

Not So Fast:

Do Popular Fasts Achieve the Clinically Proven Benefits of Fasting, or Simply Leave You Starving?



proLon®

Fasting is a tradition that has been practiced all throughout recorded human history. Even thousands of years ago it was associated with benefits like mental clarity, increased energy, improved health, and prolonged longevity.

The ancient Greek philosopher Pythagoras required that his students fast because he believed it improved their mental clarity and focus.

Hippocrates, considered the father of western medicine believed strongly in the healing power of fasting. He wrote, "Everyone has a physician inside him or her; we just have to help it in its work. The natural healing force within each one of us is the greatest force in getting well."

Benjamin Franklin is quoted as saying, "*the best of all medicine is resting and fasting.*"

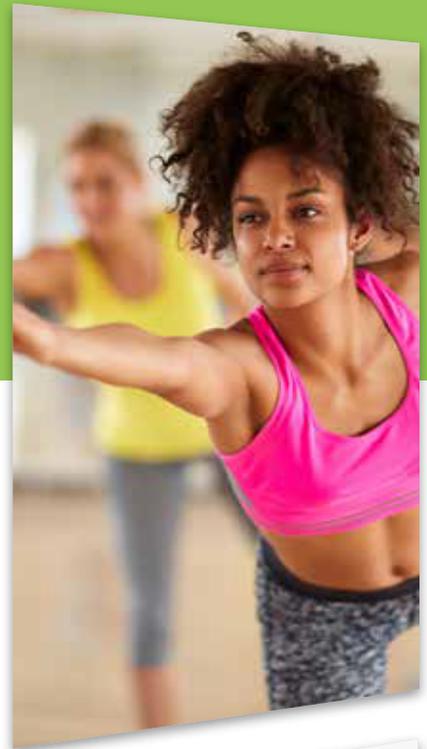
They were on to something.

It turns out there is something very real that happens inside your body when you fast. When you fast under the right conditions and for the right period of time, an incredible biological transformation is triggered - a renewal - which takes place at a cellular level deep within the body.

Finally, thanks to modern science and clinical testing, we understand exactly how and why this happens. More importantly, we have learned how to maximize the benefits while almost entirely eliminating the drawbacks.

Before we teach you exactly how to maximize the benefits of fasting (including weight loss, metabolic optimization, increased focus, increased mental clarity, increased energy, cellular optimization, and stem cell-based regeneration) while eliminating the drawbacks (avoid ravenous hunger and preserve lean body mass), **it's important that you understand what defines a real fast.**

There is a lot of misinformation out there.



IS MY 16:8 A REAL FAST?

The short answer is no.

Neither is a 20:4 eating schedule. Even a 23:1 one meal a day (OMAD) feeding schedule is biologically NOT considered a fast. These diets are time restricted feeding (TRF) schedules. While they can boost your metabolism and may help you achieve weight loss, they will not result in the same benefits as a genuine fast. We will share more on that later.

True biological fasting only begins once the body has been free of food over 24-30 hours. This is because digestion takes time. After you eat, your body has to breakdown food, absorbs nutrients, and consume macro- and micronutrients at a cellular level. Once that occurs, your body turns back to your stomach for a fresh source of calories. If your stomach is still running on empty, biological fasting begins.

When biological fasting begins warning signals are triggered throughout your body.

Alert! Alert! Something out of the ordinary is happening! We have to do something! Our survival is at risk!

These warning signals cause your body to begin breaking down fat and producing ketone bodies to create an internal source of calories and nutrients.

This is when fasting begins. This is your body activating the first phase of its survival mode protocols. During this period, weight loss and some level of metabolic optimization occur. However, the true benefits of fasting, such as cellular optimization and stem cell-based regeneration, occur during the later phases of your body's survival mode protocols.

To gain from these benefits, you must follow the correct practices during the correct types of fast. We will show you the best options for this a little later on.



At a minimum, a genuine fast MUST activate at least phase one of your body's survival mode. Otherwise you are not truly fasting - you are simply dieting.



So no, your 16:8 is not a genuine fast. Now you are probably wondering if juice fasting, intermittent fasting, 5:2 fasting, alternate day fasting, and all the other popular fasts out there actually qualify as genuine biological fasts. After all, you don't want to be wasting your time (and suffering) by going through a fast that doesn't really do anything for you. Don't worry, we will cover all of that soon!

BENEFITS OF BIOLOGICAL FASTING

The benefits of fasting can be broken down into three distinct categories:

- 1 Weight control & weight loss
- 2 Activating biological fasting
- 3 Triggering cellular optimization & rejuvenation

Weight control and weight loss are accomplished simply because fasting forces your body into a state of calorie deficit. While fasting, you burn more calories than you consume. It's basic subtraction.

In addition to weight loss, most fasts which place your body into phase one of survival mode are also capable of improving cholesterol, triglycerides, blood pressure, inflammation, and insulin resistance.

As we mentioned above, biological fasting is triggered when your body is forced into the first phase of survival mode because no outside nutrients are available.

When your body is stressed for long enough, the next two phases can be activated. It's during these two phases that cellular optimization and rejuvenation occur due to stem cell-based Regeneration (the ProLon Fasting Mimicking Diet currently holds the first patent on regeneration which was awarded in 2016) and autophagy (the study of autophagy was awarded the Nobel Prize of Medicine in 2016).

To really understand how your body responds to fasting, let's zoom in on each of the body's individual survival response phases and discuss the biological changes that occur.

FASTING PHASES

FASTING PHASE 1

Day 1-2

Approximately 24-30 hours after your last meal your body will enter the first phase of survival mode. This means it will begin consuming fat and tapping into the glycogen reserves in your muscles while generating new liver glucose.

FASTING PHASE 2

Day 3-4

After 2 days without food, your body enters the next phase of survival mode. Things are starting to get serious. Beginning on day 2 - 3, autophagy is triggered.

Autophagy, which means "self-eating", is the process in which cells eat intra-cellular debris, eliminate waste, and optimize function in order to survive in the low-nutrient environment created by fasting.

After 4 days without food your body is understandably freaking out a little. It has already consumed readily available fat reserves and optimized cell function but the continued fast is subjecting it to some major stress. It's time for serious action.

At this point the body begins deleting old, inefficient, and damaged cells, while at the same time increasing the number of circulating stem cells available to create new tissue that is young, efficient and strong. This late-stage survival mode phenomenon has been shown to optimize the biological aging of the body. Studies in mice have shown that this process has the potential to prevent or even reverse some chronic diseases!

When fasting places your body through **all three phases** of its survival mode protocols, it comes out the other side leaner, biologically more efficient, and better equipped to handle the stress of age and daily life thanks to autophagy and stem cell-based regeneration.

After 5 days of fasting, optimization has slowed and the body begins to look for alternate sources of energy, including from important tissue such as muscle. After 20 years of fasting and longevity research, The Longevity Institute of the University of Southern California has identified 5 days as the optimal duration for a fast. **Or better yet, 5 days is the optimal period of time to follow a fasting mimicking diet such as ProLon.**

Now that you fully understand the biological changes that occur during a genuine fast, as well as the benefits you can see as a result, let's take a look at how most popular fasts compare to each other.

COMPARING FASTING DIETS

There are many, many different types of “fasts”. When choosing one that is right for you, it’s important to understand how they differ in terms of protocols and procedures AND how they differ in their benefits.

Simply due to calorie restriction, almost any fast will accomplish the basic goal of weight loss. However, most fasts will not trigger the deep cellular renewal and optimization which we have talked about. They simply activate the first phase of your biological survival mode protocols, completely ignoring the final two phases, the phases which have been shown to promote healthy aging, boost stem cell-based rejuvenation, increase energy, accelerate weight loss, and optimize metabolic health.

Now, let’s compare several different fasts and one scientifically developed and clinically tested fasting mimicking diet.

ProLon, the Fasting Mimicking Diet®, allows you to enter biological fasting while eating a specifically formulated plant-based diet. Developed by Professor Valter Longo, Director of the Longevity Institute at the University of Southern California, the ProLon 5-Day Fasting Mimicking Diet allows you to experience the significant health, wellness, and longevity benefits of a full 5-day fast without starving yourself.



	Time Restricted Feeding	Intermittent Fasting			Prolonged Fasting	
		Intermittent fasting	Alternate Day Fasting	5:2 fast	Prolonged Fasting	5 Days Fasting Mimicking Diet
Acronym	TRF	IF	ADA	5:2	PF	FMD
Definition	Fasting for 12-16 hours	On and off fasting days separated by eating days. During the fasting days, male would consume <600 calories while female <500 calories	Fasting every other day	Fasting two separate days a week (i.e. Monday and Thursday)	Fasting for more than 3 days	Fasting while eating a proprietary food formulation called ProLon for 5 consecutive days
Protocol/Frequency	Every day	Every week	Every week	Every week	Once a month or every 2 or 3 months	5 days only a month or every 2 or 3 months
Biological Fasting	✗	✗	✗	✗	✓	✓
Weight Loss	✓	✓	✓	✓	✓✓	✓✓
Cellular: Autophagy	✗	✗	✗	✗	✓	✓
Cellular: Stem Cell Regeneration	✗	✗	✗	✗	✗	✓
Musculo-skeletal: Protect lean body mass and activates muscle's own stem cells	✗	✗	✗	✗	✗	✓
Enhanced Cognitive Performance	✗	✗	✗	✗	✗	✓

Now that you have had a brief overview of many different types of fasts, let's dive much deeper into the two most practiced fasts, intermittent fasting and the ProLon Fasting Mimicking Diet® to see how they compare.

INTERMITTENT FASTING VS. THE FASTING MIMICKING DIET®

Currently, intermittent fasting (IF) is the most popular type of “fast”. It’s followed closely by time restricted feeding and the ProLon Fasting Mimicking Diet. The odds are, you have experimented with intermittent fasting in your own life.

Intermittent fasting calls for days of eating normally followed by fasting or eating a highly restricted diet of less than 600 calories for men and 500 calories for women. Most people follow a 5:2 schedule for intermittent fasting where they eat normally five days a week and fast two days a week. For most people, the two fasting days are not consecutive. This means that the body does not experience biological fasting.

Intermittent fasting has shown positive results in both preclinical and clinical trials.

Preclinical[i]:

Reduction in body weight, glucose, insulin, inflammation, heart tissue damage, leptin (an energy-related hormone), and elevation of adiponectin (a hormone that regulates fat

Clinical[ii][iii]

- Maintenance of healthy levels of blood glucose
- Increased metabolism of fatty acids and ketones

Because intermittent fasting does not place the body in biological fasting for long enough, you will not experience biological changes that occur during phase 2 and phase 3 of your body’s fasting survival mode. **This means you cannot expect to see benefits such as increased stress resistance, improved cognitive performance, cellular optimization, cellular rejuvenation, visceral fat loss, and stem cell proliferation when intermittent fasting.** For the same reason, you cannot expect to see these benefits when following a time restricted feeding schedule such as 16:8 or 23:1.

PROLON 5-DAY FASTING MIMICKING DIET

Unlike other popular fasts which only place the body in phase 1 of its survival mode, a 5-day fasting mimicking diet triggers profound biological changes by moving the body through all 3 phases of survival mode **while protecting it from the potentially dangerous side effects associated with not eating.**

In addition to the standard intermittent fasting benefits of weight loss and metabolic optimization, a 5-day fasting mimicking diet triggers the rejuvenating benefits of autophagy and stem cell generation benefits such as high level of energy, optimized muscle performance, enhancing cognitive performance, rejuvenating skin and other organs, functions and systems of the body.

A ProLon 5-day Fasting Mimicking Diet simulates 5 CONSECUTIVE days of fasting while supplying the body with enough food that it will maintain lean body mass.

Preclinical and clinical trials have shown that fasting mimicking diets have a broad impact, including:

Preclinical[i]:

- Extend Healthspan (healthy part of mice's lives) by 11.3%
- Induce stress resistance
- Promote visceral fat loss
- Induce stem cell proliferation
- Promote cellular regeneration and rejuvenation
- Improve cognitive performance

Clinical[ii][iii]

- Maintain healthy levels of glucose, triglycerides, LDL, total cholesterol, diastolic blood pressure, insulin-like growth factor-1, and insulin
- Promote weight loss (specifically visceral fat, the fat around the organs within the abdomen such as liver, kidney, etc.) while maintaining lean body mass (muscle and bone).



WHY PROLON IS SUPERIOR TO POPULAR FASTS

Due to the fact that most popular fasts don't induce biological fasting for long enough, they don't give you the most powerful benefits that can come from fasting - benefits such as the improvement of age-related biomarkers as a result of cellular optimization and stem cell generation.

Fasts that do cause biological fasting for long enough to result in these benefits come with all the risks associated with not eating for many consecutive days - risk such as the loss of lean muscle mass, dizziness, weakness, and ravenous hunger.

The ProLon 5-Day Fasting Mimicking Diet is superior to popular fasts because it allows you to fast **with food** thanks to small, specially-designed meals you eat for five consecutive days per month to shift your body into a fasting state. The meals are low-sugar, low-protein, and low-calorie, and are designed so that your body doesn't recognize the food and remains in a fasting mode.

That means that ProLon allows you maximize the potential benefits of fasting while largely eliminating the drawbacks.

ProLon has been clinically tested and shown to induce and maintain the protective fasting state that optimizes a person's metabolic health and impacts age-related biomarkers.

ProLon is only used for 5 days per month. After 5 days, you go back to eating your regular diet.

In order to purchase the ProLon Fasting Mimicking Diet®, visit www.prolonfmd.com

In order to maintain its mission of enhancing human healthspan, L-Nutra donates 60% of the ProLon profits to the CreateCures Foundation which in turn donates it to further medical research and charities that are dedicated to enhancing health and wellness.



**PATENTED
NUTRI-TECHNOLOGY**



[i] Wei, M., Longo, V., et. al. Fasting-mimicking diet and markers/risk factors for aging, diabetes, cancer, and cardiovascular disease. *Science Translational Medicine* 15 Feb 2017: Vol. 9, Issue 377.

[i] Brandhorst, S., Choi, Y., et al. A Periodic Diet that Mimics Fasting Promotes Multi-System Regeneration, Enhanced Cognitive Performance, and Healthspan. *Cell Metabolism* 22, 86–99 July 7, 2015.

[i] Wan, R., M., Mattson, M.P., et. al. Cardioprotective effect of intermittent fasting is associated with an elevation of adiponectin levels in rats. *J. Nutr. Biochem.* 2010. 21, 413–417.

[ii] Trepanowski, JF, et. al. Effect of Alternate-Day Fasting on Weight Loss, Weight Maintenance, and Cardioprotection Among Metabolically Healthy Obese Adults: A Randomized Clinical Trial. *JAMA Intern Med.* 2017 Jul 1;177(7):930-938.

[iii] Johnson, J.B., Mattson, M.P., et. al. Alternate day calorie restriction improves clinical findings and reduces markers of oxidative stress and inflammation in overweight adults with moderate asthma. *Free Radic. Biol. Med.* 2007. 42, 665–674.