

Nutrient Functions | Deficiency Symptoms



Micronutrient
Testing

| 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, avocados, 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 |
| CHROMIUM | COMMON | Assists insulin function, increases 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, peas, nuts, seeds, whole unprocessed grains | Appetite, nausea, vomiting, fatigue cramps, numbness, tingling, seizures, heart spasms, personality changes, heart rhythm |
| 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 |
| ZINC | MOST COMMON | Supports enzymes, immune system, wound healing, taste/smell, DNA synthesis, normal growth & development during pregnancy, childhood and adolescence | Oysters, red meat, poultry, beans, nuts, seafood, whole grains, fortified breakfast cereals, dairy | Growth retardation, hair loss, diarrhea, impotence, eye & skin lesions, loss of appetite, taste, weight loss, wound healing, mental lethargy |
| CO Q10 | COMMON | Powerful antioxidant, stops oxidation of LDL cholesterol, energy production, important to heart, liver and kidneys | Oily fish, organ meats, 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, metabolize 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 | Glutathione production, lowers homocysteine, lipoprotein (a), heal lungs, inflammation, decrease muscle fatigue, liver detoxification, immune function | Meats, ricotta, cottage cheese, yogurt, wheat germ, granola, oat 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 |
| COPPER | LESS COMMON | Bone formation, involved in healing process, energy production, hair and skin coloring, taste sensitivity, stimulates iron absorption, helps metabolize several fatty acids | Oysters, seeds, dark leafy vegetables, organ meats, dried legumes, whole grain breads, nuts, shellfish, chocolate, soybeans, oats, blackstrap molasses | Osteoporosis, anemia, baldness, diarrhea, general weakness, impaired respiratory function, myelopathy, decreased skin pigment, reduced resistance to infection |

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| VITAMIN B1 | VERY COMMON | Carb. conversion, breaks down fats & 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 |
| VITAMIN B2 | VERY COMMON | Metabolism, carb. conversion, breaks down fats & protein, digestion, nervous system, skin, hair, eyes, mouth, liver | 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 |
| VITAMIN 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 |
| VITAMIN B6 | COMMON | Enzyme, protein metabolism, RBC production, reduces homocysteine, nerve & muscle cells, DNA/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, confusion, anxiety, fatigue |
| VITAMIN B12 | VERY COMMON | Healthy nerve cells, DNA/RNA, red blood cell production, iron function | Fish, meat, poultry, eggs, milk, milk products | Anemia, fatigue, constipation, loss of appetite/weight, numbness and tingling in the hands and feet, depression, dementia, poor memory, oral soreness |
| BIOTIN | LESS COMMON | Carbs, fat, amino acid metabolism (the building blocks of protein) | 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 & pregnancy, with B12 to regulate RBC 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, cardiovascular disease |
| PANTOTHENATE | LESS COMMON | RBC 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, fruits | Night blindness, immune function, zinc deficiency, fat malabsorption |
| VITAMIN C | COMMON | Enzyme activation, second messenger roles (transmitting hormonal information), blood clotting, cell and cell organelle membrane function, nerve impulse transmission and muscular contraction, tone and irritability | Supplementation, broccoli, brussel sprouts, cantaloupe, cauliflower, citrus, guava, kiwi, papaya, parsley, peas, potatoes, peppers, parsley, rose hips, strawberries and tomatoes | Muscular and nervous irritability, muscle spasms, muscle cramps and tetany, tooth decay, periodontal disease, depression, possibly hypertension |
| VITAMIN D | VERY COMMON | Calcium and phosphorus levels, calcium absorption, bone mineralization | Sunlight, milk, egg yolks, liver, fish | Osteoporosis, calcium absorption, thyroid |
| VITAMIN K | LESS COMMON | Aids in the formation of clotting factors and bone proteins and the formation of glucose into glycogen for storage in the liver | Kale, green tea, turnip greens, spinach, broccoli, lettuce, cabbage, beef liver, asparagus, watercress, cheese, oats, peas, whole wheat | Excessive bleeding, a history of bruising, appearance of ruptured capillaries or menorrhagia (heavy periods) |