

The Role Of The **THYROID GLAND** in **METABOLISM AND FAT BURNING**



**Key Facts About The Relationship
Between Your Thyroid And Your Weight**

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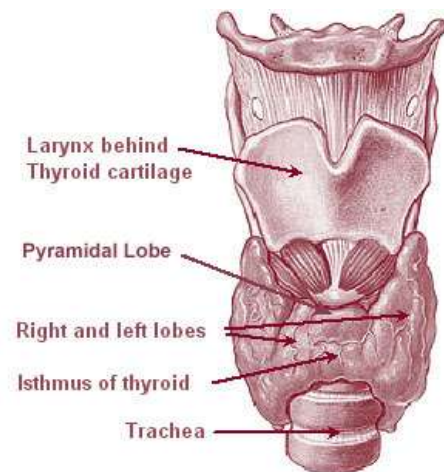
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WHAT IS THE THYROID GLAND

The thyroid is a small gland with a butterfly shape that is located in the neck area directly in front of the trachea, or windpipe, and right underneath the larynx. The thyroid plays a key role in many essential body processes. It works with hormones that ensure that these metabolic processes occur without issue.

It produces two primary hormones and one of its biggest jobs is regulating your metabolism. When this gland is not working, as it should, it can result in metabolic problems that can disrupt a person's health and cause problems like weight gain or loss and a substantial lack of energy.

According to The American Association of Clinical Endocrinologists, at least 30 million Americans have some type of thyroid disorder and half of them are undiagnosed. Women are 10 times more likely as men to have a thyroid problem, and women over the age of 35 have a 30% higher chance of having a thyroid disorder.



THYROID GLAND ANATOMY

The word "thyroid" translates to "shield" in Greek. It consists of two lobes, or halves. The isthmus, a type of tissue band, works to connect both of the lobes. This small gland typically weighs under one ounce.

In utero, the thyroid gland is initially behind the tongue, however, before a person is born it moves into a permanent location in the neck. There are cases where either it does not properly move or it moves too much or too little.

REGULATING METABOLISM

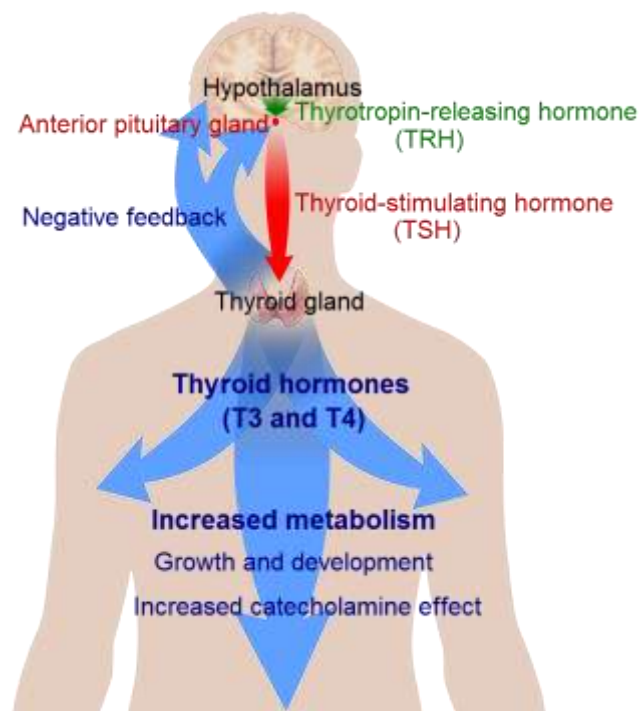
The main role of the thyroid gland is metabolism regulation. This means that it helps your body to break down the food that you eat and turn that food into energy. However, everyone's body burns this fuel at different rates. This is why it is often said that people have either a slow metabolism or a fast metabolism.

The thyroid gland needs iodine in order to produce the hormones that regulate metabolism and it gets it from the food you eat. Thyroid cells have the ability to efficiently absorb iodine from food and then use it, while the rest of the cells in the body rely on this gland to manage individual cell metabolism.

The thyroid gland does not work alone and it relies on the hypothalamus in the brain and the pituitary gland to work properly. When the levels of thyroid hormone start to drop, the

hypothalamus puts out a hormone referred to as TRH releasing hormone. This then signals the pituitary gland to start making a thyroid stimulating hormone known as TRH. The thyroid gland then receives this hormone and is signaled to produce more thyroid hormones, namely T3 and T4.

The T3 hormone plays the biggest role in the body and metabolism while the body takes T4 and turns it into more T3 to ensure that the body has enough. The hormones make their way to the bloodstream where they go to work to control the body's metabolism. When working properly, the thyroid gland produces about one teaspoon of thyroid hormones per year.



OTHER FUNCTIONS OF THE THYROID GLAND

While regulating metabolism is its biggest function, this gland does have other roles. These roles are associated with the hormones it produces and their effects on the cells in the body.

Many vital body processes are helped by this gland and the hormones it produces, including:

- Breathing
- Peripheral nervous system
- Central nervous system
- Muscle strength
- Body temperature
- Heart rate
- Women's menstrual cycles
- Cholesterol levels



The thyroid is one of the most important components of your metabolic system. Without this gland and the hormones that work with it, many metabolic functions will not work correctly.

If your thyroid gland is unable to do its job, your doctor can help with various treatments directed at the problem. Since thyroid disorders are relatively common, many people have their thyroid hormone levels assessed at their annual physical so that any issues can be caught early.

THE THYROID GLAND AND METABOLIC FUNCTIONING

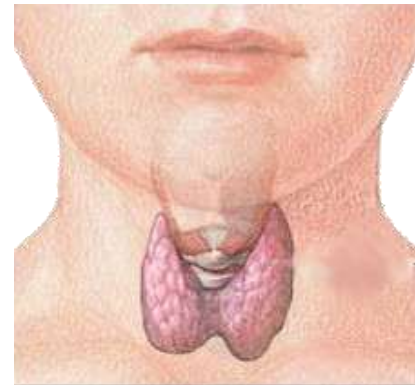
People who have unexplained weight gain may have an underactive thyroid. When the thyroid is not functioning correctly, weight gain can occur due to the role that this gland plays in burning food for use as energy. It is important to understand how this process works to ensure that your thyroid is healthy and not a major cause of overweight or obesity.

Exploring The Metabolic Function Of The Thyroid Gland

Membrane transporter proteins allow the thyroid hormones to enter the cells. The hormone heads to the nucleus and then it binds to a receptor. Pretty much all of the cells in the body benefit from thyroid hormones.

Thyroid hormones play a major role in a number of physiologic processes, such as growth, development, and of course, metabolism.

The majority of tissues in the body require metabolic activity for survival and thyroid hormones work to stimulate these. This increases a person's basal metabolic rate, which is the term used to describe the calories that your body needs to burn for basic survival, such as calories burned for breathing and maintaining a regular heartbeat.



Two examples of the specific metabolic effects of these hormones are:

- **Carbohydrate metabolism:** Almost all of the components of this type of metabolism are stimulated by thyroid hormones. This includes the processes necessary to create free glucose in the body.
- **Lipid metabolism:** Lipids are a type of fat. Fat mobilization is stimulated when there are higher levels of thyroid hormone levels.

In order for the thyroid to produce the necessary T4 and T3 hormones, it needs iodine. Without sufficient iodine intake, these hormones will be lacking and will affect metabolism.

T3 plays the biggest role in metabolism, but metabolism speeds up when there are higher amounts of both hormones in the blood. When the levels of both increases and the basal metabolic rate gets higher, this results in the body needing more energy due to the cells working harder.

How The Thyroid Gland Can Cause A Slow Metabolism

When there are reduced amounts of T3 and T4 in your blood, your metabolism is going to slow down. When this is a constant state, it results in a condition known as hypothyroidism.

This condition typically occurs at some point in life and is not something that one is born with. When it comes to the T3 hormone, about 20% of it comes from the thyroid gland. The kidneys, liver and other organs in the body take T4 and convert it to T3 to make up the other 80%.

THE THYROID GLAND AND WEIGHT MANAGEMENT

The thyroid gland does many things in the body, but its role in weight management is its best-known responsibility. However, to fully take advantage of your thyroid gland to lose or maintain weight, you want to understand how it works and what thyroid issues can cause this gland to make achieving a healthy weight more difficult.

The thyroid gland influences your weight because it plays an important role in your metabolic rate. Metabolism works similar to a chemical laboratory. It occurs because of a combination of hormones, molecules, and messenger chemicals from the intestinal tract, brain, and fat cells.

All of this comes together to influence how effectively the body is able to burn calories. The major components of metabolism are hormones produced by the thyroid, which is why it plays such an important role.



Thyroid Hormones

T3 and T4 hormones produced by the thyroid have many roles in the body in addition to ensuring a proper metabolic rate, such as increasing fat breakdown, controlling the oxygen use by cells, and regulating body temperature and heart rate.

The Hormone Stimulating Process

The hypothalamus, and the pituitary gland located in the brain assist the thyroid in its functions. The hypothalamus produces and releases thyrotrophic-releasing hormone, referred to as TRH hormone, which prompts the pituitary gland to release its own hormone called thyroid-stimulating hormone, or TSH.

Both TRH and TSH then regulate the thyroid as to the increase, decrease, or storage of T3 and T4 hormones that it produces as needed by the body.

Therefore, when thyroid hormone levels are low, more TRH and TSH is produced to prompt the thyroid to make T3 and T4, conversely when the levels of those are too high, less TRH and TSH is released. A delicate balance of give and take that when disrupted can cause issues in the inner workings of the body, weight management and metabolism.

The hormones of main concern in weight control are those produced by the thyroid, triiodothyronine or T3 and thyroxine or T4. The raw material used to support these hormones is iodine, which is obtained from food.

T3, while produced in smaller amounts, is more powerful. If you have too little of the T3 hormone, you are diagnosed with hypothyroidism, or an underactive thyroid. When the thyroid gland is not functioning at the right level (meaning it is underactive), metabolism will not work efficiently, which results in weight gain or significant difficulty in maintaining a healthy weight.



Many people also experience issues like muscle pain and fatigue, both of which can contribute to weight gain.

Signs That Inability To Lose Weight Is Due To The Thyroid Gland

If your thyroid gland is the cause of your weight gain or difficulty managing your weight, there are signs that your thyroid gland is not functioning properly. If you are having difficulty with your weight, think about whether any of the following apply to you:

- History of thyroid disorders in your family
- You have carpal tunnel syndrome, migraines or a mitral valve prolapse
- You are left-handed
- You have an abnormal body temperature
- You have premature gray hair before turning 40 years old
- Your feet and hands are often cold
- You have issues with your female reproductive systems or female hormones
- Your energy drops noticeably throughout the day

There are also cardinal signs that are common with a thyroid disorder, including:

- Fatigue
- Dry hair
- Thinning hair
- High cholesterol
- Depression
- Dry skin
- High blood pressure
- Low libido

With thyroid disorders being relatively common, especially underactive thyroid, it is important to understand how this gland works to regulate weight and body fat. If you are doing everything right, but are unable to lose weight, or you are gaining weight, you should talk to your doctor.

A simple blood test can tell you if your thyroid gland is to blame. If it is not functioning properly, your doctor can prescribe the proper treatment and once the condition is under control, you will find weight loss and weight management easier.

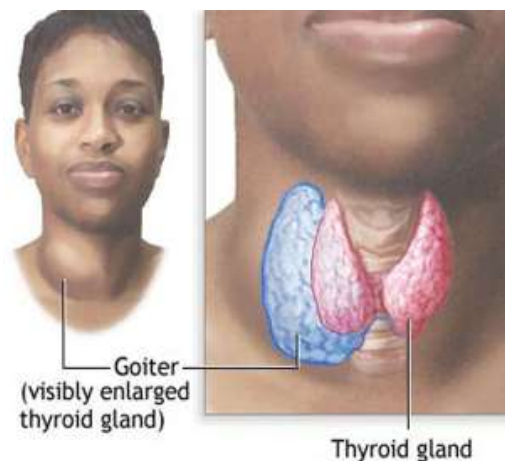
SYMPTOMS OF THYROID DISEASE

The thyroid gland is responsible for the metabolism of every cell in the body. Whenever the thyroid gland is overactive or underactive, signs and symptoms of thyroid disease will occur. The more you know about these two diseases: **hyperthyroidism** and **hypothyroidism**, the better able you will be to recognize them in yourself and seek medical attention.

HYPOTHYROIDISM

When a person has hypothyroidism, it means that the thyroid gland is not putting out enough thyroxine (T4) or triiodothyronine (T3) hormones.

Hypothyroidism usually occurs in women. Years ago, before iodized salt had been invented, low thyroid conditions in areas of the world not nearby an ocean where people could get iodine from eating fresh fish, low thyroid conditions were common and were associated with diffuse enlargement of the thyroid gland—a condition called having a goiter. Other conditions contribute to hypothyroidism.



CAUSES OF HYPOTHYROIDISM

There are many causes of hypothyroidism. One of the most common is an autoimmune process in which the cells of the immune system attack the person's own cells as if they were foreign, destroying those cells.

Hashimoto's thyroiditis is the autoimmune disease affecting the cells of the thyroid gland. Doctors don't know the actual cause of Hashimoto's thyroiditis but it is believed that some kind of genetic reason or an infection by a bacterium or virus triggers the autoimmune response.

Other causes of hypothyroidism include the following:

- **Radiation to the head and neck:** If you undergo radiation for another condition, such as head and/or neck cancer, the radiation can inadvertently cause the thyroid gland to become permanently under-functioning.
- **Hyperthyroidism treatment:** Sometimes medications are used to control hyperthyroidism (over activity of the thyroid gland, such as is seen in Grave's disease). For more permanent treatment for hyperthyroidism, the doctor will use high doses of radioactive iodine that will travel to the thyroid gland, which takes up iodine in the body, and will kill off the overactive thyroid cells. This means that the patient will be permanently hypothyroid and will usually require supplementation with thyroid hormones for the rest of their lives.
- **Fluoride:** High doses of fluoride are known to cause hypothyroidism.
- **Thyroid surgery:** Because of thyroid, cancer or nodules on the thyroid gland, all or a large part of the thyroid gland may need to be removed. This means that there are not enough thyroid cells to keep up with the demands of thyroid hormones and the only way to really fix that is to replace the thyroid hormones with a thyroid supplement.
- **Certain medications:** Medications like lithium used to treat bipolar disorder can interfere with the function of the thyroid gland. This means that supplementation is necessary as long as you are on the medications.
- **Pituitary dysfunction:** In rare cases, the pituitary gland fails to produce enough thyroid stimulating hormone (TSH) so that supplementation of the thyroid hormones is required. This can happen if a person has a benign pituitary tumor that crowds out the rest of the normal pituitary gland tissue.
- **Congenital deficiency:** There are situations in which a baby is born without a thyroid gland or with a gland that is hypofunctioning. This can be very dangerous

to the newborn baby and can lead to stunted growth and mental retardation. For this reason, it is legally required that all newborns be tested for the disease with a simple blood test.

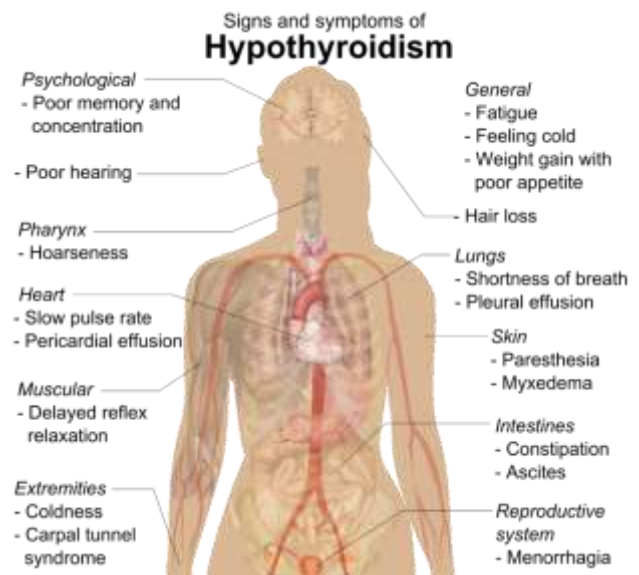
- **Iodine deficiency:** If you don't use iodized salt or don't eat things like seaweed or seafood, you run the risk of developing iodine deficiency. This is still a big problem in developing countries where seafood and iodized salt are not readily available. Too much iodine, interestingly, can also result in getting hypothyroidism.
- **Pregnancy:** This is a time when autoantibodies can be formed against the person's own thyroid tissue. If a woman develops hypothyroidism in pregnancy, premature delivery, miscarriage, high blood pressure, and preeclampsia can develop, so that thyroid replacement therapy is required.

SIGNS AND SYMPTOMS OF HYPOTHYROIDISM

The signs and symptoms of hypothyroidism can be so subtle, especially in the early stages, that the individual is not suspicious for a low thyroid condition. This is why women especially get routine screening tests for low thyroid conditions.

These are the main symptoms you might see if you have a low thyroid condition:

- Exhaustion, sometimes so extreme that you wake up feeling tired after a good night's sleep
- Constipation
- High blood pressure
- Increased sensitivity to cold conditions or feeling cold all the time
- Weight gain despite eating a balanced, low calorie diet
- Loss of sense of taste and/or smell
- Dry skin
- Facial puffiness
- Voice hoarseness
- Elevated cholesterol levels in the blood



- Muscle weakness
- Pain, especially muscle aches, soreness of the muscles, stiffness or pain in the joints
- Irregular menstrual periods or periods that are heavier than normal
- Depression
- Thinning of the hair or hair loss
- Loss of interest in sex
- Slow heart rate
- Poor memory and brain fog

If you have a number of these conditions, see your doctor for a blood test to determine what is going on with your thyroid gland.

HYPERTHYROIDISM

Hyperthyroidism is a condition of an elevated thyroid gland; while there are fewer cases of it, it can be a dangerous condition that requires medical treatment. There are several causes for an elevation in thyroid function.

CAUSES OF HYPERTHYROIDISM:

- **Grave's disease:** This is the most common cause of a hyperthyroid state. It is an autoimmune disease that acts on the thyroid gland, causing the thyroid to make too much thyroid hormone. Like other autoimmune diseases, it is more common in women and tends to run in families.
- **Thyroiditis:** This is a catchall term for inflammation of the thyroid gland. It can be caused by immune dysfunction or a viral infection. There are several subtypes of thyroiditis, including subacute thyroiditis, in which the thyroid becomes inflamed and sore, putting out too much thyroid hormone. This condition tends to resolve itself within a few months. Postpartum thyroiditis happens in a woman after pregnancy. This affects 10 to 20% of all women who have a baby. Thyroiditis tends to last only a couple of months, followed by a period of a few months of a low thyroid condition before the thyroid returns to normal. Silent thyroiditis can also happen in patients who have no pain in the thyroid gland but it is still inflamed and puts out too much thyroid hormone. Eventually, some of these patients “burn out” the thyroid gland and it becomes hypothyroid.

- **Thyroid nodule:** You can develop solid nodules in the thyroid gland that put out too much thyroid hormone. You can have a single nodule causing the problem or a condition called “toxic multinodular goiter” in which there are several overactive nodules in the thyroid gland.

SYMPTOMS OF HYPERTHYROIDISM

The signs and symptoms of hyperthyroidism can be subtle, especially in the elderly individual. Testing thyroid hormone levels can help identify those who have an elevated thyroid condition.

Signs and symptoms of hyperthyroidism include the following:

- **Rapid heart rate:** Heart rate is greater than 100 bpm or if you develop palpitations or symptoms of an irregular heart rate.
- **Weight loss:** If you are losing weight unexplainably or very fast, your body is metabolizing calories too much because of elevations in the body’s thyroid hormones.
- **Increased appetite:** You feel hungry all the time because you aren’t getting enough calories to feed your rev’ed up metabolism.
- **Tremor:** This looks like a fine motor tremor particularly of your fingers and hands.
- **Anxiety, irritability, and nervousness:** Hyperthyroidism can affect the brain, causing anxiety-like symptoms.
- **Sweating**
- **Menstrual irregularities or heavy menstrual bleeding**
- **Intolerance to heat** where you feel hot all the time because your metabolism is too high.
- **Diarrhea:** You can have true diarrhea or just an increase in the frequency of your bowel movements.
- **Muscle weakness and tiredness**
- **Insomnia**
- **Inability to conceive**
- **Thinning of the skin**
- **Brittle, fine hair**
- **Goiter**, which is an enlargement of the thyroid gland.



- **Exophthalmos:** This involves an enlargement and bulging of the eyes.

Because hyperthyroidism can adversely affect the heart with excess metabolism, this can be a dangerous situation that requires prompt medical evaluation.

MAINTAINING THYROID HEALTH

There are several considerations in maintaining optimal thyroid health. While thyroid disorders are common, few people consider or understand how to maintain their thyroid health.

The good news is that this gland does not require extensive care. Paying attention to your lifestyle and making sure that you are getting the right nutrients are the best ways to keep this gland healthy. You should also see your doctor annually to assess its overall function and health.

BLOOD TESTING

Blood testing can confirm both an overactive thyroid and an underactive thyroid. When doctors are looking to confirm hyperthyroidism (overactive thyroid), they are testing the TSH hormone levels and thyroxine hormone levels.

Those with this condition will typically have low amounts of TSH, or none at all. However, the levels of thyroxine in their body are severely high. While blood tests can work to confirm the condition, your doctor may perform other tests to assess overall thyroid health, including:

- Thyroid scan
- Radioactive iodine uptake test



To diagnose hypothyroidism (underactive thyroid), your doctor needs to assess your TSH levels and thyroxine levels. A diagnosis is made when your TSH levels are high and your thyroxine levels are low. This is due to your pituitary gland trying to compensate and trigger your thyroid to produce more of the TSH hormone to keep levels normal.

PROPER NUTRITION FOR THYROID HEALTH

Thyroid function is supported by nutrients that help to keep in health and functioning normally.

Iodine: This is the most nutrient for thyroid gland health as it supports the production of hormones. Iodine also mitigates oxidative stress that can affect thyroid health.

Foods High In Iodine:

- Baked Potatoes
- Lobster
- Cheddar Cheese
- Cranberries
- White Bread
- Green Beans
- Milk
- Turkey Breast
- Dried Prunes
- Navy Beans
- Canned Tuna
- Boiled Eggs
- Seaweed
- Cod
- Iodized Salt
- Shrimp



- Himalayan Salt
- Plain Yogurt
- Strawberries
- Corn

Antioxidants And Vitamin B12: Vitamin B12 deficiency is common in people with thyroid disorders. In fact, about 30% of thyroid disease patients have below normal vitamin B12 levels. Since this vitamin works along with thyroid hormones to support metabolism, having a deficiency can reduce metabolism further. Antioxidants, such as vitamin A, C and E also help to temper oxidative stress that fights degenerative diseases and promotes healthy aging. Oxidative stress is higher in those with the most common form of hyperthyroidism known as Graves' disease.

Foods High In Vitamin B12:

- Sardines
- Salmon
- Tuna
- Cod
- Lamb
- Scallops
- Shrimp
- Beef
- Yogurt
- Cow's milk



Foods High In Vitamin C:

- Strawberries
- Guava
- Papaya
- Citrus fruits: oranges, lemons, grapefruit, limes
- Kiwifruit
- Broccoli
- Brussels sprouts
- Cauliflower
- Collard, Mustard and Turnip Greens
- Kale
- Parsley
- Chill Peppers And Bell Peppers



Foods High In Vitamin E:

- Peanuts And Almonds
- Beans And Soybeans
- Asparagus and Leafy Green Vegetables
- Sunflower Seeds
- Whole Grains
- Liver



Selenium: This is a trace mineral and the highest concentration of selenium in the body is in the thyroid gland. This mineral plays an integral role in certain enzymes that are critical for thyroid function. It also mitigates oxidative stress that can affect thyroid health. Having your selenium levels tested about once per year is important if you have a thyroid disorder.

Foods High In Selenium:

- Brazil Nuts – a few Brazil nuts daily gives you an adequate amount of selenium
- Oysters (cooked)
- Fish
- Whole-Wheat Bread and Whole Grains
- Sunflower Seeds
- Pork
- Beef & Lamb
- Chicken and Turkey
- Mushrooms (Crimini)



Vitamin D: Vitamin D refers to a group of fat-soluble secosteroids responsible for enhancing intestinal absorption of calcium, iron, magnesium, phosphate and zinc. Vitamin D is sometimes called the essential hormone due to its hormone like effects on the body. This vitamin is critical for bone health, but being deficient in this vitamin is also associated with a thyroid condition called Hashimoto's disease. However, at this point, experts are unsure whether the deficiency causes the thyroid disorder or vice versa. Keeping vitamin D levels within the normal range is important regardless to ensure optimal thyroid function.

Foods High In Vitamin D:

- Tuna, mackerel, and salmon
- Foods fortified with vitamin D: cereals, some dairy, orange juice and soy milk
- Beef liver
- Cheese
- Egg yolks



Magnesium: Magnesium is an important mineral that plays a key role in your body processes and is essential for thyroid health. Fatigue, muscle cramps, and changes in your heartbeat could be signs that you're not getting enough magnesium.

Foods Rich In Magnesium:

- Brazil Nuts, Cashews and Almonds
- Pumpkin seeds
- Spinach
- Lettuce
- Leafy greens



Zinc: Zinc is vital to thyroid health, and low levels of zinc can result in low levels of T4, T3, and TSH.

Foods Rich In Zinc:

- Nuts: Brazil Nuts, Pecans, Walnuts and Almonds
- Sardines
- Soybeans
- Beef, Turkey and Lamb
- Split Peas
- Ginger Root
- Fresh Oysters
- Sunflower Seeds
- Whole Grains
- Maple Syrup



Iron: Iron deficiency can result in decreased thyroid function. When combined with an iodine deficiency, iron needs to be replaced to repair the thyroid imbalance.

Foods Rich In Iron:

- Organ Meats
- Beef
- Spinach
- Lentils
- Soybeans
- White Beans
- Oysters
- Clams
- Pumpkin Seeds
- Blackstrap Molasses



Copper: Copper plays a key role in the production of TSH and T4. T4 helps to regulate cholesterol and studies show that copper deficiency may lead to higher cholesterol and heart problems in those who have hypothyroidism.

Foods Rich In Copper:

- Crabmeat, Oysters and Lobster
- Beef
- Nuts and Sunflower Seeds
- Beans
- Shitake Mushrooms
- Chickpeas
- Barley
- Tomato Paste
- Dark Chocolate
- Avocados



ENSURING OPTIMAL THYROID HEALTH

If you and your doctor believe that your thyroid gland is not working properly, a quick blood test is all that is necessary. The usual parameters checked are T4, T3, and TSH. The blood test measures the levels of thyroid hormones and if the ratios are off, you are diagnosed with a thyroid disorder.

For some patients, blood test results show normal hormone levels, yet the patient has all the classic clinical symptoms of hypothyroidism. These cases usually require more in-depth study by a specialist doctor who is very familiar with endocrine function. Significant time and money might be required before the patients symptoms are correctly diagnosed, and suitable type and dosage of medication is prescribed. Don't give up.

If your thyroid function is classified as underactive, your doctor can prescribe a medication to help promote normal functioning. A healthy functioning thyroid results in the ability to successfully lose weight or maintain weight because the metabolism will be working properly.

TRAINING THE THYROID TO BURN MORE FAT

Since the thyroid gland plays such a major role in your metabolism, training this gland is an ideal way to get your weight under control.

Nearly 200 million people throughout the world have a thyroid that is not functioning at an optimal level. In this case, it is easy to gain weight because the thyroid is not able to ensure proper metabolic function. Those without a thyroid disorder can also benefit from training their thyroid. The key is to know exactly how to do it so that your thyroid is able to work for you. Always check with your doctor before starting any protocol.

REDUCE CARDIOVASCULAR EXERCISE

When you are trying to lose weight, the first thing you consider is increasing your cardiovascular exercise, but this may not be what your thyroid needs. While this form of exercise has a number of benefits, if you do too much cardio, you may actually increase cortisol hormone levels and create oxidative stress that can harm the thyroid.



For 24 hours after strenuous cardio, your thyroid hormones are lowered, resulting in this gland not operating as efficiently. Cardio is still important, but if you are concerned about thyroid health, you want to keep it to 30 to 45 minutes per session three days a week.

FOODS THAT MAY DISRUPT THE THYROID

There are certain foods that can temporarily slow your metabolism and cause your body to hang onto fat and calories. These foods can also cause problems for the thyroid under certain circumstances. If you are taking medications for your thyroid, do not eat these foods within 30 minutes of taking your medication.

Cautionary Foods For Thyroid Health:

- **Soy foods:** Goitrogens are chemicals found in soymilk, edamame and other soy products that can interfere with the thyroid's ability to make hormones, though this only becomes a problem when you are not getting sufficient amounts of iodine in your diet.
- **Brassica Vegetables:** Brussel sprouts, broccoli, spinach, cauliflower, and cabbage can affect thyroid hormones like soy foods because they also contain goitrogens as do peanuts. Eat them paired with iodine rich foods to counteract the effect of goitrogens.
- **Kale:** As shocking as it is, the superfood Kale can also cause thyroid problems because it contains goitrogen, which prevents the thyroid from getting enough iodine. As long as your diet is sufficient in iodine, eating Kale will not be a problem.
- **Organ Meats:** Organ meats like kidneys and liver contain a substantial amount of Lipoic acid that can disrupt thyroid function and effect thyroid medicines you take.
- **Gluten** can lead to underactive thyroid in people with Celiac Disease.



- **Fatty foods** can affect proper absorption of thyroid hormone replacement medicines in the body and they interfere with the thyroid's ability to produce hormones as well.

Stick with foods that work to boost your metabolism, such as those high in B vitamins and iron. You should make sure to get plenty of antioxidants by eating berries, squash, and other foods that contain them.

Follow a well-balanced diet that includes a wide variety of fresh, whole food. Concentrate on lean proteins, fruits, vegetables and whole grains. You can also eat a limited amount of dairy that is low in fat.

Keep your treats to once per week so that you are not overeating, but not depriving yourself either.

You also need to ensure that you are drinking plenty of water so that you stay hydrated and to promote overall metabolism efficiency.

INCREASE OMEGA-3 INTAKE

Omega-3 fatty acids have the ability to kick your thyroid into gear by reducing inflammation in the body. You can increase your intake of this nutrient by eating these Omega-3 fatty acid rich foods:

Fresh Produce:

- Brussels sprouts
- Kale
- Spinach
- Watercress



Oils:

- Coconut oil
- Olive oil
- Cod liver oil
- Flaxseed oil
- Mustard oil
- Walnut oil



Fatty Fish:

- Salmon
- Sardines
- Halibut
- Mackerel
- Oysters
- Herring
- Trout
- Tuna (fresh)



Dairy and Juices Fortified With Omega-3s

- Milk
- Juice
- Eggs
- Yogurt



Grains and Nuts

- Walnuts
- Whole Grain Bread
- Pumpkin seeds
- Cereal
- Flaxseed
- Oatmeal



If you do not get enough of this nutrient from your diet, taking a high-quality supplement is often helpful.

CARBOHYDRATE CYCLING

Many people immediately turn to reducing their carbohydrate intake when their thyroid is making it hard to lose weight. However, **cycling** your carbohydrates is a much better option because this keeps the thyroid guessing so that it is more likely to burn calories efficiently.

You can cycle two weeks with a normal carbohydrate intake and one week on a low carbohydrate intake to achieve this.

GLYCINE

Glycine is a protein that has many roles in supporting liver function. Please see our posts on our blog about how to make delicious and healthy bone broth. My personal experience is that I eat bone broth stew regularly and the fat just melts off. What have you got to lose? Give it a try and let me know in the comments:

<http://thyroid-s.com/you-really-need-to-be-making-bone-broth/>

<http://thyroid-s.com/bone-broth-lowers-cholesterol/>

Summary

Now you know exactly what you need to do to train your thyroid and work toward reaching a healthy weight. All of the methods needed for thyroid training will also help to benefit your overall health.

Before you make any changes to your lifestyle, you should first consult your doctor to ensure that the changes are safe for you. Your doctor can also give you additional advice about changes you need to make to improve the overall health and function of your thyroid so you get the best results.

WEIGHT MANAGEMENT WITH THYROID DISEASE

When you are unable to lose weight or maintain your weight despite putting forth a solid effort, the thyroid gland is typically suspected, especially in women.

Even those who test on the lower end of the normal range can still experience weight issues. There are several ways to manage weight with an underactive thyroid gland. In many cases, a variety of techniques are required to get the best results and to help keep your weight where you want it or to lose excess weight.

Before taking any medication you should consult with a health care professional.

Natural Dessicated Thyroid Extract (NDT)

This is a natural product produced from animal thyroid glands which are dried and processed. It contains several different thyroid hormones, referred as T4, T3, T2, T1, and calcitonin, which are needed by the body. It has been used for over 100 years, and it is important to note that this was a time way before anyone knew anything about hormones and the things we take for granted with our modern medicine.

One of the most effective treatments of any disease available to physicians before the middle of the 20th century was treatment by natural desiccated thyroid extract for hypothyroidism. It was the first major success story of doctors successfully treating a condition, and led to the birth of modern medicine as we know it.

Being a naturally occurring substance, it cannot be patented. However, a method of synthesizing the T4



hormone in the laboratory was discovered in 1927 and patented. Major drug companies prefer to market the synthetic drug. However, many patients report better results on natural desiccated thyroid extract than on synthetic hormones such as levothyroxine.

Levothyroxine

Levothyroxine is the second most commonly prescribed medication in the United States. It is a prescription medication that replaces the lost thyroxine hormone T4, a thyroid hormone that is low in people with underactive thyroid. Being a pure synthesized drug, it doesn't contain any of the other thyroid hormones.

Doctors usually start patients off with a low dose and then increase it until they are getting the desired effect. Your thyroid levels are checked via blood test throughout the process to determine when you are at the right dose. Patients can either take the medicine once per day and at the same time daily, or split the dose to morning and evening administrations.

Most people do not experience side effects due to starting at a low dose and gradually increasing it. However, side effects are possible and may include:

- Sweating
- Headaches
- Vomiting
- Chest or neck pain
- Diarrhea

Drug companies prefer synthetic T4, but the fact is: No long term study has shown that synthetic thyroid medications are superior to natural thyroid for the treatment of hypothyroidism.

Question: Which is the better treatment for hypothyroidism?

Answer: the best thyroid hormone replacement drug is the one that safely works best for each patient, as determined by the doctor and his/her patient.

Controversy and hostility between drug companies and natural desiccated thyroid has a long history and runs deep. However, in June of 2013, Dr. Thanh Hoang, a staff endocrinologist at the Walter Reed National Military Medical Center in Bethesda, MD, presented results of his research on natural desiccated thyroid drugs.

He had done a 16 week X 2 double blind crossover study. The patients were randomly assigned to either natural desiccated thyroid or levothyroxine for 16 weeks, and then switched to the other medication for an additional 16 weeks. The studies were double blind, meaning that neither the patients nor the doctors knew which medication they were receiving.

The results were telling. At the conclusion of the study, patients were asked which regimen they preferred, and almost 49% preferred the natural desiccated thyroid, versus almost 19% who preferred levothyroxine. About 33% didn't specify a preference. Dr. Hoang also reported that the patients taking natural desiccated thyroid lost approximately three pounds, compared to the patients taking levothyroxine, who did not lose weight.

Vitamin A

Vitamin A is critical for the production of thyroid stimulating hormone and it is also necessary to turn the T4 hormone and into the T3 hormone. If you have low levels of this vitamin, this can lead to your thyroid gland not being as effective. Symptoms like poor night vision and being sensitive to light are indicative of a vitamin A deficiency.

Carotenoids (beta-carotene) are powerful anti-oxidants, and the precursors of vitamin A, meaning that this is a substance that the body converts to vitamin A. Beta-carotene is a highly pigmented (red, orange, yellow), fat-soluble compound. It is naturally present in many plants including common fruits and vegetables. It provides the orange coloration in many green plants, but is especially present in gac (an asian fruit), tomatoes, carrots, sweet potatoes, apricots and squash.

B Vitamins

All of the B vitamins are necessary for thyroid function and they all play a different role:

- **B1** works to regulate thyroid function.
- **B2** works to stimulate thyroid and adrenal gland function for proper hormone secretion.
- **B3** ensures thyroid cell efficiency.
- **B6:** The thyroid gland cannot properly use iodine without this vitamin. Iodine is necessary to make thyroid hormones.
- **B12:** Those with an underactive thyroid cannot absorb this vitamin, leading to a vitamin B12 deficiency. This can cause neurological disorders so supplementation is often necessary.

DIET FOR THYROID HEALTH

There is no single diet that will help with weight loss and weight management for those with a thyroid disorder. However, knowing which foods to avoid and how to eat healthy are important.

Like anyone else who follows a sensible weight loss plan, you want to eat a balanced diet that consists mostly of fruits, vegetables, whole grains, and lean proteins. You can also eat low-fat dairy products in limited quantities.

Be Cautious With These Foods:

- **Soy products:** These can interfere with how the body uses the thyroid hormone, and should only be eaten alongside iodine rich foods.
- **Cruciferous vegetables:** If you have an iodine deficiency, these vegetables can interfere with thyroid hormone production. Common vegetables in this category include cabbage and broccoli.
- **Fatty foods:** While the body needs fats to be healthy, just be aware that fatty foods may inhibit the absorption of thyroid medications.
- **Sugary foods:** These foods can contribute to weight gain, especially when in combination with a thyroid disorder that is slowing the metabolism.
- **Processed foods:** When someone has a thyroid disorder, their risk of high blood pressure increases. Sodium also increases this risk and processed foods are rich in sodium (as well as other undesirable compounds like MSG, etc.)
- **Fiber:** Fiber is an important nutrient, but too much can interfere with the absorption of thyroid medication.

SAFETY OF NATURAL DESICCATED THYROID

The fascinating history of natural desiccated thyroid goes back over one hundred years. George Redmayne Murray of the United Kingdom first described treatment of myxedema (severe hypothyroidism) with thyroid extract in 1891, and published a description of long-term successful treatment (28 years) of a patient with myxedema in 1920. This was way before anyone knew anything about hormones or bacteria or germs, and it was one of the first major successes of what would become modern medicine.

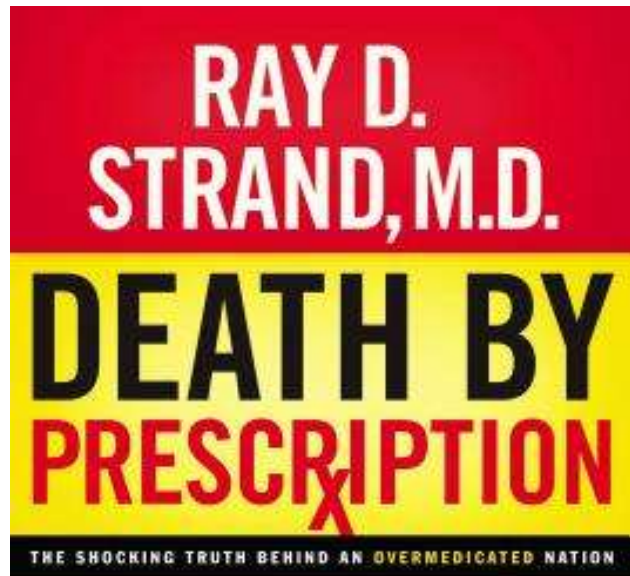
Probably the main cause of any reaction to natural desiccated thyroid is reaction to the fillers. Every person reacts to the fillers differently, and each product is formulated differently, so the general consensus is to try a few different products and see which one works best for you and stick with it.

There are so many varying symptoms of hypothyroidism and natural desiccated thyroid can bring relief when used correctly. Natural desiccated thyroid can cause harm if over prescribed, and care must be exercised during administration. Long term high doses has been associated with a decrease in bone density. During under dosing (dosing too little natural desiccated thyroid), a patient will not see any relief of symptoms, but there are no long term effects or harm. Contrast that with antibiotics, which can result in antibiotic resistant bacteria, causing further problems, if under dosed.

Older patients with weak hearts and/or coronary disease are most susceptible to problems. Mild over dosing will will cause one or more side effects: chest pain, rapid heart rate, palpitations, hot flashes. Severe over dosing can theoretically cause heart failure. In the hundred years that natural desiccated thyroid has been used, there is anecdotal evidence that yes, a few people have died from excessive over-doses, so care should be taken, and under a doctor's supervision.

Just to put things in perspective, we should note that according to Dr. Ray D. Strand in his landmark book “Death by Prescription”, use of correctly prescribed prescription medicines is the third leading cause of death in the US. That is a simply amazing statistic. This book is filled with highly unpleasant stories of people who followed their doctor’s (and drug companies) advice, and paid the ultimate price.

Many thousands of people die every year from non-prescription pain killers, and many more develop serious liver problems requiring a trip to the emergency room, an extended hospital stay, and sometimes close to death.



- An adverse drug reaction is five times more likely to *kill* you than an automobile accident or AIDS
- Don't become the FDA's guinea pig . . . the use of newly released drugs could be potentially life-threatening
- The use of prescription medication is the third leading cause of death in the U.S.
- Discover the *deadly* partnership formed by the U.S. Congress between the FDA and pharmaceutical companies



DEATHS PER YEAR

ASPIRIN	= 1,000
COCAINE & HEROIN	= 5,200
CAFFIENE	= 10,000
PRESCRIPTION DRUGS	= 100,000
ALCOHOL	= 150,000
TOBACCO	= 450,000

Here is a chart of annual deaths from various causes. It is not complete, one notable missing cause is automobile accidents.

Natural desiccated is a drug and care should always be exercised with any drug. Keep drugs away from small children. Consult your doctor or other health professional.

CONCLUSION

It does not take long to learn what you need to about the thyroid and how it works to regulate your metabolism. You can use this information to help you to either lose weight or maintain your healthy weight. If you are doing everything necessary for weight loss or weight management and fail to lose or maintain your weight, talk to your doctor. It is important that you know what your thyroid hormone levels are so that you can take the right steps to help in controlling your weight.

If an underactive thyroid is to blame, there are medications to help ensure that this gland returns to optimal function and that your thyroid hormones are being adequate produced.

Some people will require medical treatment while others may do well with making certain lifestyle changes. To know which is going to work for you, you need to know your thyroid levels and this means seeing your doctor for the proper bloodwork.

Make sure that you stay on top of your thyroid health so that you can keep this gland healthy long-term, this is especially critical for women who are at the highest risk for thyroid problems.

This is also especially important if you have a pre-existing thyroid disorder or a family history of thyroid disorders. In addition to the methods discussed above, talk to your doctor to learn about any additional steps you can take to keep your thyroid healthy.

FURTHER RESOURCES

For further information, please consider to purchase this excellent book on Amazon.com by Janie Bowthorpe of “Stop the Thyroid Madness” website:

["Stop The Thyroid Madness: A Patient Revolution" on Amazon.com](#)

Another popular book, authored by over a dozen insightful medical professionals, and edited by Janie:

["Stop The Thyroid Madness II"](#)

For information on how to purchase natural desiccated thyroid, please contact:

contact@zwebmedia.net - Please include a little info about your situation thanks!

And also ask about how to save up to 17% on your own purchases.

FREE PUBLIC FORUMS

The following is a list of public forums, some of which have many qualified members, where you can browse and read, and post your questions for a patient-to-patient response. These groups are high activity, so when you register, scroll down the options and select “Daily Digest”. Then you will get only one email per day with all the threads. Otherwise you might get buried in all the threads sent in single messages.

Nearly 20,000 knowledgeable members:

["Natural Thyroid Hormones Yahoo Group"](#)

Located in the EU, but open to all, Thyroid Patient Advocacy:

["Thyroid Patient Advocacy UK"](#)