

## Clinical Applications



- Provides Essential Nutrient, Herbal, and Glandular Support for Production of Thyroid Hormones

*MitoThyroid is a comprehensive, multi-glandular mineral and herbal formula designed to support healthy thyroid function. MitoThyroid contains 150 mg of New Zealand-sourced bovine thyroid that is guaranteed to be free of BSE and thyroxin. Each tablet contains iodine (from kelp, bladderwrack, Irish moss, and dulse leaf), selenium, L-tyrosine, and bovine-derived, freeze-dried glandulars (thyroid gland USP, adrenal gland, pituitary gland, spleen, and thymus gland).*

All NutriMedical Formulas Meet or Exceed cGMP Quality Standards

## Discussion

**Thyroid Hormone Production** The thyroid is a small gland with a sizeable role in the body. Its primary function is the concentration of iodine and the production of crucial thyroid hormones thyroxine (T4) and triiodothyronine (T3). T4 is converted to T3 by the body. Between them, T3 is the more potent, biologically active hormone. It regulates the metabolic rate within cells and affects fundamental functions throughout the body. Thyroid hormone production depends on the presence of iodine and the amino acid L-tyrosine in adequate amounts. T4 contains tyrosine and four iodine molecules, while T3 contains tyrosine and three iodine molecules. Production of thyroid hormones can be disrupted by several factors in the environment, including heavy metals (lead, cadmium, mercury, flouride), pesticides, dysbiosis, hormonal fluctuations, antibiotic residues, chemicals, other xenobiotics, or any key-element deficiencies.<sup>[1]</sup>

**The Thyroid Gland's Manifold Effects** The thyroid gland does not work alone; it interacts intimately with the liver, the kidneys, and the hypothalamus, pituitary, and adrenal glands. Communicating via the intricate matrices of the hypothalamic-pituitary-adrenal (HPA) axis and the hypothalamic-pituitary-thyroid (HPT) axis, these key players coordinate the body's response to stress and its quest for homeostasis.<sup>[1,2]</sup>

Thyroid hormone activates over 100 enzymes in the body, exerting a significant effect on growth and metabolic rate. The metabolic rate reflects the body's transformation of nutrients into energy. Hyperthyroidism, or excessive thyroid hormone, leads to a markedly increased metabolic rate. Signs of hyperthyroidism may include loss of appetite, weight loss, increases in blood pressure, and increased perspiration. Conversely, hypothyroidism causes a discernible decline in metabolic rate. Hypothyroidism is often manifest as profound fatigue, headaches, unjustified increases in weight and cholesterol, depression, constipation, sensitivity to cold temperatures, hair loss, and brittle hair and nails.<sup>[3,4]</sup>

**Glandular Support** Glandular extracts have a century-old history of promoting euthyroid parameters in patients with documented hypothyroidism. A linear relationship between thyroid extract and serum levels of thyroxine and triiodothyronine in children has been observed.<sup>[3,5]</sup>

**Micronutrient, Amino Acid, and Herbal Support** Production of thyroid hormone is fundamentally dependent on the presence of L-tyrosine and iodine, while conversion of T4 to T3 is facilitated by selenium. Bladderwrack (*Fucus vesiculosus*), dulse, kelp, and Irish moss are natural sources of iodine for support of endogenous thyroid hormone production.<sup>[6]</sup>

The combination of foundational elements with supportive nutrients in NutriMedical's MitoThyroid represents a comprehensive approach to thyroid support.

## Supplement Facts

Serving Size: 1 Capsule  
Servings Per Container: 60

	Amount Per Serving	%Daily Value
Iodine (from Kelp)	40 mcg	27%
Selenium (Selenomethionine)	50 mcg	71%
Dulse (whole plant)	400 mg	**
Thyroid (freeze dried)(New Zealand)	150 mg	**
Adrenal (freeze dried)(Argentina)	50 mg	**
Irish Moss	40 mg	**
L-Tyrosine	30 mg	**
Anterior Pituitary (Peptides)(Argentina)	15 mg	**
Bladderwrack	15 mg	**
Spleen (freeze dried)(USA and Argentina)	5 mg	**
Thymus (freeze dried)(USA and Argentina)	5 mg	**

\*\* Daily Value not established.

**Other Ingredients:** HPMC and water (vegetarian capsule), cellulose, silicon dioxide and magnesium stearate.

## Dosage

Swallow one capsule with water per day (away from food), or take as directed by your healthcare practitioner.

## References

1. Baker SM, Bennett P, Bland JS, et al. *Textbook of Functional Medicine*. Gig Harbor, WA: The Institute for Functional Medicine; 2010.
2. Tsigos C, Chrousos GP. Hypothalamic-pituitary-adrenal axis, neuroendocrine factors and stress. *J Psychosom Res*. 2002 Oct;53(4):865-71. [PMID: 12377295]
3. Gaby AR. Sub-laboratory hypothyroidism and the empirical use of Armour thyroid. *Altern Med Rev*. 2004 Jun;9(2):157-79. [PMID: 15253676]
4. Bodó E, Kromminga A, Bíró T, et al. Human female hair follicles are a direct, nonclassical target for thyroid-stimulating hormone. *J Invest Dermatol*. 2009 May;129(5):1126-39. [Epub 2008 Dec 4] [PMID: 19052559]
5. Weill J, Debruxelles P, Fulla Y, et al. [Management of primary hypothyroidism in childhood treated with thyroid extract (author's transl)] [Article in French]. *Arch Fr Pediatr*. 1980 Jan;37(1):29-34. [PMID: 7469681]
6. Krinsky DI, LaValle JB, Hawkins EB, et al. *Natural Therapeutics Pocket Guide*. 2nd ed. Hudson, OH: Lexi-Comp, Inc.; 2003.

## Cautions

Consult with your healthcare practitioner before use. Keep out of reach of children.

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