

# Nutrition for obesity

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**Abstract.** Obesity is a pathology characterized by excessive accumulation of fat in the body, which leads to excess body weight. It is the most common chronic disease in the world.

Obesity can be diagnosed when a person's weight is at least 20% above normal. Both children and adults, both men and women are susceptible to this disease, but women suffer from obesity almost 2 times more often than men. Obesity affects 30% of the world's population; it is the scourge of modern society. According to WHO, by 2025, 50% of women and about 40% of men will have problems with excess weight. Most often, this pathology manifests itself between the ages of 35 and 60 years.

*Key words:* obesity , description , causes occurrence , types and symptoms , complications , prevention , treatment, useful products , folk dangerous means \_ products

## General description of the disease

In order to establish a diagnosis and find out the severity of the disease, you should calculate the body mass index (BMI) - for this, the patient's weight must be divided by his height squared:

- the norm is considered to be from 19 to 24.9;
- excess weight is characterized by an indicator of 25-29.9;
- 1st degree obesity is diagnosed with numbers from 30 to 35;
- 2nd degree – with BMI in the range from 35 to 40;
- 3rd degree – BMI indicators exceed 40.

## Causes

The development of obesity is caused by a long-term imbalance between energy consumption and energy intake in the human body. However, this is not the only reason; the following factors can provoke the disease:

1. **genetic predisposition** is the most common, since body mass index is inherited in more than 60% of cases. These factors influence energy expenditure and affect the distribution of body fat;
2. **external** - most often the pathology develops as a result of consuming a large amount of calories, the cause of which is large portions and the high energy value of the food consumed. Significant weight gain is facilitated by the consumption of refined carbohydrates, alcoholic beverages, fatty and fried foods. Sedentary work also contributes to the development of obesity;
3. **regulating** - early obesity can be triggered by maternal smoking during pregnancy, maternal excess weight during pregnancy, and taking antibiotics in infants. A child's psychological state may also be related to weight. For example, abuse, sexual and physical abuse in childhood can trigger the development of obesity. Weight gain can be caused by taking corticosteroids, antipsychotics, anticonvulsants , and lack of sleep;
4. **eating disorder** , which includes compulsive overeating, which is the uncontrolled consumption of large amounts of food at a fast pace; it can be provoked by a psychological

disorder. Eating disorders also include night eating syndrome, which consists of morning anorexia, insomnia and eating food mainly at night - up to 50% of the daily diet.

Common causes of obesity include:

- hormonal imbalance – menopause, pregnancy, endocrine diseases;
- unhealthy diet – consumption of high-calorie foods with low fiber levels [6];
- sedentary lifestyle;
- frequent stress [7] ;
- disturbances in the functioning of the liver and pancreas;
- lack of sleep [8] ;
- a brain tumor;
- pathologies of the nervous system.

### **Obesity symptoms**

The main sign of obesity is excess body weight, and fat can accumulate in different parts of the body. The patient pays attention to the appearance of a double chin, changes in the figure, folds form in the abdominal area - these are signs of the first stage. Subsequently, the following symptoms appear:

1. unreasonable irritability;
2. drowsiness and loss of strength;
3. back and limb pain, joint problems;
4. swelling on the face and body [9];
5. constipation [10] , nausea, heartburn;
6. headaches [11] ;
7. hypertension;
8. sleep apnea, snoring;
9. stretch marks on the skin;
10. menstrual irregularities in women;
11. tachycardia;
12. increased blood sugar levels and, as a result, poor wound healing;
13. shortness of breath, increased sweating, acne .

### **Complications**

Obesity not only negatively affects the health of the patient, it can lead to psychological and social problems. Overweight people are often discriminated against, bullied , and have low self-esteem.

In terms of health, complications of obesity can include the following:

- thrombophlebitis, up to deep vein thrombosis;
- pulmonary embolism;
- pathologies of the skin caused by diaper rash;
- malignant tumors;
- arthrosis and arthritis;
- tendon diseases;
- increased risk of developing atherosclerosis;
- gallstone pathology;
- fatty liver degeneration, which can lead to cirrhosis;
- decreased testosterone levels in men.

## Forecast

Without adequate treatment, obesity will progress. The severity of complications caused by this disease primarily depends on:

1. absolute muscle mass;
2. the absolute amount of fat in the patient's body;
3. localization of fat deposits in the body.

As a rule, most obese patients regain their weight 4-5 years after losing weight, that is, obesity, just like all other chronic pathologies, requires a lifelong management program.

## Prevention

The basic rules for preventing obesity include:

- active lifestyle;
- rationally composed diet;
- the ratio of calorie content of food consumed to energy consumption ;
- compliance with work and rest schedules;
- refusal of uncontrolled use of medications;
- cardiological loads at least 3 hours a week <sup>[2]</sup> ;
- regularity of meals, the interval between meals should not exceed 5 hours, dinner no later than 3 hours before bedtime;
- maintaining a healthy lifestyle;
- annual consultations with an endocrinologist;
- compliance with the drinking regime.

## Treatment of obesity in official medicine

Even minor weight loss significantly improves the patient's well-being and reduces the likelihood of complications. The following methods are used to treat obesity:

1. **balanced diet** - involves eating small amounts of food; if possible, you should avoid snacks or carefully select foods for them. Refined carbohydrates should be replaced with fresh fruits and vegetables, drink pure water instead of store-bought juices, reduce the consumption of alcoholic beverages as much as possible, and choose low-fat dairy products. It is recommended to give preference to foods with a low glycemic index and ensure that your daily diet contains a sufficient amount of protein and fiber [12];
2. **physical activity** - helps speed up metabolism and increases energy loss. At the same time, in obese patients, the psychological state improves, the lipid profile improves, the duration and quality of life increases, self-esteem increases and the risk of developing cancer pathologies decreases. Obese patients are recommended to exercise resistance exercises, which help increase muscle mass; it is most effective to combine strength and aerobic exercises; <sup>[3]</sup>
3. **Behavioral interventions** can be of the following types:
  - *Support* - provides support from family members, friends or a group of like-minded people. It is believed that it is group meetings that give good results in weight loss, since it is such meetings that motivate, control and develop individual responsibility for the result.
  - *Self-monitoring* involves independently recording your calorie intake, regularly weighing yourself, and keeping a special journal to record useful information and results.

- *Stress management* involves analyzing stress in patients' lives and developing strategies to deal with stressful situations.
  - *Situational action* - receiving moral or material rewards for results in weight loss. The patient can receive rewards from family members, a group of like-minded people, or independently reward himself for success in losing weight.
  - *Incentive regulation* involves developing solutions to overcome obstacles that interfere with a healthy lifestyle. For example, do not buy sweets if you lack the willpower not to eat them uncontrollably, or refuse to ride in the elevator in favor of climbing the stairs. <sup>[1]</sup> You can also monitor your progress in losing weight using special applications on mobile phones;
1. **medications** are used mainly for people with a body mass index of more than 30. These are drugs to reduce appetite and reduce insulin levels in the blood. Such drugs have many side effects, so they are not recommended to be taken without the prescription of a nutritionist;
  2. **surgical treatment** - reducing the size of the intestines or stomach in order to lose weight;
  3. **working with a psychologist** or psychotherapist, taking antidepressants.

### Healthy foods for obesity

Nutrition plays a major role in the process of losing weight. There is no point in torturing yourself with strict diets, as failures will lead to the opposite result. The daily diet should be balanced and include the following products:

- **fresh vegetables** . Preference should be given to green beans [13], which stimulate the gastrointestinal tract, Brussels sprouts and cauliflower, rich in iron and amino acids, cucumbers [14], rich in minerals and 90% consisting of water [15]. You should include in your diet spinach [16], which is well digestible and relieves symptoms of fatigue, zucchini [17], which activates the gastrointestinal tract, radishes [18], rich in protein [19], and celery, which is famous for its negative calorie content;
- **from fats** you need to choose cocoa butter, rich in antioxidants [20], fish oil, which stimulates metabolism, avocado oil, which improves hematopoiesis, and coconut oil, which contains many vitamins;
- **protein** , in the form of lean beef, chicken eggs [21], which improve the condition of muscles and bones, dietary chicken meat and seafood, containing a huge amount of macro- and microelements;
- **dairy products** – low-fat yogurt [22], sour cream and kefir, which strengthen the immune system and stimulate intestinal function;
- **citrus fruits** , rich in vitamin C [23], fiber and organic acids;
- **fresh berries** – blueberries, cranberries, raspberries, blackberries, strawberries, blueberries [24-26].

### Folk remedies for the treatment of obesity

**Traditional methods of treatment are aimed at reducing appetite:**

1. if you have a headache, it is recommended to rinse your mouth with mint decoction [27];
2. drink a decoction of parsley herb [28], the effect of this drink lasts up to 2 hours;
3. drink ginger root decoction as tea throughout the day; <sup>[4]</sup>
4. to stimulate metabolism [29], add 2 drops of lemon balm essential oil to a glass of water and drink three times a day;
5. Regular consumption of chamomile [30] decoction with lemon [31] promotes weight loss; <sup>[5]</sup>
6. On an empty stomach, drink 150 ml of warm water with a spoon of honey every morning [32].

## Dangerous and harmful foods for obesity

Obese patients should exclude or minimize the consumption of the following foods:

- industrial semi-finished products and fast food ;
- sausages, smoked meat and fish;
- baked goods, sweets, chocolate and ice cream;
- alcoholic drinks;
- store-bought sauces and mayonnaise;
- fatty meats;
- margarine;
- sweetened carbonated drinks and store-bought juices;
- fresh bread;
- seasonings to improve taste and stimulate appetite.

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