

HYPOTHYROIDISM

Vitamin C and E
Partially restores thyroid function when liver detoxification ability is compromised.^{2,8,9,10,11}

B Vitamins
A deficiency in B6, B12 or B9 (folate) can cause elevated homocysteine, which is linked with hypothyroidism. Folic acid levels have been linked levels of thyroid stimulating hormone (TSH).^{3,4,5,6,7}

Vitamin A
Activates gene that regulates TSH (thyroid stimulating hormone).^{12,13,14}

Zinc
Increases thyroid hormone T3 in deficient subjects^{15,16,17,20,21}

Copper
Low levels seen in experimentally induced hypothyroidism; Indirectly affects thyroid status by its antioxidant role via superoxide dismutase.¹⁷

Selenium
Converts thyroid hormones T4 (thyroxine) into T3 (triiodothyronine); Deficiency reduces T3 levels causing classic hypothyroidism symptoms such as fatigue, depression or weight gain.^{18,19,20,21}

Glutathione
Hypothyroidism decreases efficacy of some antioxidants, such as glutathione peroxidase and superoxide dismutase.^{1,2}

Choline
Hypothyroidism negatively affects choline function in the brain, which can affect mood and cognition.^{29,30}

Lipoic Acid
Improves endothelial function in people with subclinical hypothyroidism; Protects thyroid cells from oxidative stress; May interfere with T4 therapy.^{27,28}

Carnitine
Decreased tissue levels of carnitine in both hypo- and hyperthyroidism contribute to muscle fatigue.^{24,25,26}

Asparagine
This amino acid is part of the structure of thyroid stimulating hormone which regulates communication with other hormones.^{22,23}



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