VITAMINS

	RI* or AI*	FUNCTION	SOURCES	DEFICIENCY
A	700 µg-ekv	**Retinol**. Fat soluble. Supports vision processes, development of muscle tissues, skin cells, mucous membranes, cartilage and bone tissue; is an antioxidant; has an anti-cancer effect. Important for fertility.	Fish, beef and pork liver, butter, egg, cheese, yellow, red or orange fruits and vegetables and berries (e.g. carrot, rosehip, pumpkin), sweet potato, green vegetables (kale, spinach, collard greens).	Deficiency can cause visual disturbances, skin and fertility problems, immune system decline, stunted growth.
D	10 µg	**Coleclaciferol**. Fat soluble. Ensures strong bones and teeth; important for better absorption of calcium, phosphorus; to support blood clotting, heart function and immunity; to reduce the risk of infection and diabetes.	Fish, egg (yolk), cod liver, beef liver, fortified milk and milk products, mushrooms.	It is necessary to take it also as a supplement. Large amounts of vitamin D supplements are toxic - they can lead to excess calcium in the blood and kidney failure.
E	10 mg	**Tocopherol**. Fat soluble. An important antioxidant to slow cell aging; to maintain fertility; strengthens immunity; participates in hematopoiesis; promotes skin and hair health.	Oils (e.g. sunflower, wheat germ, rapeseed), seeds, nuts, bread, avocado, peppers, liver, rose hips and sea buckthorn berries, blackberries, black currants, mango, kiwi	Deficiency causes muscle weakness, decreased immunity, coordination and vision problems, numbness.
K	60-65 µg	**Phylloquinone**. Fat soluble. Necessary for blood clotting; to bind calcium into bones; for the development and functioning of the kidneys and placenta.	Liver, meat, egg yolk, dairy products, green vegetables (e.g. beetroot, spinach, kale, collard greens, chives, Brussels sprouts) and some vegetable oils (e.g. canola, pumpkin seed), kidney beans, pomegranate, blackberries	In case of deficiency, blood clotting slows down and bruises occurs easily. Aspirin and antibiotics and liver damage reduce vitamin K synthesis.
B1	0,9-1,2 mg	**Thiamine**. Water soluble. To ensure the normal metabolism of fats, carbohydrates and amino acids; supports nervous system function, muscles, including heart muscles; for the normal formation of gastric juice.	Seeds (e.g. flax, sesame and sunflower seeds), nuts (e.g. macadamia, peanut, pecan and Brazil nuts), wheat germ, yeast, pork, porridge, whole grain pasta, whole grain and seed breads, offal (tongue, kidney, liver), poultry, whole grain rice, legumes.	Deficiency is promoted by the use of refined foods. Deficiency causes disease beri-beri.
B2	1,6-2,0 mg	**Riboflavin**. Water soluble. To ensure the normal metabolism of fats and carbohydrates; for the functioning of the nervous system, muscles, including heart muscle; to see; for the health of the skin, mucous membranes, nails and hair.	Liver, yeast, egg, cheeses, mushrooms (e.g. boletus, spruce rice), nuts (e.g. hazelnuts, almonds), seeds (e.g. pumpkin seeds), pork, kale, spinach, broccoli, avocado, whole grain and seed breads, dried fruits-berries (e.g. apricots, plums), herring, peas, lentils, quinoa.	In general, the amount of vitamin B2 contained in food is small, so to get the required amount, consuming only a few best food sources is not enough, but you have to eat very diverse and give preference to unrefined foods.
B3	13–20 mg-ekv	**Niacin, nicotinic acid, kyotinamide**. Water soluble. Ensures normal metabolism of fats and carbohydrates; necessary for the functioning of the nervous system, muscles; for the proper formation of vision, skin, mucous tissues.	Nuts (especially peanuts), liver, fish, poultry, yeast, seeds (e.g. sesame and sunflower seeds), pork and beef, ham flour, egg, whole grain rice, cheese, cottage cheese, cottage cheese.	Deficiency symptoms may include skin lesions, diarrhea and indigestion, and general fatigue.
B4	400-520 mg	**Choline.** Water soluble. For liver function, normal brain development, nerve function, muscle movement, supporting energy levels, and maintaining a healthy metabolism.	Liver, salmon, chickpeas, wheat germ, eggs, beef, turkey, whole grains, dairy.	Low energy levels, memory loss, learning disabilities, muscle pain, nerve damage.
B5	5-7 mg	**Pantoneic acid**. Water soluble. To activate metabolism; to stimulate the work of the adrenal glands; to synthesize cholesterol, steroids and fatty acids; to ensure a healthy digestive system; to increase the body's resistance to stress; to reduce the toxic effects of antibiotics.	Liver, yeast, beans, fish (e.g. salmon, rainbow trout), poultry, mushrooms, nuts (e.g. walnuts), sunflower seeds, offal, eggs, peas, avocado, sweet potato, lentils, cauliflower, corn	Pantothenic acid is found in sufficient amounts in foods, and its deficiency occurs only in severe malnutrition.
B6	1,6-1,9 mg	**Pyridoxine**. Water soluble. Important in the prevention of cardiovascular diseases; supports brain, nervous and immune system function; participates in protein synthesis, dopamine and serotonin production, hematopoiesis, necessary for oxygen transport in the body; helps magnesium absorption.	Liver, nuts (e.g. pistachios and walnuts), seeds (e.g. sesame and sunflower seeds), yeast, liver, poultry, fish (e.g. rainbow trout), peppers, banana, cabbages (e.g. kale), pork and beef, whole grain and seed breads.	Participates in protein metabolism, therefore its need increases with the increase in the amount of protein consumed, e.g. in athletes.
B7	40 µg	**Biotin**. Water soluble. Ensures cell growth and renewal; important in the synthesis of fatty acids and glucose in the metabolism of amino acids, proteins, folic acid, pantothenic acid and vitamin B12; helps keep the skin, hair, eyes, liver, nervous system healthy; important for embryo growth.	Liver, nuts and seeds (e.g. peanuts and hazelnuts, sunflower seeds, almonds), yeast, egg, kale, buckwheat flour, oatmeal and other cereal products, mushrooms, legumes, avocado, berries, sweet potato, mushrooms.	Deficiency symptoms include loss of appetite, sore muscles, dry skin and insomnia. Deficiency can occur with heavy and frequent use of antibiotics and alcohol.
B9	330–600 µg	**Folates, folic acid**. Water soluble. For the normal development of fetal nervous tissue; to help ensure the normal metabolism of amino acids, fats and carbohydrates; for synthesizing DNA and RNA in the growth process and reproduction of body cells; with vitamin B12 to form red blood cells.	Yeast, liver (including liver pate), legumes (e.g. edamame beans), wheat germ and bran, green vegetables (e.g. kale, spinach, broccoli), nuts (e.g. peanuts), seeds (e.g. sunflower), beetroot, kohlrabi, whole grain and seed bread.	Folic acid as a food supplement is less well absorbed by the body. Folates are very important for pregnant women.
B12	4-5,5 µg	**Cobalamin**. Water soluble. For normal metabolism of amino acids; to prevent anemia - helps the blood to transport oxygen; for the normal development of nerve tissue; improves brain function.	Liver and offal, fish (e.g. herring), meat (especially game, poultry, lamb and beef), egg, cheese, milk, curd, nutritional yeast.	Adequate intake is extremely important for normal hematopoiesis and neurological function.
C	95-155 mg	**Ascorbic acid**. Water soluble. Antioxidant in blood and tissue cells; for the development and functioning of skin, gums, capillaries, teeth, bones; for normal wound healing; to increase the body's resistance to stress; to prevent spring fatigue; to increase the absorption of non-heme (i.e. from plant sources) iron.	Fruits and vegetables, berries (e.g. rose hips, black and red currants, sea buckthorn, blackberries, strawberries), peppers, kiwi, turnips, citrus fruits (e.g. pomelo, orange), cabbages (e.g. kale, broccoli, cauliflower, kohlrabi), spinach , peach, nectarine, gooseberries.	Deficiency causes bruises, joint pains, slow healing of wounds. In case of severe deficiency causes scurvy.

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Recommended daily intakes of vitamins (RI and AI) as a two-week average per day