

TREATMENT OPTIONS

Every Patient Is Unique

Thyroid treatment options and dosing are as varied as the individual patient and is dependent on the level of imbalance and its severity. Please see below for medication and procedure options as well as [Other Essential Treatments](#) for optimal thyroid balance.

[Hypothyroidism and Hashimoto's](#)
[Hyperthyroidism and Graves' Disease](#)
[Thyroid Cancer](#)



Coming Soon To Our Website!



Order Full Thyroid Labs

Are you getting thyroid labs tested beyond TSH? Now you can order your own full thyroid panel at a special rate.

Schedule a Doctor Consult

Doctor phone consults can determine if you are on the right dose of thyroid medication and can create a plan for you.

Hypothyroidism & Hashimoto's

If a patient has low levels of thyroid hormone, then he/she is suffering from hypothyroidism. It is common for patients diagnosed with hypothyroidism, whether caused by Hashimoto's or not, to be prescribed levothyroxine (T4) sold under various brand names. However, patients may continue to be symptomatic on T4-only [1-6].



With continued symptoms on T4-only, treatment options such as liothyronine/levothyroxine (T3/T4 combination), liothyronine-only (T3-only), or natural thyroid extract medication (e.g. Armour, Nature-Throid) should be considered. Each patient must develop an individualized plan with their doctor for optimal hormone replacement [1-11].

Interactions: Certain foods, drugs, and supplements can affect thyroid hormone absorption. Therefore, it is important to take thyroid medication one hour before meals, other medications, and four hours before any supplement containing iron, calcium, or zinc.

Switching Thyroid Medications: Use this [conversion chart](#) to help you find the available medication strengths, or to help you find an equivalent dose as you are switching from one medication to another.

The following treatments can be used to address hypothyroidism:

Treatment Option	Description	Example Medication*
<p>Natural Thyroid Extract</p> <p>Derived from porcine thyroid gland and contains T1, T2, T3, T4, and sub-components like calcitonin.</p>	<p>Natural thyroid extract (NTE) is also referred to as natural thyroid (NT), natural desiccated thyroid (NDT), or desiccated thyroid extract (DTE).</p> <p>Has a T3:T4 ratio of approximately 1:4. Also contains T1 and T2, and sub-components such as calcitonin.</p> <p>Many practitioners note that NTE is a effective treatment method and is often preferred by patients with hypothyroidism [2, 6, 21-22].</p>	<p>Armour (US) Cinetic (Italy) Erfa (Canada) FegaCoren N (Germany) Nature-Throid (US) NP Thyroid (US) Thyreogland (Germany) Thyreoidum (Denmark, Netherlands) Thyrovanz (Int'l) Westhroid (US) Westminster (US) Whole Thyroid (New Zealand) WP Thyroid (US)</p>

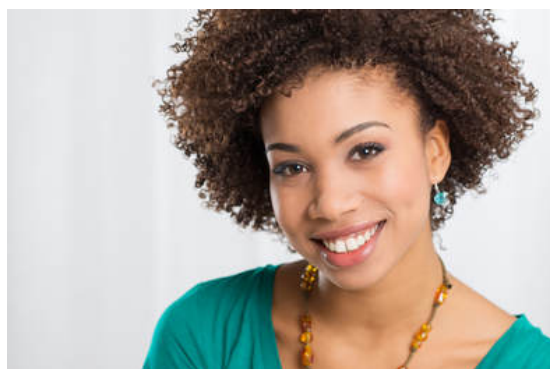
<p>Combination T4 &/or T3</p> <p>Therapies which include T4 and T3.</p>	<p>Many physicians will prescribe either a brand of levothyroxine (T4) and of liothyronine (T3) or a combination product (listed) to a patient who is T3 deficient/resistant [23-24].</p> <p>Physicians may prefer unique dosage forms of T4 and/or T3 (regular or sustained-release) in custom-made, compounded formulas.</p> <p>Patients preferred combined T4/T3 therapy to usual T4 therapy. Decrease in body weight was associated with those satisfied with T4/T3 therapy [32].</p>	<p>Compounded T4/T3 Bitiron (Turkey) Cynoplus (Mexico) Dermocinetic (Italy) Dithyron (Greece) Ebexid (India) Euthyral (France) Jodthyrox (Austria/Russia) Levotrin (Argentina) Novothyral (Poland/Russia/Switzerland) rothyrid (Germany) Somatoline (Italy) Thyreotom (Russia)</p>
<p>Liothyronine (T3)</p> <p>Synthetic replication of triiodothyronine (T3), the "active" hormone.</p>	<p>Liothyronine (T3), regular or sustained-released, can be prescribed with or without levothyroxine (T4).</p> <p>T3 is readily available to every cell in the body and does not have to go through any conversion processes within the body.</p> <p>Since many factors can affect the T4:T3 conversion or create thyroid resistance, lingering symptoms can often be resolved with T3-containing medication [23-24].</p>	<p>Compounded T3 Cytomel (US/Canada) Cynomel (Mexico/France) Linomel (Argentina) Liothyronine (US) Liotir (Italy) Neo-Tiroimade (Portugal) Triostat - injection (US) Triyotex (Mexico) Tertroxin (Ireland/Czech Republic) Triiodothyronine - injection (UK) Tertroxin (UK/S.Africa/Australia) Tojodthyronin (Austria)</p>
<p>Levothyroxine (T4)</p> <p>Synthetic replication of thyroxine (T4), the "storage" hormone.</p>	<p>Most physicians will prescribe levothyroxine (T4) when a patient is diagnosed as hypothyroid.</p> <p>T4 must convert to triiodothyronine (T3), the active thyroid hormone, for cellular use.</p>	<p>Compounded T4 Eltroxin (various countries) Euthyrox (various countries) Eutroxsig (Australia) Evotrox (United Kingdom) Letrox (various countries) Oroxine (Australia, Singapore) Synthroid (US, various)</p>

	Some patients will remain symptomatic due to a conversion issue (T4 to T3), or if there is cellular thyroid resistance [2, 6, 21-22].	countries) Tirosint (US, various countries) Thyrax (Europe, Venezuela, Philippines)
<p>Nutrient Replacement and Supplements</p> <p>Vitamin, nutrient, and supplement therapies designed to address deficiencies and root causes associated with thyroid disease.</p>	<p>Most thyroid patients have one or more of the following conditions present: adrenal dysfunction, sex hormone imbalances, intestinal permeability, vitamin/nutrient deficiencies, and autoimmune responses.</p> <p>Many practitioners have found that by addressing these issues, autoimmune antibodies can be reversed or greatly reduced, and/or thyroid conversion issues can be significantly improved or resolved [25-27].</p>	For our guide on supplemental treatments and addressing root causes, click here .

* Many brands of NTE, T3, T4, and T3/T4 medication are available internationally. There may be availability, name changes, or new research which this list cannot account for. See your provider about which options are available in your country.

Hyperthyroidism & Graves' Disease

Hyperthyroidism occurs when too much thyroid hormone is produced for proper functioning. The treatment of hyperthyroidism depends on the cause and severity of the disease, as well as on the patient's age, possible goiter size, other conditions, and patient preference. The main treatment goals for hyperthyroidism, whether caused by Graves' disease or not, are:



1. to inhibit the production of thyroid hormones
2. to block the effect of the hormones on the body
3. to treat symptoms related to elevated heart rate [12].

The following treatments options are currently available: radioactive iodine (RAI), antithyroid drugs (ATD), or thyroidectomy [12-14]. In the U.S., radioactive iodine ablation (RAI) is often recommended as a first-line treatment. In Japan and Europe, physicians generally prefer to start

with antithyroid drugs (ATDs) in the hope that the disease will remit [15-16]. Surgery, rather than RAI, is most often chosen when a patient continues to fight hyperthyroidism after being on ATDs for at least two years [18]. The long-term quality of life following treatment was found to be the same in patients randomly allocated to one of the three treatment options listed below [17].

The following treatments can be used to address hyperthyroidism:

Treatment Option	Description	Example Medication*
<p>Beta Blockers</p> <p>NOTE: Beta blockers are not typically prescribed for patients with asthma because the drugs may trigger an asthma attack. They may also complicate the management of diabetes and may lower blood pressure.</p>	<p>Beta blockers can help with arrhythmia or tachycardia (fast heart rate) and can provide short-term relief [14].</p> <p>Propranolol, with its potential to block T4 to T3 conversion, is often the first-choice option, however, others can be used [13].</p>	<p>Acebutolol (Sectral) Atenolol (Tenormin) Bisoprolol (Zebeta) Metoprolol (Lopressor/Toprol-XL) Nadolol (Corgard) Nebivolol (Bystolic) Propranolol (Inderal LA, InnoPran XL)</p>
<p>Anti-thyroid Medication (thionamides)</p> <p>NOTE: Best used for patients with less severe cases of hyperthyroidism. A small number of people who are allergic to these drugs may develop skin rashes, hives, fever or joint pain. Increased infection may also occur.</p>	<p>Reduces symptoms of hyperthyroidism by preventing the over-production of thyroid hormones [15].</p> <p>Typically, the first line of treatment in Europe and Japan. Has the possibility to restore normal thyroid levels. Does not permanently damage the gland [15-16].</p> <p>Symptoms usually begin to improve in 6 to 12 weeks, but treatment typically continues at least a year and often longer [28].</p>	<p>Methimazole Propylthiouracil (PTU) Carbimazole</p>
<p>Radioactive Iodine Therapy (RAI-131 or RAI)</p> <p>NOTE: Graves' ophthalmopathy can</p>	<p>Typically, the first line of treatment in the USA. RAI destroys the tissue of the overactive thyroid or shrinks it if it has a goiter [15-16].</p>	<p>Administered orally via capsule or liquid form.</p> <p>NOTE: Patients need to be in isolation for at least 72</p>

<p>develop or be worsened by the use of radioactive iodine in 15 percent of patients and corticosteroids have been found to greatly reduce this incidence [20].</p>	<p>Approximately 90% of patients need one dose of RAI to eliminate thyroid hormone over-production. Takes about 1 month to reduce symptoms and may take up to 6 months before RAI fully destroys all or part of the thyroid [28].</p> <p>After RAI, many patients are then considered "hypothyroid" and will need thyroid replacement medication which is discussed in the above section.</p>	<p>hours after treatment is administered since they are emitting radiation. Individuals and/or animals exposed to this ambient radiation are susceptible to thyroid destruction [28].</p>
<p>Thyroidectomy</p> <p>NOTE: Partial or total removal of the thyroid gland; considered for the small percentage of patients who are allergic to antithyroid medications, who are resistant to radioactive iodine, or who have a hot nodule.</p>	<p>A subtotal thyroidectomy, performed most commonly, allows some of the thyroid tissue to be preserved, thus reducing the incidence of hypothyroidism to 25%. Persistent or recurrent hyperthyroidism occurs in 8% of patients [14].</p> <p>A total thyroidectomy is reserved for patients with severe disease, large goiters, or nodules that may be concerning of cancer. Carries an increased risk of hyperparathyroidism and laryngeal nerve damage [14].</p> <p>Once part or all of the thyroid is removed, the patient is normally considered "hypothyroid" and will need replacement medication as indicated above.</p>	<p>NOTE: It is highly recommended to investigate multiple surgeons skilled in thyroid gland removal to minimize possible complications such as collateral damage to parathyroid glands.</p>
<p>Nutrient Replacement and Supplements</p> <p>Vitamin, nutrient, and supplement therapies designed to address deficiencies and root causes associated with</p>	<p>Most thyroid patients have one or more of the following conditions present: adrenal dysfunction, sex hormone imbalances, intestinal permeability, vitamin/nutrient deficiencies, and autoimmune responses.</p>	<p>For our guide on supplemental treatments and addressing root causes, click here.</p>

thyroid disease.	Many practitioners have found that by addressing these issues, autoimmune antibodies can be reversed or greatly reduced, and/or thyroid conversion issues can be significantly improved or resolved [25-27].	
------------------	--	--

* Many brands of beta-blockers and anti-thyroid medication are available internationally. There may be availability changes, name changes, or new research which this list cannot account for. Procedure options may also differ. See your provider about which options are available in your country.

Thyroid Cancer



Thyroid cancer has various forms and treatment is dependent on the individual case. The most common form of thyroid cancer in the United States is papillary thyroid cancer, followed by follicular thyroid cancer. The least common are medullary and anaplastic thyroid cancer. Each name indicates where the cancer is located within the thyroid gland [19]. If diagnosed and treated early, thyroid cancer treatment can be effective and usually includes the options listed below.

Due to the individual nature of cancer staging and treatment, patients must work closely with their doctors to create a personalized treatment plan.

The effectiveness of thyroid cancer treatment lends itself to the reputation of being a “good cancer” to have, however, any cancer should not be minimized. Thyroid cancer needs effective treatment and on-going monitoring. For more information about the how the thyroid works and the specifics of thyroid disorders, including thyroid cancer, please see our [About Thyroid Disease](#) page.

The following options can be used to address thyroid cancer:

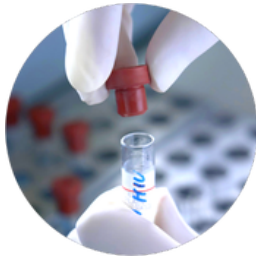
Treatment Option*	Description	Notes
Radioactive Iodine Therapy (RAI-131 or RAI)	Whether RAI is recommended depends upon many factors with tumor staging and is usually not recommended for low-risk patients	Administered orally via capsule or liquid form. NOTE: Patients need to be

<p>NOTE: Graves' ophthalmopathy can develop or be worsened by the use of radioactive iodine in 15 percent of patients and corticosteroids have been found to greatly reduce this incidence [20].</p>	<p>and/or certain types of cancers [29].</p> <p>RAI may be administered weeks after surgery to eliminate (ablate) any remaining thyroid cells that could not be removed [28].</p> <p>As a result of the thyroid cell destruction from RAI, many patients are then considered "hypothyroid" and will need thyroid replacement medication which is discussed in the above section.</p>	<p>in isolation for at least 72 hours after treatment is administered since they are emitting radiation. Individuals and/or animals exposed to this ambient radiation are susceptible to thyroid destruction.</p>
<p>Thyroidectomy</p> <p>NOTE: Partial or total removal of the thyroid gland; considered for the small percentage of patients who are allergic to antithyroid medications, who are resistant to radioactive iodine, or who have a hot nodule.</p>	<p>A total or partial thyroidectomy removes and prevents the spread of cancerous cells by removing part or all of the thyroid gland. It is sometimes followed by radioactive iodine (RAI), also known as I-131 [30].</p> <p>Total thyroidectomy is the main treatment for medullary thyroid carcinoma. However, a total thyroidectomy has an increased risk of hyperparathyroidism and laryngeal nerve damage [14].</p> <p>Once part or all of the thyroid is removed, the patient is normally considered "hypothyroid" and will need replacement medication as indicated above.</p>	<p>NOTE: It is highly recommended that the patient find a surgeon skilled in thyroid gland removal to minimize complications such as collateral damage to your parathyroid glands.</p>
<p>External Beam Radiation</p>	<p>Therapy which uses high energy particles (or rays) in an effort to kill or slow cancer cells in cancers that do not uptake iodine, such as medullary and anaplastic [31].</p> <p>If a cancer does not respond to RAI, reoccurs, or is a distant metastasis, external beam radiation</p>	<p>NOTE: To reduce the risk of side effects, doctors carefully calculate the placement of the beam on the target area and the least amount of radiation needed to be effective.</p>

	<p>therapy may be used [31].</p> <p>This therapy, unlike RAI, does not target thyroid cells and can destroy other healthy tissue cells along with cancer cells [31].</p>	
--	--	--

* Treatment options may differ from country to country. There may be availability or name changes, new research, or additional treatment options which this list cannot account for. See your provider about which options are available in your country.

Need Additional Help?



Order Full Thyroid Labs

Through our trusted partner laboratory, you can now order your own comprehensive thyroid panel, including Reverse T3, at a special discounted rate. **Coming soon to our website!**



Schedule A Phone Consult

Phone consults with a medical professional who is in line with our mission can help you understand your labs and create a personalized plan for you. **Coming soon to our website!**

References:

1. Appelhof, Bente C., et al. Combined therapy with levothyroxine and liothyronine in two ratios, compared with levothyroxine monotherapy in primary hypothyroidism: a double-blind, randomized, controlled clinical trial. *The Journal of Clinical Endocrinology & Metabolism* 90.5 (2005): 2666-2674.
2. Baisier, W. V., J. Hertoghe, and W. Eeckhaut. Thyroid insufficiency. Is thyroxine the only valuable drug?. *Journal of Nutritional and Environmental Medicine* 11.3 (2001): 159-166.
3. Chakera, Ali J., Simon HS Pearce, and Bijay Vaidya. Treatment for primary hypothyroidism: Current approaches and future possibilities. *Drug design, development and therapy* 6 (2012): 1.
4. Escobar-Morreale, Héctor F., et al. Only the combined treatment with thyroxine and triiodothyronine ensures euthyroidism in all tissues of the thyroidectomized rat. *Endocrinology* 137.6 (1996): 2490-2502.

5. Das, Gautam, and Shweta Anand. Does synthetic thyroid extract work for everybody?. Endocrine Abstracts. (2007) 13 P316.
6. Pritchard, Eric K. Reducing the Scope of Guidelines and Policy Statements in Hypothyroidism. Journal of Orthomolecular Medicine 28.2 (2013).
7. Cooper-Kazaz, Rena, et al. Combined treatment with sertraline and liothyronine in major depression: a randomized, double-blind, placebo-controlled trial. Archives of general psychiatry 64.6 (2007): 679-688.
8. Bunevičius, Robertas, et al. Effects of thyroxine as compared with thyroxine plus triiodothyronine in patients with hypothyroidism. New England Journal of Medicine 340.6 (1999): 424-429.
9. Nygaard, Birte, et al. Effect of combination therapy with thyroxine (T4) and 3, 5, 3'-triiodothyronine versus T4 monotherapy in patients with hypothyroidism, a double-blind, randomised cross-over study."European Journal of Endocrinology 161.6 (2009): 895-902.
10. Acosta, Brenda M., and Antonio C. Bianco. New insights into thyroid hormone replacement therapy. F1000 Medicine Reports 2 (2010).
11. Celi, Francesco S., et al. Metabolic effects of liothyronine therapy in hypothyroidism: a randomized, double-blind, crossover trial of liothyronine versus levothyroxine. The Journal of Clinical Endocrinology & Metabolism 96.11 (2011): 3466-3474.
12. Antithyroid Medicine for Hypothyroidism. Web MD. Updated November 4, 2011 Retrieved from <http://www.webmd.com/women/antithyroid-medications-for-hyperthyroidism>
13. Why do physicians prefer to use propranolol in patients who are experiencing thyrotoxicosis, or thyroid storm versus other beta blockers? Pharmacology Weekly. Retrieved from <http://www.pharmacologyweekly.com/articles/propranolol-preferred-thyroid-storm-thyrotoxicosis>
14. Reid, Jeri R., Wheeler, Stephen F. Hyperthyroidism: Diagnosis and Treatment. American Family Physician. 2005 Aug 15; 72(4): 623-630. Retrieved from <http://www.aafp.org/afp/2005/0815/p623.html>
15. Graves' Disease. Mayo Clinic. Updated July 1, 2014. Retrieved from <http://www.mayoclinic.org/diseases-conditions/graves-disease/basics/treatment/con-20025811>
16. American Thyroid Association. FAQ: Radioactive Iodine. June 6, 2012. Retrieved from <http://www.thyroid.org/faq-radioactive-iodine/>
17. Milas, Kresmira. Radioactive Iodine for Hyperthyroidism: The Most Common Hyperthyroid Treatment in the US. EndocrineWeb. May 27, 2014. Retrieved from www.endocrineweb.com/conditions/hyperthyroidism/radioactive-iodine-hyperthyroidism
18. Milas, Kresmira. Surgery for Hyperthyroidism: Are You a Candidate for a Thyroidectomy? EndocrineWeb. May 27, 2014. Retrieved from <http://www.endocrineweb.com/conditions/hyperthyroidism/surgery-hyperthyroidism>
19. National Cancer Institute: What you need to know about thyroid cancer. May 7, 2012. Retrieved from <http://www.cancer.gov/cancertopics/wyntk/thyroid/page4>

20. Walsh, John P., Colin M. Dayan, and Michael J. Potts. Radioiodine and thyroid eye disease. *BMJ* 319.7202 (1999): 68-69.
21. Pepper, GM, Casanova-Romero, PY. Conversion to armour thyroid from levothyroxine improved patient satisfaction in the treatment of hypothyroidism. *J Endocrinol Diabetes Obes.* 2014;2(3):1055.
22. Holtorf Medical Group. Is Natural Desiccated Thyroid Safe? May 31, 2018. Retrieved from <https://www.holtorfmed.com/is-natural-desiccated-thyroid-ndt-safe/>.
23. Holtorf K. Peripheral thyroid hormone conversion and its impact on TSH and metabolic activity. *Journal of Restorative medicine.* 2014 Apr 1;3(1):30-52.
24. Holtorf Medical Group. Treating Thyroid Conversion Disorders With T3. May 31, 2018. Retrieved from <https://www.holtorfmed.com/treating-thyroid-conversion-disorders-with-t3/>
25. Izabella Wentz, PharmD. 6 Different Hashimoto's Root Causes. May 31, 2018. Retrieved from <https://thyroidpharmacist.com/articles/6-different-hashimotos-root-causes/>.
26. Dr. Westin Childs. 9 Thyroid Supplements Every Patient Should Consider. May 31, 2018. Retrieved from <https://www.restartmed.com/thyroid-supplements/>.
27. Amy Myers, MD. The Autoimmune Solutions Supplements Guide. May 31, 2018. Retrieved from <https://www.amymyersmd.com/2015/04/the-autoimmune-solution-supplements/>.
28. Kresmira Milas, MD. Radioactive Iodine for Hyperthyroidism. June 1, 2018. Retrieved from: <https://www.endocrineweb.com/conditions/hyperthyroidism/radioactive-iodine-hyperthyroidism>
29. ThyCa: Thyroid Cancer Survivor's Association. Radioactive Iodine (RAI). June 1, 2018. Retrieved from <http://www.thyca.org/pap-fol/rai/>
30. American Cancer Society. Treatment of Thyroid Cancer by Type and Stage. June 1, 2018. Retrieved from <https://www.cancer.org/cancer/thyroid-cancer/treating/by-stage.html>
31. American Cancer Society. External Beam Radiation Therapy for Thyroid Cancer. June 1, 2018. Retrieved from <https://www.cancer.org/cancer/thyroid-cancer/treating/external-beam-radiation.html>
32. Appelhof, BC, Fliers, E, Wekking, EM, et al. Combined Therapy with Levothyroxine and Liothyronine in two ratios, compared with levothyroxine monotherapy in primary hypothyroidism: a double-blind, randomized, controlled clinical trial. *JCEM.* June 4, 2018. Retrieved from: <https://www.ncbi.nlm.nih.gov/pubmed/15705921?dopt=Abstract>

DISCLAIMER: The information contained on the website and social media pages of ThyroidChange is for general information only and is not intended or implied to be a substitute for professional medical advice, diagnosis or treatment. ThyroidChange, guest writers, and partners are NOT responsible or liable for any advice or course of treatment that visitors choose to embark on. You are encouraged to review any information obtained through ThyroidChange with your healthcare practitioner.