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

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

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

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

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

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

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 to levels of thyroid stimulating hormone (TSH).3,4,5,6,7

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

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

Zinc
Increases thyroid 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

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