

Are Late Dinners Wrecking Your Health?

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✓ Fact Checked

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STORY AT-A-GLANCE

- › Fasting is an ancient health intervention embraced for its rejuvenating effects. In more recent years, researchers have demonstrated that less challenging forms of fasting, such as time-restricted eating (TRE), are just as effective as longer water fasts, helping your body repair cellular damage, reduce inflammation, improve brain function and much more
- › 90% of people eat across a span of 12 hours a day, and many across even longer timespans, which is a recipe for metabolic disaster. I believe this is part of why more than 93% of Americans are metabolically unfit
- › Most TRE regimens call for eating during four to eight hours of the day and fasting for the remaining 16 to 20 hours. The sweet-spot is probably six hours of eating and 18 hours of fasting
- › An often-overlooked caveat with regard to this timing is that you want to eat your last meal at least three hours or more before bedtime. This is important, as it helps protect your mitochondrial function
- › Cellular repair begins approximately six hours after you've ingested your last calories, so if you're eating across 15 hours a day, your body only has three hours in which to repair itself. If you eat for only eight hours and fast the remaining 16, your body will have a solid 10 hours in repair mode

Fasting is an ancient¹ health intervention embraced through the ages for its rejuvenating effects.² In more recent years, researchers have demonstrated that less challenging

forms of fasting, such as intermittent fasting and time-restricted eating (TRE), are just as effective as longer water fasts, helping your body repair cellular damage, reduce inflammation, improve brain function and much more.^{3,4,5}

According to Satchin Panda, Ph.D., who has conducted important research into the impact of meal timing on circadian rhythm, 90% of people eat across a span of 12 hours a day, and many across even longer timespans, which is a recipe for metabolic disaster.

I believe this is part of why more than 93% of Americans are metabolically unfit. In July 2022, the Journal of the American College of Cardiology⁶ posted an update on the metabolic fitness or flexibility of the American population. In 2016, approximately 88% were metabolically unfit.⁷ As of 2018, it's over 93%.

Metabolic fitness includes things like blood glucose and blood sugar, blood pressure and weight. This means 14 out of 15 Americans could benefit from improving their metabolic health, and TRE is one of the easiest yet most powerful interventions for reducing insulin resistance, restoring metabolic flexibility and losing excess body fat.

How TRE Can Improve Your Health

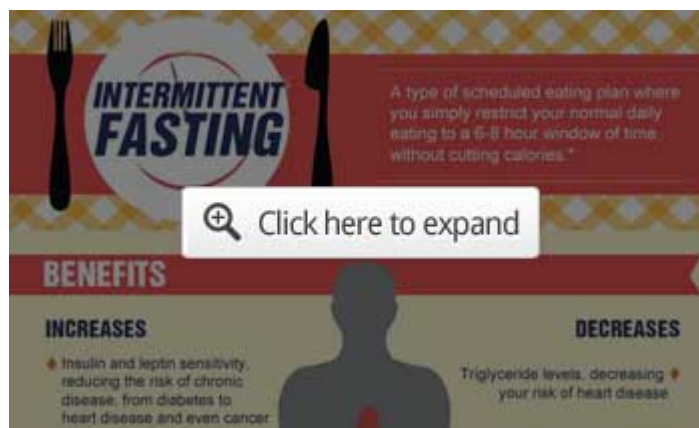
For most people, TRE is the easiest to implement as you get to eat every day, albeit only within a certain window of time. Most TRE regimens call for eating during four to eight hours of the day and fasting for the remaining 16 to 20 hours. The sweet-spot is probably six hours of eating and 18 hours of fasting.

As explained by Steve Hendricks, author of "The Oldest Cure in the World: Adventures in the Art and Science of Fasting"⁸ in a Salon article:⁹

"As researchers explored the mechanisms, they found that longer fasting periods gave the body time to make more repairs. Our bodies are constantly repairing and replacing damaged cellular parts – patching up faulty DNA, recycling worn-out organelles – which, if not taken care of, can result in disease.

But these repairs usually occur at a very low rate because the body is so busy doing all the other tasks that make up our lives, including the immense work of digesting our meals, processing the nutrients from those meals, and putting the nutrients to work in cells all over the body.

But when we stop eating for long enough, the body takes advantage of the break from all that heavy work, and our cells use the downtime to supercharge their repairs.”



Why Late-Night Dinners Sabotage Your Health

An often-overlooked caveat with regard to this timing is that you want to eat your last meal at least three hours or more before bedtime. This is important, as it helps protect your mitochondrial function, which in turn helps protect against any number of chronic ailments and diseases. But leaving only a two-hour gap is still on the riskier side. As explained by Hendricks:¹⁰

“It's a lot of work for the body to switch from its daytime mode of digesting and processing nutrients to its nighttime mode of making repairs, so the body doesn't start those repairs in earnest until it's absolutely sure we're done eating.

About 6 hours after we eat or drink our last calories the repairs start, and they ratchet up slowly, hour by hour, until they reach a kind of repair overdrive after another 6 hours, which is to say 12 hours after our last consumed calorie.”

This means that if you're eating across 15 hours a day, you're only fasting nine hours at night, and since cellular repair doesn't kick in for six hours, your body only has three hours in which to repair itself. Is it any wonder then that degeneration sets in?

“ If you eat for only eight hours and fast the remaining 16, your body will have a solid 10 hours in repair mode. With that in mind, set your eating window early in the day so that your last meal is around 3 p.m.”

If you eat for only eight hours and fast the remaining 16, your body will have a solid 10 hours in repair mode. With that in mind, Hendricks recommends setting your eating window early in the day so that your last meal is around 3 p.m. Many who recommend TRE typically recommend simply skipping either skip breakfast or dinner, but skipping dinner would be the better choice.

Benefits of Making Dinner Your Smallest, Lightest Meal

Research also suggests making your earliest meal the largest and subsequent ones increasingly smaller allows your body to work better. As suggested by Hendricks, “Follow the adage ‘Eat breakfast like a king, lunch like a prince, and dinner like a pauper.’” The reason for this is because your circadian rhythm is hardwired to process food most efficiently early in the day. Hendricks explains:¹¹

“Take our body's management of the hormone insulin, for example. Insulin's job is to move glucose (the sugar from our meals) out of our arteries and into the cells that use the glucose for fuel. Cued to a circadian rhythm, our pancreases make a lot of insulin in the morning and early afternoon, but production wanes by mid-afternoon.

When we eat in the late afternoon or at night, there's less insulin in our bloodstream, so glucose lingers longer in our arteries, where it dings up the arterial walls. Over time, the arteries can harden, putting us at risk of heart attacks, strokes, dementia, and other calamities.

This rhythm of insulin is so potent that you can feed prediabetics the same meal at 7 a.m. and again at 7 p.m., and although their blood sugar will hardly rise after the morning meal, after the evening meal the sugar lingers so long in their blood that some of them will test fully diabetic ... Evidently, we just weren't made to process nutrients late in the day."

Same Principle Works for Poisons Too

A rather macabre illustration of this came out of a 2012 analysis¹² of 15,000 people in Sri Lanka who had attempted suicide by drinking pesticide. Those who drank the poison in the evening died half as frequently as those who poisoned themselves in the morning.

The mechanism that helps explain this discrepancy is that the digestive tract absorbs poisons more rapidly and distributes them throughout the body more efficiently when consumed in the morning.

The same principle applies to chemotherapy.¹³ As noted by Hendricks, "Against some cancers, chemo can be up to five times less toxic to the patient and twice as effective against the cancer when delivered at the right hour."

Early Supper May Aid Weight Loss Efforts

As reported by MedicalXpress,¹⁴ recent research has confirmed that eating earlier in the day provides added benefits, over and beyond the practice of only eating within a limited time window.

One study,¹⁵ published in the October 4, 2022, issue of Cell Metabolism, showed that even when everything else is equal, simply shifting the eating window by four hours, so

that volunteers ate their meals later in the day (eating between 1 p.m. and 9 p.m. rather than 9 a.m. through 5 p.m.), doubled the likelihood of being hungry and increased fat accumulation. As noted in the abstract:

“In this randomized crossover trial that rigorously controlled for nutrient intake, physical activity and sleep, Vujovic et. al. found that late eating increased hunger, modified appetite-regulating hormones, decreased daytime energy expenditure, and altered adipose gene expression consistent with increased adipogenesis/decreased lipolysis. Together, these findings may explain the increased obesity risk in late eaters.”

The Many Health Benefits of Intermittent Fasting

The full list of benefits associated with TRE and other intermittent fasting regimens is a long one. Without attempting to create an exhaustive list, here’s a sampling of what intermittent fasting can do for your health:^{16,17,18}

Promote insulin sensitivity, which is crucial for your health. Insulin resistance or poor insulin sensitivity contributes to nearly all chronic diseases

Promote leptin sensitivity and normalize ghrelin levels, also known as the “hunger hormone,” resulting in lowered hunger

Improve blood sugar management by increasing insulin-mediated glucose uptake rates¹⁹

Lower triglyceride levels

Increase human growth hormone production (HGH) — Commonly referred to as “the fitness hormone,” HGH plays an important role in maintaining health, fitness and longevity, including promotion of muscle growth, and boosting fat loss by revving up your metabolism. Research²⁰ shows fasting can raise HGH by as much as 1,300% in women and 2,000% in men.

The fact that it helps build muscle while simultaneously promoting fat loss explains why HGH helps you lose weight without sacrificing muscle mass, and why even athletes can benefit from intermittent fasting

Suppress inflammation and reduce oxidative damage²¹

Upregulate autophagy and mitophagy, natural cleansing processes necessary for optimal cellular renewal and function

Boost fat burning and improve metabolic efficiency and body composition, including significant reductions in visceral fat and body weight in obese individuals

Prevent or reverse Type 2 diabetes, as well as slow its progression

Improve immune function²²

Lower blood pressure

Reduce your risk of heart disease²³ – One study²⁴ found those who fasted regularly had a 58% lower risk of coronary disease compared to those who never fasted

Reproduce some of the cardiovascular benefits associated with physical exercise

Boost mitochondrial energy efficiency and biosynthesis

Shift stem cells from a dormant state to a state of self-renewal

Reduce your risk of cancer

Increase longevity – 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

Regenerate the pancreas²⁵ and improve pancreatic function

Improve cognitive function, thanks to rising ketone levels

Protect against neurological diseases such as dementia, Alzheimer's disease²⁶ and Parkinson's disease,^{27,28} thanks to the production of ketone bodies (byproducts of fatty acid breakdown, which are a healthy and preferred fuel for your brain) and brain-derived neurotrophic factor (BDNF, which activates brain stem cells to convert into new neurons, and triggers numerous other chemicals that promote neural health)

Eliminate sugar cravings as your body adapts to burning fat instead of sugar

TRE Is an Ideal Health Strategy for Most But Not All People

Remember, 95% of the US is metabolically inflexible and insulin resistant. For them TRE is an amazingly powerful strategy to regain metabolic flexibility. However, I recently learned from Dr. Ray Peat's work, that if you are in the 5% of the population that is metabolically flexible and not insulin resistant, then TRE could be counterproductive. I now have extended my eating window to 8 to 10 hours and occasionally 12 hours in the summer.

In closing, a large and growing body of medical research supports the use of intermittent fasting strategies such as TRE. As noted by Hendricks:²⁹

“Early time-restricted eating (eTRE), as the practice is known, has been declared safe in study after study, and scientists in the field now recommend nearly all adults eat in a narrowed window, starting an hour or two after waking and ideally closing 6 to 8 hours later, although windows up to 12 hours will deliver health benefits.

For those who wish to eat dinner at the normal time, scientists advise keeping it light and earlyish and stacking most of the day's calories before mid-afternoon: breakfast like a king, lunch like a prince, dinner like a pauper ... Scientists also

say adolescents can safely practice a TRE of about 12 hours, but the verdict is still out for younger children ...”

Sources and References

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