

Nutrient	Food Sources	Functions	Deficiency Signs	Signs of Excess
Vitamin A (Retinol) RDA: M: 900 µg F: 700 µg	Cod liver oil and other fish liver oils, liver, egg yolk, full cream dairy, yellow and dark green vegetables.	Essential nutrient for eye health. Important for growth and development of body tissues. Maintenance of healthy skin, nails and hair.	Changes in skin texture. Increased risk for respiratory infections. Visual impairment, night blindness and possible blindness. Skin problems.	Dry, red, cracking skin Hair loss, brittle nails Dizziness, headaches and nausea
Vitamin B1 (Thiamine)	Whole grains, lean pork, liver, wheat-germ, eggs, dried beans, nuts, seeds, yeasts, potatoes.	Required for the release of energy from glucose and for the transformation of carbohydrates to fat. Maintains healthy nerve function.	Fatigue Depression & irritability Weight loss & muscle weakness.	Headaches Convulsions, muscular weakness Irregular heartbeat
Vitamin B2 (Riboflavin)	Dairy products, fish, dark green vegetables, eggs, beef, wholegrain cereals.	For the production of energy from protein, fat and carbohydrates. Helps maintain healthy skin. May reduce frequency and severity of migraines. Supports eye health.	Fatigue. Cracking of lips & corners of mouth, watering, itching, burning eyes, lesions around eyes. Soreness and burning of lips and tongue.	Harmless effect: bright yellow discolouration of urine.
Vitamin B3 (Nicotinic Acid)	Poultry, beef, fish, liver, pulses, peanuts, wholegrain cereals, yeasts, nuts.	Helps the body in protein metabolism and the conversion of fats and carbohydrates into energy. May assist in maintaining healthy cholesterol levels.	Skin irritations, dermatitis. Dementia. Appetite loss, diarrhoea, nausea. Memory loss, confusion, fatigue. Muscle weakness.	Flushing & itching of skin, liver damage.
Vitamin B5 (Pantothenic Acid)	Wholegrain cereals, eggs, yeasts, dried beans, fish, meat, poultry.	Plays a role in the metabolism of fatty acids, glucose and proteins for energy production. Helps maintain healthy skin and mucus membranes.	Fatigue. Dry skin & hair. Burning feet. Insomnia.	Diarrhoea.
Vitamin B6 (Pyridoxine)	Dark green vegetables, bananas, wholegrain cereals, oats, fish, poultry, pork, peas.	For energy release from protein, carbohydrates and fat. Helps maintain healthy skin. Cardiovascular support nutrient as it helps to maintain healthy levels of homocysteine.	Fatigue. Dermatitis, acne, mouth sores. Insomnia, depression. Peripheral neuropathy.	Peripheral neuropathy, numbness of feet.
Vitamin B12 (Cyanocobalamin)	Organ meats, red meat, pork, poultry, seafood, eggs, dairy products.	Contributes to the health of the nervous system and is involved in the manufacture of red blood cells. Cardiovascular support nutrient as it helps to maintain healthy levels of homocysteine. Important for strict vegetarians.	Peripheral numbness, muscle weakness. Memory loss, confusion, dementia, fatigue, neurological degeneration.	None known.
Folic Acid	Brussels sprouts, spinach, broccoli, celery, lentils, asparagus, yeast, oranges, green beans, wholegrain cereals, fish, eggs, organ meats.	Important for cell division and in the regeneration of blood cells. Essential during pregnancy to optimise the development of the baby's nervous system. Cardiovascular support nutrient as it helps to maintain healthy levels of homocysteine.	Anaemia (megaloblastic), spina bifida (birth defect of spinal cord), retarded growth in children, chronic diarrhoea.	Increased risk of seizures in cases of epilepsy.
Biotin	Liver, soya beans, soya flour, oatmeal, brown rice, whole grains, yeasts.	Plays a role in the formation of fatty acids. Helps the body with the transformation of fats and carbohydrates into energy. Contributes to healthy skin and hair.	Seborrheic dermatitis, hair loss. Appetite loss, nausea. Paralysis.	None known
Vitamin C (Ascorbic Acid)	Citrus fruits, peppers (yellow, green & red), chilli, guavas, tomatoes, lettuce, kiwi fruit, papaya.	Plays a role in maintaining healthy gums, skin and connective tissue. Helps with the absorption of iron from food. Functions as a tissue antioxidant thereby keeping cells healthy. Supports cardiovascular health and the immune system.	Bleeding gums, poor healing of bruises and wounds. Muscular atrophy. Skin lesions. Rheumatic pain in legs. Depression.	Diarrhoea, gastro-intestinal disturbance. Increased risk for oxalate kidney stones.
Vitamin D (Cholecalciferol)	Fatty fish, eggs, liver, fish liver oil, foods enriched with vitamin D such as butter & margarine.	For the maintenance of healthy bones and teeth. Helps the body utilise calcium which is necessary for the normal development and maintenance of strong bones and teeth.	Rickets in children. Loss of bone density in adults with increased risk for osteoporosis.	Constipation, appetite loss, nausea, vomiting. Calcium deposits in soft tissues (kidneys, lungs, heart). Increased risk for kidney stones. Irregular heartbeat.
Vitamin E (Tocopherol)	Avocado, wheat germ, wheat germ oil, whole-wheat foods, nuts, seeds, green leafy vegetables.	Functions as a tissue antioxidant, thereby keeping cells healthy. Protects unsaturated fatty acids and Vitamin A against oxidation in the body. Supports cardiovascular health. Protects red blood cells.	Neurological damage, shortened life-span of red blood cells. Balance & coordination problems. Visual impairment.	Gastro-intestinal disturbances. Fatigue, muscle weakness. Headaches.
Vitamin K (Menadione)	Alfalfa, spinach, cabbage, lettuce, Swiss chard, broccoli, spring onions, Brussels sprouts, pistachio nuts.	Vitamin K is an important factor for blood clotting. It is also an important vitamin for bone health.	Increased bruising, poor blood clotting with subsequent bleeding.	Flushing, sweating.