

Vitamins, Minerals, & Deficiencies

- Vitamins and minerals regulate body functions and keep the body in proper balance.
- Vitamins and minerals are just as vital to your health as carbohydrate, protein, fat, and water intake.
- Vitamins can lose their value quickly since they break down easily. Heat, cold, time, blending or beating of foods will start to break down the strength of vitamins before you even eat your food.
- Vitamins are either water soluble or fat soluble
- Water soluble vitamins dissolve in water (B & C) and needs to be replenished regularly since they are being flushed out with body fluids all the time.
- Fat soluble vitamins dissolves in fat tissue (A, D, E & K) and can be toxic to the body if taken excessively since fat stores them longer.
- Minerals also help build tissue besides regulating body functions
- Minerals don't decay like vitamins.

Vitamin/Mineral:	Found in:	Parts of body affected:	Deficiency symptoms:
Vitamin A (Beta-Carotene)	fish, liver, green & yellow fruits and veggies	bones, eyes, hair, skin, immune system, soft tissues & teeth	acne, allergies, loss of appetite, blindness, colds, dry hair, eye sties, fatigue, insomnia, impaired growth, itching & burning eyes, loss of smell, night blindness
Vitamin B Complex	dairy products, meat, nuts, yogurt, raisins, & high protein vegetables such as broccoli, beans, & cauliflower	body cells, eyes, gastrointestinal tract, liver, mouth, hair, nervous & immune systems, skin	acne, anemia, appetite loss, bad breath, high cholesterol, poor circulation, constipations, depression, fatigue, hair falling out, hypertension, insomnia, tender leg muscles, nervousness, dry or rough skin
Vitamin B12	beef, cheese, clams, crab, fish, eggs, herring, kidney, liver, mackerel, milk & milk products, pork, seafood, tofu, *found only in animal products	liver, nerves, red blood cells, gastrointestinal tract	appetite loss, diminished reflex responses, memory impairment, mental depression & confusion, unpleasant body odor, weakness in arms & legs, problems w/ absorption of food metabolism of carbs & fats fertility growth & development
Vitamin C	green vegetables, berries & citrus fruits, beef liver, brussels sprouts, cantaloupe, cauliflower, radishes, pineapple, tomatoes	adrenal glands, blood, bones, capillary walls, cells, connective tissue, nervous system, teeth	anemia, bleeding gums, bruise easily, dental cavities, colds, nosebleeds, blood clots, helps prevent cancer & infection
Vitamin D	fish & dairy products fortified w/ vit. D, eggs, oatmeal, sardines, sweet potatoes, sunlight on skin	bones, heart, kidneys, nervous system, skin, teeth, & thyroid gland, helps enhance immune system	brittle bones, burning in mouth & throat, diarrhea, insomnia, irregular heartbeat, low blood calcium, myopia, plaie skin, poor metabolism, rickets, sensitivity to pain, soft bones & teeth
	vegetable oils, whole grains, dark leafy greens,	arteries, blood vessels, heart, lungs, nerves, pituitary glands & skin, helps prevent cancer,	gastrointestinal disease, dry or falling out hair, impotency,

Vitamin E	nuts and seeds, almonds, herring, kale, eggs, milk, organ meats, soy beans, wheat germ, unrefined cereal, sweet potatoes	cardiovascular disease, cataracts, reduces scarring from some wounds, works well w/ zinc	miscarriages, enlarged prostate gland, muscular wasting, muscle weakness, sterility, decreased circulation, slow tissue healing, leg cramps
Vitamin K	broccoli, dark green leafy vegetables and soybeans, brussels sprouts, cabbage, cauliflower, egg yolks, liver, oatmeal, rye & wheat	blood, bones, metabolism, & liver functions, converts glucose into glycogen for storage in liver, prevent osteoporosis, essential for blood clotting & bone formation	brittle bones, poor blood clotting, high glucose in blood
Folic Acid	beans, beef, bran , barley, brown rice, cheese, chicken, dates, green leafy vegetables, lamb, lentils, milk, oranges, organ meats, pork, root vegetables, salmon, tuna, whole grains, whole wheat & yeast	metabolism, red blood cells, overall growth and development, nerves, & energy production	sore tongue, B12 deficiency, depression or anxiety, fatigue, birth defects in pregnant women
Calcium*	dairy foods, seafood, green leafy vegetables, sea vegetables, molasses, nuts, almonds, oats, prunes, tofu	blood, bones, circulatory/digestive/enzymatic/immune & nervous systems, heart, muscles, skin, soft tissues & teeth, essential for overall health, need vitamin D with it for proper absorption & utilization	arm and leg numbness, brittle fingernails, headaches, heart palpitations, brittle bones, hypertension, insomnia, muscle cramps, osteoporosis/brittle bones, periodontal disease, tooth decay, decreased muscle growth, aching joints
Chromium	apples, black pepper, calves liver, meat, whole grains, grapes, chicken, corn, corn oil, dairy products, mushrooms, potatoes, oysters, brown rice, dried beans	adrenal glands, brain, blood, circulatory system, heart, immune system, liver, white blood cells	increased serum cholesterol, impaired glucose tolerance, lack of energy, protein/caloric malnutrition, susceptibility to infection, lowered or escalated blood sugar levels, coronary artery disease, essential for metabolism of glucose & needed for synthesis of cholesterol, fats, & protein
Copper	almonds, avocado, beans, barley, cauliflower, nuts, lamb chops, oranges, organ meats, raisins, salmon & seafood (especially oysters), legumes, green leafy vegetables, radishes, & soybeans	blood, bones, circulatory system, hair, & skin, copper works w/ zinc & vitamin C to form elastin & aids in the formation bones & red blood cells	depression, elevated serum cholesterol, fractures & bone deformities, general weakness, impaired respiration, skin sores, osteoporosis, slowed healing process, poor hair & skin coloring & loss in taste sensitivity
Iodine	iodized salts, seafood & kelp, asparagus, fish, garlic, lima beans, mushrooms, sesame seeds, soybeans, cooked spinach, turnip greens (only needed in trace amounts)	Immune system, thyroid, brain	decreased changes of breast cancer, slowed mental & physical development, thyroid dysfunction, mental retardation may result in children
Iron	eggs, clams, fish, liver, meat, poultry, dark green leafy vegetables, enriched breads & cereals, dates, kidney & lima beans, lentils, millet, parsley, peaches pears, dried prunes, pumpkins, raisins, rice, wheat bran, sesame seeds & soybeans	blood, bones, metabolic system, muscles, nails, skin & teeth, vital for production of hemoglobin & oxygenation of red blood cells, healthy growth	breathing difficulties, brittle nails, dry or falling-out hair, dizziness, iron deficiency anemia, pale skin, fatigue, constipation, sore or inflamed tongue
Magnesium*	most foods, especially dairy products, fish, meat & seafood	arteries, bones, cells, digestive/immune/nervous and reproductive systems, heart, nerves & teeth, carbohydrate & mineral metabolism	aching muscles, anxiety, broken nails, confusion, decreased blood pressure & body temperature,

			anger, hair loss, hyperactivity, insomnia, muscle tremors, noise sensitivity, heart disease & blood pressure problems
Phosphorus*	asparagus, bran, corn, dairy products, eggs, fish, dried fruits, garlic, sunflower & pumpkin seeds, meats, poultry, salmon, soda, wheat bran, and whole grains	bones, brain cells, circulatory and digestive systems, eyes, liver, muscles, nerves & teeth, essential for helping the body to utilize vitamins and to convert food to energy	appetite loss, bone pain, fatigue, irregular breathing, nervous disorders
Potassium*	dairy foods, fish, fruit, meat, poultry & vegetables, whole grains, brown rice, garlic, nuts, wheat bran, & yams	blood, endocrine/digestive & nervous systems, heart, kidneys, muscles & skin, regulates transfer of nutrients to the cells, aids in maintaining stable blood pressure	thirst, decreased blood pressure, dry skin, increased cholesterol, general weakness, respiratory distress, salt retention, irregular heartbeat, weak reflexes
Sodium*	found in almost all foods, most in celery, cheese, eggs, meat, milk & milk products, poultry, processed foods, salt, seafood & sea vegetables	blood, lymphatic system, muscles, & nerves, necessary for water balance, blood pH, stomach, nerve & muscle function	cramps, decreased resistance to infection, eye disturbances, fatigue, intestinal gas, muscle shrinkage, vomiting, weakness, confusion, low blood sugar, dehydration, tiredness, heart palpitations and heart attacks
Sulfur	brussels sprouts, dried beans, cabbage, eggs, garlic, fish meats, & onions	skin, immune system, blood, liver, protects against toxic substances	dry skin, increased risks of infection, poor resistance to bacterial infections
Zinc	fish, meats, poultry, seafood, whole grains, beef liver, egg yolks, lamb chops, lima beans, liver, mushrooms, pecans, pumpkin seeds, sardines, soybeans, consuming hard water can unbalance zinc levels	blood, bones, eyes, heart, joints, liver, & prostate gland, intake and absorption is needed maintain proper concentrations of vitamin E in the blood	acne, brittle nails, decreased learning ability, delayed sexual maturity, fatigue, loss of taste and smell, poor appetite, poor circulation, poor memory, prolonged wound healing, sterility, white spots on nails

*One of the essentials in maintaining electrolyte balance.