Unwind Aging

Thrive After 50

Nutrient	% Deficient (US Population)	Impact on Health
Vitamin A	50%	Important for maintaining the health of mitochondrial membranes and supporting their function in energy production. It also plays a role in cell growth and differentiation.
Vitamin B1	Not readily available	Essential for carbohydrate metabolism and nerve function. Deficiency can lead to beriberi, Wernicke-Korsakoff syndrome, and other health problems.
Vitamin B2	Not readily available	Important for energy production, cell growth and function, and metabolism of fats and drugs. Deficiency can lead to skin disorders, sore throat, and problems with vision.
Vitamin B3	Not readily available	Plays a crucial role in energy production, DNA repair, and cell signaling. Deficiency can lead to pellagra, characterized by skin lesions, digestive problems, and mental disturbances.
Vitamin B5	Not readily available	Involved in energy production, hormone and neurotransmitter synthesis, and wound healing. Deficiency is rare but can cause fatigue, irritability, and numbness.
Vitamin B6	Not readily available	Important for protein metabolism, cognitive development, and immune function. Deficiency can lead to anemia, skin disorders, and neurological problems.

Vitamin B12	1.5-15% [2]	Essential for red blood cell formation, neurological function, and DNA synthesis. Deficiency can lead to anemia, fatigue, and cognitive decline.
Vitamin C	45%	A powerful antioxidant that helps protect mitochondria from oxidative damage. It also plays a role in collagen synthesis, which is important for maintaining the structural integrity of mitochondria.
Vitamin D3	96%	Helps regulate calcium levels, which are essential for mitochondrial function. Vitamin D3 also has anti-inflammatory properties that can protect mitochondria from damage.
Vitamin K2	70%	Plays a crucial role in calcium metabolism, directing calcium to bones and teeth while preventing its buildup in arteries. Deficiency can contribute to osteoporosis and cardiovascular disease.
Vitamin E	90%	A potent antioxidant that protects mitochondrial membranes from oxidative damage. It also helps maintain the fluidity of these membranes, which is essential for efficient energy production.
CoQ10	Not readily available	A powerful antioxidant that plays a vital role in the electron transport chain, a key process in energy production within the mitochondria. CoQ10 also helps protect mitochondria from oxidative damage.
Alpha-Lipoic Acid	Not readily available	Another potent antioxidant that helps protect mitochondria from oxidative stress and supports energy production. It also helps regenerate other antioxidants, such as vitamin C and vitamin E.

Carnitine	Not readily available	Facilitates the transport of fatty acids into the mitochondria, where they are used for energy production. Carnitine also helps remove waste products from the mitochondria, preventing their buildup and dysfunction.
Magnesium	65%	A cofactor for many enzymes involved in energy production within the mitochondria. It also helps maintain healthy mitochondrial membrane potential, essential for efficient energy production.
Potassium	100%	Essential for maintaining fluid balance, nerve function, and muscle contractions. Deficiency can lead to muscle weakness, fatigue, and heart rhythm abnormalities.
Calcium	60%	Crucial for bone health, muscle function, and nerve transmission. Deficiency can lead to osteoporosis, muscle cramps, and impaired nerve function.
Zinc	10%	Important for immune function, wound healing, and cell growth. Deficiency can impair immune response, delay wound healing, and affect taste and smell.
Iron	25%	Essential for the formation of heme, a component of hemoglobin that carries oxygen to cells, including mitochondria. Adequate oxygen supply is crucial for optimal mitochondrial function and energy production.
Selenium	40%	A component of selenoproteins, which are involved in protecting cells from oxidative damage and maintaining mitochondrial health. Selenium also plays a role in thyroid hormone production, which influences mitochondrial activity.

Lithium	Not readily available	May have neuroprotective effects and potential benefits for mood disorders, but more research is needed.

Unwanted Minerals

Aluminum	9.4%	Can have toxic effects on the brain, potentially contributing to cognitive decline and neurological issues.
Lead	3%	Can interfere with various bodily functions and negatively impact health, especially in children.
Cadmium	0.8%	Can accumulate in the body and cause damage to organs like the kidneys.
Arsenic	0.1%	Exposure to high levels can lead to health problems, including skin lesions, cardiovascular disease, and cancer.
Mercury	0.1%	Can have toxic effects on the nervous system and other organs, potentially leading to developmental problems, neurological disorders, and kidney damage.