



Water - description, benefits, effect on the body and best sources

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Abstract. The article discusses the basic properties of water and its effect on the human body. A systematic review of modern specialized literature and current scientific data was carried out. Products with the highest water content are indicated. The daily water requirement taking into account gender and age is considered, and a universal calculation formula is given. Cases of decreasing and increasing consumption rates are considered. Signs of shortage and excess of water are given, its interaction with other elements is considered.

Key words: water , benefit, harm, norm, beneficial properties, sources

Water is the basis of life. When she's gone, everything freezes. But as soon as it becomes available to all living beings, and in large quantities, life begins to flourish again: flowers bloom, butterflies flutter, bees swarm... With a sufficient amount of water in the human body, processes of healing and restoration of many functions also occur.

In order to provide the body with fluid, it is necessary not only to consume water in its pure form, or in the form of compotes, teas and other liquids, but also as products containing water in the maximum amount.

Water rich foods

See Table 1.

General characteristics of water

Water is a liquid that has no taste, color or smell. Its chemical composition is hydrogen oxide. In addition to the liquid state, water, as we know, has a solid and gaseous state.

Despite the fact that most of our planet is covered with water, the proportion of water suitable for the body is only 2.5%.

And if you consider that 98.8% of the total amount of fresh water is in the form of ice or hidden underground, then there is very little supply of drinking water on Earth. And only careful use of this most valuable resource will help us save life!

Daily water requirement

As for the body's daily need for water, it depends on gender, age, body constitution, as well as on the person's place of residence. For example, for a person living on the coast, the amount of water consumed may be reduced compared to a resident of the Sahara. This is due to the fact that part of the water the body needs can be absorbed by the body directly from the moisture in the air, as is the case with residents of coastal areas.

According to the latest research in the field of physiology, the required amount of water for a person is 30 ml per 1 kilogram of body weight.

That is, if the weight of an adult is 80 kg, then they should be multiplied by the required 30 ml of liquid.

Thus, we get the following results: $80 \times 30 = 2400$ ml.

Then it turns out that for a full-fledged life, a person weighing 80 kg needs to drink at least 2400 ml. liquids per day. [1]

The need for water increases when:

- In case of high air temperature and low humidity. In such conditions, the body heats up, and in order to prevent the maximum permissible temperature for the human body of 41°C from being exceeded, the person begins to sweat. Thus, body temperature decreases, but a large amount of moisture is lost, which must be replenished.
- The need for water increases with the consumption of excess salt. In this case, the body needs more moisture to normalize blood composition.
- When experiencing various types of ailments (for example, fever), the body needs additional fluid to cool the body, as well as to quickly eliminate harmful substances.

The need for water decreases when:

- First of all, this means living in a climate filled with water vapor. Examples of this type of climate include coastal areas, such as the Baltic coast, as well as tropical areas.
- Secondly, the air temperature is low. In winter, we always want to drink less than in summer, when the body needs additional moisture to cool the body.

Water digestibility

Firstly, for complete absorption of water, a clean, unweighted water molecule is needed. Water intended for drinking should not contain various harmful impurities. “Heavy water” or deuterium in its chemical composition is an isotope of hydrogen, but due to its structure, which is different from ordinary water, all chemical processes in the body when consumed are several times slower.

Therefore, it is worth remembering melt water, which is lighter and healthier. This water helps improve the functioning of the cardiovascular system [2], accelerates regenerative processes in the body, and stimulates metabolism.

The second factor influencing the absorption of water is the body’s readiness for this process. Physiologists have described examples where the surface layers of the skin, deprived of moisture, prevented its penetration deeper. An example of such injustice is the skin of older people. As a result of dehydration, it becomes flabby, wrinkled and lacking tone. [3]

The third factor influencing the digestibility of water is the state of human health. For example, with dehydration, there is a decrease in fluid absorption . (Dehydration is the loss of a large amount of moisture by the body. In adults, the critical indicator is 1/3 of the total volume of fluid in the body, in children up to 1/5). In this case, to combat general dehydration of the body, intravenous infusion of saline solution is used. *Ringer -Locke* solution also showed good results . This solution, in addition to table salt, contains potassium chloride [4], calcium chloride [5], soda and glucose. Thanks to these components, not only the total volume of fluid circulating in the body is restored, but also the structure of intercellular partitions is improved.

Beneficial properties of water and its effect on the body

We need water so that useful substances necessary for transportation to various organs and systems are dissolved in it. In addition, water plays an important role in the formation and functioning of all systems of the human body.

Without water, all life processes will be reduced to a minimum. Since the removal of metabolic products is impossible without the presence of a sufficient amount of fluid in the body. During a water shortage, metabolism also suffers. It is the lack of moisture that becomes the culprit of excess weight and the inability to quickly achieve the desired shape!

Water moisturizes the skin and mucous membranes, cleanses the body of waste and toxins, and is the basis of joint fluid. With a lack of water, the joints begin to “creak.” In addition, water protects internal organs from damage, maintains a constant body temperature, and helps convert food into energy.

Interaction of water with other elements

You are probably familiar with the expression: “Water wears away stones.” So, water, by its nature, is a unique solvent. There is no substance in the world that could counteract water. At the same time, the substance dissolved in water is, as it were, integrated into the

overall structure of water, occupying the space between its molecules. And, despite the fact that the dissolved substance is in close contact with water, water is only a solvent for it, capable of delivering most of the substance to one or another environment of our body.

Signs of lack and excess of water

Signs of lack of water in the body

The first and most important sign of low water content in the body is *thickening of the blood*. Without sufficient moisture, the blood is unable to perform its functions. As a result of this, the body does not receive enough nutrients and oxygen, and metabolic products cannot leave the body, which contributes to its poisoning. To avoid this, it is recommended to drink enough water per day and use special blood thinning products. [6]

But this sign can only be revealed by the results of laboratory tests. Therefore, only doctors can determine the presence of a lack of fluid based on this sign. You can detect the following signs of lack of moisture in the body yourself.

The second sign of lack of water in the body is *dry mucous membranes*. In normal condition, the mucous membranes should be slightly moisturized. But if there is a lack of fluid, the mucous membranes can dry out and crack.

The third symptom worth mentioning is *dryness, pallor and sagging skin*, as well as brittle hair.

Confusion, irritability and even headaches can also occur as a result of not drinking enough fluids during the day and are the fourth most important sign of lack of fluid.

Acne, coating on the tongue and bad breath are important signals of lack of fluid and may indicate an imbalance in the water balance in the body.

Signs of excess water in the body

If a person is prone to being overweight, has high blood pressure and a labile nervous system, and also suffers from profuse sweating, this all indicates that he has signs of excess fluid in the body.

Rapid weight gain, swelling [7] in various parts of the body and disturbances in the functioning of the lungs and heart [2] can result from excess fluid in the body.

Factors affecting body water content

Factors influencing the percentage of water in the body are not only gender, age and environment, but also body constitution. Studies have shown that the water content in the body of a newborn reaches 80%, the body of an adult man contains, on average, 60% water, and the body of a woman - 65%. Lifestyle and eating habits can also affect your body's water content. The body of overweight people contains much more moisture than asthenics and people with normal body weight.

To protect the body from dehydration, doctors recommend consuming salt daily. The daily norm is 5 grams. But this does not mean that it should be consumed as a separate dish. It is included in various vegetables, meats, and ready-made dishes.

To protect the body from dehydration in difficult natural conditions, you should reduce excess sweating, which disrupts the moisture balance. For this purpose, special forces soldiers have the following composition:

Table salt (1.5 g) + ascorbic acid (2.5 g) + glucose (5 g) + water (500 ml)

This composition not only prevents moisture loss through sweat, but also supports the body in the most active phase of life support. Also, this composition is used by travelers when going on long hikes, where the availability of potable water is limited and the loads are maximum.

Water and health

In order to support your body and prevent excessive loss of moisture, you must fulfill the following requirements:

1. Drink a glass of clean water before each meal;
2. One and a half to two hours after eating, you should also drink a glass of water (provided there are no medical contraindications);
3. Eating dry food can negatively affect your health, and therefore, as an exception, it is also recommended to drink water during such meals.

Water for weight loss

If you notice that you are starting to have problems with excess weight, take the advice of nutritionists and drink a glass of warm water every time you “want something tasty.” According to doctors, we often experience “false hunger,” under the guise of which elementary thirst appears.

Therefore, the next time you wake up in the middle of the night to visit the refrigerator, drink a glass of warm water, which will not only relieve you of thirst, but will also help you get into shape in the future. It is believed that the process of losing weight is accelerated by consuming the optimal amount of fluid per day, calculated using the formula given above.

Water purity

Sometimes it happens that “drinking” water becomes dangerous to health and even life. Such water may contain heavy metals (arsenic [8], lead, cadmium, mercury, chromium [9], antimony and some others), pesticides, bacteria, viruses and other pollutants. All of them cause diseases, the treatment of which is very difficult.

Therefore, in order to prevent such pollutants from entering your body, you should take care of the purity of the water. There are a huge number of methods for this, ranging from

water purification with silicon [10] and activated carbon, and up to filters that use ion exchange resins, silver, etc.

I would like to summarize and remind you that water is the source of life and its basis. And therefore we need to take care of the correct balance of fluid in the body. And then improved well-being, vigor and a surge of strength will become our constant companions!

Table 1

Content water in food

The number of grams per 100 g of product is indicated [11,12]

No.	Product	g in 100 g
1	Boiled bamboo shoots	95.92
2	Fresh iceberg lettuce	95.64
3	Fresh red lettuce	95.64
4	Fresh head lettuce	95.63
5	Fresh celery	95.43
6	Fresh Chinese cabbage	95.32
7	Fresh yellow tomatoes	95.28
8	Fresh radish	95.27
9	Fresh cucumbers	95.23
10	Fried zucchini baked without oil	95.22
11	Raw beetroot	95.11
12	Patisson, cooked	95
13	Fresh coconut water	94.99
14	Fresh lettuce	94.98
15	Zucchini, raw	94.79
16	Fresh orange tomatoes	94.78
17	Vinegar	94.78
18	Zucchini, frozen	94.7

19	Fresh daikon	94.62
20	Fresh Roman salad	94.61
21	Fresh tomatoes	94.52
22	Butterbur raw	94.5
23	Wine vinegar (red)	94.47
24	Tomatoes, cooked	94.34
25	Canned bamboo shoots	94.32
26	Sauerkraut (kimchi)	94.30
27	Escarole cooked	94.29
28	Chayote, raw	94.24
29	Canned tomato juice, without salt	94.24
30	Patisson raw	94.18
31	Prickly pear (leaves) raw	94.12
32	Pickled cucumbers (pickled)	94.08
33	Fresh Spanish artichokes	94
34	New Zealand fresh spinach	94
35	Asparagus, canned	93.98
36	Green bell pepper frozen	93.96
37	Frozen red bell pepper	93.96
38	Green bell pepper, fresh	93.89
39	Apple vinegar	93.81
40	Fresh endive	93.79
41	Boiled or baked pumpkin	93.69
42	Rhubarb stem raw	93.61
43	Turnips, cooked	93.6
44	Green tea with sugar	93.54

45	Chinese cooked broccoli	93.54	
46	Boiled Spanish artichokes	93.46	
47	Whey	93.42	
48	Raw asparagus	93.22	
49	Radicchio fresh	93.14	
50	Naranjilla frozen	93.05	
51	Fresh sorrel	93	
52	Green tomatoes, raw	93	
53	Java apple fresh	93	
54	Boiled cauliflower	93	
55	Carrots, canned	92.95	
56	Fresh pumpkin leaves	92.88	
57	Fresh purslane	92.86	
58	Portobelo mushrooms raw	92.82	
59	Alfalfa seeds , sprouted fresh	92.82	
60	Fresh corn salad	92.8	
61	Young zucchini, raw	92.73	
62	Fresh chard	92.66	
63	Boiled asparagus	92.63	
64	Wood mushroom raw	92.59	
65	Boiled white cabbage	92.57	
66	Chinese fresh broccoli	92.55	
67	Fresh broccoli raab	92.55	
68	Sauerkraut	92.52	
69	Cauliflower, frozen	92.51	
70	Raw champignons	92.45	

71	Fresh green onion	92.32
72	Fresh lemon juice	92.31
73	Fresh eggplant	92.3
74	Ginger, pickled	92.3
75	Celery root, boiled	92.3
76	Fresh red bell pepper	92.21
77	Cilantro (coriander leaves) fresh	92.21
78	Fresh spinach	92.2
79	Fresh cabbage, white	92.18
80	Brown raw champignons	92.12
81	Fresh cauliflower	92.07
82	Fresh basil	92.06
83	Fresh yellow bell pepper	92.02
84	Fresh chicory leaves	92
85	Beer dark or light	91.96
86	Raw turnip	91.87
87	Asparagus, frozen	91.82
88	Spinach, canned	91.78
89	Fresh arugula	91.71
90	Fresh amaranth leaves	91.69
91	Fresh vegetable physalis	91.63
92	Raw pumpkin	91.6
93	Fresh watermelon	91.45
94	Broccoli raab cooked	91.41
95	Barbados cherry fresh	91.41
96	Fresh spinach	91.4

- 97 Fresh carambola 91.38
- 98 Fresh red onion (sweet) 91.24
- 99 Boiled spinach 91.21
- 100 Fried champignons 91.1

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[The HTML version of the article](#) is available on the foodplus.info website.

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