

Hyperthyroid Support



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DIETARY SUPPLEMENT 60 CAPSULES

Benefits

The ingredients in Hyperthyroid Support have been clinically proven to:

- Speed the timeframe to recovery from Graves' disease
- Lower the side effects of hyperthyroidism
- Lower the risks of Graves' eye disease
- Lower the free-radical complications from Graves' disease
- Diminish the output of autoimmune thyroid stimulating immunoglobulins
- Decrease the activation of T4 into T3
- Increase the efficacy of antithyroid medication
- Lower the risk for DNA damage for those receiving radioactive iodine.

How to Use

Take 2 pills once daily in the morning with food. Use Hyperthyroid Support in conjunction with recommended treatment to resolve hyperthyroidism.

Formulation

- Quercetin 300 mg
- Vitamin C 275 mg
- Acetyl L-Carnitine 250 mg
- Melissa Officinalis 250 mg
- Rutin 100 mg
- CoQ10 50 mg
- Selenium 50 mcg



Hyperthyroidism

Hyperthyroidism is the condition when thyroid hormones are produced in excess of the body's needs. The most common cause of persistent and progressive hyperthyroidism in adults is Graves' disease also known as toxic diffuse goiter.

Roughly 0.5% of the population will develop Graves' disease. Graves' disease affects both genders but is more common in women.

Graves' disease is an autoimmune condition in which antibodies called thyroid-stimulating immunoglobulins attack the thyroid.

This autoimmune attack mimics the normal signals that cause the thyroid to release hormones.

Graves' Eye Disease

One of the complications of Graves' is Graves' Eye Disease. Also known as Graves ophthalmopathy, Graves' eye disease affects about 30% of people with Graves' disease.

It causes tissue buildup that creates pressure on the eyes causing them to protrude and feel irritated. In many cases, Graves' Eye Disease can threaten visual function.

Graves' Treatment

In Graves' disease, hyperthyroidism can worsen the autoimmunity leading to a vicious cycle. Thus treatment for Graves' requires some process to reverse hyperthyroidism. Such treatments include medications to slow the thyroid (Methimazole, Propylthiouracil), radioactive iodine to ablate thyroid tissue, or surgery to remove the thyroid.

Graves' disease can reverse in the vast majority of patients within 18 months of when hyperthyroidism is reversed.¹

The mechanisms of action of supplements that may help reduce thyroid nodules include those that slow rates of cell division, those that act as anti inflammatories, and those that regulate iodine metabolism.

Other Causes of Hyperthyroidism

In addition to Graves' disease, other causes of hyperthyroidism can include toxic nodular goiter, or hyperthyroidism due to thyroid medication. In these conditions it is essential to resolve the causative factor behind hyperthyroidism.

While the cause is being treated, Hyperthyroid Support may help treatment work better. It may also lower the rate of symptoms, and the risk of complications.

TSF Ingredient Selection

In constructing Thyroid Specific Formulations, all ingredients considered must share the following properties.

Thyroid Safety

All considered ingredients must be natural compounds that have been safely consumed by humans for centuries.

They must be generally recognized as safe (GRAS) by toxicologists. Finally, they must not contain unsafe levels of iodine.

Evidence and Efficacy

All considered ingredients must have high-quality evidence proving their efficacy.

The best quality evidence is that which demonstrates significant positive outcomes on human subjects in multiple double-blinded controlled studies. These human subjects and the outcomes should be clinically relevant to the product's end-users.

Following is a complete discussion of the active ingredients. It includes their relevance to thyroid disease, mechanisms of action, and a review of supportive research.



Ingredients

Quercetin

Quercetin is a bioflavonoid first found in oak bark (Quercus alba). In vivo studies show that quercetin can decrease the rate of hepatic activation of T4 into T3 to a degree comparable to propylthiouracil.

Quercetin can also improve the levels of endogenous antioxidants superoxide dismutase and catalase when they are depleted due to hyperthyroidism.²

Vitamin C

Vitamin C, also known as ascorbic acid is a water soluble antioxidant essential for human health.

In vivo studies have shown that Vitamin C can play a beneficial role at inhibiting the inflammatory changes that give rise to Graves eye disease.

Such effects were only seen when Vitamin C was administered at doses exceeding the levels found in typical diets.³

L-Carnitine

L-Carnitine is a naturally occurring amino acid that is essential for mitochondrial energy production. In optimal health, our bodies produce it in adequate amounts. When L-Carnitine is lacking, fatty acids cannot be brought across the cell membranes to enter the mitochondria and therefore cannot be used to produce energy. In chronic conditions such as thyroid disease, L-Carnitine metabolism can be impaired.⁴

Clinical trials have shown that supplementation with L-Carnitine can improve symptoms of hyperthyroidism from Graves' disease.

In one such study, adults with hyperthyroidism largely from Graves' disease were given L-Carnitine supplementation over a 2 month time period.

During the time of treatment, symptoms including palpitations, tremors, and nervousness decreased by roughly 3-fold. The overall quality of life scores improved dramatically. No side effects were noted from the treatment.

Melissa Officinalis

Melissa, also known as Lemonbalm, is a relative of mint. It has a long history of use as a folk remedy in the Mediterranean countries.

It has been shown in human studies to be effective at reducing hyperthyroid symptoms such as anxiety, panic, and increased heart rate.⁵

Graves' autoimmunity causes hyperthyroidism by the binding of thyroid stimulating immunoglobulins to TSH receptors. In vitro studies have shown that Melissa may inhibit the binding to TSH receptors.⁶

Radioactive iodine is a common treatment for hyperthyroidism. Side effects can include increased risk of non-thyroid cancers due to DNA damage.⁷ Melissa extracts may also lower DNA damage to people exposed to radioactive iodine.⁸





Rutin

In vivo studies have shown that supplementation with rutin improved the elimination of excess thyroid hormones from exogenous hyperthyroidism. It also prevented associated free radical damage and hepatic lipid peroxidation.⁹

CoQ10

Hyperthyroidism is associated with pathologically low levels of CoQ10. It seems that CoQ10 may be harder to produce when tyrosine is used for excess thyroid hormone and it may be degraded from the free radicals produced by hyperthyroidism.

Studies even show that CoQ10 depletion more accurately predicts the metabolic effects of hyperthyroidism than direct measurement of thyroid levels.¹⁰ It has been speculated that the cardiac damage from hyperthyroidism likely relate in part to CoQ10 depletion.

Selenium

Selenium is essential for nearly all facets of thyroid function including iodine regulation, cell proliferation, and regulation of free radicals within thyroid follicles. A recent clinical trial tested to see whether selenium with vitamin C could help methimazole reverse hyperthyroidism more quickly than methimazole alone.¹¹

In the study, the patients were adults, mostly women. They were tracked for 60 days. Those given selenium showed lower levels of T3 and T4 and higher TSH scores.

The researchers concluded that:

"Supplementation undoubtedly contributed to the treatment of hyperthyroidism. Namely, it affects the speed of normalisation of thyroid hormone values and thus reduces the period of exposure of the organism to oxidative stress."

In a recent clinical trial, 204 patients participated in a study to determine the effects of supplemental selenium on Graves' eye disease.

The participants were randomly distributed to receive selenium, an antiinflammatory medication (pentoxifylline), or placebo.

After 6 months, selenium showed dramatic benefits that were not seen in the anti inflammatory or placebo groups. These results continued to improve through a 12-month follow up.

The rate of overall improvement for those on selenium was 7-fold greater than those on the placebo or medication.

No adverse effects were noted in the patients taking selenium but several did occur in those taking pentoxifylline.

Directions

2 capsules once daily with food. Take at least one hour after thyroid medication.





Primary end points. Panel A shows the changes reflected in the score on the graves' orbitopathy ... specific quality of life questionnaire (GO-QOL) at 6 months and 12 months. This questionnaire measures limitations in visual functioning as a consequence of diplopia, decreased visual acuity, or both) and in psychosocial functioning (as a consequence of a changed appearance). Panel B shows the changes at 6 months and 12 months in overall results of the eye evaluation performed by an ophthalmologist who was unaware of the treatment assignments. The quality of lie and over-all eye evaluations were considered to be improved, unchanged, or worsened according to predefined criteria. Differences in proportions were tested with the use of the contingency 3x2 chi-square test.

Supplement Facts

Serving Size 2 Capsules Servings Per Container 30

	%DV
275 mg	306%
50 mcg	91%
300 mg	†
250 mg	+
250 mg	+
100 mg	+
50 mg	†
	275 mg 50 mcg 300 mg 250 mg 250 mg 100 mg 50 mg

+ Daily Value not established.

++ Daily Values based on a 2,000 calorie diet.

Does Not Contain

- Caffeine
- Stimulants
- Thyroid hormones
- Iodine
- GMO
- Gluten
- Dairy

Cautions

Timing

 TSF Supplements must be taken at least an hour after thyroid replacement medication.





Dosage Modification

Those taking TSF supplements while on thyroid replacement medication (hypothyroidism, Hashimoto's) or thyroid suppression therapy (Graves' Disease) are advised to monitor thyroid levels closely. When thyroid antibodies reduce, some need decreases or other adjustments made to their medication.

Medication Interactions

Interactions can occur with many nutraceutical ingredients and prescription medications. If you are on prescription medication, please check with your doctor or pharmacist for specific guidance.

Allergy Warning

 TSF products are contraindicated in individuals with a history of hypersensitivity to any of its ingredients.

Pregnancy Warning

If pregnant, nursing, an organ transplant recipient, or have multiple sclerosis, do not use TSF Products unless on the advice of and under the direct supervision of a health professional.

Side Effects

Vitamin C

At doses in excess of 5000 mg vitamin C may cause loose stools, skin flushing, and heartburn. Hyperthryoid Support contains 275 mg of Vitamin C.

Selenium

Adults' combined dose of supplemental selenium should not exceed 600 mcg. Above this dose it can be less effective. Hyperthyroid Support contains 25 mcg of selenium.

Quercetin

Quercetin is considered safe in oral doses up to 1000 mg daily. Reported side effects include headache and mild stomach upset. Hyperthyroid support contains 300 mg of quercetin per serving.

Acetyl-L-Carnitine

In megadoses above 3000 mg daily, L-Carnitine may cause a fishy body odor, nausea, and loose stools. Hyperthryoid Support contains 250 mg of Acetyl-L-Carnitine per serving.

Rutin

Human trials have shown that rutin is safe and well-tolerated with no commonly reported side effects.

CoQ10

Side effects are rare and mild and may include heartburn and nausea.





References

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