

Thyroid Function Protocol

Improve thyroid health by supplying nutrients to protect the thyroid gland and support production of thyroid hormones. The minerals, amino acids, and proteins found in BioThy help to restore and maintain normal thyroid function.

Remedy	Phase/Dose	Monday to Sunday
BioThy	1 capsule	two times a day with food



BioThy

Recommended dosage (adult): 1 capsule two times daily with food. Safe to use long term.

Thyroid Health Benefits: BioThy contains a combination of minerals, amino acids, and protein to support normal thyroid function, through the production and secretion of thyroid hormones. Deficiency in zinc, selenium, or iodine may result in low thyroid function and increase the risk of developing goiter and hypothyroidism.^{14,15,17} BioThy works to restore and maintain healthy thyroid function and address iodine, zinc, or selenium deficiency.

Hypothyroidism (low thyroid function) results when the thyroid gland does not produce and secrete enough thyroid hormone, affecting 4.6% of the population.^{1,2} Symptoms of hypothyroidism include fatigue, weight gain, constipation, brittle thinning hair and hair loss, dry skin, memory issues and low mood, hoarseness, muscle aches and weakness, libido and fertility issues, and chilliness.^{3,4,5,6,7,8}

BioThy Thyroid Health Benefits:

- Maintain normal thyroid function^{9,10,13,15}
- Support production of thyroid hormones (T3, T4) and thyroid-stimulating hormone (TSH)^{9,11,14,16,17}
- Convert T4 to the active T3 form of thyroid hormone¹¹
- Protect the thyroid from inflammation and free radical damage¹²
- Produce thyroglobulin, a precursor to making thyroid hormones (T3, T4)¹⁸
- Prevent iodine, zinc, or selenium deficiency
- Decrease cognitive fatigue due to physically stressful situations¹⁹
- Improve symptoms associated with low thyroid function

Key Features: Support and maintain normal thyroid function, antioxidant and multi-mineral, increase production and secretion of T3 and T4 thyroid hormones, thyroglobulin precursor of T3 and T4 hormones, convert T4 to bioactive T3 thyroid hormone, increase the production of thyroid-stimulating hormone (TSH), improve cognitive fatigue due to stress, prevent iodine and zinc and selenium deficiency.




Medicinal ingredients: Each capsule contains:

L-Tyrosine (<i>Anas falcata</i> , feather)	200 mg
Iodine (kelp)	100 mcg
Selenium (selenomethionine)	100 mcg
Zinc (zinc citrate)	10 mg

Non-medicinal ingredients: Microcrystalline cellulose, gelatin (capsule), animal protein hydrolysate and powder, magnesium stearate.

Caution/warnings: Zinc supplementation can cause a copper deficiency.

Contraindications: Consult a healthcare practitioner if you are pregnant or breastfeeding. Consult a healthcare practitioner prior to use if you are following a low protein diet or if you have a history of non-melanoma skin cancer.

NPN 80045509 • 60 caps



References

- Hollowell, J.G., Staehling, N.W., Flanders, W.D., et al. Serum TSH, T4, and Thyroid Antibodies in the United States Population (1988 to 1994): National Health and Nutrition Examination Survey (NHANES III). *J Clin Endocrinol Metab.* 2002;87(2):489–499
- Golden, S.H., Robinson, K.A., Saldanha, I., et al. Prevalence and incidence of endocrine and metabolic disorders in the United States: A Comprehensive Review. *Journal of Clinical Endocrinology Metabolism.* 2009;94(6):1853-1878.
- Costanzo L.S. *Thyroid Hormones. Physiology.* 4th ed. Philadelphia. Saunders Elsevier. 2010. p. 401–9.
- Gaitonde, D.Y., Rowley, K.D., Sweeney, L.B. Hypothyroidism: An Update. *Am Fam Physician.* 2012 Aug 1;86(3):244-251.
- Duyff RF, Van den Bosch J, Laman DM, et al. Neuromuscular Findings in Thyroid Dysfunction: A Prospective Clinical and Electrodiagnostic Study. *Journal of Neurology, Neurosurgery & Psychiatry* 2000;68:750-755.
- Thyroid Function Testing in the Diagnosis and Monitoring of Thyroid Function Disorder. BC Guidelines.ca. Oct 2018
- Vincent, M., Yogiraj, K. A Descriptive Study of Alopecia Patterns and their Relation to Thyroid Dysfunction. *Int J Trichology.* 2013 Jan-Mar; 5(1): 57–60.
- Hypothyroidism, National Endocrine and Metabolic Diseases Information Service. US Department of Health and Human Services: National Institute of Diabetes and Digestive and Kidney Diseases. Aug 2016.
- Maxwell, C., Volpe, S.L. Effect of Zinc Supplementation on Thyroid Hormone Function. *Annals of Nutrition and Metabolism.* *Ann Nutr Metab* 2007;51:188-194
- Ertok, Sibel, et al. Relationship Between Serum Zinc Levels, Thyroid Hormones and Thyroid Volume Following Successful Iodine Supplementation. *Hormones.* 2010;9(3):263-8.
- Kralik A, Eder K, Kirchgessner M. Influence of Zinc and Selenium Deficiency on Parameters to Thyroid Hormone Metabolism. *Horm Metab Res.* 1996;2(8):223-226.
- Negro, R. Selenium and thyroid autoimmunity. *Biologics.* 2008 Jun; 2(2): 265–273.
- Ventura, M., Melo, M., Carrilho, F. Selenium and Thyroid Disease: From Pathophysiology to Treatment. *Int J Endocrinol.* 2017; 2017: 1297658
- Ambooken, B., Binitha, M, Sarita, S. Zinc deficiency associated with hypothyroidism: an overlooked cause of severe alopecia. *Int J Trichology.* 2013 Jan;5(1):40-2.
- Wu, Q., Rayman, M.P., Lv, H. Low Population Selenium Status Is Associated With Increased Prevalence of Thyroid Disease. *J Clin Endocrinol Metab.* 2015 Nov;100(11):4037-8.
- Hollowell, J.G., Staehling, N.W., Hannon, W.H., et al. Iodine nutrition in the United States. Trends and public health implications: iodine excretion data from National Health and Nutrition Examination Surveys I and III (1971-1974 and 1988-1994). *J Clin Endocrinol Metab.* 1998 Oct;83(10):3401-8.
- Zimmermann, M.B., Boelaert, K. Iodine deficiency and thyroid disorders. *Lancet Diabetes Endocrinol.* 2015 Apr;3(4):286-95.
- Rousset, B., Dupuy, C., Miot, F., Dumont, J. *Endotext [Internet]. Chapter 2 Thyroid Hormone Synthesis and Secretion.* 2015.
- Bloemendaal, M., Frobose, M.I., Wegman, J., et al. Neuro-Cognitive Effects of Acute Tyrosine Administration on Reactive and Proactive Response Inhibition in Healthy Older Adults. *eNeuro.* 2018 Mar-Apr;5(2)