



## **The Art and Science of Fasting**

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**Abstract**

*Fasting has been an important component of a healthy life style since ancient times. All ancient scriptures irrespective of their religious outlook put a lot of importance on ritualistic fasting. It is nature's oldest, most effective and yet least expensive method of treating disease. It is recognized as the cornerstone of natural healing. Ayurveda, one of the oldest philosophies of human culture describes fasting as an effective way of treating the various chronic diseases that can appear in the body due to continuous exposure to different toxins generated by the digestive system. Modern scientific developments have also shed further light on how fasting helps in maintaining physiological homeostasis. At the intracellular level, these physiological changes rise from autophagy. "Autophagy", in simpler terms "self-eating", is the body's way of cleaning out damaged cells and toxins in order to regenerate newer, healthier cells. Autophagy has been reported to decline with age which leads to the appearance of chronic diseases in a human body [11]. In most clinical observations, autophagy can be initiated after 12 hours of fasting, while maximum benefits can be achieved by gradually progressing to 24 hours of fasting at regular intervals [12]. During a fast, massive amount of energy is spent in eliminating accumulated poisons and toxic waste materials of the body. In the present work, we explore the philosophy behind fasting as mentioned in Ayurveda, along with its spiritual significance and its importance in modern science.*

**Key words**

*Fasting, Obesity, Gastrointestinal endocrinology, Ayurveda, Food, Spirituality, Physiology*

**Introduction**

Fasting refers to complete abstinence from food for a short or long period for a specific purpose. The word is derived from the old English word 'fæsten', which means to observe fast and to be strict. 'Upvas' or fasting is an ancient tradition. Fasting is planned for health. Ashadha- Shraavan months have cloudy, rainy weather. At that time, the agni (gastric fire) is dimmed. And keeping in mind that there is a high possibility of disease, the custom of eating once, started in Shraavan month. The positive impacts of fasting on human physiology and overall well-being has been well documented [1]. Willful restriction of caloric sources has

been documented to show remarkable effects on aging and life span in various animal models through the lowering of free Oxygen ions [2]. The benefits of fasting cannot be solely attributed to one physiological process, rather it has been reported that it leads to cellular responses that improve glucose regulation, and upregulates stress response, lowers inflammation, and increases defenses against oxidative and metabolic stress at cellular stress [3]. The importance of fasting has been known since medieval times and has been stressed by sages during that period. In Ayurveda, fasting has been referred to as Upavasa, and is an essential component of Ayurvedic treatment practices in the form of Langhana upakrama. It has been postulated to be the best treatment for a healthy life and is referred to as Langhanam paramausadham, meaning that Langhana upakrama is the ultimate medicine for ailments. According to the Charaka Samhita Sutrasthana (22/9), the concept of Langhana upakrama is defined as: Yet Kinchit laghava karam Dehe Tallanghanam Smruta (Whichever karma that brings about lightness and thinness to the body is called Langhanam) [4]. Therefore, Langhanam can be defined as a break from regular physiological activities leading to achieving a lightness of body. The upakrama which brings about this lightness is thus called Langhana upakrama. When done correctly, this method of treatment can lead to the body feeling light, which is accompanied with a feeling of purity in the heart, proper release of flatulence, urine and feces (stool). It can also cause purification of eructation, throat clearance, a feeling of freshness along with an improved sense of taste [4]. These positive attributes of Langhana upakrama or fasting has been present in the discipline of Ayurveda since its inception and it has been regarded as one of the most dependable curative methods throughout the history of medical science. A comprehensive visitation of the concepts is thus warranted.

### **The philosophy of fasting**

In Ayurveda, fasting is considered to be an essential method for detoxification and it is of far greater significance than just being a diet regime [5]. Fasting is about the knowing of oneself and is a path of mastering and improved disciplining. Fasting creates space. It summons the practitioner to glance inwards and see within his or her own ego. Fasting helps to attain deeper perspectives, farthest visions, profound understanding of life, sharpness and alertness of the mind, astuteness of the mind and equanimity in emotions. It is all about sympathy, empathy, compassion, care, flow, rhythm which is being established in the breath, moving in the flow, synchronizing the rhythm of one's own body with the universal rhythm and the circadian rhythm which at a point during fasting comes completely in equilibrium. It takes the practitioner to an extra degree of self-awareness and helps in finding peace of mind. The perfect balance of

Vata, Pitta and Kapha can be achieved in such a state leading to a healthy life. In Ayurveda, it is believed that the inherent faults in one's own body, the doshas slowdown the digestive system leading to the generation of metabolic poisons or Aama. This builds up gradually in the body in the form of Amavish, and gets harbored in organs which leads to cellular inflammation. This cellular inflammation gives rise to major ailments of the body. Fasting leads to reigniting of the digestive fire and cleanses the body of any metabolic poisons [4, 5]. Langhana or Upavasa does this cleansing by opening the minute channels of the human body by which medicines can enter and restore the balance of Vata, Pitta and Kapha by eliminating the poisons [6]. Charaka had described four basic types of Langhana which are effective in treating specific ailments of the body. These four types are presented in table 1. Irrespective of their nature, fasting leads to Shudhi karan or purification of the body. This is the process of detoxification by removing of Ama. Eliminating the Ama is the first step towards the restoration of one's body. Regular practice of fasting prepares the body for maximum detoxification in the form of Sodhana, a state where the body and mind become physically and spiritually pure. When the body is cleansed, the mind quietens and becomes more serene. Stillness of the mind gives rise to the buoyancy of the spirit leading to its surge. The soul becomes whole, and becomes more permeable to spirituality.

### **Spiritual significance of fasting**

Fasting or Upavasa has also been linked to spiritualism in Ayurveda. In Upavasa, 'Upa' means 'near' and 'Vasa' means 'to stay'. So fasting essentially means 'to sit or stay near' the divine Prabhu and it brings the divinity closer to the practitioner's heart and mind. Combining fasting with worship Upasana and meditation Dhyana brings about purification of the mind and creates the emergence of a personal connection with the Prabhu. The cleansing through fasting aligns the mind, body and spirit. This may lead to a feeling of oneness with the divine and makes one worthy of divine blessing in the form of Prasad.

The connection between fasting and spirituality has been respected across major religions globally. In Christianity, fasting is practiced on few precise days of the week, while in Islam night-only-feeding is maintained during Ramadan. A large number of Hindus keep fast on Ekadasi, referring to the eleventh day of the lunar fortnight [7]. Fasting can increase the theism in the practitioner. Theism is about the faith in the absolute. Theism is about having a very profound understanding about the Creator. The Creator Creation paradigm is what Theism relies on or rather is all about.

It is also about faith, self-confidence and self-conviction in one's own being. Theism comes from being total in one's own inner space. One major adversary in the path of achieving this wholeness is the presence of greed within one's soul. This greed may appear in many forms and one of its basic form is food.

### **Food and its relationship with Vasana**

One's Vasana or desire is born among the burning fire of greed. Vasanas are described as mental routines and habits of the mind. They arise, grab the mind's attention and push the person away from the Self and toward the outside world. This occurs so frequently that the mind doesn't get a chance to unwind or comprehend its true nature. They eventually form mental patterns and habits that keep on repeating. This Vasana eventually leads to the lust for food, drinks, sleep, lust for life, lust for attachment, lust for power, lust for sex, and lust for achievement.

### **Fasting with Upasana**

Combating the effects of Vasana can be achieved through a combination of fasting with Upasana, which is sitting (Asana) in remembrance of the Lord. Fasting with Upasana and combining with Dhyana or meditation brings about purification of the mind and emergence of a personal connection with the divine. Combining Upasana with fasting helps in regenerating the mind and body in a condition when the stomach is empty by making the mind clearer. The hunger felt on the first day are perhaps the most difficult to bear. The craving for food however, gradually decreases as the fast progresses. Real fasting is to feel the presence of God in one's heart and to worship that divinity. In this regard it becomes necessary to understand the role of food and drink. If there is to be a connection between food and drink and God, it should be connected in a healthy way. During a fast, massive amount of energy is spent in eliminating accumulated poisons and toxic waste materials of the body. It is, therefore, of utmost importance that a person gets as much physical rest and mental relaxation as possible during the fast. Fasting in this way can help the person to grow spiritually, develop patience, relax the mind, concentrate the mental energy, and connect with one's inner self which then provides varied spiritual options [8].

### **The physiology behind fasting**

The main source of energy for the human body comes in the form of glucose. It is used by the various organs to generate energy for the bodily functions. All foods consumed irrespective of their nature, eventually gets converted to glucose inside the body. The majority of persons indulges in excess consumption of food and lead sedentary lifestyles, which do not permit sufficient and proper exercise for utilization of this large quantity of food. However, excess food consumption can lead to increase in concentrations of glucose, which then gets stored in the form of glycogen in adipose tissues across the different parts of the body. This surplus overburdens the digestive and assimilative organs and clogs up the system with impurities or poisons. Digestion and elimination become slow and the functional activity of the whole system gets deranged. It is this unused excessive glucose that gives rise to metabolic diseases like diabetes, thyroid and obesity. The onset of disease is merely the process of ridding the system of these impurities. Every disease can be healed by only one remedy by doing just opposite of what causes it, or that is, by reducing the food intake or fasting. During a fast, the body breaks down the stored glycogen from the adipose tissue, mostly from the liver and the muscle [9]. Breakdown of this excess glucose helps in maintaining the body's natural blood sugar levels and it brings a balance to the functioning of various organs [10].

At cellular level these physiological changes rise from autophagy. "Auto" means self and "phagy" means eat, so autophagy in simpler terms "self-eating", is the body's way of cleaning out damaged cells and toxins in order to regenerate newer, healthier cells. Autophagy has been reported to decline with age which leads to the appearance of chronic diseases in a human body [11]. The body will first decompose and burn those cells and tissues which are diseased, damaged, aged or dead. However cells of the essential tissues and vital organs, the glands, the nervous system and the brain do not get damaged or digested during fasting. Here lies the secret of the effectiveness of fasting as a curative and rejuvenation method. In most clinical observations autophagy can be initiated after 12 hours of fasting, while maximum benefits can be achieved by gradually progressing to 24 hours of fasting at regular intervals [12]. Lowering of blood glucose levels through fasting generates certain amount of positive stress which initiates autophagy. During fasting, the birth of new and healthy cells are sped up by the amino acids released from the breakdown of diseased cells. The capacity of the eliminative organs, that is, lungs, liver, kidneys and the skin is greatly increased as they are relieved of the usual burden of digesting food and eliminating the resultant wastes. They are, therefore, able to quickly expel old accumulated wastes and toxins.

The process is beneficial to one's overall health as autophagy leads to the removal of debris acting like a reset button for the body. By depriving the body of food for a time, the organs of elimination such as the bowels, kidneys, skin and lungs are given opportunity to expel, unhampered, the overload of accumulated waste from the system. Thus, fasting is merely the process of purification and an effective and quick method of cure.

### **The benefits of fasting**

Ayurveda attributes many positive physiological effects of fasting. In Ayurveda, the excess fat deposition is referred to as Sthoulya, a precursor to obesity which is wrecking a global havoc [13]. Fasting can not only lead to lowering of body fat accumulation, but numerous health benefits have been associated with it too. It assists nature in her continuous effort to expel foreign matter and disease producing waste from the body, thereby correcting the faults of improper diet and unhealthy lifestyle. It also leads to regeneration of the blood cells as well as repair and regeneration of the various tissues of the body. In Ayurveda, Langhana therapy is considered important in case of diseases such as Agnimandya (Indigestion), Arochaka (loss of appetite/ taste of food), Grahani (digestive fire), Abdominal pain (colic), Shoola (abdominal pain during digestion of food), and vomiting. Fasting is highly beneficial in practically all kinds of stomach and intestinal disorders and in serious conditions of the kidneys and liver. It is a miracle cure for eczema and other skin diseases and offers the only hope of permanent cure in many cases. Certain nervous disorders also respond favourably to this mode of treatment [14]. Numerous studies have observed the effects of fasting in body-weight and fat reduction [15],[16]. Reduction of obesity, improved blood glucose homeostasis, improved cognitive function, lowered oxidative damage, improved cardiovascular functioning and reduction in diabetes-induced mortalities have also been linked with fasting [17]. The multiple benefits of fasting have been summarized and presented in figure 1.

Several benefits of fasting has been mentioned in Ayurveda too. The Charaka Samhita states,

*Vat Mutra Pureeshanam Visarge Gatra Laghave /*

*Hrudaya Udgara Kanthassya Shudhhau Tandra Klame Gate ||(22/34)*

*Swede Jate Ruchau Chaiv Kshut Pipas Sah Udaye /*

*Krutanam Langhanam Aadeshyam Nivayarthe ch Antaratmanee||((22/35)*



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Proper application of fasting or Langhana, gives the body a feeling of lightness and reduces the Ama in the body. This in turn leads to controlling of Kapha, which aids in removing the blockages formed across different channels of the body. During the fast the body generates its required levels of energy from free fatty acids and triglycerides released from the fat cells of the body. This reduces the circulating concentration of fatty acids thus lowering the Guruta (heaviness) of the body. This leads to the body becoming Laghu (light) and healthy during the final stages of fasting.

## Conclusion

The present global condition exposes everyone to a host of different toxins on a daily basis. These toxins are not restricted solely to physical harm and can affect a being spiritually as well as psychologically. Exposure to such toxins is unlikely to diminish in the coming future. Therefore a comprehensive pathway of living a wholesome and spiritually fruitful life is much warranted. The importance of fasting or Langhana has been stressed on by philosophers coming from different cultures and different faiths. The positive impact of fasting has been known to mankind for millennia. Fasting helps in the development of the body, mind and soul. It helps to destroy the tridosha of the body, i.e. Vata, Pitta and Kapha. It is highly recommend that ritualistic fasting be supplemented with some deep self-reflection, meditation and Swadhyaya to unravel different layers of human existence. Fasting is considered to be a safe practice as it does not endanger the practitioner with any life-threatening condition. Fasting affords physiological rest to the digestive, assimilative and protective organs. As a result, the digestion of food and the utilization of nutrients is greatly improved after fasting. The fast also exerts a normalizing, stabilizing and rejuvenating effect on all the vital physiological, nervous and mental functions. However, it should be noted that excess consumption of food can lead to lifelong complications. By controlling this urge, by consuming less one can become more physically stronger and mentally more agile. Fasting should not be confused with starvation, it is an elegant system developed through the observation and wisdom of ages. It must be practiced in its correct form to gain all its benefits and to lead a healthier life.



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