

# Nutrition for myopia

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**Abstract.** Myopia is a pathology in which a person has difficulty seeing distant objects. With myopia, a person perceives distant images blurred and unclear due to the fact that the power of the optical system of the eye does not correspond to its length.

According to WHO statistics, about 30% of all people in the world suffer from myopia <sup>[7]</sup>. Today this is the most common ophthalmological pathology. Myopia was first diagnosed by Aristotle; he noted it in his philosophical treatises, where he noted that people with such pathology have to squint in order to see well. Therefore, from the Greek language the term “*myopia*” is literally translated as *squinting*.

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

## Causes

Myopia is diagnosed at any age, but most often this pathology is detected in children aged 7-12 years. In adolescents, the disease can progress, and after 40 years of age, vision can stabilize due to the development of farsightedness. The exact causes of myopia have not been determined, but certain risk factors have been identified, which include:

1. genetic predisposition - if both the mother and father are myopic, then the probability of developing the disease in the child is 50%;
2. For normal synthesis of the sclera, microelements such as copper, chromium, zinc, and magnesium are necessary. Their lack in the diet can provoke the development of myopia;
3. excessive overstrain of the eye muscles - sitting for long periods with gadgets, insufficient lighting of the workplace, reading while lying down or in a moving vehicle and other intense stress on the eyes;
4. incorrectly selected glasses or lenses stimulate the development of pathology;
5. elongated eye shape – more than 23 mm;
6. constant overstrain of the muscle that holds the lens;
7. wrong lifestyle;
8. weakening of scleral tissue;
9. some diseases - rickets, trauma during childbirth, brain injury. Problems of the musculoskeletal system: scoliosis and flat feet. Also, the development of myopia can be provoked by childhood infections - measles, diphtheria, scarlet fever.

## Symptoms of myopia

As a rule, myopia begins to develop in childhood and this happens unnoticed by the child, without any obvious symptoms. Younger schoolchildren have increased strain on their eyes; they often sit at uncomfortable desks, so when During medical examinations, many children are diagnosed with myopia.

The main symptom of the development of myopia is that the child begins to squint in order to focus his vision. The student does not see what is written on the board, public transport numbers, and cannot

read signs and price tags in stores. Due to constant eye strain, the child feels tired, has aching eyes, complains of a headache, and may develop strabismus.

With progressive myopia, the patient must periodically change glasses or contact lenses to new ones with stronger diopters, since old glasses are no longer able to correct vision to 100%. Myopia is considered progressive, in which the patient's vision decreases by one diopter annually.

Myopia is often accompanied by the following symptoms:

- dry eyes;
- periodic flashing of flies before the eyes;
- pain in the eyes;
- increased tearfulness;
- poor vision at dusk - night blindness;
- feeling of pain in the eyes.

## Complications

Myopia is classified into **weak** (up to 3 diopters), **moderate** (up to minus 6.25) and **high** severity (more than 6.5 diopters). The risk of complications is most likely with a high degree of myopia. Constant eye strain provokes stretching of the membranes of the eyeball, as a result of which the vessels become thinner and stretched, and the structure of the fundus changes.

The most serious complication of myopia is considered to be detachment of the retina from the choroid. In a healthy person, the retina fits tightly to the choroid and receives nutrition from it. Therefore, its detachment can result in complete blindness. The main symptom of detachment is blurred vision, creating the impression of a smoke screen before the eyes. This condition is not accompanied by pain. Retinal detachment can only be cured surgically and this must be done as quickly as possible. Other complications of myopia include the development of cataracts (clouding of the lens) and destruction of the vitreous body.

## Forecast

Alas, myopia is not always amenable to complete correction. But the prognosis depends on how quickly the eye pathology was diagnosed. If you consult an ophthalmologist in a timely manner and begin therapy, the chances of recovery and maintaining high visual acuity will be significantly higher.

## Prevention

Prevention of myopia is relevant at any age, however, in childhood it needs to be given special attention, and for this it is necessary:

1. annual preventive examinations with an ophthalmologist;
2. timely correction of strabismus;
3. use high-quality sunglasses;
4. do visual exercises daily;
5. adjust the correct lighting of the workplace;
6. alternate visual stress with rest, you need to take breaks during the day;
7. for children, limit the time they work at the computer, allocate a certain time for playing with gadgets;
8. follow a daily routine, moderate physical activity is recommended.

Adults with already diagnosed myopia should pay attention to the following recommendations:

- check the condition of the fundus every 6 months;
- You should promptly replace worn or scratched lenses in glasses, as they create additional strain on the eyes;
- those who use contact lenses for vision correction should adhere to wearing periods and give preference to new models made from modern materials;
- With moderate and high degrees of myopia, lifting heavy objects and active physical activity is prohibited.

### **Treatment of myopia in official medicine**

Diagnosis of myopia by an ophthalmologist begins with checking visual acuity using a special table. After this, the doctor examines the eye using ophthalmoscopy and biomicroscopy. If necessary, the patient is prescribed an ultrasound of the eye, visual fields are examined and intraocular pressure is measured.

Treatment of myopia involves correction and therapy itself. Correction consists of selecting glasses and contact lenses:

- soft lenses have a number of advantages; they can correct all vision imperfections. Silicone hydrogel lens material allows oxygen to pass through and allows you to lead a comfortable and active lifestyle. Contact lenses do not distort objects, do not limit the field of vision, and with the help of lenses you can even change the color of your eyes. This method of correction is invisible, does not change the patient's appearance and is suitable for people even with large diopter differences in their eyes. The disadvantages include the fact that they require careful care, regular updating and can cause damage to the cornea <sup>[3]</sup>;
- glasses are much easier to care for and do not require additional accessories or updating. Glasses with expensive fashionable frames can be a stylish addition to your look. Due to the fact that the glasses do not come into contact with the eye, the possibility of infection is zero. But with a sharp change in temperature, glasses fog up, which creates discomfort for a person in the winter in a store or on public transport. With a high degree of myopia, thick lenses in glasses can ruin the patient's appearance.

Treatment of myopia includes the following methods:

1. physiotherapeutic procedures to improve blood circulation in the eye area - special gymnastics, phonophoresis, pneumomassage, magnet for the cervical spine, magnetophoresis with taufon, electrotherapy, electrophoresis with no-shpa, laser stimulation, reflexology;
2. drug therapy helps prevent the progression of pathology and consists of using multivitamin complexes, nootropic drugs that give rest to the eyes during sleep, eye drops <sup>[5]</sup>;
3. Laser correction is completely computerized, makes it possible to achieve high visual acuity <sup>[6]</sup>, lasts no more than 10 minutes, and the maximum effect can be observed the very next day <sup>[4]</sup>.
4. surgery to replace the lens with an intraocular lens;
5. orthokeratology involves the use of contact lenses at night, this refractive method straightens the cornea at night, recommended for young people and children;
6. scleroplasty is a surgical method, its task is to stop the growth of the eyeball.

### **Healthy foods for myopia**

If you have myopia, you should monitor your diet and include in your diet foods that help strengthen the blood vessels of the eyes and improve the nutrition of eye tissue:

- carrots and carrot juice [8,9], as a powerful source of vitamin A [10]. You can add a spoonful of parsley juice [11] or two spoons of fresh beet juice [12] to freshly squeezed carrot juice;
- blueberries, ophthalmologists recommend eating at least 10 glasses of fresh berries during the summer season; you can prepare them for the winter by grinding them with sugar;
- apricots [13] in any form - fresh, dried apricots, marshmallows, juice [14];
- rosehip infusion [15], rich in vitamin C [16], which promotes the strength and elasticity of the blood vessels of the eye;
- spinach [17], which contains lutein and copper;
- sea fish and fish oil;
- citrus fruits, kiwi [18] , melon [19] ;
- almonds, peanuts, walnuts [20], cashews, sunflower seeds;
- grapes [21] , broccoli [22] , bell pepper [23] ;
- black currant berries [24], rich in antioxidants [25].

### **Folk remedies for the treatment of myopia**

When treating myopia, folk remedies can be used only after consultation with an ophthalmologist. The most common include:

1. lotions made from rosehip decoction, they are applied to the eyelids for 2 weeks every day for half an hour;
2. compresses for eyelids from raw potatoes [26], for this purpose the root vegetable is peeled, crushed on a fine grater, and the resulting mass is wrapped in cloth;
3. before going to bed, apply cotton pads soaked in a decoction of calendula [27] with cornflower [1] to your eyelids ;
4. squeeze the juice out of carrots, add a little olive oil, take 100 ml on an empty stomach for a month;
5. Grind fresh lingonberries, mix in equal proportions with honey [28] and take 1 tablespoon daily;
6. drink a decoction of blueberry leaves as tea throughout the day;
7. take 1 tsp daily . a mixture of chopped dried apricots, walnuts and honey, taken in equal proportions;
8. dried calendula inflorescences are crushed to a powder and taken 1 coffee spoon twice a day with water [2] ;
9. mix the juice of ½ lemon [29] with 150 ml of boiling water, 100 g of cranberry juice [30] and 20 g of honey, take this mixture daily on an empty stomach;
10. or juice from sea buckthorn berries several times a day [31].

### **Dangerous and harmful products for myopia**

If you are myopic, you should avoid harmful foods that have a detrimental effect on the organ of vision and the immune system as a whole:

- alcoholic drinks;
- fatty meats;
- frying food;
- products with preservatives and dyes;
- store-bought semi-finished products;
- smoked meats and hot sauces;
- carbonated drinks;
- strong tea, coffee and cocoa;
- margarines and spreads;

- fast food ;
- white bread and pastries;
- salty food.

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Received 08/04/2021

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**Abstract** . Myopia is a pathology in which a person does not see objects far away well. In myopia, a person blurred and unclearly perceives the image in the distance due to the fact that the power of the optical system of the eye does not correspond to its length. According to WHO statistics, about 30% of all people in the world suffer from myopia [7]. Today, it is the most common ophthalmologic pathology. Myopia was first diagnosed by Aristotle, he noted it in his philosophical treatises, where he noted that people with such pathology in order to see well, have to squint. Therefore, the Greek term "myopia" literally translates as squinting.