Standard Process
WHOLE FOOD NUTRIENT SOLUTIONS

Nutritional Support Protocol

Support For Healthy Thyroid Function

Managing the body's natural hormone processes through focused nutrition and lifestyle practices

Developed and reviewed by the clinical, chiropractic, and naturopathic members of the Standard Process team

Thyroid Health and Function

The thyroid gland exerts hormone effects across nearly all organ systems by increasing their function and metabolism.

Tightly controlled by a negative feedback loop, thyroid hormone synthesis begins in the hypothalamus where thyrotropin-releasing hormone (TRH) is secreted and signals the anterior pituitary to release thyroid stimulating hormone (TSH). Stimulation of the thyroid follicular cells by TSH signals thyroxine (T4) production which requires nutritional precursors tyrosine and iodine for synthesis. T4, exclusively produced in the thyroid gland can be converted to the active thyroid hormone triiodothyronine (T3) by cleavage of iodine via the action of iodothyronine deiodinase enzymes. T3 is approximately 8 times more biologically active than T4 with 90% of circulating T3 being produced by peripheral conversion in the brain, liver, bloodstream, and other tissues of the body.[1]

Thyroid hormone can be bound to other proteins or free-floating in circulation. Free thyroid hormone binds within the nucleus of a cell and acts to increase basal metabolic rate and thermogenesis causing increased oxygen and energy consumption. Other effects of thyroid hormone include chronotropic and inotropic cardiac effects, stimulation of the nervous system resulting in increased alertness, development of fast-twitch muscle fibers, anabolism of proteins, and regulation of the ovulatory cycle and spermatogenesis.[1,2]

Common causes of acquired thyroid disorders include nutritional deficiencies, autoimmune activity against thyroid tissue, environmental toxicity, and iatrogenic origins such as radiation, surgery, and medications.[3]

Supportive Lifestyle Practices

Promote stress reduction and activities that stimulate the parasympathetic nervous system. Excess cortisol has a significant adverse effect on thyroid function and is primary to many underactive thyroid cases. Elevated cortisol leads to decreased levels of free T3 and increases the risk of autoimmune activity against thyroid tissues.[4]

Encourage regular exercise utilizing a combination of moderate aerobic intensity and weight-bearing activities. Exercise improves thyroid function by increasing tissue sensitivity to thyroid hormone, promoting healthy weight management, and improving perfusion to the thyroid gland.[5]

Minimize exposure to endocrine-disrupting chemicals (EDC) as they can disrupt various stages of thyroid metabolism. EDCs implicated in the disruption of thyroid physiology include flame retardants, polychlorinated biphenyls (PCBs), dioxins, phthalates, bisphenol A, perfluorinated chemicals, and perchlorate.[6]

Whole Foods: Nutritional Recommendations

Ensure adequate, but not excessive, amounts of iodine. Iodine is a key component of both T3 and T4 thyroid hormones and is found in foods like iodized salt, fish, seaweed, and dairy products. Iodine deficiency can lead to hypothyroidism while excess iodine has been shown to precipitate thyroid issues or exacerbate pre-existing thyroid conditions.[7] The Wolff Chaikoff effect prevents the thyroid from synthesizing large amounts of thyroid hormone by rejecting excessive iodine quantities.[8]

Promote proper thyroid hormone conversion by supplying adequate selenium and zinc, which are necessary for the production and activation of iodothyronine deiodinase enzymes. Selenium is a trace mineral found in foods such as Brazil nuts and organ meats; zinc is found in oysters, beef, fish, and seafood.

Recommend that those with underactive thyroid avoid consuming large amounts of raw goitrogenic foods. Goitrogens are well known to interfere with thyroid function and include vegetables in the Brassica genus such as Brussels sprouts, kale, and broccoli. Goitrogens are sensitive to food processing including heat, which can denature them, and steaming has been shown to reduce their effect.[9]

Dietary Supplement Regimen

Thytrophin PMG®

Suggested Use: **1 tablet, three times per day on an empty stomach**

Thytrophin PMG® contains bovine thyroid PMG™ extract, a proprietary Protomorphogen™ blend.

- PMGs contain a unique profile of nucleotides and peptides from bovine thyroid

Cataplex® E

Suggested Use: **2 tablets per meal**

Cataplex® E is a vitamin E supplement that supports cellular processes and healthy thyroid function.*

- Supports cell signaling and regulation of gene expression*
- Excellent source of antioxidant vitamin E and selenium

Thyroid Complex

Suggested Use: **1 tablet daily**

Thyroid Complex contains Bladderwrack, Ashwagandha and Bacopa to support healthy thyroid function.* These herbs have been traditionally used in herbal preparations to:

- Maintain normal thyroid function*
- Help assist the body in achieving normal basal metabolism through supporting healthy thyroid function*

Organically Bound Minerals

Suggested Use: **1 tablet per meal**

Organically Bound Minerals contains iodine from alfalfa and kelp.

- Includes whole food-sourced ingredients with complexity maintained through careful processing
- Contains iodine that supports thyroid function/thyroid hormone levels*
- Supports healthy metabolic processes*

Assessment of Thyroid Function

In Office/Physical Exam

- Palpation of the thyroid gland
- Thyroid specific laboratory markers: TSH, free T3, free T4, reverse T3, thyroid antibodies
- Additional blood markers: lipids, fasting blood glucose, fasting insulin, iron panel with ferritin, vitamin D, cortisol
- Thyroid ultrasound if indicated

References available at **standardprocess.com**

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*These statements have not been evaluated by the Food and Drug Administration These products are not intended to diagnose, treat, cure, or prevent any disease.

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