

Thyroid Balance



Clinical Applications

- Poor Conversion of T4 to the More Active Hormone T3
- Support Healthy Thyroid Function to Reduce Risk of fatigue, constipation, dry skin, poor cognition, cold hands and feet, irregular periods, depression, hair loss, edema, hives, weight gain, low energy, can't get started in the mornings, hoarseness, etc.^[1]

This synergistic formula may support expression of thyroid hormone responsive genes, supports the conversion of thyroxine(T4) to triiodothyronine(T3) and supports healthy lipid levels.

All Starr Walker Formulas Meet or Exceed cGMP Quality Standards

Discussion

Vitamin A (Retinyl palmitate): Retinyl palmitate, also referred to as “pre-formed vitamin A” is the form of vitamin A that is stored in the liver. It is converted into retinol and then into retinal by enzymes that are zinc-dependent. Beta-carotene has not been used in this formula because individuals with hypothyroidism may lack the ability to effectively convert beta-carotene or other carotenoids into vitamin A.^[2] Retinyl palmitate may have an effect on 43 genes that in turn regulate enzymes possessing powerful antioxidant activity.^[3] Hypothyroid individuals tend to have elevated lipid levels and therefore need adequate antioxidants to prevent oxidation of cholesterol.^[4]

Vitamin D (cholecalciferol): This bioavailable form of vitamin D facilitates intestinal absorption of calcium and maintains calcium:phosphorous balance. Hyperphosphatemia may be present in hypothyroid individuals and contribute to cardiovascular involvement.^[5] Higher dose, longer duration exogenous thyroxine, depletes skeletal sites such as the femoral neck, rich in cortical bone.^[6]

Vitamin E (d-alpha tocopherol succinate): This powerful biological antioxidant makes it a useful component of the Thyroid Balance formula. In a study of 34 patients with various thyroid disorders researchers found elevated vitamin E levels in their thyroid tissue. They concluded that vitamin E acts as a scavenger in thyroid follicular cell dysfunction.^[7] Researchers in Poland demonstrated that active oxygen radicals inhibit the activity of an enzyme responsible for the conversion of T4 to the active hormone T3.^[8]

Iodine (Atlantic Kelp): Eighty percent of the body's iodine pool, (about 15 mgs in adults) is contained in the thyroid gland. Iodine is primarily used as a substrate for the manufacture of the thyroid hormones, thyroxine and triiodothyronine. To avoid the negative impact excess iodine might have, Starr Walker has added selenium to its Thyroid Balance. High iodine intake in the presence of insufficient selenium may permit thyroid tissue damage; whereas even a moderately low selenium intake normalized circulating T4 concentration in the presence of iodine deficiency.^[9]

Zinc (as zinc citrate): Human studies have demonstrated consequent reduced concentrations of thyroid hormones when a zinc deficiency is present. The mean Zn and Se concentrations in thyroid cancer tissue were significantly lower than in the thyroid tissue of other patients suggesting that a deficiency of zinc participates in the carcinogenic process.^[10] Zinc deficiency has also been suggested as the possible cause for sub-clinical hypothyroidism sometimes seen in children with Down's Syndrome.^[11]

Selenium (as L- selenomethionine): Selenium is an integral component of the detoxifying enzymes glutathione peroxidase (GPx) and iodothyronine 5' deiodinase. The latter is responsible for peripheral T3 production. There is a narrow therapeutic threshold with respect to selenium. Starr Walker limits the selenium in Thyroid Balance because high selenium plasma levels have been shown to be inversely related to serum T3 and T4.^[12]

Distributed by:
The 3rd Opinion Inc.
P.O. Box 10
Chattanooga, OK 73528
1-800-431-7902

Thyroid Balance



Supplement Facts

Serving Size: 4 Capsules
Servings Per Container: 30

	Amount Per Serving	%Daily Value
Vitamin A (as retinyl palmitate)	3000 IU	60%
Vitamin D (as cholecalciferol)	400 IU	100%
Vitamin E (as d-alpha tocopherol succinate)	100 IU	333%
Iodine (as atlantic kelp)	150 mcg	100%
Zinc (as zinc citrate)	10 mg	67%
Selenium (as L-selenomethionine)	200 mcg	286%
Guggulsterones (from guggul extract)	100 mg	**
Rosemary Leaf Extract	100 mg	**
Ashwaganda Root Powder	100 mg	**

** Daily Value not established.

Other Ingredients: Cellulose, stearic acid, silicon dioxide, magnesium silicate-talc and magnesium stearate.

Directions

Take two capsules twice daily or as directed by your healthcare practitioner.

References

1. Shames, R, Shames, K. Thyroid Power: Ten Steps To Total Health. New York, NY. HarperCollins Publishers, Inc 2001
2. Aktuna D, Buchinger W, Langsteger W, Meister E, Sternad H, Lorenz O, Eber O. Beta-carotene, vitamin A and carrier proteins in thyroid diseases. *Acta Med Austriaca* 1993;20(1-2):17-20. [PMID: 8475673]
3. Some homology data for this paper were retrieved from the Mouse Genome Database (MGD), Mouse Genome Informatics, The Jackson Laboratory, Bar Harbor, Maine. World Wide Web (URL: <http://www.informatics.jax.org>) (Accessed 30 April, 2004)
4. Shinohara R, Mano T, Nagasaka A, Hayashi R, Uchimura K, Nakano I, Watanabe F, Tsugawa T, Makino M, Kakizawa H, Nagata M, Iwase K, Ishizuki Y, Itoh M. Lipid peroxidation levels in rat cardiac muscle are affected by age and thyroid status. *J Endocrinol.* 2000 Jan;164(1):97-102. [PMID: 10607942]
5. Al-Tonsi AA, Abdel-Gayoum AA, Saad M. The secondary dyslipidemia and deranged serum phosphate concentration in thyroid disorders. *Exp Mol Pathol.* 2004 Apr;76(2):182-7. [PMID: 15010297]
6. Garton M, Reid I, Loveridge N, Robins S, Murchison L, Beckett G, Reid D. Bone mineral density and metabolism in premenopausal women taking L-thyroxine replacement therapy. *Clin Endocrinol (Oxf).* 1994 Dec; 41 (6): 747-55 [PMID: 7889610]
7. Mano T, et al. Vitamin E and Coenzyme Q concentrations in the thyroid tissues of patients with various thyroid disorders. *Am J Med Sci.* 1998 April;315(4):230-232. [Clinical Pearls Newsletter, CA]
8. Brzezinska-Slebodzinska E, Pietras B The protective role of some antioxidants and scavengers on the free radicals-induced inhibition of the liver iodothyronine 5'-monodeiodinase activity and thiols content. : *J Physiol Pharmacol.* 1997 Sep;48(3):451-9. [PMID: 9376628]
9. Hotz CS, Fitzpatrick DW, Trick KD, Abbe MR J. Dietary Iodine and Selenium Interact To Affect Thyroid Hormone Metabolism of Rats. *Nut* 127: 1997 1214-18
10. Kucharzewski M, Braziewicz J, Majewska U, Gozdz S. Copper, zinc, and selenium in whole blood and thyroid tissue of people with various thyroid diseases. *Biol Trace Elem Res.* 2003 Summer;93(1-3):9-18. [PMID: 12835485]
11. Bucci I, et al, Zinc sulfate supplementation improves thyroid function in hypozincemic Down Children. *Biol Trace Elem Res.* 1999;67:257-268. [Clinical Pearls Newsletter, 1999]
12. Jin M [Influence of oral sodium selenite and vitamin E on thyroid hormones in patients with cardiovascular disease at altitude] *Zhonghua Lao Dong Wei Sheng Zhi Ye Bing Za Zhi.* 2004 Dec;22(6):410-2 [PMID: 15748470]
13. Panda S, Kar A. Guggulu (Commiphora mukul) induces triiodothyronine production: possible involvement of lipid peroxidation. *Life Sci.* 1999;65(12):PL137-41. [PMID: 10503949]
14. Dhuley JN. Adaptogenic and cardioprotective action of ashwagandha in rats and frogs. *J Ethnopharmacol.* 2000 Apr;70 (1): 57-63 [PMID: 10720789]

Cautions

Keep out of reach of children.

Warning

Excess Vitamin A intake may be toxic and may increase the risk of birth defects. Pregnant women and women who may become pregnant should not exceed 5000 IU of preformed Vitamin A (retinyl palmitate) per day.

*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.

