# Human nutrition systems - an overview of the advantages and disadvantages of different methods

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**Abstract.** Many people eat every day according to the principle "What goes in your mouth is good for you", without thinking about the consequences of such a diet. Others intuitively stick to the basics of healthy eating without delving into the details. Still others periodically torment themselves with strict diets without understanding why they do not get long-term and stable results. In this article, we have collected and analyzed 15 major power systems. We described each, useful and dangerous properties, recommendations for use and disadvantages of each method.

*Keywords:* diets , fasting days , nutrition according to blood type , therapeutic nutrition , vegetarianism , raw food diet , healing fasting , individual nutrition , protein-carbohydrate alternation , meals at times years , fractional nutrition , functional nutrition , balanced food , food Christian , separate food , adequate nutrition , nutrition by calories

# Why diets don't work



Today, the term "diet" in the field of healthy eating is one of the most used, it has become something fashionable and popular. Almost every one of us follows some kind of diet, but in most cases we do it incorrectly, which further harms our precious health.

After all, a diet is, first of all, a healthy diet, rules for eating foods that are healthy for the body. Therefore, this concept should not be confused with food restriction, because a proper nutrition system is the most important and necessary process for the normal functioning of the whole organism.

## Reasons why diets fail

A common problem for people who are trying their best to fight excess weight is that at the slightest decision to take on their body, the result is expected not just quickly, but instantly. But you can't rush with this! Before you go on a diet, you need to think carefully about everything and tune in not just for

a long time, but for constant work on yourself (in the full meaning of the word). If a person is prone to obesity, and he really understands that this interferes with normal life activities, then he will have to constantly monitor his food intake throughout his life. It is very important to choose a diet that is ideal for the body and will not cause stress. It is best to consult a nutritionist with this problem. By the way, the World Health Organization states that losing 10% of weight over 8-10 months is considered optimal. There is no need to rush, the main thing is sustainable long-term results!

There are many cases where, as a result of a strict diet, a person gains even more kilograms than before. But this is not the worst thing, because great harm is caused not only to internal organs, but also to the nervous system, as well as the psyche. If the body does not receive a sufficient portion of calories for normal functioning, then it experiences stress and begins to burn protein in the muscles rather than fat. In this case, the skin becomes wrinkled, flabby, general malaise develops, immunity decreases, and the production of antibodies in the body worsens. Consequently, at the slightest opportunity to get something high in calories, the body begins to form fat reserves to get out of a stressful state. Therefore, we again return to what has already been previously indicated, a diet is not fasting, but a correct diet. You need to determine how many calories your body requires and, in the process of regular intake, provide them to it in the form of healthy foods and vital vitamins, and as you lose weight, reduce the dose of food.

If the diet is already established, new problems begin, as they are often called - side effects. The skin loses its tone, begins to sag, and wrinkles form. At the same time, we continue to work on ourselves, moving on to the stage of sports, which is integral to the diet. To keep your body normal during an intensive diet, you need to exercise for at least an hour a day. If you stop exercising after regular physical activity, the muscle tissue weakens and, as a result, returns to its previous state - filled with fatty layers.

## The most effective diet is the right lifestyle

With the correct understanding of the word "diet" and the factors that directly influence and support it, you can acquire a new, close to ideal, or even ideal body that you will really like. But in order to consolidate what you have achieved, you should not relax; on the contrary, you need to constantly continue to work on yourself so as not to lose your achievements. If a person understands that losing weight is hard, constant work that is worth the result, then he needs to know some rules of a healthy lifestyle, proper nutrition and an effective diet.

The first rule is to give the body as much water as it "requests". The daily intake of water is 30 ml per 1 kg of weight. Water improves metabolism and promotes the removal of toxins and other waste from the body, and also regulates digestion, normalizes metabolism and eliminates the possibility of overeating. [1]

A hearty breakfast is the key to health and a slim figure. This does not mean a cup of coffee with a sandwich, but porridge, an egg [2], cottage cheese [3], salad, etc.

It is important to include protein 1.2 g per 1 kg of weight (50% vegetable protein) in each meal [4], as it controls not only the feeling of hunger, but also the signal of the body's saturation with food, and also promotes a calm state of the nervous system and everything body.

It is necessary to exclude foods with a high glycemic index from the diet and fill it with fruits, vegetables, beans, lean cooked meat and fish.

We reduce the number of calories by 500 units. every day, but up to the maximum limit of 1200 kcal. You cannot reduce it below the minimum, since this will stop losing excess weight, since the body has the ability to protect itself from destruction. It begins to burn everything except fat cells, causing great

damage to all internal organs and tissues. And if the body also ceases to receive the vitamins and minerals necessary for normal functioning, it will begin to store calories in the form of fat at the slightest opportunity.

Under no circumstances should you be allowed to feel hungry. Food intake should occur in fractional portions 5-6 times a day.

Sport is an integral part of the diet. To really look beautiful when losing weight, and not show off sagging skin, to speed up the weight loss process, you need to lead an active lifestyle - playing sports or dancing. With the help of physical exercise, you need to burn 550 kcal per day, while the body will constantly get rid of 0.5 extra pounds per week. You cannot stop doing exercises after a while, because in this way the body will begin to store fat in the open muscles. A thin body looks more beautiful by gaining muscle mass.

But not a single diet and the best nutritionists will help you overcome excess weight, which so mercilessly kills your health, until you yourself realize that you really need it. The main thing is to slowly, but completely change your lifestyle, to understand that the struggle is not for short-term weight loss, but for a long-term and so desired result.

# **Fasting days**



Anyone who cares about their health simply needs to know about the benefits of fasting days. Many people are mistaken that such preventative measures are intended to get rid of the pounds gained over the weeks. Fasting days do contribute to weight loss, but only if you follow a diet or proper diet.

Dietitians recommend fasting no more than 1-2 times a week, but at the same time providing the body with the necessary portion of calories on the remaining days. Under no circumstances should fasting days be turned into a long fast.

### The main goals of fasting days:

- allow the body to take a break from daily digestion of large amounts of high-calorie food;
- enable the body to get rid of toxins and other waste, in other words, cleanse itself of unwanted substances;
- carry out a "reset" of the stomach and begin a smooth transition to a balanced diet, teaching the body to be satisfied with smaller doses of food, and also to refuse harmful foods.

# Types of fasting days

aimed at achieving different goals:

- **protein** the most effective in the fight against excess weight, and can also be aimed at promoting the treatment of various diseases;
- **carbohydrates** recommended for weight loss, as well as for various chronic diseases and exacerbations; [5]
- fatty carried out when feeling unwell, as well as problems with the digestive organs; [6]
- **cleansing** preventive measures to cleanse the body.

If you follow important recommendations, daily restriction in food intake generally has a beneficial effect on the entire body, and in particular stimulates metabolism, promotes the burning of excess fat reserves and the removal of toxins.

# Recommendations for fasting days

During the fasting day, it is necessary to avoid both physical and mental intense stress. It is best to spend this day in a calm home environment.

After a fasting day, you need to be careful about food intake. It is worth starting with light food, which the body can process without problems, otherwise stomach upset will occur.

When you restrict your diet, stagnation of bile occurs. To get rid of it after a fasting day, it is recommended in the morning, before breakfast, to take a tablespoon of vegetable oil, and throughout the day, instead of tea, steam herbs that promote the removal of bile.

Of course, the food intake for a fasting day depends on weight and energy expenditure, but for guidance, on average it is recommended to consume no more than 1.5-7 kg of vegetables and 400-700 g of protein products.

To protect yourself from the temptation of food, you need to protect yourself from delicious smells, a refrigerator full of food, a society of sweet tooths or simply lovers of good food, etc. If hunger is unbearable, then you can drink a glass of low-fat yogurt or kefir. [7,8]

During the day you need to drink at least 2.5 liters of regular still water.

It is recommended to prepare the body in advance for a fasting day by reducing food portions or eating light, low-calorie foods.

Unloading can be combined with other methods of cleansing the body: spend this day in a bathhouse or sauna, visit the pool, go for a massage. But it is advisable to arrange such relaxation only if fasting days are carried out regularly for a long time.

It is not recommended to use diuretics or laxatives on such days, because they harm the body, preventing the effectiveness of unloading.

#### The benefits of fasting days

Fasting days not only contribute to the normal functioning of the intestines and the whole body, but can also be aimed directly at eliminating certain health problems. All types of fasting days developed by specialists have a beneficial effect on the activation of metabolism, the removal of waste and toxins from the body, as well as on the acid-base balance, mineral metabolism, and the cardiovascular system.

## Fasting days for weight control

To maintain normal weight or to increase the effectiveness of the diet, it is best to carry out protein fasting days. That is, throughout the day you need to consume only low-fat boiled meat and fish products, as well as vegetable proteins. But don't forget to drink a lot of water.

Protein-based fasting also allows for the inclusion of small quantities of fresh vegetables in the diet, but they should be without various additives, sauces and gravy, and can only be lightly salted.

Such restrictions do not cause a feeling of hunger, but you need to eat allowed food every 4-5 hours.

## Fasting days with a healthy lifestyle

In order to always be in good shape, feel cheerful and comfortable, even in the absence of extra pounds, it is recommended to carry out cleansing fasting days 1-2 times a month, which help remove toxins from the body. In this case, you need to eat only light foods in as small portions as possible. At the same time, the limited diet does not include proteins, fats and easily digestible carbohydrates, but exclusively vegetables and herbs, necessarily ripened in the fresh air, as well as vegetable juices and water. You can drink only when you want, that is, exactly as much as your body requires.

A fasting day will be more effective if you have a vegetable dinner the day before, and in the morning for breakfast limit yourself to a glass of tomato juice or a small portion of vegetable vegetarian soup.

To overcome hunger, you need to eat small portions, but often - every three hours.

# Why are fasting days dangerous?

It is strictly prohibited to spend fasting days during pregnancy and breastfeeding, when tired, unwell, depressed or stressed, as well as during treatment. If you have any acute or chronic disease, you should consult your doctor before setting dietary restrictions!

# **Nutrition according to blood type**



Blood groups began to be separated only at the beginning of the twentieth century. The differences in the properties of the blood of individual groups were first discovered by the Austrian scientist Karl Landsteiner and the Czech doctor Jan Jansky. The characteristics of different blood types continue to be studied to this day. As a result of special studies, it turned out that for each blood group there are separate recommendations regarding nutrition and physical activity. This theory was put forward by the American doctor Peter D'Adamo and even developed a nutritional method for each group.

The essence of the theory is that the effective effect of food on the body, its digestibility directly depends on the genetic characteristics of a person, that is, on the blood type. For the normal

functioning of the digestive and immune systems, you should eat foods that suit your blood type. In this way, the body is cleansed, becomes less polluted, the functioning of internal organs improves, and even extra pounds are lost or normal weight is maintained. Although there are heated discussions around these arguments, today many people support this food system.

# Nutrition according to blood group I

The oldest, original blood group. It is she who is the source of the emergence of other groups. Group I belongs to type "0" (hunter), it is observed in 33.5% of people all over the world. The owner of this group is characterized as a strong, self-sufficient person and a leader by nature.

# **Positive properties:**

- powerful digestive system;
- resilient immune system;
- normalized metabolism and good absorption of nutrients.

# **Negative properties:**

- the body adapts poorly to changes in diet, climate change, temperature, etc.;
- instability to inflammatory processes;
- sometimes the immune system causes allergic reactions due to excessive activity;
- poor blood clotting;
- increased stomach acidity.

## **Dietary recommendations:**

People with "0" blood type are suitable for a high-protein diet, in which meat is a mandatory product. Any meat is well digested (the only exception is pork), fish and seafood, fruits (pineapple is especially useful [9]), vegetables (non-acidic), rye bread (in limited portions).

It is necessary to limit the consumption of cereals (especially oatmeal [10] and wheat). The most useful beans and buckwheat [11].

It is advisable to exclude cabbage from the diet (except broccoli [12]), wheat products, corn [13] and products derived from it, ketchup and marinades.

Drinks such as green and herbal teas (especially rose hips [14]), infusions of ginger [15], cayenne pepper, mint [16], linden, licorice, and seltzer water are well absorbed.

Neutral drinks include beer, red and white wine, chamomile tea [17], as well as tea made from ginseng, valerian [18], sage and raspberry leaves [19].

It is recommended to avoid the consumption of coffee [8], strong alcoholic beverages, infusions of aloe, senna, St. John's wort [20], strawberry leaves [21] and echinacea [22].

Since this type is characterized by a slow metabolism, when fighting excess weight it is necessary to give up fresh cabbage, beans, corn, citrus fruits, wheat, sugar, pickles, oats, potatoes [23], lentils [24] and ice cream. These foods slow down your metabolism by blocking insulin production.

Brown seaweed and kelp, fish and seafood, meat (beef, liver and lamb), greens, lettuce, spinach [25], radish [26], radish, broccoli, licorice root, iodized salt promote weight loss. You can also additionally consume vitamins B [27], K [28] and nutritional supplements: calcium [29], iodine [30], manganese [31].

When losing weight, it is recommended to reduce the intake of vitamins A [32] and E [33].

It is also necessary to maintain physical fitness to promote weight loss, namely, it is recommended to engage in aerobics, skiing, running or swimming.

If the balance of intestinal bacteria is disturbed, bifidobacteria and acidophilus should be taken.

# Nutrition according to blood group II

This group arose in the process of the transition of ancient people "hunters" (group I) to a sedentary way of life, the so-called agrarian one. Group II belongs to type "A" (*farmer*), it is observed in 37.8% of the earth's population. Representatives of this group are characterized as permanent, organized, sedentary people who adapt well to working in a team.

# **Positive properties:**

- excellent adaptation to changes in diet and environmental changes;
- the functionality of the immune and digestive systems is within normal limits, especially when following a vegetarian diet.

# **Negative properties:**

- sensitive digestive tract;
- weak immune system;
- weak nervous system;
- instability to various diseases, in particular to heart, liver and stomach, cancer, anemia, type I diabetes.

#### **Dietary recommendations:**

A less strict vegetarian diet is most suitable for people with blood type II, because they have low acidity of gastric juice, so meat and heavy foods are difficult to digest. Eggs , low-fat cheese and other fermented milk products are allowed in limited quantities . Vegetarianism also contributes to the normal functioning of the immune system of type A representatives and increases energy.

Since the mucous membrane of the digestive tract is very delicate, it is recommended to exclude sour fruits: orange [34], tangerine [35], papaya, rhubarb, coconut, banana [36], as well as berries, spicy, salty, fermented and heavy foods.

You also need to exclude fish products, namely flounder, herring, caviar and halibut. Seafood is also not recommended.

Healthy drinks include green tea, coffee, carrot [37] and pineapple juices [38], as well as red wine.

Representatives of blood type II are advised to avoid black tea, orange juice [39] and soda drinks.

When fighting excess weight, people of type "A" need to exclude meat (chicken and turkey are allowed), since it slows down metabolism and, therefore, promotes fat deposition, unlike the body of type "0". The consumption of dairy products, pepper, sugar, ice cream, corn and peanut oil, as well as wheat products is also not recommended. It is worth limiting your intake of vitamin A.

Olive, flaxseed and rapeseed oil, vegetables, pineapples, soybeans, herbal teas and infusions of ginseng, echinacea, astragalus, thistle, bromelain, quercetin, valerian contribute to weight loss. Vitamins B, C, E and some nutritional supplements are also useful: calcium, selenium, chromium, iron, bifidobacteria.

The most suitable physical exercises for blood type II are yoga and tai chi, as they calm and concentrate, which helps normalize the nervous system.

# Nutrition according to blood group III

Group III belongs to type "B" ( *wanderers, nomads* ). This type was formed as a result of the migration of races. It is observed in 20.6% of the entire population of the Earth and is associated with balance, flexibility and creativity.

# **Positive properties:**

- resilient immune system;
- good adaptation to changes in diet and environmental changes;
- balance of the nervous system.

# **Negative properties:**

- congenital negative properties are generally not observed, but an imbalance in the diet can lead to autoimmune diseases, as well as cause instability of the immune system to rare viruses;
- chronic fatigue syndrome may develop;
- the likelihood of developing diseases such as: autoimmune, type 1 diabetes, multiple sclerosis.

## **Dietary recommendations:**

The following foods prevent a type "B" body from losing weight: corn, peanuts, buckwheat porridge and sesame seeds. They must be excluded from the diet because they suppress the production of insulin and thereby reduce the efficiency of the metabolic process, and as a result, fatigue occurs, water is retained in the body, hypoglycemia and excess weight accumulates.

When eating wheat products, type B people have a decreased metabolism, so you need to limit the consumption of these products. In no case should wheat products be combined with buckwheat, corn, lentils and peanuts (and products made from them) during a weight loss diet.

In addition to the fact that "wanderers" are omnivores, it is worth excluding meat from the diet: pork, chicken and duck; vegetables, fruits and vegetables: tomatoes, pumpkin [40], olives, coconut, rhubarb; seafood: shellfish, crabs and shrimp.

Recommended drinks are green tea, various herbal infusions (licorice, gingko biloba [41], ginseng, raspberry leaves, sage), as well as juices from cranberries [42], cabbage [43], grapes [44], and pineapple.

You need to give up tomato juice and soda drinks.

The following foods promote weight loss: greens, lettuce, various healthy herbs, liver, veal, eggs, licorice, soy, as well as vitamins and nutritional supplements: lecithin, magnesium [45], gingko bilob, echinacea.

The most suitable and effective physical exercises are: cycling, walking, tennis, yoga, swimming and tai chi .

#### **Nutrition according to blood group IV**

This group belongs to the "AB" type (the so-called "*riddle*"). Its occurrence is associated with the evolutionary processes of civilization, during which there was a merger of two types "A" and "B", which are opposite. A very rare group, observed in 7-8% of the earth's population.

## **Positive properties:**

- young blood type;
- combines the positive properties of types "A" and "B";
- flexible immune system.

# **Negative properties:**

- sensitive digestive tract;
- the immune system is too sensitive, therefore not resistant to various infectious diseases;
- also combines the negative properties of types "A" and "B";
- due to the mixture of two genetic types, some properties contradict others, which leads to significant problems in the process of food processing;
- there is a risk of heart disease, cancer, and anemia.

# **Dietary recommendations:**

If you do not adhere to a special diet, then you can include virtually everything in your diet, but in moderation and in a balanced manner.

To achieve weight loss, you need to stop eating meat and replace it with vegetables.

Tofu is a good source of protein for type AB.

To maintain normal metabolism, you should avoid buckwheat, beans, olives, corn, as well as sharp and sour fruits.

When fighting excess weight, it is advisable to exclude wheat and hiking products from the diet.

The following drinks are useful for this type: coffee, green tea, herbal infusions: chamomile, ginger, ginseng, echinacea, rose hips, hawthorn [46].

It is recommended to avoid infusions of aloe and linden.

A weight loss diet excludes red meat, particularly bacon and ham , buckwheat, sunflower seeds, wheat, peppers and corn.

Products such as fish, algae, greens, dairy products, pineapple, as well as vitamin C and various nutritional supplements: zinc and selenium [47], hawthorn, echinacea, valerian, thistle contribute to weight loss.

# **Medical nutrition**



Without facing diseases, we are not careful about our diet. However, as soon as we touch on these problems, we are looking for methods and ways to restore the body. The simple route of taking pills or other miracle cures often turns out to be temporary and carries with it a lot of negative side effects. One of the effective and easy-to-use remedies can be considered *therapeutic nutrition*, especially since its effect can have a preventive function. The simultaneous use of all kinds of means of restoring the body in combination with therapeutic nutrition increases the effectiveness of treatment, because the vast majority of diseases are the result of improper and unlimited consumption.

# History of origin

Since ancient times, people have sought medicinal properties in food. In ancient Egypt and Rome, manuscripts about therapeutic nutrition were created, which have survived to this day. In his writings, Hippocrates often wrote about healing with food. He mentioned the importance of an individual approach in determining a therapeutic diet, taking into account the severity of the disease, the person's age, his habits, climate and even the seasons .

In the famous work "The Canon of Medical Science," the medieval Tajik scientist Ibn Sina outlined his views on the importance of diet, quality, volume and time of food intake. In this work, he gave practical advice, especially on the issue of the usefulness and deliciousness of the food consumed. Later M.V. Lomonosov in his works studied the composition and medicinal properties of products. He applied this knowledge in drawing up nutritional recommendations for polar expeditions and sailors.

In the twentieth century, many European and Soviet scientists, such as N.I. Pirogov, S.P. Botkin, F.I. Inozemtsev, I.E. Dyakovsky began to study the medicinal properties of food in great detail. Separate methods have been developed for the treatment of specific diseases with certain products, for example, dairy. The promotion of healthy nutrition issues in the Soviet army belongs to N.I. Pirogov. He paid much attention to reducing carbon products in the military's diet and developed special diets for wounded soldiers. The result was the creation of a whole direction in dietetics. Nervism was described in 13 scientific works and included nutritional issues for many serious diseases; he was the first to focus on the need for protein in the diet, and understood the medicinal properties of dairy products . Nowadays, the scientific community, developing biochemistry and molecular sciences, has been able to achieve nutritional research at the cellular and subcellular level.

#### **Basic rules of therapeutic nutrition**

The main rule can be called restoring the balance of an organism susceptible to disease through the correction of the chemical, physical and bacteriological balance of nutrients. The main factor in the work is the accurate diagnosis of the disease and the properties of a particular organism. Most often,

healthy nutrition is used in conjunction with other therapeutic measures: pharmacology, physiotherapy and others.

Depending on the situation, food plays the role of primary or additional health benefits. Relying on the functioning of the body, therapeutic nutrition is structured in the form of daily rations, called diets. The main parameters of the diet should be considered calorie content, chemical composition, volume, processing features and mode of consumption of components.

A therapeutic diet is created taking into account the personal needs of the body: taking into account the dynamics of a person's life, the calorie content of food is calculated. The total volume of products in relation to the stomach cavity is calculated, planning the feeling of fullness. Determination of taste categories taking into account the preferences of a particular person. Selection of optimal processing of products to reveal their best taste and nutritional properties. Finding the dynamics and regularity of food intake, since the duration of this diet should not be prolonged. This is reflected in two principles popular in dietary therapy. Sparing means avoiding eating foods that develop and accelerate the disease process. And Training involves weakening the diet to return to full food intake.

In terms of diet, the main thing is to avoid breaks between meals of more than 4 hours, and between dinner and breakfast 10 hours; this is fully met by a four-six meal regimen. Meal times are adjusted taking into account the biological properties of the body and the specific disease. To put the above rules in order, two systems are used: elementary and dietary. They imply the preparation of a personal diet for a specific person, or the use of a proven and effective diet, respectively.

Our medical and preventive organizations use primarily a dietary system developed by the State Institute of Nutrition. This system allows you to quickly and efficiently prescribe a diet to a large number of people at the same time. It consists of 15 dietary regimens that imply a contrasting or unloading effect on the body. They have easy-to-select labeling, which allows you to clearly select the required diet according to indications for use, therapeutic function, caloric content and composition of chemical elements, cooking features, regimen and list of recommended dishes. In the case of an additional definition, preference is given to products that have specific medicinal properties: cottage cheese [48], apples, watermelon [49], milk. For many diseases, the consumption of spicy foods, canned food, smoked, fatty foods, and certain types of meat is most often limited.

#### **Diet tactics**

The stepped approach involves slowly expanding the previous strict diet through partial cessation of restrictions. This allows you to add variety and reduce a person's negative reaction to the diet. Control is carried out depending on the results of the influence on the state of the body.

**Zigzags and contrast** imply a sharp and short-term change in diets. There are two types of such systems: +zigzags and -zigzags, adding and cutting down food products that do not have a therapeutic effect in their function. One zigzag phase involves a one-time diet change for 1 day per week, or ten days. This approach allows you to increase appetite and reduce a person's stress without reducing the effectiveness of the therapeutic diet.

In most cases, the described methods are used in combination with preventive and therapeutic measures.

# Specific cases of therapeutic diets

In the case of treating the digestive system, diet is the main method of healing the body. For chronic intestinal diseases, the main issue when drawing up a diet is the content of proteins, fats, carbohydrates and other chemical elements in foods (see nutrition for the intestines ). For chronic liver diseases, the

diet is designed to saturate the body with proteins and vegetable oils (nutrition for the liver [50]). In case of diseases of the cardiovascular system, increase the intake of potassium, magnesium and vitamins into the body. For rheumatism, the intake of carbohydrates and salts is strictly dosed, and substances that cause allergies are excluded. For diabetes mellitus, reduce the consumption of easily soluble carbohydrates such as sugar and glucose. For infectious diseases like influenza, scarlet fever, or pneumonia, increase easily digestible and high-calorie foods such as milk, increase the content of vitamin elements and increase fluid intake.

In any case, the very inevitability of turning to a therapeutic diet brings unpleasant sensations into a person's life, and here, of course, it is important to pay maximum attention to reducing stress factors and creating a feeling of less restrictive influence on a person's usual diet. In most cases, therapeutic nutrition is perceived by a person as a strict necessity, and in this sense it is very important to choose the most acceptable diet for a sick person. Variety in dishes and alternatives in the selection of products will help to obtain not only a therapeutic effect, but also reduce the feeling of being limited by the diet.

# Vegetarianism and veganism



For each of us, this concept has its own meaning. Some adhere to a vegetarian diet based on ethical and moral views, others for health reasons, some thus strive to maintain their figure or simply follow a fashion trend.

Even experts do not provide an unambiguous interpretation. However, it is quite true that vegetarianism is a dietary system that excludes or limits the intake of meat and animal products. This lifestyle must be approached with caution, responsibly, and you must also know and follow the basic rules so that the vegetarian food system really serves for the benefit of health, and does not destroy it.

## There are three main types of vegetarianism:

- **veganism** is the strictest vegetarian way of eating, which excludes all types of meat: animals, birds, fish, seafood; Even eggs, milk and other dairy products, and in most cases, honey are not consumed; such vegetarians are also called vegens or old vegetarians.
- **lactovegetarianism** vegetarianism, the diet of which also includes milk and dairy products;
- **Lacto-ovo** -vegetarianism is a vegetarianism that, in addition to plant products, also allows dairy products and poultry eggs.

## Benefits of vegetarianism

Lactovegetarianism and lactoovovegetarianism do not contradict the basic principles of rational healthy nutrition. If you consume various plant products necessary for the normal functioning of the body, then vegetarianism can be very useful. A less strict vegetarian diet is useful for weight loss, as well as for atherosclerosis, intestinal dyskinesia and constipation, gout, kidney stones, especially in old age. The vegan diet almost completely excludes fatty acids and cholesterol, so this method of nutrition contributes to preventive measures to prevent atherosclerosis and some other diseases, but only if, in addition to food, vitamins and minerals are consumed. [51]

#### **Health effects**

With a vegetarian diet, the body is saturated with beneficial substances and vitamins, including: carbohydrates, omega-6 fatty acids, fiber, carotenoids, folic acid, vitamin C, vitamin E, potassium and magnesium. Moderate consumption of fatty acids, cholesterol and protein from plant-based foods improves well-being and maintains normal weight levels.

The results of major studies have established that vegetarians are less likely to experience various diseases and illnesses:

Among vegetarians who adhere to the diet for more than five years, patients with coronary heart disease are 24% less likely.

Vegetarians have much lower blood pressure than non-vegetarians, so hypertension and other causes of sudden changes in blood pressure are less likely to occur among them.

Vegetarians have been found to be less likely to develop various types of cancer, except colon cancer.

Vegan and vegetarian diets significantly help reduce the risk of developing type 2 diabetes. A vegetarian diet is also associated with a reduced likelihood of metabolic syndrome, various disorders that cause cardiovascular disease and diabetes.

A vegetarian diet helps fight obesity. Overweight people are very rare among vegetarians.

In non-strict vegetarians, cataracts occur 30% less often, and in vegans 40% less often than in people who include more than 100 g of meat in their daily diet.

Diverticulosis occurs 31% less often in vegetarians.

Fasting, after a vegetarian diet, has a positive effect on the treatment of rheumatoid arthritis.

A vegetarian diet helps normalize high levels of phosphorus in the urine and blood, favorably supporting the treatment of chronic kidney disease.

Impact on mental state and life expectancy

Vegetarians have a more favorable and stable emotional state than non-vegetarians.

Complete or partial restriction of meat consumption contributes to a significant increase in life expectancy. Following a vegetarian diet for 20 years or longer can extend your life by approximately 3.6 years.

## Basic recommendations for vegetarianism

It is best to adhere to a less strict vegetarian diet, since some animal products are simply necessary for the normal functioning of the body.

When following strict vegetarianism, you need to include in your diet such essential nutrients as protein, fats, as well as multivitamins and foods high in vitamins and minerals.

During pregnancy, breastfeeding and teaching children to become vegetarian, it is necessary to pay attention to the fact that the body of the mother and child also requires food of animal origin. Ignoring this factor can lead to very negative consequences.

Including honey and pollen in any quantity in a strict vegetarian diet will not provide the body with all the necessary vitamins and minerals.

#### **Substitutes for vital substances**

- **protein** can be obtained from legumes, nuts, spinach, cauliflower, kohlrabi and wheat;
- **fats** contain various vegetable oils: olive, flaxseed, sunflower, hemp, coconut, cottonseed, corn, nut, etc.;
- **iron** the required amount is found in nuts, seeds, dried fruits, beans and green vegetables;
- calcium and zinc can be obtained from dairy products, as well as from deep green leafy vegetables, in particular kale, spinach and watercress, seeds, Brazil nuts and almonds, dried fruits and tofu;
- Omega-3 fatty acids sources include flax seeds, various nuts, beans and grains; [52]
- **vitamin D** the body is supplied with it by the sun's rays, as well as by such foods as yeast [53], mushrooms, nettles [54], parsley, wheat germ, egg yolk.

# **Dangerous properties of vegetarianism**

If you do not properly balance your diet and miss out on vital components in a vegetarian lifestyle, this will lead to dangerous consequences. Very often, vegetarians are deficient in iron, calcium, protein, omega-3 fatty acids, zinc, and vitamins D [55] and B12 [56].

The likelihood of developing diseases with strict vegetarianism

Lack of vitamins D and B12 in the body leads to problems with hematopoietic processes, as well as malfunctions of the nervous system.

With a lack of amino acids and some vitamins (especially vitamin D), the growth and development of the child is disrupted (even if the child is still in the womb), which leads to the appearance of rickets, anemia and other diseases associated with inferiority. If these same substances are deficient, adults begin to lose teeth, hair, and bones become more fragile.

When you refuse dairy products, the body lacks vitamin B2.

The lack of substances that contain exclusively animal products can cause anemia, lead to decreased muscle mass and bone diseases.

Although calcium, copper, iron and zinc can be obtained from plant foods, their absorption may be quite low.

A vegetarian diet is not able to provide the body with the necessary amount of absorbable calcium for women during menopause, as well as for elderly people and athletes. This creates a high risk of developing osteoporosis.

## Raw food diet



Raw food diet is a fashionable trend today regarding a way of eating in which exclusively raw foods are consumed. The raw food nutrition system promotes the idea of a healthy lifestyle without harming the environment, cleansing the body and fighting excess weight, treating various chronic diseases, prolonging youth and life expectancy. However, there are many heated discussions surrounding the popular ideology of raw food diet. Is this way of eating actually healthy or is it just harmful to health?

Many people classify a raw food diet as strict vegetarianism (veganism), but, in comparison with the meaning of the general concept of "vegetarianism," with a raw food diet, foods are not processed at all by thermal methods, such as: boiling, baking, frying, steaming. The main goal of a raw food diet is to preserve nutrients in foods.

# Raw food diets are divided into five types:

- 1. **Omnivorous raw food diet** the diet includes all food products, even meat, seafood and other animal origin, but exclusively in raw, dried or dried form.
- 2. **Vegetarian raw food diet** meat and fish are completely excluded from the diet, but dairy products, eggs, honey [57], etc. are allowed.
- 3. **Vegan raw food diet** is the most common method of raw food diet, which allows only raw plant foods.
- 4. **Carnivorous raw food diet** ( **raw meat diet** ) this type of raw food diet is very rare, while the diet includes raw animal and poultry meat, fish, seafood, eggs, animal fat and other products of animal origin, and plant foods are consumed in minimal quantities.
- 5. **Fruitarianism** the diet is made up of raw fruits, namely various berries and fruits; in addition to meat, root vegetables are also excluded.

#### **Beneficial features**

According to supporters of a raw food diet, the benefit of this method of eating is that in this way a person gets closer to nature and at the same time becomes healthier and acquires the energy of the earth. This theory is based on the fact that initially there were no thermally processed foods in the human food chain, but only raw food.

#### Benefits of a raw food diet:

Vegetables, fruits, grains, cereals and nuts in their raw form are rich in vitamins, antioxidants, proteins, essential fatty acids - generally beneficial substances.

Since during a raw food diet there is no overeating and light foods are consumed, cholesterol levels and blood sugar are always within normal limits.

Eating raw food helps cure various diseases, such as hypertension, arthritis, headaches, asthma, etc.

Eating raw food saturates the body with energy, with which a person is able to work physically or mentally for a long time without significant fatigue. The mind becomes clearer and a sense of intuition develops.

A diet of raw foods allows you to lose excess weight in a very short time. But at the same time, you need to understand that everything depends on the body; if it is prone to obesity, then after a while it will be able to find fats in raw food and store them. Therefore, when using a raw food diet for weight loss, you also need to monitor the amount of food consumed.

With a raw food diet, normal sleep requires much less time, about 5-6 hours, and in the morning the body functions well, without feeling tired.

## Switching to a raw food diet

You should not perceive a raw food diet as a fashionable trend and blindly trust the fabulous beliefs of others, because this is a very responsible and important step, which will completely change not only your diet, but also your lifestyle as a whole.

It is necessary to clearly understand why this is needed, and be sure to weigh all the pros and cons. But the most important thing, when making such a decision, is to understand that switching to a raw food diet will take a lot of time and cannot be rushed so as not to harm your health. It is necessary to provide the body with the opportunity to gradually adapt to the new diet, without unwanted side effects.

# Recommendations when switching to a raw food diet

First of all, you need to consult your doctor and nutritionist. Each body perceives different diets differently, so for some, a raw food diet may be contraindicated.

When switching to a raw food diet, you still need to consume porridge and warm drinks for about two weeks and gradually give them up over time.

You need to drink more plain water, at least two liters a day.

In order for the intestinal microflora to adapt to the new diet, the proportion of fiber should be gradually increased [58], that is, eat more fruits and vegetables.

It is recommended to switch to a raw food diet somewhere in June or July, because during this period various vegetables, berries, and fruits appear, so changing your diet will be accomplished with less difficulty. It is most difficult for beginning raw foodists to survive the first winter.

The main thing is not to forget that the diet should be balanced and include the amount of proteins and carbohydrates necessary for the body.

When following a raw food diet, in some cases, it is possible to heat-treat food, but only at a temperature not exceeding +43°C.

In order not to overload the stomach and not harm the process of food processing by the body, you need to know about the compatibility of different raw foods. For example, you cannot combine fats or proteins with sugar, as this causes fermentation, which is difficult for the stomach to cope with.

## Dangerous properties of raw food diet

When deciding to switch to a raw food diet, you need to know about the negative factors of its influence on the human body.

A raw food diet often leads to vitamin and mineral deficiencies. If the diet is unbalanced, then this is a direct path to a deficiency of vital substances, in particular calcium, magnesium, etc.

When switching to raw food without receiving all the necessary substances, from time to time you may feel numbness in the limbs, headache, and wounds may also take longer to heal.

A raw food diet can lead to complex digestive disorders. Some raw foods do not combine with each other, are not digested, and thereby harm the body. For example, you should not eat fruits with vegetables or carbohydrates with proteins.

At first, a raw food diet can cause aggression, because by refusing grain products and cereals, the body lacks vitamin B, which is responsible for the nervous system and mental state.

Raw foodists can become hostages of their own lifestyle. From time to time, some raw foodists break down by eating cooked food, after which they constantly feel guilty towards their like-minded people. So, having decided to refuse prepared food, you need to do it only for yourself, your own benefit and your health, and not according to someone else's call and beliefs.

become a raw foodist. If a person already has adult children and their health allows it, then you can try to change their diet, but for those who have not yet acquired offspring, are pregnant or breastfeeding, then a raw food diet is strictly prohibited.

should not switch to a raw food diet, since their body is only in the process of formation and requires a complete diet for normal development and maturation.

It is also not recommended for elderly people to consume exclusively raw food, since in advancing years the metabolism slows down and the body will not be able to extract useful substances from raw food. But people over 40 with obesity, diabetes, high blood pressure or gout can eat raw food for a while, but not all the time.

If you have problems with digestion, gastritis, or colitis, it is not recommended to switch to a raw food diet.

# **Healing fasting**



It is worth practicing fasting solely for the sake of health and, according to most nutritionists, only in this case is a long-term refusal of food justified. Fasting can help cure many diseases, in particular

gastritis, hypertension, arthrosis, allergies, diabetes, eczema, etc. It is recommended to use healing fasting as a method of losing weight only under the supervision of specialists, so as not to develop some serious diseases due to not taking into account the various subtleties of the complex fasting process.

Healing fasting involves complete abstinence from food. During fasting, the body begins to use its own reserves, while receiving all the necessary substances for normal functioning through other biosynthesis at the cellular level. Internal nutrition (endogenous) will have a healing effect only if you consume the required amount of water; if you allow yourself something high in calories, for example, juice, compote or jelly, then instead of healing it will lead to depletion of the body. When fasting is observed correctly, a so-called reboot of all internal processes occurs.

# Main types of fasting:

- 1. **Dry or absolute fasting** is considered one of the most effective methods of healing fasting, which involves an absolute refusal to consume food and liquids (even water). The duration of this fasting method is 1-3 days. It is not recommended to practice absolute fasting at home; the optimal place for this is health centers and sanatoriums, where fasting takes place in the circle of people who are also abstained from food and under the careful supervision of doctors. It is worth completing dry fasting according to specially developed programs and supervision of specialists.
- 2. **Water fasting** is the most common fasting method, which is suitable for both weight loss and the treatment of various diseases. This method allows the use of only water in any quantity. To enhance the healing effect, it is recommended to drink distilled water. You should also break water fasting with caution, under medical supervision.

# Types of fasting by duration:

- One-day fasting is a daily fast or a so-called fasting day, during which only drinking water is allowed. It is recommended to use day fasting every week to cleanse and reset the body.
- A three-day fast is the most optimal period of fasting, during which you can achieve a high level of effectiveness of its healing effects and at the same time avoid the negative consequences of a fast. Three-day fasting can be practiced at home, but before doing so, it is advisable to consult a doctor.
- **Seven-day (weekly)** this type of fasting is aimed at curing various ailments and cleansing the body. A seven-day fast is carried out under the supervision of a doctor.
- **Long** -term fasting can last 10 days or a whole month and is carried out exclusively in specialized complexes or sanatoriums.

# **Benefits of fasting**

The benefits of healing fasting primarily lie in the healing effect that occurs when the body's defense reactions are activated.

A fast is a shake-up of the endocrine system, cleansing and rebooting the body, as well as a beneficial effect on metabolism.

As a result of healing fasting, salt deposits in the joints and spine evaporate, which returns lightness and mobility to the body.

If fasting is combined with exercise and massage, then you can get rid of cellulite deposits in problem areas (especially on the hips).

Fasting cleanses the body and thereby activates the action of mechanisms at the cellular, molecular and tissue levels.

Healing fasting promotes rejuvenation of all organs and the body as a whole.

# Recommendations for following healing fasting

In addition to the healing properties of fasting, it is stressful for the whole body, so it is advisable to undergo this procedure as prescribed by a doctor or under his supervision (especially if you have chronic diseases of the endocrine, cardiovascular or digestive systems).

Before fasting, it is recommended to cleanse the intestines to make it easier to endure this very difficult process. This can be done by using castor oil, magnesium sulfate or sodium sulfate [59] (saline laxatives). For an adult, 25 grams of powder per glass of plain water is enough. The effect will occur in approximately 4-6 hours.

Also, before using healing fasting, it is worth removing excess fluid from the body, getting rid of toxins, flushing the kidneys and connective tissues using juice therapy ( more about cleansing the kidneys ).

If you regularly fast, it is recommended to improve your diet by filling your diet mainly with plant foods. It is advisable to follow the rules of healthy nutrition during periods between hunger strikes.

It is important not only to observe fasting correctly, but also to exit it on time. Since during fasting the body feeds endogenously, you need to carefully monitor the process to prevent destructive effects.

It is very important to get out of fasting correctly. The main rule is not to overeat, avoid heavy and fatty foods. If you fast for a long time (more than a day), you should consult your doctor about breaking it.

When losing weight, you should not get too carried away with fasting, because sudden weight loss, firstly, is not stable, and secondly, can lead to irreversible negative consequences.

If fasting is carried out with some deviations, including exiting from it, then this will not only not give the desired result, but can cause various serious illnesses or lead to death.

With regular use of healing fasting, it is recommended to increase its duration. The best way to carry out weekly day fasting for 4 months, after which you can switch to three-day and seven-day types of healing fasting.

## Why is fasting dangerous?

During the fasting process, some complications may arise, which should be known to everyone who practices or is planning to use this method. If the above symptoms and contraindications are not severe, then you can continue the hunger strike. If you feel unwell for a long time, you should end your fast with restorative nutrition according to certain rules, as well as regularly carry out cleansing procedures.

During fasting, fever and chilliness may occur. These side effects depend on the individual characteristics of the body, water intake, selection of clothing and physical activity.

Plaque may form in the mouth and, consequently, an unpleasant odor. This happens in most cases of prolonged fasting. The only way out is to improve oral hygiene, but the use of abrasive toothpaste is not recommended. It is best to use gels or rinses, but you can also use folk remedies - water with lemon juice or chamomile decoction .

Fasting can also provoke cramps, which occur due to the release of sodium chloride, as well as phosphorus and calcium salts from the body. For this side effect, it is recommended to take a one percent warm solution of table salt.

After thermal treatments and massage during fasting, joint pain may occur.

Fasting may be accompanied by frequent belching, heartburn and vomiting. To avoid this, it is recommended to rinse the stomach or regularly drink non-carbonated mineral water. If these methods do not help, you should end your hunger strike.

Refusal of food leads to the development of chronic fatigue and drowsiness.

Fasting is contraindicated in the following cases:

- pregnancy or breastfeeding;
- psychoneurological diseases (dementia or illness associated with immobility);
- severe forms of malignant blood diseases, diffuse connective tissue diseases, especially with dehydration.

# **Individual nutrition**



First of all, when talking about individual nutrition, we are talking about excluding specific foods from the diet of a certain person. Since ancient times, questions of the individuality of our organisms from the point of view of biochemical functioning have worried people.

In 1909, the Englishman Archibald Garrod studied medicine on the topic of congenital and personal metabolic disorders. Each person's needs change over time depending on their lifestyle. Endocrinologist from Canada Hans Selye believes that each person reacts to stressful situations in his own way. This is determined by his threshold of tolerance, in other words, what may seem like an insoluble problem to one, will be just another trifle in life for another. Knowing these differences, we can characterize the theory of individuality in this way: any food product that is useful for one organism may be dangerous for consumption by another.

Different people may have completely different reactions to the same ingredient. A person's energy and resilience largely depend on his diet, and the decisive factor in determining the body's response is the type of metabolism.

Considering the above, to improve health, restore strength, acquire and maintain a healthy shape, it is necessary to minimize the consumption of foods that are inappropriate for your body to a minimum.

First of all, it is important to avoid alcohol, caffeine, sugar and hydrogenated fats, which are found in margarine and vegetable oil. In other words, a decrease in the efficiency of a person's life may be a consequence of consuming insufficient amounts of substances that are beneficial to a particular person and the abuse of substances that are harmful to him. A negative reaction of the body can manifest itself in minor illnesses, deterioration of a person's well-being and potential.

With prolonged malnutrition, this quickly leads to serious health problems. It is important not to forget that the substances and microelements that we absorb from food ultimately enter all systems of our body and reach every cell. This transfer of substances from food to each human organ occurs more than 20 times a week.

The author of the individual nutrition method is Candidate of Medical Sciences Torsunov O.G., an adherent of the ancient Indian science of life Ayurveda . Smell becomes an important factor in the selection of products. Nature gives us, as well as animals, this natural tool and it is important to use it, aiming for your full state of health. Having understood the smells, it is easy to determine which components of the diet should be left and which ones should be excluded, this is how our body protects itself from harmful or dangerous ingredients.

This system applies to almost everything we ingest: cereals, herbs, vegetables and fruits, medicines. Products should only be tested in dry form. When the aroma is not felt at all, for example, in cereals, you can grind or finely grind the ingredient, and then shake to feel the full aroma of the contents. The grind size does not affect the quality and flavor of the product. The "Vedas" insist that whatever ingredients are chosen, they can be consumed no later than three hours after preparation, so that the beneficial qualities of the ingredients are not lost.

All people according to Ayurveda are divided into three types: kapha, vata and pitta. For example, kaphas tend to be overweight, have fresh skin, thick hair, strong bones and short stature; by nature they are calm, reasonable and avoid conflicts. Such people are recommended to be more active, to give preference in food to Brussels sprouts, dried fruits, legumes, and to avoid sweet fruits, pastries and candies with a high concentration of sugar.

#### Classification of products by smell

If products seem pleasant to the smell, this indicates harmony with your character. When you find a scent unpleasant, don't reject a product without evaluating the scent based on other criteria. A fresh aroma indicates the compatibility of the ingredient with the physiological needs of your body and this means that the nutritional element will be easily digested and absorbed by you. In case of a rotten smell, no matter how much you try, it is not your choice.

If the aroma seems cool to you, this indicates compatibility with a person's vital energy. If you want to achieve lightness and vigor of body and spirit, this is the best choice. An example of such a product is mint: it calms the nervous system and adds lightness. To correctly identify a smell, you need to practice: not every one of us can distinguish between warm and hot aromas. A convenient method can be the contrast of aromas: whether it is cold or hot, fresh or putrid: it is easier to understand such categories with your mind. Lightness, or heaviness, dustiness, or earthiness - this is far from a complete palette of odors in the theory of individual nutrition. A heavy aroma (dusty and unpleasant) means a destructive effect on a person, and a light one - on the contrary, the restoration of his systems.

A strong, intrusive smell symbolizes the same powerful effect on us and this product can only be consumed in small doses. Examples include coffee, vanillin, pepper, spices, or vinegar. Such aromas are felt only close up (at a palm's distance); from a distance they do not seem so aggressive. It may

seem that these substances do not need to be consumed, but experience suggests that small amounts of them will only be beneficial.

If the smell is sharp and unpleasant, this indicates that the use of this ingredient in food is prohibited.

When the aroma is generally pleasant, but pungent impurities, astringency, rot or other alarming odors are felt, then the ingredient can be consumed, but this product will not bring medicinal effects with its use. If the ingredient smells fresh with various shades of dubious aromas, you can eat it, but it's better not to get carried away. In case of illness, these products can be harmful.

It is easy to understand which food ingredients should not be consumed at all: when there is a very strong smell, it does not matter whether it is sweet, bitter, pungent, or sour. Contraindicated products are symbolized by an absolutely unpleasant odor to a person. Whether it's sweet, warm, or earthy doesn't matter: if you don't like the flavor at all, don't eat it.

If you are planning to lose weight, then you can only eat foods whose smell is completely pleasant to you.

#### **Alternative**

There is also individual nutrition, which is determined by a personal nutritionist, who relies only on his experience and knowledge in the specialty. Many factors are taken into account, and certain goals are outlined in relation to a specific person. It is important to consider where the food is grown, matured and produced.

You should pay attention to the frequency, quality, naturalness and volume of food consumed; this ultimately affects the growth, digestion, synthesis and reproduction of body cells. On the Internet you can find computer programs that help you develop your own personal diet. If the body systematically signals about improper consumption of dry or liquid food, this indicates SOS signals and the need to change the diet.

To summarize, we can say that individual nutrition is the knowledge of a specialist, a person's preferences and the properties of his body, defined in the list and proportions of food necessary for his proper nutrition and functioning. And the entire risk from the conclusions drawn depends on an accurate examination of a particular person and the knowledge of a nutritionist.

# **Protein -carbohydrate alternation**



Recently, when getting rid of excess weight, the system of protein -carbohydrate alternation has become popular. The essence of this method of nutrition is to alternately vary the amount of proteins and carbohydrates consumed in order to achieve gradual, but effective and safe weight loss. As we know, a low-carb diet can lead to muscle loss, mood swings, depression, and problems with physical or mental performance due to lack of strength.

The system of protein -carbohydrate alternation is traditionally divided into cycles that consist of four days:

**Days 1 and 2** – a low-carbohydrate diet, in which 3-4 g of protein per kilogram of weight is consumed, and the amount of carbohydrates is 0.5 g. In general, it is enough to reduce the amount of carbohydrates by half, that is, of this proportion, reduce the consumption of vegetables, fruits, bread products, honey and cereals. At the same time, protein is added with meat, eggs, fish and poultry. It is better to completely exclude high-carbohydrate foods these days. The daily calorie intake should be 1000-1200 kk on the first day and 1200-1500 kk on the second.

Day 3 – a high-hydrogen diet, in which 5-6 g of carbohydrates are consumed per kilogram of weight, and the amount of protein is 1-1.5 g. On this day, we reduce protein intake to a minimum. The diet should mainly consist of vegetables, fruits, various cereals and bread products. Some high-carbohydrate foods are allowed: sweets, chocolate. We provide proteins to the body by eating cottage cheese, cheese and other dairy products. The main thing on this day is not to cross the daily calorie limit, so the amount of high-carbohydrate foods should be no more than 10-15%. The daily portion of calories is 1200-1500 kcal.

**Day 4** – a balanced diet, in which 2-2.5 g of protein and 2-3 g of carbohydrates per kilogram of weight are consumed. Calorie intake on this day cannot be exceeded by more than 1200 kcal.

The duration of these cycles can last until the body reaches the desired weight. But the standard definition of a four-day period of protein -carbohydrate alternation can be endlessly varied at your own discretion. The main thing is the essence of alternation. The most common options:

- 5 low carb days 2 high carb days;
- $2 \log \operatorname{carb} 1 \operatorname{high carb}$ ;
- 3 low carb 1 high carb 1 combination;
- 2 low carb 2 high carb 2 combination;

You can also consistently consume the calculated amount of proteins throughout the entire cycle, while alternating should occur only with carbohydrates (changeable increase and decrease in their amount).

## Recommendations for following a protein -carbohydrate diet

It is a misconception that carbohydrates should not be consumed on protein days, as they contribute to a normal mental state and mood. Also, giving up carbohydrates will not allow you to stick to this diet for a long time. You need to understand that it is impossible to strictly divide foods into protein and carbohydrate. For example, many dairy products , in addition to being considered protein, also contain carbohydrates.

When losing weight, it is necessary to monitor the number of calories consumed on protein days. In this case, the diet should be composed of low-fat products: for example, cottage cheese (low-fat), tuna, dietary meat or fish. A deficiency of not only carbohydrates, but also fats will lead to the body burning stored reserves, which contributes to the loss of excess weight.

It is recommended to carefully plan your diet and calculate your daily protein intake on low-carb days. There is no need to count carbohydrates, since they are excluded for a while, as well as fats, they just need to be kept to a minimum.

The amount of protein is determined in this way: take your weight and multiply by 3. This is the daily protein requirement in grams. If the weight is too high, then you can take a reduced figure as a calculation, but you cannot take away more than 10 kg. Based on a certain value, we create a daily diet. To understand how much food you need to include, you can use the table of caloric content of foods with separate calculations of the content of proteins, fats and carbohydrates.

There is no need to do any calculations on a carbohydrate day. The main thing is to eat high-carbohydrate foods: for example, various cereals, vegetables, cereals, wheat pasta. To distribute the richness and benefits of a product containing carbohydrates, it is recommended to use a special glycemic index table. In it, the higher the GI index, the less useful the product. For a protein -carbohydrate diet, those foods that have the lowest GI index are more suitable.

During a balanced (fourth) day, you need to eat carbohydrate foods in the morning, protein foods combined with carbohydrates in the afternoon, and exclusively protein foods in the evening.

When exercising, you need to understand that energy expenditure depends on the "heaviness" of the food consumed. There must be a balance between the substances obtained from food and the energy burned.

The energy value of food consumed should be from 1200 kcal to 3500 kcal per day. You need to plan your diet with protein -carbohydrate alternation so that it includes a certain portion (necessary for the normal functioning of the body) of proteins, fats, carbohydrates, as well as vitamins and minerals.

## The benefits of protein -carbohydrate alternation

First of all, protein -carbohydrate alternation promotes smooth and effective weight loss without harm to health.

In this nutrition system, calorie calculations and diet planning are not at all complicated, so you can do it yourself.

With this diet, weight is reduced by burning fat, and not by removing fluid from the body.

A protein -carbohydrate diet helps boost metabolism.

The achieved weight loss results are consolidated and then you can simply stick to a balanced diet, and not torment yourself with constant short-term fast diets, after which the lost kilograms are immediately restored.

With this nutritional system, there is no need to force your body to experience a constant feeling of hunger; on the contrary, it often happens that it is difficult for a person to eat all the necessary foods in order to achieve the desired calorie level. At the same time, the mood does not worsen, there is no feeling of drowsiness, unlike many other nutrition systems.

The body does not get used to a certain calorie level: excess calories are not stored, and their deficiency does not lead to disruption of metabolic processes.

The appearance will not be affected by protein -carbohydrate alternation. Hair, nails and skin are normal, since the body receives all the necessary nutrients for normal functioning.

If the goal of the diet is not only weight loss, but also building muscle mass, then protein -carbohydrate alternation is the most suitable method. By adhering to this nutritional system, muscle mass grows and fat layers are burned. But this only happens if you regularly engage in sports or various physical exercises, combining them with an appropriate diet. This system is ideal for athletes because it does not cause discomfort during frequent and intense physical activity.

If you stick to a protein -carbohydrate diet for more than a month, your body gets used to doing without sweets and other unhealthy foods. After finishing the diet, you can create a balanced daily diet of low-calorie foods, without depending on excess cholesterol. This will allow you to maintain your weight and the functioning of your entire body at normal levels.

# Dangerous properties of protein -carbohydrate alternation

Many nutritionists question the effectiveness of protein -carbohydrate alternation for more than three months. Since the body tends to adapt to any conditions and diet, after several cycles it will stop responding to this nutritional system. This is why a protein -carbohydrate diet is not suitable for people with obesity problems. In this case, more stringent individually developed nutrition systems will be needed, which can only be used under the supervision of doctors and nutritionists.

Eating too much protein per day can also harm your body. Eating three grams of protein for every kilogram of weight is a very unusual diet for the body, since it will be difficult to digest this food. Therefore, such a nutrition system will only be effective when combined with constant physical activity. Metabolism will accelerate during exercise, and proteins will therefore be better absorbed. This is the only way to help the body cope with these loads.

Eating too much protein can cause nausea, bad breath, and bad breath.

# Food by season



The Eastern principle of dividing foods by seasons is dividing them into male and female natures - *yin* and *yang*, which helps to understand as much as possible the properties of food products and their impact on human life.

In eastern countries, the year was traditionally divided into seasons, with one amendment: in addition to winter, spring, summer and autumn, there is also an off-season. We are talking about the transitional time between the main seasons. Each season corresponds to the activity of certain functions of our body. Therefore, the diet should be composed of ingredients that satisfy the body in this need. That is why we are talking about five tastes. The main taste is saturated with additional shades: neutral,

complementary and negative. It won't be difficult to figure out what taste it is and its effect on the body: neutral does not affect its functionality in any way, negative harms us, and complementary saturates and strengthens. Not so often, the diet we choose leads us to the expected results.

It is necessary to understand not only your tastes, but also more subtle issues, such as oriental medicine. It was in the east that for many thousands of years knowledge on nutrition, which affects human health, was collected and sifted out. This experience, incommensurate with many theories of nutrition, gives us a language to understand our nutritional needs. The main goal of nutrition according to the seasons is a balanced and unnoticeable transition for the body from one season to another without losing energy, well-being and potential of the body. According to Tao, spring brings birth and blossoming, summer gives us growth and the beginning of ripening, and autumn rewards us with final ripening and harvest. Winter brings us peace and accumulation of strength.

## **Spring**

Spring time is the best time for development and growth. The surrounding nature is emerging from hibernation and is noticeably growing at a rapid pace. This is a time of growth and diving into new beginnings. Our body changes, it gives out new signals. Hibernation and amorphousness are becoming a thing of the past. The times of cold and quiet dampness are over as a respite before the next flowering of strength and desires. Everything is in a hurry to renew itself and acquire new shoots. In the spring, it's time to stop eating high-calorie and fatty foods, let's start cleansing the body. The most difficult time in choosing products is, of course, early spring. We have already eaten up everything we have prepared for the winter, but the new one, full of fresh energy, has not yet grown. While we are waiting for fresh greenery to appear, our bodies are constrained by spring asthenia. A feeling of weakness, lethargy and drowsiness, loss of attentiveness, sometimes even developing into irritability and a complete lack of concentration on one thing.

As a result, we lose appetite and full performance. In this case, dried fruits rich in vitamins, preserves, pickles and herbs and fruits dried for winter can help. Juices, compotes, preserves, jams and frozen berries can support a weakened body. And so on until fresh parsley, spinach, onions, garlic, parsley, garlic and nettles appear on our table. Do not delay the moment of saturating your body with vitamins. Start restoring and replenishing our natural warehouses with new supplies. To determine which foods should be consumed more, it is important to understand which body systems are subject to maximum deficiency. The hardest things this season are for the gallbladder and liver (see our special material: nutrition for the liver). Saturating the dinner table with sauerkraut [60], lemon [61], and hodgepodge will help restore their potential. The diet will be supplemented with dairy and fermented milk products, when choosing which you can give free rein to your tastes and preferences, especially since the body will not deceive us.

At such a time, it is important not to forget about cereals: baking and cereals using different types of rye and wheat flour will be appropriate. Fats and proteins will help replenish the many varieties and types of nuts and seeds that are loved by many. Carrots [62], beets [63] and other root vegetables can enrich the spring diet. Among meat products, it is better to give preference to poultry: chicken, turkey and duck are what you need. It's time to pay attention to soups that help dynamically cleanse internal organs and strengthen our frame, consisting of bones, ligaments and tendons.

The dominant flavors of the season will be salty, neutrally sweet and bitter. Spicy foods should be avoided. If we talk about children, then their diet should be saturated with proteins, fats and carbohydrates, especially paying attention to the spectrum of vitamins. Everything that the earth gives us will become an indispensable addition to the children's diet. Berries, vegetables and fruits, among which special attention should be paid to potatoes, carrots, cabbage, beets, apples, and various fresh

juices from berries. Decoctions of berries and fruits will also be useful. As for proteins, for complete nutrition and balanced saturation of the body, it is worth focusing on meat, fish, dairy and fermented milk products.

#### Summer

The summer season is full of abundance. It is then that *yin* smoothly and continuously flows into *yang*. In the east, they argued that gastric juice at this time of year should fantasize and move rhythmically without stops or exceptions. This is how the body will be filled with new strength and ideal balance. Of course, heat and other unpleasant allies of summer will affect the general condition of the body, which can result in general malaise, weakness and susceptibility to summer diseases. This is due to high body temperature and profuse sweating. The way out of this situation is vegetables and fruits, which abundantly fill our body not only with liquid, but also with the microelements necessary to restore balance.

It is difficult to fight the habits that civilization gives us. We are used to cooling the body by drinking cold drinks, but we should not forget that pleasure in the mouth turns out to be problems in the stomach . The functioning of internal organs is disrupted, and the body's thermoregulation malfunctions. Contrary to natural processes, we force the body to retain heat, instead of getting rid of overheating. It is best to eat foods in small portions in the summer, without overloading the body with high-calorie dishes.

You should focus your attention on dairy products, vegetables, berries and fruits, eggs . The consumption of meat products should be reduced if physical stress on the body is not great. The heart muscle and small intestine are most active. That is why it is worth focusing on food with a bitter taste, even by simply adding bitter seasonings and sauces to dishes. It is better to refrain from salty foods and adding salt to dishes in the summer.

#### Autumn

With the onset of autumn, *yang* slowly turns into yin and preference should be given to dishes made from cabbage, beets, apples and carrots. The dynamics of the body decreases, the load falls on the large intestine and lungs. Spicy flavors will help you cool down from a busy diet and transition to the smooth appetite of autumn. It is worth paying attention to meat products, seasonings, garlic and onions. Rice and buckwheat dishes will be an excellent addition. Dried fruits will help you gain additional strength without depleting the body's reserves collected over the summer. It is worth reducing the consumption of bakery and flour products, lamb. Game, beef, milk, fruits, nuts and large berries like watermelon and melon [64] will be an excellent addition to a full-fledged table. You should refrain from eating sweets and salty foods.

## Winter

Winter time will require us to save strength and balance. Preference should be given to high-calorie, but not very fatty soups and hot drinks. You can enrich them with canned, frozen and dried products. Rose hips and sauerkraut, citrus fruits, frozen [65] black currants will become indispensable products in cold weather. For better kidney function, it is important to restore the salt content in the body. For a side dish you should choose potatoes, legumes, buckwheat, seasoned with rich sauces and pickles.

# Off-season

In the off-season, the best tactic would be a gradual restructuring of the diet from winter to spring, from summer to autumn. The main taste is sweet, which will help diversify the transition period with new tastes. Fruits, vegetables and honey are the best choices for complete nutrition. The bitter taste

becomes additional. Dried fruits and lamb will add completeness to the diet. You should avoid acidic foods such as lemon and fermented milk products.

#### **Fractional meals**



Initially, the fractional nutrition system was invented by doctors to promote the treatment of gastritis, stomach ulcers and other diseases of the digestive tract, as well as in preventive measures. Today, this nutritional system is also used in the fight against excess weight. The essence of the fractional nutrition regime is to eat food in small portions, but often, every 3-4 hours throughout the day.

If you follow the traditional diet: breakfast, lunch, dinner, then in the intervals between meals the body produces special hormones that stimulate appetite. With a strong feeling of hunger, a person is not able to clearly feel the degree of satiety with food, so he eats much more than normal. When following a fractional regimen, the feeling of hunger does not arise and a person eats exactly as much food as the body wants. Also, with long breaks between meals, fat reserves are deposited, and fractional meals help the digestive system cope with the food just received, as well as with previously deposited reserves.

#### **Options for maintaining fractional meals**

There are two ways to adhere to a fractional diet; they depend on how busy a person is during the working day and the needs of the body.

- **I.** The first version of the fractional nutrition system requires you to eat immediately when you feel hungry. It is recommended to snack on fruit, cookies or bread, but only in enough quantity to satisfy your hunger. The variety of food can be varied according to personal preferences. Thus, food is taken every 0.5 1 hour or even more often. In this case, you need to constantly listen to your stomach in order to prevent feelings of hunger and overeating.
- **II.** The second option of fractional meals is suitable for those who are very busy or work in a team where it is inconvenient to constantly eat food. In this case, the daily amount of food is divided into 5-6 meals: 3 full meals and 2-3 snacks. You can follow your usual menu, but when losing weight, it is advisable to exclude (or significantly limit their quantity) flour products and sweets from the diet.

If you follow any method of fractional nutrition, you must drink at least two liters of water per day.

#### The benefits of fractional meals

- 1. If you follow the fractional nutrition system, you can include all the usual foods in your diet, without significant restrictions in the assortment. The main thing is that it is healthy food.
- 2. There is no constant feeling of hunger, unlike many other diets.
- 3. The number of calories decreases gradually, so the body quickly adapts to the new nutrition system.
- 4. The results of weight loss with fractional meals are lasting.
- 5. With fractional nutrition, fats are not deposited in problem areas: the waist and hips in women; in the abdominal area in men.
- 6. You don't have to be completely healthy to follow this diet, because it is also recommended for many chronic diseases. Doctors often recommend fractional meals for people suffering from diseases such as gastritis, colitis and ulcers.
- 7. Frequent consumption of food in small doses reduces blood sugar, so a diet of fractional meals has a beneficial effect on the body of a person suffering from diabetes (but this nutrition system must be followed only under the supervision of a doctor).
- 8. Small portions of food are easier to digest and absorb by the body, this normalizes the functioning of the digestive system.
- 9. Fractional nutrition is a very flexible system, so it can be adjusted to the individual body and daily routine.
- 10. Without overloading the body with large portions of food at one time, the tone will increase, the feeling of drowsiness will disappear, and the level of performance will increase. Also, split meals will eliminate heavy dinners, so falling asleep will become easier and the body will be able to fully rest during sleep.
- 11. Metabolism with fractional meals accelerates, which contributes to the loss of excess weight. The more often a person eats, the faster and more efficient the metabolism occurs.

# **Recommendations regarding fractional meals**

The most optimal diet is five meals a day at an interval of no more than 4 hours.

It is recommended that a serving of food be one glass.

It is necessary to adhere to the nutritional system, even if there is no appetite.

Breakfast should be the most satisfying and contain carbohydrates. You can, for example, have breakfast with various cereals.

It is recommended to eat hot food for lunch. It's great if it's soups or side dishes.

Dinner should also be hot; meat dishes or stewed vegetables are best.

Snacks between main meals can consist of vegetables, fruits, grain bread, low-fat cottage cheese, sugar-free cereals and muesli, various cereals, and natural yogurt. It is not recommended to consume coffee, sweets, chocolate, nuts, and fast foods during snacks, as they contain too many calories, fats and sugar.

The daily diet should consist of vitamins, proteins, fats, carbohydrates and other nutrients necessary for the body in a certain amount.

To speed up the process of losing weight, you need to choose foods with a minimum calorie content for your fractional diet.

It is recommended to start following the fractional nutrition system on the weekends.

It is advisable to draw up a menu for the day ahead of time, because in this case you can calculate the exact number of meals, the duration of the intervals between them and the caloric content of food. This makes it easier to adapt to a new diet without taking time away from your workday.

If you do not systematically consume everything at certain intervals, then this can no longer be called fractional nutrition, since this system implies a diet composed of energy-valuable food, which must be consumed in strict accordance with the daily needs of the body.

If a person does not feel hungry with three meals a day, then a fractional diet will be unnecessary for him.

Also, fractional meals are not suitable for those who want to quickly get rid of extra pounds, since this system is designed for a very long period, but also for a stable result.

To promote weight loss and keep your body in good shape with fractional meals, you need to combine diet with exercise.

It is recommended to eat meat together with raw vegetables, preferably green. But the volume of vegetables should outweigh the amount of meat three times. The beneficial properties of green vegetables are that they take a long time to process and at the same time help remove fluid from the body.

It is not recommended to snack on raw vegetables or fruits, since they will not provide the necessary satiety, and fruit acids, on the contrary, will cause an even greater appetite. Fructose also contributes to the formation of fat in the body to a greater extent than other types of sugar.

When following fractional meals for weight loss, you should constantly check the foods that are included in the menu with the calorie table. Because you can eat more of some foods due to a small amount of calories, and high-calorie foods can be consumed rarely and in very small portions.

In the fight against excess weight, it is not necessary to completely give up sweets; it is allowed to have a little marshmallow or marmalade in one of the daily meals, but at the same time have a sense of proportion.

# Why split meals are dangerous and harmful

The fractional nutrition system requires responsibility, tolerance and a certain kind of pedantry, since it is necessary to constantly plan the diet, count calories, and also prepare portions of food for the whole day in advance.

Very often, fans of fractional nutrition snack on high-calorie, unhealthy foods, which leads to very negative consequences.

Since food is often consumed during the day, acids are constantly released to process it, which negatively affects the teeth, increasing the likelihood of caries.

Often you have to force yourself to eat food, because your appetite is dulled and there is no feeling of hunger.

## **Functional nutrition**



Over time, we have fewer and fewer opportunities to monitor our health, and this does not improve our health at all. We don't have time for sports and routine, not to mention time for illness. It is in such cases that functional nutrition comes to the rescue.

The concept of "functional food" implies in its composition the presence of valuable and rare elements that have a positive effect on the body's immunity, prevent diseases and strengthen the general physical and emotional background. The main emphasis in this system is placed not so much on the composition and nutritional value of products, but on their biological value for our body.

The real problem is that the current food products in our diet are not rich in useful nutrients: a lot of substitutes, dyes and other economic and technological additives make up a significant part of the products. Their consumption volumes are steadily growing.

The issue of "hidden hunger" for important microelements and biologically active components has become relevant. The amount of proteins, carbohydrates and fats can be read on the packages, but their origin and quality are not even mentioned. The Americans came up with their own name for such products with empty calories: "junk-food" ( *empty food* ). As a result, we consume the required amount of calories, but do not receive even a tiny fraction of the microelements and beneficial bacteria necessary for the body to function properly.

#### Story

In fact, even in ancient times, Hippocrates said that food should be medicine, and medicine should be food. This is the principle followed by adherents of functional nutrition. History contains the wisdom of our people in this matter: products made from pure white flour could be eaten only on the days of great holidays. On other days, bread was baked only from wholemeal flour, not purified from other biologically active elements of wheat grain. Eating products made from pure flour during fasting days was generally considered a sin.

The doctors of that time knew no less than ours - what foods should be consumed for what ailments. Modern medicine and dietetics are getting closer and closer to forgotten and lost knowledge. It can be said that attention to these issues in scientific circles began in Russia back in 1908. It was then that the Russian scientist I.I. Mechnikov was the first to study and confirm the existence and benefits for human health of special microorganisms contained in dairy products.

lactobacilli was created in Japan in the 50s. Returning to the topic, it is worth noting that the very concept of "functional nutrition" belongs to the Japanese. Later, in the 70s, drugs were developed in the USSR containing beneficial lactic bifidobacteria, the main function of which was to combat acute intestinal infections in children. Only in the nineties, in our country, as well as in the rest of the world,

functional nutrition came to the attention of the state health care system: special literature appeared, organizations were created to study and certify functional nutrition.

The reason was the idea of not only drug intervention, but also saturating the body with the help of nutrition, which would have a therapeutic function. The following product groups were identified:

- powdered milk for pregnant and lactating women,
- separate labeling of milk for infants,
- labeling for older people who have difficulty chewing food,
- products for people with problematic health (allergy sufferers, diabetics, liver diseases ),
- labeling on products aimed at improving the health of the body.

There are now more than 160 different functional food products in Japan. These are soups, dairy and fermented milk products, baby food, various baked goods, drinks, powders for cocktails and sports nutrition. These products contain ballast substances, amino acids, proteins, polyunsaturated acids, antioxidants, peptides, and many other essential elements, the presence of which was not welcomed in the recent past.

To understand this quality of products, the RDA index was introduced in Europe, which determines the minimum amount of these substances; content of less than that in consumed food threatens serious diseases.

#### **Benefits of functional foods**

Many functional food products normalize blood pressure, help remove toxins from the body, allow these processes to take place more efficiently and rejuvenate our body. It is worth noting that more than half of the food products in Japan are functional foods.

Do not forget that, unlike our potato-flour diet, their cuisine is rich in a variety of seafood, a wide variety of vegetables and fruits. The fact that life expectancy in Japan ranks first in the world and is more than 84 years can be considered convincing, despite the fact that in Russia life expectancy on average exceeded 70 years. And this takes into account the environmental disasters occurring in Japan.

A strong argument is the fact that in recent years the average life expectancy of the Japanese has increased by more than 20 years. The widespread and used functional nutrition among them helps solve problems with excess weight, increases immunity, improves the functioning of the heart, digestive system, and even helps fight malignant tumors. There is no doubt that the Japanese study health issues in depth and use this information correctly.

# Disadvantages of functional foods

First of all, it is important to note that functional food products are saturated with a high content of biologically active components, that is, during their production, the properties of the products change in order to have a predictable effect on various functions of the body.

Such products are saturated with iodine, calcium, dietary fiber, vitamins, beneficial bacteria, and increase the relative content of protein, unsaturated fats, complex carbohydrates, and so on. However, the body will not be suitable for any cocktail of necessary elements; all of them must be in natural organic compounds. Nowadays, food products are increasingly full of phrases about the content of these elements, about the latest technologies that make it possible not to lose important elements in the composition of food.

On the other side of the problem is the issue of oversaturation with the necessary elements of our diet. This problem is especially acute in the issue of baby nutrition, nutrition of people with

immunodeficiency, or pregnant women. Artificial substitutes for biologically active substances or mixtures do not bring the necessary results. Chemical additives enrich manufacturers, but can bring consumers new, often even more acute, health problems, since only when consuming natural vitamins and microelements, an overdose is practically impossible. After all, the body takes for itself exactly as much as it considers necessary.

To create high-quality fortified products, you need high-tech and therefore expensive equipment, environmentally friendly and non-genetically modified raw materials. Not many food manufacturers can afford such quality production. That is why there are often cases of enrichment of products with low-quality elements, or their incorrect inclusion in food composition.

Hope remains in imported products. Adherents of the system described above argue that functional food products should make up at least 30% of food consumed per day. This implies considerable costs and risks with the purchase of low-quality functional foods.

When studying the packaging, you should pay close attention to the composition, expiration date, storage conditions, and the presence of state certificates of product conformity. It is important to follow the instructions for using the product.

## **Balanced diet**



A balanced nutrition system is one of the few that does not require significant effort and restrictions. The main principle is to create a clear schedule for breakfast, lunch, dinner and consume exclusively energy-rich and nutritious foods.

The concept of "energy value of food" refers to healthy calories (proteins, fats, carbohydrates, vitamins, minerals and other important enzymes), which, after absorption, give the body the necessary energy for normal functioning. A balanced nutrition system not only improves overall health, but also significantly contributes to losing weight or maintaining a normal weight.

#### **Balanced** menu

When creating a balanced nutrition menu, there are four main factors to consider:

## **Food**

The menu should include the most healthy nutritious foods that contain all the necessary substances for the fruitful functioning of the whole body. If there is a lack of proteins, fats, carbohydrates or vitamins, this can lead to rashes, dry skin, brittleness, weakness of hair and nails, malfunction of internal organs, etc. Therefore, you need to carefully select products. Labels, boxes, as well as special tables of caloric content and energy value of various foods can tell you about their nutritional value.

The essence of creating a balanced menu lies not only in the quantity of food, but also in its quality. You need to evaluate foods based on the density of various nutrients they contain, that is, how much benefit you can get from each calorie. That is why it is advisable to select foods with a high level of density for the diet. When getting rid of excess weight, it is worth enriching your menu with vegetables and fruits.

The most suitable foods for a balanced diet are various cereals, salads, vegetable dishes, fruits, lean meat and fish, low-fat dairy products, nuts, beans, and corn. When eating food, you need to monitor the calorie content of foods, since some can be eaten more, while others require less due to their high calorie content. But this does not mean that you need to completely give up, for example, wine or chocolate; you just need to consume less healthy foods in moderate or limited quantities.

The daily intake of nutrients should generally be in the following ratio:

- proteins about 15%
- fats 20 25% carbohydrates 60 65%

# **Beverages**

Equally important for a balanced diet is drinking fluid in a certain amount, because water helps tone the skin, remove toxins from the body, and also reduces the risk of heart disease. It is recommended that an adult drink an average of 1.5-2 liters of plain water per day to avoid dehydration. When preparing your daily diet, it is worth remembering the calorie content of tea, coffee , juice or sweet water.

of milk every week, but low-fat. It is preferable to consume calcium-rich milk. To maintain your moisture balance, you can drink, in addition to regular water, mineral water, green tea and various juices that do not contain sugar - but all these drinks must be taken into account when calculating your total daily calorie intake.

#### Meal time

The effectiveness of a balanced diet also depends on your meal schedule. The main key to success is to accustom yourself to divide your diet into three main meals: breakfast, lunch and dinner. In this case, you need to schedule the menu so that the morning and afternoon meals contain more calories, and the evening meals contain as few as possible. Since the human body works more actively during the day, the resulting substances can be successfully absorbed and consumed, and at night the person rests, therefore all systems must also be kept calm, thus allowing the body to organize them without difficulty. It is advisable to have dinner 3 hours before bedtime.

## Physical exercise

Calorie intake rates directly depend on the level of physical activity (low, moderate and high). That is, a balanced diet is closely related to the activity of the body, so you need to consume valuable calories in moderation and spend more of them.

Energy consumption, as well as the energy value of the product, is measured in calories. You need to start from the figure of 1200 kcal, since this is the minimum that is necessary for the body's basic expenses and maintaining normal life. Therefore, the more a person moves, the more calories will be needed.

#### Basic rules for a balanced diet

With a balanced diet, you should consume as many calories as your body can burn per day.

You need to eat well. That is, the approximate ratio of nutrients is 1:1:4, where the first two indicators are proteins and fats, and the last one is carbohydrates.

It is worth constantly changing the components of the diet, diversifying it, because in this way a shortage of different types of nutrients is avoided.

When losing weight, you should monitor weight fluctuations and consume a minimum amount of calories. If your weight has returned to normal, then you can allow yourself to fully and variedly enjoy the benefits of a balanced diet.

A balanced diet is based on three traditional meals, but small snacks are also allowed between breakfast and lunch, as well as lunch and dinner. Light additional meals will not hurt, but on the contrary will contribute to weight loss, if you do not go beyond the established daily calorie intake.

Non-digestible dietary fiber, which is called fiber, significantly contributes to the functioning of the gastrointestinal tract and also cleanses it. These fibers are found in cereals, legumes, vegetables, whole grain products, fruits and berries.

Although fat is necessary for the body, its amounts should be kept to a minimum. Eating large amounts of fat daily can lead to atherosclerosis and coronary heart disease. In a balanced diet, fried foods should be replaced with baked or boiled ones.

It is advisable to give up sugar to promote weight loss. Sweets can be replaced with fruits, and overall well-being, appearance and overall health will improve.

Eating too much salt can lead to hypertension as table salt is a source of sodium. Therefore, it is necessary to reduce the amount of salt in the diet. It is also preferable to use iodized [30] salt.

Of course, in most cases it is difficult for an adult to give up drinking alcoholic beverages. But it is worth limiting their amount when consumed and not turning alcohol into a constant component of the daily diet. In addition to the fact that alcohol contains calories, it stimulates appetite receptors, which will lead to a disruption of the balanced nutrition system.

## **Nutrition of a Christian**



Many Christians strive to be as close to the Lord as possible. This is expressed in a lifestyle, the main component of which is nutrition. The question that most believers ask is: how to determine the most suitable food for a Christian and the diet for its consumption?

Today there are several theories regarding the Christian diet, but most of them come more from man than from God. There are two main opinions on this matter: the first is that a person by nature, and therefore at the behest of the Lord, must adhere to a system of vegetarianism based on the principles of a raw food diet; and the second opinion is that all living things given to us by God must be eaten, because animals feed on their own kind, and why should a person abstain.

## What the Bible Says About Christian Diet

If we follow the biblical guidelines, the Bible somewhat supports both opinions, but they do not contradict each other. Namely, the Old Testament states that all deeds, as well as what a person eats or does not eat, are carried out for the Lord.

Initially, even during the creation of all living things and in particular man, God intended separate products for each species: seeds, grains, trees and their fruits, grass and other fruits of the earth for man, as well as grass and trees for animals and birds (indicated in Genesis 1:29 -thirty). As we see, at first people really ate exclusively food of plant origin and, apparently, in raw form.

Later, after the flood, the climate changed dramatically and in such harsh conditions a person could not survive if he did not consume meat and other animal products. The Bible says that God himself allowed us to change the way we eat, to eat everything that grows and moves as food (Genesis 9:3).

Therefore, most Christians are of the opinion that everything created by God is closely connected, necessary and intended for use in life. Consequently, there is nothing sinful either in the method of eating exclusively plant foods, or in the omnivorous method, the main thing is that what is consumed does not harm health.

#### **Basic rules of Christian nutrition**

Special strict rules for Christian nutrition apply during periods of fasting and on major church holidays. There are few general rules for a believer, only three; although they are simple at first glance, they are very important. If followed and maintained, they will become the key to a healthy diet.

Avoid obesity. This is not only an external defect, but also a disease that gradually harms health more and more and reduces life expectancy.

Avoid overeating, because gluttony is sinful. Food was given to us by the Lord in order to maintain the normal functioning of the body, and not for pleasure and abuse. According to Christian principles, you need to eat exactly as much as your body requires.

With a large assortment of products, you need to choose those that really benefit the body and do not lead to obesity and other diseases.

All these rules are interconnected and complementary; failure to maintain at least one will lead to violation of others. The Bible calls ignoring these rules a sin.

#### **Common Misconceptions**

In any food system or lifestyle in general, the Bible does not allow extremes. Every Christian knows that the ancient apostles, prophets and clergy often refused food or proper nutrition. Today, many servants of God, missionaries or simply believers, also strive to go through this, hoping for the help of the Lord. This is wrong, all the examples of sufferers and saints support some heavenly goal, pursue an idea because of which God helped to cope with difficulties and sacrifices. Doing this just like that or out of your own discretion is not only unnecessary, but also not recommended, because this is only causeless harm to health.

There is also a misconception that Jesus took away human illnesses on the cross, so you can not maintain a healthy lifestyle and eat poorly. Firstly, Christ took away our sins, and secondly, it is important not only not to get sick, but also to take care of your health.

## **Nutrition during fasting**

There are many fasting periods throughout the year, but the most important for every Christian is Lent. The period of Lent is the longest and most significant. The main goal of fasting is to strengthen love for God and everything around him created by him, as well as to atone for sins and cleanse ourselves spiritually. During Lent, every Christian must confess and receive communion, and also abstain from solemn holidays such as birthdays or weddings.

Nutrition plays an important role during any period of fasting. There are several basic rules of nutrition during fasting:

It is advisable to go without food on the first and last day of fasting, if health, age category (children and elderly people are not allowed to fast) and other special circumstances (pregnancy, breastfeeding, hard work, etc.) allow it. Abstaining during the day will in no way harm an adult, but on the contrary will promote health, because these are the so-called fasting days. The rest of the time you need to eat in moderation, exclusively lean food.

meat from the diet. Vegetable oil and fish are allowed to be consumed only on holidays, Saturdays and Sundays.

The first and last weeks of fasting are the strictest.

During fasting, the consumption of alcoholic beverages and spices is prohibited.

In order to fast without any special difficulties, it is recommended to prepare the necessary, permitted products on the eve of fasting and refrain from purchasing prohibited ones.

Under no circumstances is it permissible to refuse food for the entire fasting period.

At the end of the first week of Lent, Christians prepare kolevo (wheat porridge with honey), consecrate it and eat it with the whole family.

# The most suitable foods for fasting are:

- various porridges with water, lean, without oil;
- seeded bread;
- fruits;
- vegetables;
- mushrooms;
- nuts \_

Of course, other products are also suitable, the main thing is that they are lean and not harmful to health.

# **Adequate nutrition**



Nowadays, scientific discoveries inevitably affect all aspects of our lives, relating, in particular, to the theory of nutrition. Academician Vernadsky said that the body of each species has its own chemical composition.

To put it simply, every body is vitally important and useful only the nutrition that is intended for it by nature itself. Using simple examples, it looks like this: a predator's body is configured to consume animal food, the main element of which is meat.

If we take the camel as an example, it feeds mainly on plants growing in the desert, the composition of which is not at all full of proteins and carbohydrates, however, for its life activity and thorns are quite enough for its body to fully function. Try feeding a camel with meat and fats; anyone understands that the results of such nutrition will be disastrous.

That is why we should not forget that man is also a biological species, which has its own principle of nutrition determined by nature. Physiologically, the human digestive system is not similar to the digestive system of a predator or herbivore. However, this does not provide grounds for the assertion that humans are omnivores. There is a scientific opinion that man is a frugivorous creature. And it is berries, cereals, nuts, vegetables, vegetation and fruits that are his natural food.

Many will remember that humanity has continued the experience of eating meat products for thousands of years. This can be answered by the fact that the situation for the survival of the species was often extreme; people simply became like predators. In addition, an important fact of the inconsistency of this argument is that the life expectancy of people of that era was 26-31 years.

Thanks to Academician Alexander Mikhailovich Ugolev, the theory of adequate nutrition appeared in 1958. It was he who discovered that food substances are broken down into elements suitable for absorption by our body, calling this process membrane digestion. The basis of adequate nutrition is the idea that nutrition should be balanced and meet the needs of the body. According to the theory of species nutrition, suitable foods for human nutrition are fruits, vegetables, berries, cereals, vegetation and roots. Adequate nutrition means eating them raw. Simply put, according to the theory of adequate nutrition, the food consumed must correspond not only to the principle of balance, but also correspond to the real capabilities of the body.

Fiber is an important element of food. The digestive process takes place not only in the cavity, but also on its intestinal walls. This occurs thanks to enzymes that are secreted by the body itself and which are already present in the food consumed. It was found that the intestines have a separate function: the cells of the stomach secrete hormones and hormonal substances in large quantities, controlling not only the functioning of the gastrointestinal tract, but also other important systems of the body.

Many microorganisms function and interact in our intestines; their role is difficult to underestimate; it is for this reason that the concept *of human internal ecology, important for the theory of adequate nutrition, appeared*. The nutrients produced by the food itself appear precisely as a result of membrane, as well as cavity, digestion. Do not forget that thanks to the digestive processes, new essential compounds are created. Thanks to the works of Alexander Mikhailovich, the concept of normal nutrition of the body appears.

The stomach, with its microflora, creates three areas of nutrients:

- bacteria that help digest food;
- waste products of the microflora of the stomach, which produces useful substances only if the microflora is healthy. Otherwise, the body is exposed to toxins;
- secondary nutrients, which are a product of the processing of gastric microflora.

A significant point in the theory of adequate nutrition is the importance of consuming dietary fiber, as well as the proteins, fats, carbohydrates and other components contained in fruits. But scientists note that it is ballast substances that help the body fight hypertension, coronary heart disease, atherosclerosis, problems of the digestive tract and even malignant tumors.

# **Important information**

An important point worth noting is precautions in consuming vegetables and fruits: wash your hands and fruits before preparing and consuming them.

When choosing products, you should be aware of the presence of nitrates in them. To reduce their quantity, products can be placed in water for half an hour.

Under no circumstances should you consume foods that show signs of rotting or mold.

According to the theory of adequate nutrition, the consumption of meat, fried and canned foods, as well as chemically treated fruits and vegetables, negatively affects the functioning of the beneficial microflora of the body. The choice of products should be made towards local producers, since they are subject to less processing for the purpose of transportation.

## Proven benefits of adequate nutrition

The good thing about the theory of adequate (specific) nutrition is that it borrows the best and most important ideas from all previous theories of nutrition, microbiology, and food biochemistry. Nowadays, adequate nutrition has become practically used in the treatment of almost all diseases, except perhaps for congenital genetic diseases. Many doctors, applying the theory of adequate (species) nutrition, have achieved amazing results. Unfortunately, most information about this theory remains out of the view of consumers.

Adherents of the theory of adequate nutrition claim that as a result of following the rules of adequate nutrition, well-being radically improves, hormonal levels are restored, headaches and fever are relieved, lower back pain, colds, and long-term constipation go away.

We should not forget that the gastrointestinal tract produces a huge range of hormones that affect the functioning of our body as a whole. Both the absorption of food and the effect on our sensation of pain depend on them. Moreover, the feeling of joy, euphoria, even happiness largely depends on these hormones, which means it helps get rid of depression and migraines.

It should be remembered that the best results will be achieved by playing sports, following the correct regimen and stress on the body.

The conducted studies proved that within just four months of following the principles of adequate nutrition, the sperm concentration in the problem men studied increased by more than 20 times. Also, considerable success is achieved in applying the theory of adequate nutrition in the treatment of female infertility.

# Disadvantages of an adequate nutrition system

First of all, it is worth noting that the transition to any food system is associated with emotional and sometimes physical inconvenience. Before changing your diet completely, you should consult with your doctors and read detailed literature. In this case, you will be able to avoid many mistakes and understand in advance what problems you will encounter.

Let us remember that people who practice a raw food diet experience a decrease in sexual activity. This is due to a decrease in the consumption of protein foods.

# **Nutrition by calories**



Today, one of the most popular nutrition systems is calorie-based nutrition. This method of losing weight is considered the most effective, safe and does not require giving up your favorite foods.

The main rule is to count the number of calories the body needs throughout the day and, therefore, be aware that each increase in portion leads to an increase in calories.

You can always follow a calorie diet, because this nutritional system does not harm your health at all, and even promotes excellent well-being. The basic principle of this system is to consume exactly as many calories as the body uses per day. The assortment of products and their quantity does not matter, the main thing is not to exceed the limit of permissible calorie content. It is also not recommended to consume calories significantly less than normal, because the body must function normally, without any disruptions or stress, so as not to cause harm to health.

#### Calculation of daily calorie intake

To determine the approximate number of calories the body needs per day for normal functioning and maintaining shape, you need to determine the main indicators (which are individual for everyone) and carry out the calculation using a special formula.

One of the main indicators is **metabolism**. Even if a person works in a sedentary mode all day, the body still uses the energy received from food in the process of digestion, heartbeat, kidney function, brain function, and breathing. You can calculate it this way: multiply the weight by 20 kcal.

The second important factor when calculating the required amount of calories is **a person's age**, since after twenty the period of active development of the body ends. This indicator is determined in this way: each subsequent decade after twenty reduces the amount of calories by 2%.

The next indicator is divided by **gender**, because men need more calories than women. This factor also includes the general physique indicator, because a smaller body will need less energy for heating. That is, the larger the body, the more calories you need.

Another important factor in the calculation is **physical activity**. If you regularly engage in sports training, physical exercise or other strength activities, then it is dominated by significant muscle mass, which burns significantly more calories than fat tissue. To determine this indicator, you need to multiply metabolism by the percentage of activity in the rhythm of life.

# **Activity percentages:**

20% - mostly sedentary;

30% - light activity throughout the day (cleaning, cooking, walking, shopping); 40% - medium activity (work in the garden, garden, yard, general cleaning of the house, long walks, etc.); 50% - high level of activity (regular training, jogging, various exercises, strength work).

The last indicator of the general calorie formula is **the percentage of energy** during the processing and assimilation of food. It is calculated using the formula: (metabolism + physical activity) multiplied by 10%.

## Formula for calculating daily calorie intake:

Metabolism + physical activity + percentage of energy for food processing

Having calculated the daily portion of calories, you need to clarify the result obtained according to the age category (for each subsequent decade after twenty, we reduce the total amount of calories by 2%).

If a diet with calorie counting is used for weight loss, then it is worth adjusting the result of the basic formula in this way: we compare 7 kcal to one kilogram of weight, that is, we multiply our weight by 7, then we subtract the resulting number from the calculated daily portion of calories according to the given formula.

# Dietary recommendations by calorie

According to the recommendations of the famous nutritionist M. Ingmar, it is necessary to consume more fat (30-40% of total calories per day). This way, the body will be full, and the stomach will not be stretched from a lot of low-calorie foods.

Researcher on the popular diet of athletes L. Cordain advises everyone who leads an active lifestyle to make a diet based on calories mainly from vegetables , meat and fish (with a mandatory increase in the final calculation indicator). Cordain also recommends avoiding dairy products as allergens and foods that interfere with weight loss.

When preparing your daily diet, you need to understand that it is better to eat a portion of something healthy and filling than sweets, chips, processed foods, etc. It is necessary to correctly distribute meals according to a clear schedule, because this way it will be easier for the body to adapt to the new nutrition system, and the body as a whole will only benefit from the nutrition system. Under no circumstances should you exhaust your daily calorie intake before lunch and fast during the second half of the day, since negative consequences cannot be avoided with such measures.

It is worth calculating calories and creating a menu in accordance with this diet in advance to save your time. To calculate the calories contained in a specific product, you can use special programs that can be downloaded on the Internet.

You should always remember about the sugar that is added to tea, because it also contains a lot of calories.

In the life of the human body, calories are simply necessary for normal functioning, but the point is not only in their quantity. It is important that the foods consumed contain useful substances, namely proteins, fats, carbohydrates, minerals and vitamins. So don't mistake drinking fresh orange juice and soda with "juice content" or drinking real chicken broth with chicken broth with flavored instant seasoning as equivalent, even though the "chemical" version has fewer calories.

The opinion that the more satisfying a product is, the less calorie it contains, is a common misconception, which often confuses calculations and, therefore, prevents weight loss.

When following a calorie-based diet for weight loss, you should regularly use scales to monitor weight dynamics and, in the negative case, correct mistakes, and in the positive case, stick to the necessary course to consolidate the result.

It is a misconception that alcoholic drinks help burn fat. On the contrary, alcohol is additional calories that stick.

Calories can be counted using special tables. There are tables of caloric content of various dishes, calorie content of individual world cuisines, specific products, as well as for certain groups of people. The latter, in accordance with the energy needs of a specific group (for example, pregnant and breastfeeding women, children, students, athletes, homebodies, etc.), determines the required amount of nutrients and minerals.

calculate your daily calorie requirement, taking into account your physiological characteristics, on our website edaplus . info in the "Body and Diet Analysis" section <a href="https://foodplus.info/analysis-of-body/">https://foodplus.info/analysis-of-body/</a>. There you will also find your personal caloric intake and optimal weight loss forecast.

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# Human nutrition systems - an overview of the advantages and disadvantages of different methods

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**Abstract**. In this article, we have reviewed and described 15 major nutritional systems. We have described each one, useful and dangerous properties, recommendations for use and disadvantages of each method.