



Nutrient Functions and Deficiency Symptoms Chart

Nutrient	Potential	What It Does	Where It's Found	Symptoms and Problems
Vitamin E	Very Common	Antioxidant, regulates oxidation reactions, stabilizes cell membrane, immune function, protects against cardiovascular disease, cataracts, macular degeneration	Wheat germ, liver, eggs, nuts, seeds, cold-pressed vegetable oils, dark leafy greens, sweet potatoes, avocado, asparagus	Skin, hair, rupturing of red blood cells, anemia, bruising, PMS, hot flashes, eczema, psoriasis, cataracts, wound healing, muscle weakness, sterility
Calcium	Very Common	Bones, teeth, helps heart, nerves, muscles, body systems work properly, needs other nutrients to function	Dairy, wheat/soy flour, molasses, brewer's yeast, Brazil nuts, broccoli, cabbage, dark leafy greens, hazelnuts, oysters, sardines, canned salmon	Osteoporosis, osteomalacia, osteoarthritis, muscle cramps, irritability, acute anxiety, colon cancer risk
Calcium	Very Common	Bones, teeth, helps heart, nerves, muscles, body systems work properly, needs other nutrients to function	Dairy, wheat/soy flour, molasses, brewer's yeast, Brazil nuts, broccoli, cabbage, dark leafy greens, hazelnuts, oysters, sardines, canned salmon	Osteoporosis, osteomalacia, osteoarthritis, muscle cramps, irritability, acute anxiety, colon cancer risk
Chromium	Common	Assists insulin function, increased fertility, carbohydrate/ fat metabolism, essential for fetal growth/development	Supplementation, brewer's yeast, whole grains, seafood, green beans, broccoli, prunes, nuts, potatoes, meat	Metabolic syndrome, insulin resistance, decreased fertility
Magnesium	Very Common	300 biochemical reactions, muscle/nerve function, heart rhythm, immune system, strong bones, regulates calcium, copper, zinc potassium, vitamin D	Green vegetables, beans and peas, nuts and seeds, whole unprocessed grains	Appetite, nausea, vomiting, fatigue, numbness, tingling, cramps, seizures, personality changes, heart rhythm, heart spasms
Selenium	Common	Antioxidant, works with vitamin E, immune function, prostaglandin production	Brewer's yeast, wheat germ, liver, butter, cold water fish, shellfish, garlic, whole grains, sunflower seeds, Brazil nuts	Destruction to heart/pancreas, sore muscles, fragility of red blood cells, immune system



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Zinc	Most Common	Supports enzymes, immune system, wound healing, taste/smell, DNA synthesis, normal growth and development during pregnancy, childhood, adolescence	Oysters, red meat, poultry, beans, nuts, seafood, whole grains, fortified breakfast cereals, and dairy	Growth retardation, hair loss, diarrhea, impotence, eye & skin lesions, loss of appetite, taste, weight loss, wound healing, mental lethargy
COQ10	Common	Powerful antioxidant, stops oxidation of LDL cholesterol, energy production, important to heart, liver, and kidneys	Oily fish, organ meats, and whole grains	Congestive heart failure, high blood pressure, angina, mitral valve prolapse, fatigue, gingivitis, immune system stroke, cardiac arrhythmias
Carnitine	Less Common	Energy, heart function, oxidize amino acids for energy, metabolizes ketones	Red meat, dairy, fish, poultry, tempeh (fermented soybeans), wheat, asparagus, avocados, peanut butter	Elevated cholesterol, liver function, muscle weakness, reduced energy, impaired glucose control
N-Acetyl Cysteine (NAC) & Glutathione	Most Common	Glucathione production, lowers homocysteine, lipoprotein (a), heals lungs, inflammation, decrease muscle fatigue, liver detoxification, immune function	Meats, ricotta, cottage cheese, yogurt, wheat germ, granola, and oak flakes	Free radical overload,, elevated homocysteine, cancer risk, cataracts, macular degeneration, immune function, toxin elimination
Alpha Lipoic Acid	Common	Energy, blood flow to nerves, glutathione levels in brain, insulin sensitivity, effectiveness of vitamins C, E, antioxidants	Supplementation, spinach, broccoli, beef, brewer's yeast, some organ meats	Diabetic neuropathy, reduced muscle mass, atherosclerosis, Alzheimer's, failure to thrive, brain atrophy, high lactic acid
B1	Very Common	Carbohydrate conversion, breaks down fats and protein, digestion, nervous system, skin, hair, eyes, mouth, liver, immune system	Pork, organ meats, whole grain and enriched cereals, brown rice, wheat germ, bran, brewer's yeast, blackstrap molasses	Heart, age-related cognitive decline, Alzheimer's, fatigue



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B2	Very Common	Metabolism, carbohydrate conversion, breaks down fats and protein, digestion, nervous system, skin, hair, eyes, mouth, liver, antioxidant	Brewer's yeast, almonds, organ meats, whole grains, wheat germ, mushrooms, soy, dairy, eggs, green vegetables	Anemia, decreased free radical protection, cataracts, poor thyroid function, B6 deficiency, fatigue, elevated homocysteine
B3	Less Common	Energy digestion, nervous system, skin, hair, eyes, liver, eliminates toxins, sex/stress hormones, improves circulation	Beets, brewer's yeast, meat, poultry, organ meats, fish, seeds, nuts	Cracking, scaling skin, digestive problems, confusion, anxiety, fatigue
B6	Common	Enzyme protein metabolism, red blood cell production, reduces homocysteine, nerve and muscle cells, DNA and RNA, B12 absorption, immune function	Poultry, tuna, salmon, shrimp, beef, liver, lentils, soybeans, seeds, nuts, avocados, bananas, carrots, brown rice, bran, wheat germ, whole grain flour	Depression, sleep and skin problems, elevated homocysteine, increase heart disease rate
B12	Very Common	Healthy nerve cells, DNA/RNA, red blood cell production, iron function	Fish, meat, poultry, eggs, milk and milk products	Anemia, fatigue, constipation, loss of appetite/weight, numbness and tingling in hands and feet, depression, dementia, poor memory, oral soreness
Biotin	Less Common	Carbohydrate, fat, and amino acid metabolism (the building blocks of proteins)	Salmon, meats, vegetables, grains, legumes, lentils, egg yolks, milk, sweet potatoes, seeds, nuts, wheat germ	Depression, nervous system, premature graying, hair, skin
Folate	Very Common	Mental health, infant DNA/RNA, adolescence and pregnancy, with B12 to regulate red blood production, iron function, reduce homocysteine	Supplementation, fortified grains, tomato juice, green vegetables, black-eyed peas, lentils, beans	Anemia, immune function, fatigue, insomnia, hair, high homocysteine, heart disease



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Pantothenate	Less Common	Red blood cell production, sex and stress-related hormones, immune function, healthy digestion, helps use other vitamins	Meat, vegetables, whole grains, legumes, lentils, egg yolks, milk, sweet potatoes, seeds, nuts, wheat germ, salmon	Stress tolerance, wound healing, skin problems, fatigue
Vitamin A	Less Common	Eyes, immune function, skin, essential cell growth and development	Milk, eggs, liver, fortified cereals, orange or green vegetables and fruits	Night blindness, immune function, zinc deficiency, fat malabsorption
Vitamin D	Very Common	Calcium and phosphorus levels, calcium absorption, bone mineralization	Sunlight, milk, egg yolk, liver, fish	Osteoporosis, calcium absorption, thyroid