

A to zinc: a guide to vitamins and minerals

Vitamin	Role in the body	Recommended daily amount for adults	Best sources
A (retinol, carotene)	<ul style="list-style-type: none"> ▶ growth and tissue repair ▶ immune system functions ▶ vision 	<p>Males: 900 µg</p> <p>Females: 700 µg</p>	<ul style="list-style-type: none"> ▶ liver ▶ eggs ▶ dark green & yellow fruits and vegetables ▶ dairy products
B1 (thiamin)	<ul style="list-style-type: none"> ▶ processing of carbohydrates and amino acids (protein) ▶ appetite regulation ▶ nervous system functions 	<p>Males: 1.2 mg</p> <p>Females: 1.1 mg</p>	<ul style="list-style-type: none"> ▶ wheat germ ▶ pork ▶ whole & enriched grains ▶ beans ▶ peas
B2 (riboflavin)	<ul style="list-style-type: none"> ▶ processing of carbohydrates, proteins & fats ▶ cell respiration and maintenance ▶ anti-oxidant activity 	<p>Males: 1.3 mg</p> <p>Females: 1.1 mg</p>	<ul style="list-style-type: none"> ▶ dairy products ▶ green leafy vegetables ▶ legumes ▶ beef ▶ salmon ▶ almonds ▶ eggs
B3 (niacin, nicotinic acid)	<ul style="list-style-type: none"> ▶ processing of carbohydrates, proteins & fats ▶ energy metabolism ▶ DNA repair ▶ nerve function ▶ circulation of blood 	<p>Males: 16 mg</p> <p>Females: 14 mg</p>	<ul style="list-style-type: none"> ▶ meat ▶ fish ▶ whole & enriched grains ▶ beans ▶ peas ▶ nuts
B5 (pantothenic acid)	<ul style="list-style-type: none"> ▶ converting nutrients into energy ▶ vitamin utilization ▶ production of many important compounds used by the body 	<p>Males: 5 mg</p> <p>Females: 5 mg</p>	<ul style="list-style-type: none"> ▶ whole-grain cereals ▶ legumes ▶ meats ▶ avocado ▶ sweet potato

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B6 (pyridoxine, pyridoxal, pyridoxamine)	<ul style="list-style-type: none"> ▶ processing of carbohydrates, proteins & fats ▶ red blood cell formation ▶ cardiovascular health ▶ formation of antibodies & neurotransmitters 	<p>Males: 1.3–1.7 mg</p> <p>Females: 1.3–1.5 mg</p>	<ul style="list-style-type: none"> ▶ fish ▶ poultry ▶ red meat ▶ whole grains ▶ fortified cereal ▶ potatoes ▶ spinach
B12 (cobalamin)	<ul style="list-style-type: none"> ▶ converting proteins & fats into energy ▶ nervous system functions ▶ formation of blood cells ▶ cardiovascular health 	<p>Males: 2.4 µg</p> <p>Females: 2.4 µg</p>	<ul style="list-style-type: none"> ▶ lean beef ▶ fish ▶ poultry ▶ eggs ▶ dairy products ▶ clams
Folate (folic acid)	<ul style="list-style-type: none"> ▶ cell division and growth ▶ DNA synthesis ▶ red blood cell formation ▶ processing of proteins 	<p>Males: 400 µg</p> <p>Females: 400 µg*</p> <p><i>*Pregnancy: 600 µg</i></p>	<ul style="list-style-type: none"> ▶ green leafy vegetables ▶ dried beans ▶ fortified cereals ▶ oranges ▶ pasta ▶ rice
C (ascorbic acid)	<ul style="list-style-type: none"> ▶ anti-oxidant activity ▶ collagen maintenance ▶ wound healing ▶ infection resistance ▶ healthy gums and blood vessels 	<p>Males: 90 mg</p> <p>Females: 75 mg</p>	<ul style="list-style-type: none"> ▶ citrus fruits ▶ tomatoes ▶ green & red peppers ▶ melons ▶ berries ▶ broccoli

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D (calciferol)	<ul style="list-style-type: none"> ▶ bone & tooth formation ▶ immune functions ▶ mineral balance (calcium and phosphorous) 	<p>Males: 400–600 IU</p> <p>Females: 400–600 IU</p>	<ul style="list-style-type: none"> ▶ egg yolk ▶ salmon ▶ sardines ▶ fortified milk ▶ Vitamin D is produced in the skin when exposed to sunlight
E (α-tocopherol)	<ul style="list-style-type: none"> ▶ anti-oxidant activity (free radical scavenger) ▶ possible immune system support 	<p>Males: 15 mg</p> <p>Females: 15 mg</p>	<ul style="list-style-type: none"> ▶ vegetable & nut oils ▶ wheat germ ▶ dark green vegetables ▶ nuts ▶ whole grains
K	<ul style="list-style-type: none"> ▶ blood clotting ▶ bone metabolism 	<p>Males: 120 µg</p> <p>Females: 90 µg</p>	<ul style="list-style-type: none"> ▶ green leafy vegetables (e.g., spinach, broccoli, collards) ▶ olive oil ▶ soybean oil
H (biotin, vitamin B7)	<ul style="list-style-type: none"> ▶ cell growth ▶ production of fatty acids ▶ processing of fats and amino acids ▶ maintain blood sugar levels ▶ strengthen hair and nails 	<p>Males: 30 µg</p> <p>Females: 30 µg</p>	<ul style="list-style-type: none"> ▶ liver ▶ eggs ▶ meat ▶ wheat bran ▶ cheese ▶ yeast ▶ avocado

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calcium	<ul style="list-style-type: none"> ▶ support and formation of bones, and teeth ▶ regulates heartbeat, muscle action, nerve function & blood clotting 	<p>Males: 1000–1200 mg</p> <p>Females: 1000–1200 mg</p>	<ul style="list-style-type: none"> ▶ low-fat or nonfat milk products ▶ cheese ▶ red beans ▶ spinach ▶ broccoli ▶ rhubarb ▶ kale ▶ calcium-set tofu
chromium	<ul style="list-style-type: none"> ▶ needed for using glucose as an energy source ▶ increases effectiveness of insulin ▶ metabolizes fat and protein 	<p>Males: 30–35 µg</p> <p>Females: 20–25 µg</p>	<ul style="list-style-type: none"> ▶ whole grains ▶ peas ▶ beans ▶ beef ▶ processed turkey ▶ broccoli
copper	<ul style="list-style-type: none"> ▶ formation of red blood cells ▶ needed for bone health ▶ iron metabolism ▶ involved in the normal function of the nervous system ▶ anti-oxidant activity 	<p>Males: 900 µg</p> <p>Females: 900 µg</p>	<ul style="list-style-type: none"> ▶ organ meats ▶ shellfish ▶ nuts ▶ seeds ▶ oysters ▶ cocoa powder ▶ whole grain products

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fluoride	<ul style="list-style-type: none"> ▶ prevention of tooth decay ▶ stimulates new bone formation 	<p>Males: 4 mg</p> <p>Females: 3 mg</p>	<ul style="list-style-type: none"> ▶ seafood ▶ tea ▶ grape juice ▶ <i>Fluoridated water (and food prepared in fluoridated water) and fluoridated dental products (e.g., toothpaste) will contain fluoride</i>
iodine	<ul style="list-style-type: none"> ▶ thyroid functioning 	<p>Males: 150 µg</p> <p>Females: 150 µg</p>	<ul style="list-style-type: none"> ▶ iodized salt ▶ cod ▶ shrimp ▶ cow's milk ▶ potatoes
iron	<ul style="list-style-type: none"> ▶ formation of components of red blood cells that supply and transport oxygen ▶ DNA synthesis ▶ anti-oxidant activity 	<p>Males: 8 mg</p> <p>Females: 18 mg*</p> <p><i>*post-menopausal women: 8 mg/day</i></p>	<ul style="list-style-type: none"> ▶ red meat ▶ poultry ▶ fish ▶ liver ▶ beans ▶ whole & enriched grains ▶ green leafy vegetables ▶ tofu ▶ oysters
magnesium	<ul style="list-style-type: none"> ▶ enzyme activation ▶ nerve & muscle function ▶ bone structure ▶ energy production 	<p>Males: 420 mg</p> <p>Females: 320 mg</p>	<ul style="list-style-type: none"> ▶ nuts ▶ beans ▶ green leafy vegetables ▶ whole & enriched grains ▶ bran cereal ▶ spinach ▶ banana

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manganese	<ul style="list-style-type: none"> ▶ bone growth & development ▶ wound healing ▶ metabolism of carbohydrates, amino acids, and cholesterol ▶ anti-oxidant activity 	<p>Males: 2.3 mg</p> <p>Females: 1.8 mg</p>	<ul style="list-style-type: none"> ▶ nuts ▶ whole grains ▶ tea ▶ coffee ▶ bran ▶ legumes ▶ pineapple
molybdenum	<ul style="list-style-type: none"> ▶ biological reactions ▶ processing of sulfur-containing amino acids, drugs, and toxins 	<p>Males: 45 µg</p> <p>Females: 45 µg</p>	<ul style="list-style-type: none"> ▶ beans ▶ lentils ▶ peas ▶ grain products ▶ nuts
phosphorous	<ul style="list-style-type: none"> ▶ bone structure ▶ energy production and storage 	<p>Males: 700 mg</p> <p>Females: 700 mg</p>	<ul style="list-style-type: none"> ▶ dairy products ▶ meats ▶ fish ▶ eggs ▶ beans ▶ whole grains
potassium	<ul style="list-style-type: none"> ▶ fluid balance ▶ normal body function ▶ heart activity ▶ muscle contraction ▶ nervous system functions 	<p>Males: 4.7 g</p> <p>Females: 4.7 g</p>	<ul style="list-style-type: none"> ▶ orange juice ▶ potatoes ▶ bananas ▶ tomato juice ▶ soybeans ▶ apricots ▶ plums

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sodium	<ul style="list-style-type: none"> ▶ maintenance of blood volume and blood pressure ▶ transmission of nerve impulses ▶ heart activity ▶ muscle contraction ▶ various internal functions 	<p>Males: 1.5 g</p> <p>Females: 1.5 g</p>	<ul style="list-style-type: none"> ▶ table salt ▶ processed meats (e.g., bacon, sausage, ham) ▶ canned soups and vegetables ▶ worcestershire sauce ▶ soy sauce ▶ onion salt ▶ garlic salt ▶ bouillon cubes
selenium	<ul style="list-style-type: none"> ▶ anti-oxidant activity ▶ regulation of thyroid hormone 	<p>Males: 55 µg</p> <p>Females: 55 µg</p>	<ul style="list-style-type: none"> ▶ cereals (e.g., corn, wheat, and rice) ▶ brazil nuts ▶ walnuts ▶ pork ▶ poultry ▶ eggs ▶ shrimp ▶ halibut ▶ crab meat
zinc	<ul style="list-style-type: none"> ▶ taste & smell sensitivity ▶ growth and development ▶ healing ▶ immune system function 	<p>Males: 11 mg</p> <p>Females: 8 mg</p>	<ul style="list-style-type: none"> ▶ lean meat ▶ oysters ▶ eggs ▶ seafood ▶ yeast-containing whole grains ▶ low-fat milk products