



## Apple juice is a natural source of youth and longevity

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**Abstract.** The article discusses the main properties of apple juice and its effect on the human body. A systematic review of modern specialized literature and relevant scientific data was carried out. The chemical composition and nutritional value of the drink are indicated, the use of apple juice in various types of medicine and the effectiveness of its use in various diseases are considered. The potentially adverse effects of apple juice on the human body under certain medical conditions and diseases are analyzed separately.

**Keywords:** apple juice , useful properties, contraindications, composition, calorie content

Apple juice is one of the most widely used in the world. The popularity of the drink is due to its excellent taste properties, as well as the high content of various vitamins and minerals. According to Irish belief, this particular fruit is a symbol of eternal life and immortality, which is not at all surprising, given the benefits its tasty and healing juice gives to the human body.

### Composition and calories

The energy value of the finished product depends on the variety of [apples](#) from which it is made. For example, 100 grams of the fruit of the famous green variety "Granny Smith" (translated as "Granny Smith") contains only 59 kcal. The drink squeezed from them is considered to be quite low-calorie, which allows it to be included in various diet menus and healthy eating systems. <sup>[one]</sup>

Note! The sweeter the variety of fruit, the higher the nutritional value of the drink squeezed from them. For example, the calorie content of red gourmet apples is already 62 kcal per 100 grams of product. <sup>[2]</sup>

The chemical composition of apples of different varieties may vary slightly. Also, the final content of nutrients in fruits is affected by the conditions of their growth and ripening, the degree of irrigation of the land in the garden, etc.

## **Top 10 Health Benefits of Apple Juice**

Apple juice is considered one of the most beneficial for the human body - a freshly squeezed drink has numerous healing properties.

### **1. Prevents dehydration**

Apple juice contains a large amount of water (about 88%), which makes it an excellent alternative to eliminate dehydration, the body due to previous diseases. <sup>[4, 5]</sup> This is especially true in the treatment of children who do not like the taste of conventional medicinal drinks. But it should be borne in mind that only juice diluted with water can be used for medicinal purposes. Otherwise, due to the high sugar content, the drink can provoke additional retraction of fluid from the intestines - leading to aggravation of diarrhea. <sup>[6]</sup>

### **2. Replenishes iron stores, helps in the treatment of anemia**

The systematic consumption of apple juice promotes improved absorption of iron into the body, which helps in the treatment and prevention of the development of such a very common disease in the modern world as iron deficiency anemia. <sup>[7]</sup>

### **3. Reduces blood cholesterol levels**

Studies have shown that apple juice has a healing effect on blood vessels, reduces the risk of atherosclerosis and cardiovascular disease by reducing blood levels of bad cholesterol. <sup>[8,9,10]</sup>

### **4. Is a Powerful Antioxidant**

Antioxidants act as a kind of shield for the body: they help slow down the aging process (including maintaining brain clarity - suppressing the first signs of Alzheimer's disease <sup>[11]</sup>), prevent the development of asthma and various types of cancer <sup>[12]</sup>, protect eye health, etc. In one apple such useful substances (vitamin C, niacin, flavonoids, quercetin, catechin, etc.) are contained in more than three oranges or eight bananas. <sup>[13, 14]</sup>

### **5. Helps Strengthen Bones**

The fruit contains such useful minerals as calcium, phloridzin flavonoid, [boron](#) - they contribute to the compaction of the bone structure and prevent the development of osteoporosis, a systemic disease associated with calcium leaching from the bones of the skeleton. It is especially common in women during menopause. <sup>[15, 16]</sup>

### **6. Reduces symptoms of PMS**

Due to the presence of vitamin C in the composition, it has a slight analgesic effect, improves mood. <sup>[17]</sup> A glass of tasty, refreshing apple juice is a much healthier and more enjoyable alternative to standard pharmacological pills.

### **7. Improves intestinal peristalsis**

The drink contains pectin, soluble fiber, and sorbitol - acts as a natural laxative, helps to improve bowel function and prevent constipation. <sup>[18]</sup> That is why gynecologists recommend that patients drink natural apple juice during pregnancy.

## **8. Reduces inflammation in the urinary system**

Apple juice has an anti-inflammatory effect, in particular, it helps to reduce inflammation of the kidneys and bladder, accelerates tissue regeneration processes, and protects against toxins. <sup>[19]</sup>

## **9. Normalizes sleep**

Apples are a natural source of melatonin, a hormone responsible for normalizing sleep. Moreover, most of it is contained in the skin of the fetus. Just a few glasses of freshly squeezed apple juice, regularly drunk throughout the day, will help get rid of insomnia and get enough sleep during the night. <sup>[twenty]</sup>

## **10. Affects the health of future babies**

Based on a number of studies, Scottish experts concluded that the children of women who systematically consumed fresh fruits and juices during pregnancy, in particular apple juice, are much less likely to suffer from asthma, respiratory diseases, manifestations of atopic dermatitis, etc. <sup>[21]</sup>

In addition, green apple juice is considered hypoallergenic. It is he who is recommended by pediatricians as the introduction of the first complementary foods into the diet of babies, but not in a pure form, but additionally diluted with water.

## **Contraindications and harm of apple juice**

Like any other product, apple juice has certain contraindications and application features. In particular, lovers of a delicious drink should remember that after tasting, more thorough care of the oral cavity should be carried out. This is explained by the fact that the acid contained in the apple has a pH below 5.5, which leads to the gradual destruction of tooth enamel and the formation of caries. <sup>[22]</sup> It is recommended to drink juice through a straw or additionally rinse the teeth after contact with sweet and sour liquid.

In addition, the consumption of a delicious natural drink is recommended to be limited to people:

- suffering from pancreatitis, hyperacidity, peptic ulcers of the stomach and intestines; <sup>[23]</sup>
- having individual intolerance to the product;
- with exacerbation of food allergies.

In case of poisoning and infectious disorders of the intestine, drinking juice is undesirable - it can worsen the patient's condition. Diabetics should also be careful about the drink, do not exceed the norm recommended by a specialist, drink drinks from apples, mostly sour varieties.

of a drink rich in fructose can provoke such unpleasant phenomena in the body as flatulence, nausea, etc. <sup>[24]</sup> quantities.

## **Daily Value of Apple Juice for Children and Adults**

Initial acquaintance with juice, feeding babies, you need to start with ½-1 teaspoon of liquid at a time. If everything is in order, there is no allergy and digestion is not disturbed, you can gradually increase the portion.

**Note!** Sometimes the use of fruit juices, in particular apple juice, can provoke the occurrence of non-specific diarrhea in infants. <sup>[25]</sup> If suspicious symptoms are detected, the introduction of a new product should be stopped immediately and a pediatrician should be consulted.

If the body reacts normally to the product, then to fully saturate it with the necessary amount of natural vitamins and minerals, experts recommend consuming the following amount of apple juice daily:

- Babies under the age of 2 years - about 25-30 grams.
- Children 2-7 years old - about half a glass.
- Children and adolescents under 16 years old - up to 2 glasses.
- Adults - up to 800 ml.

Toddlers and adults with gastrointestinal problems should dilute the juice with water in proportions of 1:1, 1:2. It is recommended to drink juice between meals, at least 40 minutes before a meal, do not drink a drink before going to bed and do not exceed the allowable consumption rates.

### **Recommendations for the preparation and storage of the drink**

It is possible to produce juice at home from any apples (most often, the Macintosh variety is used in industrial production). But it should be borne in mind that a drink made from green fruits is more hypoallergenic and less high-calorie, but at the same time, red-fleshed apples contain more antioxidants. <sup>[26]</sup>

To prepare juice, apples need to be washed (if there is a wax film, it must first be removed by lowering the fruit for a few seconds in hot water with the addition of vinegar), cleaned from the core and wormholes. The skin should not be peeled - it contains a large amount of nutrients and pectin. Pieces ready for processing can be passed through a juicer, interrupted with a blender or grated. In the last two options, the thick apple mass must be additionally squeezed through gauze, a clean cloth or a fine sieve. From the cake remaining after pressing, you can make a delicious marshmallow (if all the seeds have been carefully removed from the product) - in this way, the process of producing apple juice will be waste-free. In addition, it is in the cake that the largest amount of pectin remains.

When processing fruits through a juicer, pulp often forms. This juice is the most useful. But, if necessary, it can also be further filtered.

Keep in mind that a freshly squeezed drink in contact with air for more than half an hour begins to oxidize and loses most of its nutrients. Therefore, in order to get the maximum benefit, experts advise using only freshly squeezed juice without the addition of sugar and other preservatives (it is recommended to avoid iron accessories during cooking to prevent product oxidation) or immediately pasteurize it for subsequent safe storage.

You can not add sugar for storage - the juice contains a sufficient amount of tannins, which are an excellent natural preservative. But in order to preserve the product for a long time and prevent the development of pathogenic microbes in it, it must be further processed. Heat treatment, pasteurization is best in this case. The juice must be heated over low heat until foam ceases to form (do not allow boiling), remove it and pour the liquid into pre-heated jars. You can store the juice in a cool, dark place for up to 1 year.

## Expert comment

### Tatyana Eliseeva, nutritionist

Natural apple juice is a great analogue of expensive vitamin complexes, created by nature itself. Drinking several glasses of a delicious drink every day, you have the opportunity to saturate the body with useful microelements, and also eliminate or prevent the development of many health problems without the use of additional medications. That is why we recommend including healthy and tasty apple juice in the daily diet of both adults and kids.

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*Received 20.08.2022*

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