Mercola respond!!! Thanks

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mar9711
Joined On 12/1/2014 8:26:21 PM
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Nothingsound..... sorry, trying to delete my comment!

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uneamie
Joined On 2/16/2010 8:25:45 AM
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I like the idea of the coffee with MCT oil.....however, the MCT oil has calories and breaks a fast. So I am not sure about drinking that during your fasting hours.

Reply | Mark as Spam | Posted On 5/27/2022 9:00:33 AM
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grandmax4ever
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My understanding is eating fats do not stop the autophagy process. Proteins and carbs do.

Mark as Spam | Posted On 5/27/2022 10:18:25 AM
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rrealrose
Joined On 11/10/2011 8:59:01 AM
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NOT anyone's sales rep, however, you may want to read this 2021 article by Dave, and watch video: Bulletproof Coffee's Benefits: How It Supercharges Your Morning - www.bulletproof.com/diet/bulletproof-diet/bulletproof-coffee-benefits/

Mark as Spam | Posted On 5/27/2022 1:12:32 PM
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nothingsound
Joined On 8/12/2018 9:47:47 AM
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Since easing my way into time restricting eating! have found my appetite is less and at times I doubt I am receiving the nutrition needed. So now I am in the process of developing smaller nibbles throughout the day that are loaded with nutrition; this is proving difficult due to the inflation; I cannot increase my food budget, and I am getting tired of salads. I do have a better sense of health and wellness. But, yes there is but, since starting this, getting to sleep and staying asleep has been difficult. Can anyone answer the why to this?

Reply | Mark as Spam | Posted On 5/27/2022 6:17:12 AM
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larryemanuel0325
Joined On 12/5/2018 9:04:02 AM
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SO disappointed that someone whom I really trust does not believe in multi-day water fasting, when this is without a doubt the most healing thing that one can do with their own body. Gee, it makes me wonder if there is some ulterior motive here. Did I actually read that (paraphrasing) people experience headaches when toxinx are expelled? Are you serious? Thats the whole point of fasting!!! To expel toxins.

Reply | Mark as Spam | Posted On 5/27/2022 12:34:34 PM
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cisono_22
Joined On 4/17/2022 4:14:03 PM
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it is partly a question of level. Experienced fasters with already low toxin loads can probably handle the fasting. People not used to fasting who have high toxic loads would probably feel really ill jumping into fasting and experience a "healing crisis" that can put them off the whole thing. Of course, there are things we can do to reduce these reactions while still helping the body get rid of the toxins. I am also reminded that Walter Longo also does not believe in water fasts either. "water only or similar fasting should only be done in clinics" and he adds they are difficult for most people. But in an interview I listened to in the past, he also seemed to hint there may be health risks. However, no one says you have to buy his stuff to approximate his protocol ;)

Mark as Spam | Posted On 5/27/2022 7:11:06 PM
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