

Fasting: Some Things you Should Know



“ When you fast
good habits gather
like friends who want to help. ”

~ *Rumi*: (30 September 1207 – 17
December 1273), was a 13th-century Persian
poet, scholar, theologian, and Sufi mystic.

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Fasting: The revival of an ancient practice

Fasting, simply defined as an extension of the normal non-feeding window, is the oldest dietary intervention known to humanity. Traditionally, fasting has been better known for its religious, spiritual and political dimensions than its effectiveness as a body-mind health practice. But this is changing, and interest in health-related fasting has enjoyed a recent resurgence, with books by luminaries such as [Jason Fung](#) and [Joseph Mercola](#) becoming best sellers.

Fasting, as part of a healthy lifestyle, is a powerful healing modality. Unlike some other health promoting practices, it is simple, time-saving, natural, flexible, sustainable, convenient, and free. In fact, it can even save you money.

The processes through which the food we eat turns into you and me is very demanding. Our bodies need to break down, absorb, transport, and store nutrients, and eliminate waste products including toxic chemicals. Most of the benefits of fasting come from giving these processes a rest thus liberating energy for healing. In the words of Joel Fuhrman, fasting *provides an opportunity for the internal organs and digestive system to take a physiological vacation.*

The need for this vacation is now greater than ever. We are in the midst of a tragic global epidemic of food-borne diseases caused by the spread of the Western Mainstream Diet (WMD), a diet that is too high in calories, fat, animal protein, additives and processed foods, and too low in fibre, vitamins, minerals and phytochemicals.

Fasting can be divided into three categories – intermittent fasting, prolonged fasting and therapeutic fasting. Intermittent fasts involve skipping 1-3 meals on a regular basis. A prolonged fast lasts longer and is not undertaken as frequently. The longest prolonged fast on record lasted 382 days! There is no hard and fast dividing line between intermittent and prolonged fasting. I have arbitrarily drawn this line at two-days which approximately equates to skipping four consecutive meals. Regular PFs generally last between two days and one week. Medically supervised fasting as part of a treatment regime for a chronic health condition (“therapeutic fasting”) often lasts for several weeks.

In this blog, I summarise eleven things you should know about fasting that will help you maximise its health benefits. This blog focuses on fasting for healthy people for five days or less and without supervision. This information is covered in detail in my forthcoming book: *The Little Book of Fasting: What, Why, When, How, Where, and Who*. This book, which should take a couple of hours to read, provides a stepping off point for those who are interested integrating fasting into a healthy lifestyle programme. The book cites over 140 sources, mostly from peer reviewed scientific journals, that the reader can consult if they want to go into more depth.

1. Not all things called a fast are actually a fast

The term fasting is used differently by different people and groups. In this blog, I focus on fasts that do not involve eating. The main drink during a fast should be purified, distilled or reverse osmosis treated water. The contaminants as well as the natural minerals in tap water are believed to interfere with the body’s natural healing response.

Some thought leaders in the field insist on water-only fasting but others include the occasional drink of non-caloric drinks such as herbal teas, black sugarless tea and coffee. The use of non-caloric drinks can be thought of as a transition to water-only fasting which is the gold standard. Limes, lemons, vinegars, and salt may be added to the water. The limes or lemons should not be eaten. Including milk in your tea, herbal tea, or coffee will break the fast. Drinks containing zero calorie sweeteners are not recommended. They are not healthy options and studies have shown that these sweeteners may trigger the desire for energy dense foods thus making the fasting process more difficult.

Fasting categories that are not considered include:

- A juice fast, which is actually a low calorie dietary modification, which can have benefits, but which does not lead to the physiological changes that occur under true fasting conditions.
- Exclusion of specific foods, e.g. animal products. As above, food exclusion is more properly considered to be a dietary modification rather than a fast.
- Eating a restricted number of foods, e.g. a chocolate fast. Does not involve caloric restriction. May have benefits but there is no peer reviewed scientific evidence to support the efficacy of these diets.

Dry fasting, where no food or drink is consumed, is certainly a true fast and there is some information on its health benefits, but there are no peer reviewed studies. Dry fasting is potentially hazardous and should only be undertaken under health care supervision.

2. Fasting has a huge range of mental, physical and spiritual benefits

Fasting has been used as a treatment for a vast array of conditions. This should not be surprising as fasting affects the body-mind as a whole and is, therefore, not disease specific. The following is a (non-exhaustive) list of conditions for which fasting has been claimed to be beneficial:

- Acne
- Alzheimer's disease
- Arthritis
- Autoimmune disorders
- Brain and spinal cord injuries
- Cardiovascular disease
- Chronic fatigue syndrome
- Deafness
- Eczema
- Fibromyalgia
- Gastrointestinal disorders
- Glaucoma
- Hives
- Huntington's disease
- Intestinal parasites
- Neurogenic bladder
- Mental health conditions
- Multiple sclerosis
- Pancreatitis
- Poisoning by PCBs (polychlorinated biphenyls)
- Psoriasis
- Thrombophlebitis
- Uterine fibroids
- Vertigo
- Withdrawal from substance abuse
- Allergies
- Angina
- Asthma
- Benign tumours
- Cancer
- Cervical dysplasia
- Chronic neck and back pain
- Diabetes - Type 2
- Epilepsy
- Food cravings
- Gout
- Hay fever
- Hypothyroidism
- Insomnia
- Neurocirculatory disease
- Lumbago
- Migraine and tension headaches
- Obesity and weight management
- Parkinson's disease
- Polymyalgia rheumatica
- Sinusitis
- Tinnitus
- Varicose ulcers
- Viral infections

Other benefits of fasting include:

- Reversal of aging and extension of life. Caloric restriction (CR) has health and longevity benefits for a wide variety of species. CR may extend life by up to 50% in rodents, with progressively less impact the later in life it is started. Fasting appears to have similar effects to CR in humans via various mechanisms that improve energy efficiency and reduce oxidative damage. It has been widely suggested that a fasting/non-fasting regime may be easier to maintain than daily CR so increasing the odds of a successful outcome. It is important to note that all calories are not created equally and restricting calories at the expense of nutritional quality must be avoided.
- Decoupling yourself from the tyranny of food. For example, maintaining a healthy diet can be a challenge when flying but if you chose to fast during a long haul flight you can eat a substantial nutritious meal before leaving home and eat good food once again after you have reached your destination.
- Enhancing the appreciation of the occasional feast. A lifestyle of dietary prudence, accompanied by fasting, builds resilience which buffers against occasional dietary excess. Special occasions under these circumstances are truly special because of their rarity.
- Building certainty or conviction. Because fasting removes all food, people with food-related diseases (which is just about every chronic disease) can rapidly witness the impact of diet on their health. This can help to convince them of the healing power of nutrition. This conviction can enhance their compliance with a regime of dietary excellence in their day-to-day life.

3. Fasting is natural for all animals... including humans

Fasting is the norm in nature, while eating three meals every day and snacks in between is an unnatural state. All animals, including humans until modern times, go through prolonged periods without food and our bodies are adapted to this reality. In addition, all animals naturally fast and rest when ill or injured. Many people nowadays do the opposite and continue to eat and be active when ill while taking symptom-suppressing drugs. These very symptoms, such as a runny nose, fever, inflammation and fatigue, are the body's healing mechanisms in action. Masking these symptoms and 'keeping calm and carrying on' with our busy lives can prolong the illness and transform a minor ailment into a major disease.

4. Fasting facilitates powerful physiological changes

Major physiological changes associated with the fasting process include

- Fat burning and ketosis – as the fast proceeds the body's carbohydrates reserves are used up and the body prioritises fat burning while preserving muscle mass. By day 2-3 of the fast, a state of elevated ketone levels, known as ketosis, kicks in. Short term ketosis appears to have a range of health benefits including protection against neurodegenerative diseases such as Alzheimer's and Parkinson's.
- Autophagy – which literally means "self-eating" can actually be a good thing. Autophagy is a critical part of the continual process of cellular maintenance, renewal and rejuvenation. When we don't eat, the body has the chance to get rid of worn out cellular components which are recycled to generate energy and new cellular machinery.
- Changes in hormones, neurotransmitters and trophic factors – the levels of critical signalling molecules such as insulin are regulated during fasting thus improving functions such as blood sugar control.
- Improved cellular function - fasting improves cellular function in various ways including the following: increased insulin sensitivity; enhanced cellular stress resistance, and improved energy efficiency.

- Improved brain and nervous system function – fasting promotes stress resistance by stimulating the parasympathetic nervous system, promotes the ability of nerves to change and adapt to new information, improves the ability of nerves to regenerate, and reduces inflammation which is a major component of declining brain and nerve health.
- Improved cardiovascular function - The response of the cardiovascular system to fasting - a reduced resting blood pressure and heart rate, and increased heart rate variability - is similar to the training effect of aerobic exercise.
- Improved immune system function - Fasting exerts a positive effect on immune system function for a variety of reasons including: elimination of allergenic food; normalised blood sugar levels, and enhanced immune cell activity.
- Reduced oxidative stress - We power our bodies using chemical reactions that oxidise ('burn') molecules derived from the food we eat. This process produces unstable by-products called free radicals which can damage cell structures unless they are neutralised by antioxidants. An imbalance between oxidation and antioxidant activity can contribute to many chronic diseases. By suspending the digestion process, fasting reduces oxidation levels.
- Detoxification - Our body's cells house the molecular remnants of every restaurant meal, takeaway, and processed food snack we have ever eaten. On top of this, we are immersed in a sea of toxic chemicals from air, water and land pollution and many of us have consumed pharmaceutical or recreational drugs on a more or less regular basis. All of our body's cells contain detoxification mechanisms and we also have organs that specialise in detoxification, notably the liver. The liver converts toxic compounds into products that can be eliminated from the body by various routes such as through faeces, urine, sweat, other skin secretions, the breath, finger and toenails, and hair. These detoxification mechanisms are over-extended by our constant exposure to toxins – and fasting gives these mechanisms much needed space to catch up. Fasting can liberate emotional as well as physical toxins in a process of *emotional detoxification* in which feelings surface when the numbing effect of food is removed. This process can lead to physical, mental, and spiritual breakthroughs.
- Recovery of the microbiome - The microbiome comprises of all the microorganisms (bacteria, viruses, protozoa and fungi) that live in or on us. The vast majority of a healthy microbiome is composed of beneficial bacteria that live in our digestive tract. Fasting, which reduces the food supply for gut microorganisms, represents an 'energy crisis'; and a 'housing crisis' as our intestines shrink in response to fasting. Animal studies have shown decreased numbers but increased microbial diversity in response to fasting. This process could help to heal the microbiome by altering the relative abundance of different types of bacteria. Microbial imbalance (dysbiosis) is associated with a number of disorders including obesity, diabetes, irritable bowel syndrome, inflammatory bowel disease, depression, and cardiovascular disease.
- Weight loss - Fasting triggers an initial period of rapid weight loss. For those eating the WMD, much of this initial weight loss is due to the release of water in response to a reduced salt load. To dilute the effect of a high salt diet, the body retains water which causes bloated tissues and poor muscular definition. The water weight will not be entirely regained if the fast is followed by a whole food plant-based diet, but the weight and bloating will quickly return if the you go back to eating the WMD. Most of the remainder of this initial weight loss is due to the loss of faecal matter. It is believed that fasting aids sustainable weight loss by a variety of means including improving the body's fat burning ability, increased insulin sensitivity, increased energy levels, and by helping to break food addictions.

5. Intermittent and prolonged fasting are both beneficial

There are benefits to both intermittent and prolonged fasting, and a lifestyle that combines them both; but the two fasting 'currencies' are not fully interconvertible – in other words, a five-day fast is not equivalent to five one-day fasts.

IF has many benefits: helping to prevent overeating, thus addressing dietary excess; helping the body to tap into its glycogen and fat reserves which facilitates metabolic flexibility, reducing food cravings, and assisting with detoxification by resting the digestive system. However, relatively short fasts do not induce the same physiological changes as long-term fasting. The full range of physiological changes over a longer fast underpin the power of PF to achieve clinical outcomes.

It is likely that the combination of both IF and PF provides a long term regime to prevent, arrest and reverse the diseases of excess and to sustain and build upon these gains over time.

6. Fasting and starvation are not the same

A simple definition is that fasting is voluntary and starvation is involuntary. However, this is not quite true as anorexics and those on hunger strike voluntarily risk starving themselves. Physiologically speaking: you are fasting when you are utilising available non-essential nutrient reserves; and you are starving when you have exceeded those reserves and you are breaking down essential body tissues for energy, which results in muscle wastage, organ failure, and death if feeding is not resumed. The body goes into starvation mode when body fat levels fall below about 4%. The vast majority of people have considerably more than 4% body fat, so have plenty of reserves for a prolonged fast.

7. Hunger during a fast is not as bad as people anticipate

Fasting tends to be difficult at first but, like most things, it becomes easier with practice. The main thing that puts a lot of people off fasting is the fear that they will face an overwhelming and cumulative hunger as they fast. Actually, hunger comes in waves and does not simply build inexorably the longer you fast. It peaks around mealtimes and diminishes in between. Hunger is partly a learned phenomenon and salivation, pancreatic fluid secretion, and insulin production increase upon the expectation of food at regular mealtimes. Hunger is also stimulated by cooking, seeing, and smelling food; so it is best to remove minimise contact with food as much as possible, especially in the early phases of the fast when hunger is at its most extreme. Hunger diminishes once ketosis sets in. Reduced hunger is also associated with hormone changes.

Understanding that fasting will not condemn you to perpetual hunger helps you to ride the hunger waves in the knowledge that they will pass. You can also employ tactics to manage the hunger such as drinking a cup of herbal tea or black tea or coffee, or doing something to distract you from the hunger such as going for a walk, watching a TV programme, or having a conversation with a friend.

8. Some groups should not undertake a prolonged fast while others should fast only under health care supervision

Nearly everybody can fast and would benefit from it. This is even true of many people who are chronically ill, who can gain spectacular benefits from fasting. But for this group, a prolonged fast should only be done under strict health care supervision. However, there are those that should absolutely avoid prolonged fasting. The following belong to this group:

- Children under 18
- Pregnant and breastfeeding women
- People who are underweight or malnourished
- People with eating disorders
- People with MCAD deficiency

- People recovering from operations
- People with advanced medical disorders
- Athletes during training or sporting competition
- People taking medications they cannot stop
- People with severe anxiety related to fasting

Those who should only undertake a prolonged fast under supervision include:

- Type 2 diabetics
- Type 1 diabetics
- People with gout
- People taking medications for chronic diseases

9. Fasting will bring minimal lasting health benefits if it is not incorporated into a healthy lifestyle

Fasting can give us a much-needed break from the incessant dietary assault that comes from the WMD, bringing spectacular benefits in its wake. However, like a vacation of the more conventional kind, the benefits of fasting will only be fleeting if we do not address the stresses from which we temporarily escaped. Fasting is effective as part of a healthy lifestyle and cannot be considered as an isolated intervention. A variety of health regimes fit the bill. The seven pillars of a healthy lifestyle incorporates a set of evidence-based practices that that can be combined into a personalised health programme. It is the regime Julie and I have developed for ourselves and our clients and which we cover in depth in our weekend health workshops.

The seven pillars are:

1. Eat a wholefood plant-based diet
2. Hydrate properly
3. Move frequently
4. Sleep soundly
5. Breathe effectively
6. Manage psychosocial health
7. Create a healthy environment

10. Prolonged fasting sometimes induces uncomfortable symptoms

It must be emphasised that most of the symptoms listed below are unlikely to affect somebody on an intermittent fast, and no single individual will experience all the uncomfortable symptoms listed.

I prefer to use the term ‘uncomfortable symptoms’ than ‘adverse effects’ or ‘side effects’ as these symptoms are not necessarily adverse. Like all symptoms, they are a reflection of the body-mind’s response to a stimulus and they require some kind of response. The minimum response is mindful observation, noting the nature of the symptom(s) and its progression, while the maximum response is to end the fast and seek the advice of a health practitioner.

Common uncomfortable symptoms include: hunger; headaches; fatigue and weakness; dizziness, light-headedness and fainting; diarrhoea; localised pain; skin rashes; body odours; discharge from mucous membranes; nausea and vomiting; acid reflux; feeling cold; a foul taste in the mouth; bad breath and a coated tongue; and irritability. People also occasionally report being constipated during a fast. Many of the symptoms combine as part of a classic ‘healing crisis’ in which chronic problems become acute as the body heals. This can be very distressing and should be a signal to stop a non-therapeutic fast. People who experience this response are likely to benefit greatly from a therapeutic fast in a specialist facility.

Various uncomfortable symptoms commonly occur during fasting, especially for inexperienced fasters who are in less than perfect health. In most cases they become less of a problem as your lifestyle becomes healthier and your body becomes more adjusted to fasting. The following factors can influence the severity of uncomfortable symptoms: If it has been a very long time since you have fasted; if you are middle-aged or older; if you are in a difficult life transition; if you have been under high stress for some time; if you are doing a deep, spiritual, wilderness fast; if you have high levels of toxins in your body (e.g. if your job entails any contact with synthetic chemicals on a regular basis); and, if you have taken a lot of pharmaceuticals during your life.

11. Successful fasts should be planned

In fasting as in life, preparation is key, and the longer the intended fast the more thorough the preparation should be. Thorough preparation is especially important if you have never fasted, not fasted for a long time, or not fasted in a long time. The preparation checklist below is intended for a prolonged fast but it can be valuable to consider these factors for intermittent fasting as well.

- Why you want to fast - What are your fasting goals?
- Expectations – what pearls, perils and pitfalls do you anticipate and how will you deal with them?
- When to fast – What will be the best time to schedule your fast?
- Location(s) - Where will you be during the fast?
- Duration and frequency - How long and how often do you intend to fast for?
- Preparatory diet – What will you eat before fasting to maximise the success of the fast
- Activities – How will you spend your time during the fast?
- Support - What support and/or supervision will you have in place?
- Additional therapies – What other healing modalities could be pursued while fasting?
- Monitoring - What things do you intend to monitor during your fast? – body weight, ketosis status, mood, blood pressure, blood sugar, specific disease symptoms, etc.
- Breaking the fast - How do you intend to break the fast?

The checklist can be used informally or as the basis for a formal written fasting plan. A customisable fasting planning template can be downloaded from the [New Paradigm Health website](#).

Further Reading

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