

UltraWellness
Optimal Health Series

Increase Your
Energy All Day

**Boost Your Metabolism
& Lose Weight**

Eliminate Dry Skin,
Muscle Soreness
& Brain fog

The
Ultra Thyroid
Solution

**A 7-Step Plan To Reverse
Hypothyroidism Permanently**

Mark Hyman M.D.

Author of The *New York Times* Bestseller *UltraMetabolism*

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Hypothyroidism: A Hidden Epidemic

Do you feel fatigued, lethargic, and sluggish, especially when you wake up in the morning? Do you have poor-quality, cracked nails? Are you cold all the time? Do you have dry skin, coarse hair, or hair loss? Are you depressed? Are you constipated? Do you have muscle and joint pains? Have you lost the outer third of your eyebrows? Do you have trouble losing weight no matter what you do?

If you answer yes to any of these questions, you may be suffering from hypothyroidism, a potentially dangerous health condition that occurs when the production, conversion, or action of the thyroid hormones in your body is inhibited, resulting in too little active thyroid hormone in your blood.

While the symptoms above might not sound like a major problem on the surface, a problem with your thyroid can actually have a catastrophic impact on your health and weight. It is often a hidden factor in many diseases, including depression, heart disease, chronic fatigue, fibromyalgia, PMS (premenstrual syndrome), menopausal symptoms, muscle and joint pains, irritable bowel syndrome, autoimmune diseases, and obesity. When I see anybody with any chronic illness, I always think that the thyroid may play a role.

“When I see anybody with ANY chronic illness, I always think that the thyroid may play a role.”

What's more, the symptoms above only scratch the surface in terms of how hypothyroidism might manifest itself. Additional symptoms include the following:

- ✓ Low mood and depression
- ✓ Chronic recurring infections (*because thyroid function is important for immunity*)
- ✓ Sluggish bowels and constipation
- ✓ Decreased sweating with mild exercise
- ✓ High cholesterol in spite of a good diet
- ✓ Irregular periods or menstruation
- ✓ Severe PMS (*premenstrual syndrome*)
- ✓ Low sex drive
- ✓ Infertility
- ✓ Excessive menopausal symptoms
- ✓ Ovarian cysts
- ✓ Endometriosis
- ✓ Gum disease
- ✓ Fluid retention
- ✓ Weight gain
- ✓ Muscles aches and pains
- ✓ Dry Skin
- ✓ Acne
- ✓ Eczema
- ✓ Balance issues
- ✓ Trouble with memory, focus, and/or concentration
- ✓ Hair loss
- ✓ Poor stamina

In short, your thyroid—and the way it functions—is tied into every other system in your body. When it is out of balance, you are out of balance.

Perhaps worst of all, many of these vague and unusual symptoms are often overlooked or not diagnosed properly. While 20 percent of women and 10 percent of men have a low-functioning thyroid, **half of all people with hypothyroidism are never diagnosed.** To make matters worse, those who are diagnosed are often treated suboptimally, leading to a less-than-full recovery from many of the chronic symptoms of hypothyroidism.

“Half of all people with hypothyroidism are never diagnosed.”

Historically, doctors treated thyroid disease based on symptoms and physical examination. Now doctors rely almost completely on laboratory testing, which prevents them from diagnosing more subtle cases not detected by our conventional approach to thinking about thyroid disease.

Why is it so difficult to diagnose and treat low thyroid function? The main reason is that the symptoms are not very specific and are often present for many reasons besides a thyroid disorder.

Anyone can diagnose a heart attack if they see someone who is pale, sweaty, clutching his or her chest, and complaining of crushing pain in the chest and down the left arm. Thyroid problems are completely different. Even if you have all the symptoms of low thyroid function, they can still easily be ignored. You may not even realize that the problem is with your thyroid gland.

Even if you have the foresight to go to the doctor, your doctor may use typical tests for thyroid problems and find that your thyroid *appears* to be functioning in the normal range. But many times doctors don't do the right tests or don't do *enough* tests, so your thyroid problems go undetected. You may be told you have borderline thyroid problems or sub-clinical thyroid disease and your doctor will watch it. What will he or she watch for? For you to get really sick?

“You may be told you have borderline thyroid problems or sub-clinical thyroid disease and your doctor will watch it. What will he or she watch for? For you to get really sick?”

Thyroid problems are actually extremely common. More than 10 percent of the overall population and 20 percent of women over 60 years old have subclinical hypothyroidism. “Subclinical” implies no symptoms and slightly abnormal thyroid tests. What it really means is that subtle symptoms are often missed by doctors!

Even people who have “normal” thyroid results but suffer from symptoms benefit from thyroid treatment. It just depends on how you define normal. If you are a seven-foot-tall basketball player, it might be normal to be 300 pounds, but that's not normal if you are a five-foot-three-inch woman. If you were a Martian landing in America in the 21st century, you might think that it is normal to be overweight—because more than 60 percent of our population is overweight. But that doesn't make it normal!

The normal values in medicine are constantly going down as we recognize that what we thought was normal isn't. In 1998, normal weight was a body mass index, or BMI (kg/m²), of 27; now it's 25. Prior to 2001, normal cholesterol was 240; now it's 200. Normal LDL was 140; now it's 100. Normal blood sugar was once 140; now it's less than 100. Normal blood pressure was 140/90; as of August 2004, it's 115/75 (based on the Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood

Pressure). Why does this happen? We are simply getting smarter and recognizing that more subtle changes in function can have significant health consequences. The same is true with thyroid disease, but mainstream medicine has not yet caught on. We doctors need to rethink how we approach thyroid problems; we should be

1. Recognizing the problem through an analysis of a patient's medical history
2. Using the right tests
3. Properly diagnosing and treating the causes of thyroid dysfunction
4. Supporting the thyroid function with lifestyle changes, diet, and supplements
5. Using thyroid hormone preparations and dosages that are specifically designed for individual patients

Right now, the medical community at large is not doing these things.

However, there are a few things you can do to improve the function of your thyroid, and armed with the proper information, you have a much better chance of getting a good diagnosis. In the remainder of this report I'm going to teach you what you can do to optimize your thyroid, and I am going to tell you what tests are out there, which ones you need to take, and what hormone treatment therapies are available.

Following the approach outlined will help you attain a state of optimal energy, weight, and health. This is a state I refer to as UltraWellness. Your thyroid and the hormones it produces are important parts of one of the core systems in your body—your hormonal balance.

Focusing on balancing the core systems in your body is part of a radical new way of understanding health. It is called Functional Medicine. I refer to it as UltraWellness. I feel that a foundational understanding of how I practice medicine and of the approach you will find in this guide—one that is grounded in these concepts—is in order.

A NEW KIND OF MEDICINE

My goal in medicine is to provide a way of navigating and sorting through health information based on an entirely new set of questions—a new way of thinking about health and disease. I want to find the right medicine for each person, regardless of what it is.

If a medicine is the best treatment, I will choose that; if changes in diet, supplements, herbs, or lifestyle work best, then I will choose those. I try to find the best available treatment for each person. This is known as patient-centered health care, rather than disease-focused medicine. This way of thinking is called Functional Medicine, also known as systems medicine. It provides a way of understanding how our genes, our environment, and our lifestyles interact to determine health or disease.

“I try to find the best available treatment for each person. This is known as patient-centered health care...”

The question isn't so much what disease you have but what system or systems are out of balance and how we get them back into balance. Most medicine today is based on clear-cut, on-or-off, yes-or-no diagnoses that often miss the underlying causes and more subtle manifestations of illness.

My goal with each patient is to understand those things that disturb normal function, as well as how best to create optimal functioning. Therefore, my goal is not to help patients have perfect lab tests, but to identify how any particular system in the body is working or not working. I use an exciting new scientific paradigm that helps

us understand how the body works as a system. That understanding allows me to enhance and normalize the core systems of the body. This is based on the revolutionary new science of systems biology and medicine.

For example, for thyroid disease, most physicians simply check a blood test called TSH (thyroid-stimulating hormone); if it is normal, they believe the thyroid is not an issue, and they move right along looking for the next diagnosis.

Unfortunately, they miss more subtle clues from symptoms and signs of diseases (complemented by further testing) that can highlight problems that can be remedied by the appropriate treatment—treatment that is not focused on treating some disease, but rather on working to remove those things that alter or damage our functioning and providing those things that enhance, optimize, and normalize our functioning.

Nowhere is this more of a problem than in thyroid disease, which is woefully and inadequately diagnosed and treated, leaving millions of Americans suffering needlessly from chronic symptoms.

However, by taking a systems approach to medicine and focusing on the underlying systems in the body instead of on the yes-or-no diagnoses that have governed medicine for so long, we now have the tools we need to help cure the suffering that thyroid disease (and so many other chronic health problems) creates. We have the opportunity to help people achieve UltraWellness—perhaps for the first time.

That is my goal in practicing my medicine, and that is my goal with everything I write.

Let me explain.

THE GOAL OF MY HEALTH REPORTS

This report on hypothyroidism is one in a series of health reports that I hope will develop a new way of thinking about health and disease that is not based on conventional, alternative, complementary, or integrative medicine. Rather, this is a new way of thinking that looks at the body as a whole system, using the best of science and the best of clinical care to address chronic health problems by focusing on the underlying causes of disease.

This approach guides people and health care practitioners toward an entirely new paradigm for diagnosing and treating the common health disorders that cause chronic disease in more than 125 million Americans.

The methodology is known as Functional Medicine, and is grounded in a scientific field called systems biology. Systems biology seeks to understand how systems in the body are related and interconnected as a network rather than seeing them simply as a series of organs and body parts that have no relationship to one another. The perspective of medical specialization—organizing medicine by organs and diseases—is a flawed view that has placed modern medicine at a crisis point.

Our way of thinking about disease is outdated and does not represent the latest scientific advances. This series of health reports, and Functional Medicine in general, will provide a way of navigating the best of science. This new science will change the practice of medicine by helping people deal directly with the underlying causes of disease.

It will provide ways of optimizing and enhancing health rather than simply repressing or suppressing symptoms while leaving the underlying cause untreated, often leading to a worsening of the underlying condition while temporarily addressing symptoms.

Optimizing your health is the goal of UltraWellness. Even if you feel “fine,” that isn’t as good as you can feel. My goal for you is to feel vitally energetic and alive—to achieve UltraWellness. These reports are designed to help you do that.

Medicine is at a crossroads, and the opportunity exists to change the way we think about health and disease forever. In this report, I use the principles of this new way of understanding health and disease to bring you the latest scientific research available on diagnosing and treating hypothyroidism. It includes the most current information available on these topics:

- ✓ What the thyroid does and how it works
- ✓ Which tests to get to determine whether you have a problem
- ✓ How to address underlying issues that may be exacerbating your thyroid condition
- ✓ What changes you can make in your diet to help your thyroid get the nutrition it needs
- ✓ Which supplements to take to support the function of your thyroid
- ✓ Which therapeutic treatments may help you deal with the underlying causes of hypothyroidism
- ✓ What to tell your doctor so you can get the information you need to address this problem effectively

“Medicine is at a crossroads, and the opportunity exists to change the way we think about health and disease forever.”

With that foundation in mind, you can work through this “holistic” treatment program to help you determine whether you are currently suffering from hypothyroidism and how you can treat it if you are. This is an absolutely critical step to take if you want to achieve UltraWellness.

To begin with, you need an understanding of what the thyroid does, how it functions, and how important it is to your overall health.

Understanding the Thyroid: What It Does and How It Works

The thyroid gland produces the master metabolism hormone that controls every function in your body. It literally determines the speed of every function and enhances the activity of every function in your body. It improves your mood; your skin, hair, and nails; your sex drive; your heart function; cholesterol; fertility; and hormonal symptoms such as PMS and menopause. It influences muscle aches and pains, joint pains, body temperature, and your metabolism.

“The thyroid gland produces the master metabolism hormone that controls every function in your body.”

The thyroid gland is a small endocrine gland in your neck (see Figure 1) that makes two major thyroid hormones. About 90 percent of its production comprises T4, an inactive form of the hormone made from the amino acid tyrosine and the mineral iodine. This T4 is later turned into the active form in your liver. Another 7 percent of thyroid hormone produced by the gland is called T3. This is the active form of the hormone. The thyroid gland also produces T2, yet another thyroid hormone, which may be proved in the future to be an important component of thyroid function.

Many dietary, lifestyle, and environmental factors affect this process, and in a moment we will look at what those are.

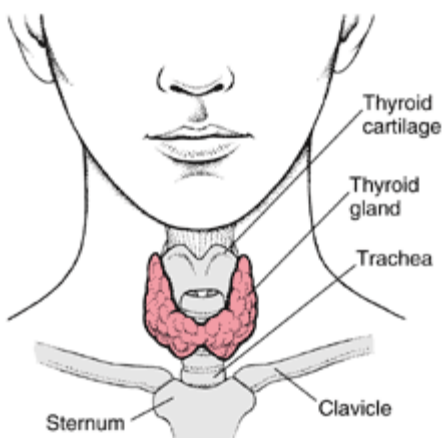


Figure 1: Illustration of the Thyroid Gland

From The Merck Manual of Medical Information - Second Home Edition, p. 948, edited by Mark H. Beers. Copyright © 2003 by Merck & Co., Inc., Whitehouse Station, NJ. Available at: <http://www.merck.com/mmbe/sec13/ch163/ch163a.html>. Accessed February 13, 2007.

Thyroid hormone function is part of your endocrine, or hormonal, system. Its main role is to stimulate metabolism, and as a result it affects almost every function of the body. This is also why it is so critical in weight management and why it can cause so many different symptoms. Thyroid hormone interacts, or has “cross talk,” with all the other hormones in your body, including insulin, cortisol, and your sex hormones.

The production and release of thyroid hormone in the thyroid gland is regulated by a feedback system in your brain—the hypothalamus and pituitary glands—which make TRH (thyroid-releasing hormone) and TSH (thyroid-stimulating hormone), respectively. If everything works as designed, you will make what you need and the T4 will be converted to T3.

The hormones work in a synchronous feedback loop, creating a state of dynamic balance. There really is no start-and-stop place in the system; however, you may understand it better in this way: the brain’s central command center, the hypothalamus, detects a need for more thyroid hormone and releases TRH, which sends a signal to the pituitary (the second in command in the brain) to release more TSH, which is then released into the bloodstream, goes to the thyroid gland, and stimulates the production of T4 and small amounts of T3.

Those hormones are then released into the blood and go to work on your cells by increasing their metabolism. The delicate balance of these hormones can be disrupted anywhere in this dynamic circuit by nutritional deficiencies, toxins, allergens, infections, and stress.

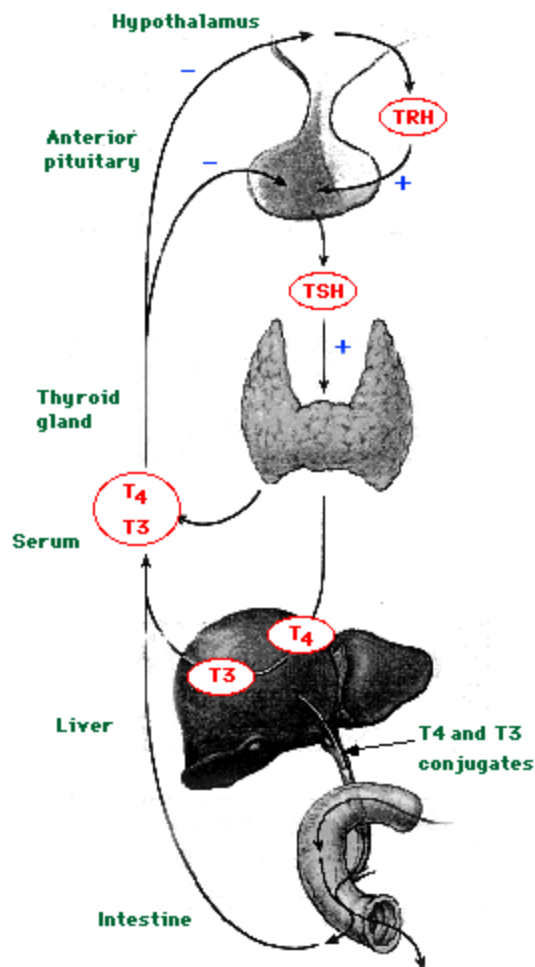


Figure 2: Thyroid Hormone Cascade–Feedback Loop

From The New England Journal of Medicine, Surks, M.I. and R. Sievert, "Drug Therapy: Drugs and Thyroid Function," 333:1688–1694 Waltham, MA. Copyright ©1995 Massachusetts Medical Society. All right reserved.

T3 is critically important because it acts on special receptors on the nucleus of the cells that send messages to your DNA to turn up your metabolism, to increase the fat burning in your mitochondria, and to generally make every system in your body work at the right speed. This is why T3 lowers your cholesterol, improves your memory, keeps you thin, promotes regrowth in cases of hair loss, relieves muscle aches, relieves constipation, and even cures infertility in some patients.

If you produce too little T3, or if the T4 you produce is not being properly converted into this active thyroid hormone (which can happen when any step in the process described above is inhibited), your whole system goes haywire. Your metabolism and mitochondria (the little factories in the cells that convert food and oxygen into energy) don't get the proper signals, you gain weight, and you suffer from the symptoms of hypothyroidism.

In addition, you can become more inflamed, develop additional problems with your insulin levels, and have a more difficult time metabolizing sugar in your blood—all of which further compromise your health and your ability to lose weight.

None of this would be such a concern if thyroid disorders were readily diagnosed and treated. The problem is, they aren't. Hypothyroidism is a vastly underdiagnosed health problem in this country.

“None of this would be such a concern if thyroid disorders were readily diagnosed and treated. The problem is, they aren't.”

This means that you are going to have to do some research on your own and be proactive in your own diagnosis and treatment in order to determine if you have a problem with your thyroid. Some of this can be done in conjunction with your physician; I recommend contacting your doctor as soon as possible if you have trouble with your thyroid (more on this in a moment).

However, there is a lot you can do on your own if you choose to. Analyzing your symptoms and knowing which tests you need to take (many of which are now available as self-tests from a number of agencies) puts the power in your hands to determine whether hypothyroidism is a concern for you.

How to Identify Thyroid Problems: Analyzing Your Symptoms and Learning Which Tests to Take

Thyroid disease is frequently very vague and the symptoms may be common in other diseases, so the diagnosis is often overlooked. What’s more, most doctors rely on only a few traditional tests to determine whether you have a problem, so other pieces of the problem sometimes go undetected, as I have already described.

To obtain an accurate diagnosis of hypothyroidism, very careful assessment of your symptoms, a physical examination, and your medical and family history is required. I will guide you through as much of this as I can in this report so you have the information you need to determine whether this is a problem for you.

To start with, I have provided a quiz for you to use to begin evaluating your potential risk for thyroid dysfunction. Your score on the quiz will help you determine what to do next.

ARE THYROID PROBLEMS CONTRIBUTING TO YOUR HEALTH PROBLEMS? A SELF-ASSESSMENT TOOL

Score one point for each “yes” answer you make by putting a checkmark in the box on the right.

<i>Symptoms</i>	<i>Check</i>
Are your skin and fingernails thick?	<input type="checkbox"/>
Do you have dry skin?	<input type="checkbox"/>
Do you have a hoarse voice?	<input type="checkbox"/>
Do you have thinning hair, hair loss, or coarse hair?	<input type="checkbox"/>
Are you sensitive to cold?	<input type="checkbox"/>
Do you have cold hands and feet?	<input type="checkbox"/>

Is your basal body temperature lower than 97.8 degrees first thing in the morning? <i>(Underarm basal body thermometers are available at most drug stores.)</i>	
Do you have muscle fatigue, pain, or weakness?	
Do you have heavy menstrual bleeding, worsening of premenstrual syndrome, other menstrual problems, and/or infertility?	
Have you experienced a loss of sex drive <i>(decreased libido)</i> ?	
Do you have severe menopausal symptoms <i>(such as hot flashes and mood swings)</i> ?	
Have you experienced fluid retention <i>(swelling of hands and feet)</i> ?	
Do you experience fatigue?	
Do you have low blood pressure and heart rate?	
Do you have elevated cholesterol?	
Do you have trouble with memory and concentration or brain fog?	
Do you wake up tired and have trouble getting out of bed in the morning?	
Do you have a loss of or thinning of the outer third of your eyebrows?	
Do you have trouble losing weight, or have you experienced recent weight gain?	
Do you experience depression and apathy or anxiety?	
Do you experience constipation?	
Have you been diagnosed with autoimmune disease <i>(e.g., celiac disease, rheumatoid arthritis, multiple sclerosis, lupus, allergies, yeast overgrowth—all of which can affect thyroid function)</i> ?	
Are you or have you been exposed to radiation treatments?	
Are you or have you been exposed to environmental toxins?	
Do you have a family history of thyroid problems?	
Do you drink chlorinated or fluoridated water?	

Scoring Key

0 to 1 means your thyroid is healthy and you probably don't need to be concerned.

2 to 4 means you are at mild risk for thyroid problems.

> 4 means you have a significant risk for thyroid problems.

If you have no symptoms of thyroid problems, it is unlikely (though not impossible) that you have a problem with your thyroid function. However, if you score anywhere over 2, I strongly recommend that you get the basic testing for thyroid function and check your basal body temperature (see below on how to do this).

I also recommend that you implement the lifestyle, dietary, and supplement suggestions in this report, as well as look for other factors (see causes of thyroid dysfunction) that can lead to imbalances in thyroid function. If you scored over 4, I would be persistent in finding a practitioner (see the “Find a Doctor” tab on www.ultrawellness.com/tools/find-a-doctor) to help you with thyroid hormone replacement if you need it.

YOUR MEDICAL HISTORY: MORE CLUES ABOUT THE PROBLEM

Your medical history can give you important clues about how serious your thyroid condition might be. When determining whether this is a concern for you, keep the following things in mind.

Common Symptoms

People often feel many subtle symptoms of low thyroid function, including significant fatigue, lethargy, and sluggishness, particularly in the morning. You may have hoarseness for no particular reason. Often there is decreased sweating with mild exercise, or you may be slow to heat up even in the sauna. Low mood and depression is common.

Chronic recurrent infections are also common because thyroid function is important for immunity. Sluggish bowels and constipation may be frequent. Many other symptoms can be clues as well, including poor-quality or cracked nails; high cholesterol in spite of a good diet; irregular periods or menstruation; severe PMS; low sex drive; infertility; excessive menopausal symptoms; ovarian cysts; endometriosis; gum disease; fluid retention; weight gain; muscle aches and pains; dry skin; acne; eczema; balance issues; trouble with memory, focus, and/or concentration; hair loss; and poor stamina—all point to potential thyroid problems.

Also, check your eyebrows. Loss of the outer one-third of your eyebrows is a classic sign of low thyroid function.

Other Diseases Associated with Thyroid Dysfunction

In addition, other autoimmune diseases may be associated with thyroid disease, which makes these conditions worse and is often underdiagnosed. These diseases include type 1 diabetes, celiac disease, rheumatoid arthritis, lupus, sarcoidosis, scleroderma, Sjögren's syndrome, biliary cirrhosis, myasthenia gravis, multiple sclerosis, Crohn's disease, ulcerative colitis, and more.

If you have other associated conditions, you might consider the possibility of thyroid disease. These conditions include mitral valve prolapse, carpal tunnel syndrome, Raynaud's disorder, dyslexia, persistent tendinitis, alopecia (hair loss), and vitiligo (persistent white patches on the skin often related to gluten sensitivity).

OTHER CLUES TO THYROID PROBLEMS

Other important information that is critical in identifying sources of thyroid dysfunction includes a history of environmental exposures—exposure to heavy metals, dental amalgams, and mold exposures, food allergies, hormonal disorders, and chronic stress—and an extensive dietary history to assess nutritional status. I will address each of these issues in much greater detail below.

Your Family History

A family history of certain conditions may highlight your increased risk; for example, a family history of low or high thyroid problems or thyroid goiter, prematurely gray hair, left-handedness, diabetes, rheumatoid arthritis, lupus, sarcoidosis, scleroderma, Sjögren's syndrome, biliary cirrhosis, myasthenia gravis, multiple sclerosis, Crohn's disease, ulcerative colitis, or celiac disease may be important.

Physical Symptoms

In addition, many physical signs can provide clues to thyroid disorder, including a basal body temperature of less than 97.6 degrees. To determine if this is a problem for you, take your temperature with a special basal body temperature thermometer over the course of three days first thing in the morning upon awakening. Here's how you measure your temperature.

1. Buy a basal body temperature (BBT) thermometer.
2. Men and postmenopausal women can measure temperature any three days in a row.
3. Premenopausal women should measure it on the first three days of the menstrual cycle (day 1 is the first day of bleeding).
4. Put the thermometer on the bedside table and shake it down before you go to bed (if it is not a digital thermometer).
5. As soon as you wake up, before getting out of bed or going to the bathroom, reach over and take the thermometer and place it under your arm.
6. Leave the thermometer there for five minutes; then read the temperature.
7. Chart your temperature on a BBT chart.

If your temperature is consistently lower than 97.6 degrees, you may have hypothyroidism. There are a number of other causes for a low temperature, but if your temperature is low, you should consider a problem with your thyroid.

“If your basal body temperature is consistently lower than 97.6 degrees, you may have hypothyroidism.”

Other physical signs you may see include slowed movement, speech, and reaction time; muscle weakness; thickening tongue; swollen feet; swollen eyelids or bags under the eyes; enlarged thyroid gland; swelling of the face and the neck; lumpiness or irregularity of the thyroid gland; excessive earwax; dry mouth, dry eyes and excessively dry or coarse skin; cool skin; low blood pressure; low pulse; decreased ankle reflexes with slow recovery phase; and loss of the outer one-third of the eyebrows.

These are all useful physical issues you may find in yourself or that can be used by a physician when examining you that may indicate a thyroid problem.

Why You Don't Have to Wait Until You Have a "Disease" to Get Healthy

When I was in medical school, I was trained to look for diseases with textbook symptoms that could be clearly diagnosed. You either had the disease or you didn't. Once I diagnosed the disease, I then matched it to a prescription drug. And that was the end of the story. Find the drug to match the disease and the job is done.

If you didn't have the "classic" disease, you didn't get the drug. We were trained to tell patients, "Come back in six months to see if you get sicker and 'qualify' for treatment." This isn't actually what we said, but it's what was meant.

Unfortunately, that led me to often ignore other subtler chronic symptoms that appeared to be unrelated to "disease" but that in fact now give me the clues to understand how many apparently disconnected symptoms are part of a very few core imbalances. I want to know every symptom, not just the ones related to the diagnosis in the textbook.

I've realized over the last 20 years of practice that I am much more interested in helping people reach the greatest expression of their health. I don't want to wait until they have some treatable disease before I intervene.

Therefore, using the comprehensive approach of diet, lifestyle, exercise, stress reduction, supplements, herbs, and medications, I find that I can treat problems much earlier and more effectively. I can help patients not to just suffer through life with low-grade nagging symptoms, but to feel fully healthy and alive.

As we have seen, the clues for problems with the thyroid can be very subtle and are often confused with other problems, organs, and diseases, because the thyroid hormone affects every system in the body. Proper functioning of the thyroid hormones is necessary for optimal health. Testing is only one component of a full assessment, part of a comprehensive overview of a person's medical history, which should include symptoms, physical signs, and family history.

Nonetheless, testing is a very important way of confirming the findings you make in other areas and uncovering new information that can help you understand the depth of the problem, as long as it is used in conjunction with these other assessment tools.

So that you understand what tests are available for thyroid problems, which ones you can do yourself and which ones a doctor must do, you need to know how to understand and interpret whatever results you get (whether you self-test or look for a medical professional's assistance).

TESTING: CLEARING UP THE CONFUSION

There is no one perfect way or one symptom or test result that will properly diagnose low thyroid function or hypothyroidism. The key is to look at the whole picture, including your symptoms, your signs, your family history, your blood tests, and other associated conditions, and then decide on the proper next steps.

“There is no one perfect way or one symptom or test result that will properly diagnose low thyroid function or hypothyroidism.”

Having said that, getting the right tests done is still an important part of a good diagnosis. The good news is that now you can do many tests yourself without going to your doctor.

Testing can be divided into two categories. One is **direct testing** of the thyroid function and thyroid activity, and the second is **testing of associated conditions** or problems that can affect thyroid function.

Doctors typically diagnose thyroid problems by testing your TSH (thyroid-stimulating hormone) levels and sometimes the free T4 level. Unfortunately, many physicians still use very outdated thyroid panels that are only indirect measures of thyroid function.

The typical doctor assesses only TSH. This is a pituitary hormone that stimulates the thyroid gland to produce more thyroid hormone in the form of T4. The TSH level typically has been thought to be abnormal if it is over 5 mIU/L. However, new guidelines from the American College of Endocrinologists indicate that any TSH over 3 is abnormal.

Even so, sole reliance on this one test may miss many, many people with a poorly functioning thyroid. When I was in medical school, I was taught to treat the person and not the test; however, this wisdom has often been lost in clinical practice. It is much easier to work with a number than with vague symptoms like those associated with hypothyroidism.

“The question is not what is a normal test result, but what is a normal test result for you.”

All the tests below are available through a physician. However, you may find that some physicians are resistant to the idea of doing the extensive screening of your thyroid that I feel is necessary for acquiring a complete picture of the problem. Even if you do get the tests, your doctor may not be comfortable using some of the types of thyroid hormone therapies that I recommend and find most useful in my practice.

This may ultimately mean that you need to consider the possibility of changing doctors. Remember that your doctor should be there to treat and assist you, to be your partner in creating health.

In the meantime, many of these tests are now available in a variety of self-testing options. Some companies allow you to request online most of the tests I recommend. Then their physicians place the order and send you a requisition (or order form), which you can take to a local laboratory that will draw your blood and send you the results.

Doctors at the companies that offer these self tests will review these and may then recommend that you follow up with your own physician to receive further care if needed. This revolutionary new service allows people to take more control of their own health care. In the list below, I have identified which tests you can take yourself and have given you resources on how to get these tests.

Starting with a self-assessment is a good way to begin to get an understanding of the severity of your problem. If you are concerned at any point that the problem is serious, seek professional medical help immediately. You don't want to wait until you are really sick to get help.

If you do have a problem, don't despair. There are many new and innovative ways to treat a thyroid problem once it is identified, and I will go through all of them step by step in a moment. But first, you need to determine whether your thyroid needs some support. The following regimen of tests should help you do that.

Getting a Complete Picture of Your Thyroid: The Right Tests

There are a number of ways to get a complete picture of thyroid function, but I recommend the first three tests for anyone who *may* have a thyroid problem. The fourth test is useful for more subtle and difficult cases.

In each description I have included recommended interpretations and resources for self-testing.

1. Thyroid-Stimulating Hormone, or TSH

This should be the high-sensitivity test. The ideal level for TSH is between 1 and 2 mIU/L (milli-international units per liter) for optimal thyroid function. It is often necessary to reduce thyroid-stimulating hormone to slightly less than 1 in some patients to achieve optimal symptom relief and thyroid function.

2. Free T4 and Free T3

It is also critical to test for free T3 and free T4, the active and inactive hormones. T4 is the hormone that is produced by the thyroid gland in large amounts and is then converted to the active form of T3 (mostly in the liver) by an enzyme called 5' deiodinase. This enzyme requires the mineral selenium, which is necessary for the conversion of the inactive T4 to the active T3.

Stress, heavy metals (such as mercury), petrochemicals, infections, and yeast impair the function of this enzyme, preventing your body from making adequate amounts of the active hormone T3. Therefore, the TSH and the free T4 may be normal while the free T3 is abnormal, and often this problem is missed when there is a problem with the enzyme.

Conventional physicians do NOT usually do the free T3 test. However, it is a very important way of assessing overall thyroid function. The total T3 figure can also be used to help round out the picture, but all these results must be interpreted in the context of the individual and the symptoms.

The normal level of free T4 is usually between 0.9 and 1.8 ng/dl (nanograms per deciliter).

The level of free T3 that is normal is considered to be between 240 and 450 pg/dl (picograms/deciliter), depending on the laboratory measurements. However, the reference ranges for laboratory tests are often based on “normal populations.” (Remember that “normal” means the average of the population, not necessarily the ideal.)

3. Thyroid Antibodies: Finding an Autoimmune Disease of the Thyroid

The next most important tests are for thyroid antibodies, including **thyroid peroxidase antibodies** and **anti-thyroglobulin antibodies**, which look for autoimmune reaction to the thyroid. Autoimmunity is the body's immune system overreacting to its own tissues. It is a condition in which the body literally attacks itself with “auto” antibodies. When these antibodies attack the thyroid, the problem with the thyroid is called Hashimoto's thyroiditis. This often goes undiagnosed because doctors routinely fail to check thyroid antibodies UNLESS the TSH is elevated.

However, I believe that anyone who is tested for potential thyroid problems **MUST** have thyroid antibodies checked as a screening test. Often TSH, free T3, and free T4 are normal but thyroid antibodies are high. This may affect thyroid function and cause hypothyroid symptoms with normal thyroid tests for TSH, T4, and T3.

This is somewhat confusing, but it is important to realize that thyroid function is dependent on a complex set of interactions in the body that can be interfered with by autoimmune responses. **Gluten** is a common cause of elevated thyroid antibodies and autoimmune thyroid disease. If I see a patient with elevated thyroid

antibodies even with a normal TSH and free T4, I often feel it may be useful to treat that person with a trial of thyroid hormone along with other therapies to optimize thyroid function (see below).

Any elevated level of antibodies against the thyroid gland must be viewed with concern and be monitored and treated.

4. TRH (Thyroid-Releasing Hormone) Stimulation Test

For more subtle or difficult cases, further testing can be done using a test called a **TRH stimulation test**. The hypothalamic hormone TRH is given to stimulate the pituitary to produce thyroid-stimulating hormone, or TSH. This often helps to diagnose patients with hypothyroidism who have a low TSH because their pituitary is malfunctioning and is not adequately producing TSH.

This is an often-overlooked problem. Doctors will commonly see a normal TSH and assume that the patient does not have hypothyroidism. However, if the pituitary gland is not functioning optimally for any reason, including stress, toxins, or infections, you may still be hypothyroid with a normal TSH. The thyroid-releasing hormone test can help identify this problem.

If the pituitary gland does not produce adequate TSH in response to the hypothalamic hormone TRH, then you can be pretty sure that the thyroid gland is not getting the message to make enough thyroid hormone, making you hypothyroid. That means that even people with a low TSH can be hypothyroid (which is the opposite of the normal situation with low thyroid function). This test can only be done by a doctor with an injection of thyroid-releasing hormone, and it can often be very helpful in difficult-to-diagnose cases.

All these tests can be used to help assess thyroid function. However, it is still important to remember that thyroid tests do not replace good clinical judgment. They should not be used **alone** to confirm or refute a diagnostic impression or to dictate therapy.

William Osler, the father of modern medicine, said, “It is more important to treat the person who has the disease than the disease that the person has.” This must involve working with people in a more personalized way. This is what is called patient-centered health care.

Additional Tests: Identify Underlying Causes and Other Factors That Influence Thyroid Function

In addition to the thyroid tests above, there are a few other tests you may need to consider taking, depending on your circumstances and condition. Some of these help identify underlying causes that contribute to thyroid disorders (an issue I will address in greater detail below); others are ways of adding additional information to the picture of all the factors that influence your thyroid function.

You may consider these additional tests.

1. Metabolic Rate Testing: Do You Have a Slow Metabolism?

Other tests that doctors may perform (there is no self-testing option available) include a **basal metabolic rate test**. This test measures how many calories you burn at rest. It can help identify slow metabolism and low basal metabolic rate, which are common in hypothyroidism.

It is done by measuring the amount of oxygen you breathe compared to the amount of carbon dioxide you exhale at rest in the morning before you get out of bed. You burn calories with oxygen and produce energy. The waste product is carbon dioxide. So by measuring the oxygen you breathe in and carbon dioxide you breathe out, you can tell how many calories you burn.

This is essentially the number of calories you would burn in bed doing nothing all day, which is a measure of the minimum number of calories you need to run your metabolism every day. The basal metabolic rate is usually your weight in pounds times 10 (or times 8 if you are overweight, or 12 if you are very muscular). So if you are 150 pounds and have a normal build, your basal metabolic rate is 1500 calories a day at rest.

2. Basal Body Temperature (BBT)

In addition, body temperature is a useful measurement of thyroid function. Low thyroid function is the major, but not the only, cause of low body temperature. If your basal body temperature is lower than 97.8 degrees consistently over three days (premenopausal women must measure their temperature during the first seven days of their menstrual cycle), then you should be highly suspicious that you have a thyroid problem. This test can be done at home with a special **basal body temperature thermometer**. (See **instructions above for measuring your temperature**.)

3. Testing for Associated Problems or Conditions

Here are several other tests that may be important in your assessment of the cause of thyroid disease. Your doctor can order these from the sources listed below.

<i>Test Name and Description</i>	<i>Who Provides This Test</i>
<i>Celiac Disease or Gluten Intolerance</i>	
IgA and IgG anti gliadin antibodies, IgA tissue transglutaminase antibodies, total IgA; this is the first screening test to be done.	LabCorp www.labcorp.com or Prometheus Laboratories www.prometheuslabs.com or Quest Diagnostics www.questdiagnostics.com
Stool testing for these antibodies can be helpful in questionable cases where the blood antibodies are not abnormal and the suspicion of gluten problems is high.	Enterolab www.enterolab.com
HLA DQ2 and DQ8 gene testing to identify the genes that cause gluten intolerance and celiac disease	Prometheus Labs www.prometheuslabs.com
<i>Food Sensitivity Testing</i>	
IgG delayed food sensitivity testing	Immuno Laboratories www.immunolabs.com or Metametrix www.metametrix.com

<i>Heavy-Metal Testing</i>	
Heavy-metal testing with hair analysis or provocation challenge	Doctor's Data www.doctorsdata.com
<i>Sex Hormone Testing</i>	
Evaluation of sex hormones including FSH, LH, estradiol, progesterone, free and total testosterone in women, and free and total testosterone in men	Lab Corp www.labcorp.com or Quest Diagnostics www.questdiagnostics.com
<i>Stress Testing</i>	
Adrenal stress index to measure fluctuations in cortisol throughout the day in the stress response. This is a saliva test.	Diagnos-Techs Lab www.diagnostechs.com
<i>Nutritional Evaluation</i>	
25-hydroxy vitamin D	LabCorp www.labcorp.com or Quest Diagnostics www.questdiagnostics.com
Red blood cell selenium, serum vitamin A, plasma zinc	LabCorp www.labcorp.com or Quest Diagnostics www.questdiagnostics.com
Essential fatty acid analysis with omega-3 and omega-6 fatty acids, saturated fats, and trans fatty acids—all of which affect thyroid function	Metametrix www.metametrix.com
<i>Yeast Testing</i>	
CDSA 2.0 by Genova and dysbiosis markers urine test from Metametrix; yeast test to make sure overgrowth is not affecting thyroid function	Genova Diagnostics www.gdx.net
<i>Mold Testing</i>	
An IgG, IgM, and IgA mold and mycotoxin antibody panel	Quest Diagnostics www.questdiagnostics.com

It is important to understand that testing can be used to help identify the underlying causes of thyroid disease as well as to help find targets for the treatment of conditions that influence thyroid function, including food allergies, gluten sensitivity, nutritional deficiencies, chronic stress, heavy-metal exposure, and hormonal imbalances. I will address each of these areas in more detail below.

What If I Am Already Taking Thyroid Hormone Replacement?

In assessing the thyroid tests themselves, it is important to understand that the interpretation of the test varies depending on whether you are taking thyroid hormones or not. You should NOT take your hormones in the morning before you do the blood test for thyroid function. Take the hormones right after you do your blood test. There are many subtleties of interpreting the tests while you are on the hormones for which you will need help from your doctor.

Special Cases: Difficult or Complex Cases of Thyroid Disorder

These tests are used by specialists to help identify more difficult or complex cases of thyroid disease. These specialized tests can be helpful in assessing thyroid function and looking for other problems that are important to identify in thyroid disease.

Each of these tests can only be given by a physician. There are no self-testing options available for these special tests.

For the initial assessment it is important to look at a comprehensive picture that includes tests for TSH, free T3, free T4, thyroid peroxidase, and antithyroglobulin antibodies. You can order these tests yourself.

In cases of questionable diagnosis where TSH may still be low or normal and other thyroid hormones are normal or low and the diagnosis may be subtle, the TRH stimulation test can be helpful. This must be ordered and performed by a physician.

Physicians, for more detailed assessment of the thyroid gland and its function, sometimes use the tests described below.

1. The Thyroid Scan

Doctors often use a thyroid scan, which is a picture of the thyroid gland taken after a radioactive dye is injected into the body and then concentrated in the thyroid area. It is usually used to assess an overactive thyroid or to look at thyroid nodules. Both severe high and low thyroid function can show up on thyroid scans as a result of the high or low uptake of the radioactive iodine.

However, this scan is not useful for diagnosing routine low thyroid conditions and is an expensive test that exposes you to radiation. It is more invasive and less useful in the initial evaluation than are thyroid blood tests. But it may be helpful for someone with potential hyperthyroid, or overactive thyroid function.

(Please note that hyperthyroidism, an overactive thyroid, is related to hypothyroidism but requires a different approach for diagnosis and therapy and is not addressed here.)

2. Fine-Needle Aspiration

If there is a lump or swelling in your thyroid gland, it can be due to a tumor or a cyst that may affect thyroid function. Fine-needle aspiration of the thyroid helps the physician evaluate abnormal cells in the thyroid gland. A tiny needle is inserted into the gland and a small amount of tissue is removed for laboratory analysis.

This method may be used for patients who have enlargement of nodules or abnormalities, to help determine whether an enlarged area is harmless, for example a fluid-filled cyst, or perhaps more dangerous and solid resulting from a thyroid cancer. If you generally have a low-functioning thyroid and your thyroid gland appears to be normal in size and shape when examined by your doctor or viewed with an ultrasound, and has no significant lumps or bumps, fine-needle aspiration is not needed.

3. Thyroid Ultrasound

The thyroid ultrasound is a less invasive test than the thyroid scan or fine-needle aspiration. It is performed by sending ultrasound waves against the thyroid gland and looking at the echoes that come back. This gives a picture of your thyroid gland that can help identify nodules, irregularities, and fluid-filled sacs, which are common in autoimmune thyroid disease. However, you can have a normal thyroid ultrasound and still have a low-functioning thyroid gland.

Once you have accurately assessed the nature of your thyroid problem, you need to start looking at ways you can treat it. This includes lifestyle changes, nutritional and supplemental support, stress management, heat therapy, reducing your exposure to environmental toxins, and, in certain circumstances, thyroid hormone replacement.

I would like to reiterate here that it is important to see a physician sooner rather than later if you find that your thyroid problem is more severe than you thought or if you are concerned that this may be the case.

With that in mind, let's begin to review the treatment program I suggest for overcoming this problem. This program is based on Functional Medicine, as I explained earlier. However, it will benefit you to have a little more background on my philosophy for treating chronic illnesses of any kind and those of the thyroid more specifically.

Treatment of a Chronic Disease: Functional Medicine and the Thyroid

The approach I use in treating thyroid disease is similar to the approach I use for treating all chronic illness, and is based on the principles of Functional Medicine. This is an entirely new way of thinking about health conditions and problems, one based on asking two simple questions:

1. If there are factors that interfere with or alter normal function in the body, how do we identify and remove those factors?
2. What is missing that is required for optimal function in any particular system of the body, and how do we provide the conditions necessary for full functioning and optimal health?

Really, it is very simple—what do you need to get rid of to be healthy, and what are you missing that you need in order to thrive? All my practice flows from these two basic questions.

“What do you need to get rid of to be healthy, and what are you missing that you need in order to thrive?”

This is different than simply asking what pill you are “missing” to treat this condition or which is the right medication or dosage for this particular problem. Common sense tells us that a high cholesterol level is not a Lipitor deficiency, or depression a Prozac deficiency. Something is out of balance.

The science of systems medicine, of Functional Medicine, is designed to assess and correct what is out of balance. It is a comprehensive approach that deals with the underlying cause of disease and not simply the suppression of symptoms. It is also based on the attempt to address all the underlying problems at the same time so that the patient can have the best outcome in the shortest period of time.

“It is a comprehensive approach that deals with the underlying cause of disease and not simply the suppression of symptoms. It is also based on the attempt to address all the underlying problems at the same time so that the patient can have the best outcome in the shortest period of time.”

For example, in thyroid disease it is critical to not just address the thyroid itself but to address food allergies, potential gluten problems, chronic stress, hormone imbalances, environmental toxins, and nutritional deficiencies. Without doing all these things, treatment of thyroid disease will often fall short of its potential to provide the patient with vital and good health.

THE FOUNDATIONS OF HEALTH: DIET, LIFESTYLE, SUPPLEMENTS, AND CREATING BALANCE IN THE CORE SYSTEMS OF THE BODY

My approach with every patient involves an assessment of the dietary influences on his or her health. I assess diet to identify both the adverse and the beneficial effects of the foods patients are eating. I question and counsel each patient about the foods that support and enhance normal function. I also help patients identify those foods that potentially alter or impair normal functioning. I then suggest avoidance or removal of those when possible.

My approach also involves identification of lifestyle techniques that may help to normalize function; these include the exercise and stress management techniques that, are critical to the health of every core system in the body.

Then I focus on the use of supplements. Supplements are meant to supplement, not replace, good health habits, diet, and lifestyle. Basic supplementation is required for everyone. This can be complemented by specific supplements for specific conditions. For example, extra selenium or vitamin D is often needed in cases of thyroid disease. (I will address all these issues in detail below.)

Herbs can sometimes be helpful as well to help normalize function. They have been used for centuries in many healing modalities such as traditional Chinese medicine, Aryurveda from India, eclectic herbal traditions from Europe, and those of Native Americans.

It is imperative also to treat other related conditions, including any hormonal imbalances, heavy-metal or petrochemical poisoning, nutritional deficiencies, food allergies, or celiac disease as well as chronic infections. Without doing this, full recovery from any illness is usually not possible.

HAVE I DONE EVERYTHING I CAN FOR THIS PATIENT?

Once this foundation has been laid, I ask myself, “Have I done everything I can for this patient? Is there anything else that may help the person to repair and normalize his or her health? Are there medications or other therapies that can be useful?”

My belief and experience are that there is no right or wrong treatment; there is only the right treatment for a particular person. This must include the full array of what is available to us in the 21st century, including the best knowledge of nutrition and lifestyle therapies, nutritional supplementation, herbs, traditional healing systems, pharmacology and medications, surgery, and other modern therapies.

My goal is to help my patients feel the best they can by whatever means necessary. But the basis of choosing treatments is an approach that deals with the underlying cause of disease and relies on optimizing function rather than simply suppressing symptoms. This is the future of medicine. The old model of making a diagnosis and finding a corresponding drug to match is quickly becoming outdated.

“The old model of making a diagnosis and finding a corresponding drug to match is quickly becoming outdated.”

Treating Hypothyroidism: A 7-Step Model for Healing

With this in mind, I would like to review my treatment and approach to low thyroid function. This is a seven-step approach:

1. Identify and treat the underlying causes.
2. Adjust your diet and understand the role of nutrition.
3. Exercise.
4. Reduce your stress.
5. Use supplements.
6. Enjoy sauna and heat therapy. My favorite saunas are available at <http://thyroid.ultrawellness.com/sunlightsaunas>.
7. Utilize thyroid replacement therapy (when medication is needed).

The first six steps of the program are applicable to everyone who is suffering from a low-functioning thyroid, no matter how slight the problem may be. The seventh step, medication, is needed in certain, more severe cases and is clearly a course you can pursue only with the assistance of a physician.

I would like to take you through each of these steps one by one so you can begin to heal your problem with hypothyroidism and overcome its chronic, debilitating effects.

STEP 1: IDENTIFY AND TREAT THE UNDERLYING CAUSES OF HYPOTHYROIDISM

1. *Hormonal Imbalances and the Thyroid*
2. *Environmental Toxins and Thyroid Function*
3. *Inflammation in the Thyroid Gland*

The epidemic of thyroid disease is increasing in America because of many different factors. It is a combination of the effects of our environment on a gland that is extremely sensitive to injury from **environmental toxins, nutritional deficiencies, and stress**.

Other **hormonal imbalances** (such as sex hormone imbalances) also have an impact on thyroid function. That is why thyroid dysfunction is so commonly associated with women's health problems, including menstrual disorders such as PMS, heavy bleeding, menopausal symptoms, and infertility.

It is important to treat the underlying causes and understand the reasons for the thyroid epidemic.

By simply addressing thyroid disease alone without addressing these underlying factors, doctors may fail to provide the best possible care. A thyroid replacement hormone being given with the expectation that everything will be normal in the context of thyroid disease is one of the reasons people do not get completely well when treated with conventional approaches.

“A thyroid replacement hormone being given with the expectation that everything will be normal in the context of thyroid disease is one of the reasons people do not get completely well when treated with conventional approaches.”

When addressing any chronic health condition, it is critical to identify and treat the underlying causes. This is particularly true in the case of thyroid disease. Without addressing these underlying causes and factors that interfere with or alter thyroid function, full recovery is often not possible.

I will review nutritional deficiencies and stress reduction in subsequent steps. For now, let's look at each of the other underlying issues and discuss the ways in which imbalances or problems in each of these areas may contribute to low thyroid function, and how you can overcome those problems.

Hormonal Imbalances and the Thyroid

An imbalance in stress hormones is the most common hormonal imbalance that contributes to hypothyroidism; as I said, we will take that up in a moment. However, sex hormone imbalances also contribute significantly to the problem.

Reproductive (Sex) Hormones and Thyroid Function

Many women's health problems, and men's health issues such as low libido and erectile dysfunction, can be related to thyroid disease. Up to 40 percent of women in America have PMS. Many millions of women experience menopausal symptoms such as hot flashes, mood swings, sleep disorder, and weight gain.

Many, many more women have dysfunctional uterine bleeding or heavy bleeding, miscarriages, infertility, and more. There are many causes for hormone imbalances (that is the subject of another report); however, hypothyroidism may contribute to a worsening of many common hormonal symptoms in both men and women.

What are the symptoms of sex hormone imbalance?

For women, the common symptoms include:

- ✓ Breast tenderness
- ✓ Fibrocystic breasts
- ✓ Hard-to-treat menopausal symptoms
- ✓ Weight gain
- ✓ Acne related to menstrual cycle
- ✓ Cramping at ovulation
- ✓ Irregular or heavy periods
- ✓ Severe PMS
- ✓ Fluid retention
- ✓ Muscle and joint pain
- ✓ History of fibroids, endometriosis, or hysterectomy
- ✓ Polycystic ovarian disease
- ✓ History of miscarriages and infertility
- ✓ Poor sleep

For men, many thyroid symptoms can exacerbate what we call andropause, or male menopause. Common symptoms include these:

- ✓ Low libido or sexual desire
- ✓ Impotence (erectile dysfunction)
- ✓ Low sperm count
- ✓ Depression and memory loss
- ✓ Fatigue
- ✓ Poor stamina for sports or other physical activity
- ✓ Decrease in muscle mass or tone
- ✓ High cholesterol
- ✓ Loss of hair in places other than on the head
- ✓ Prolonged recovery time from illness
- ✓ Urinary frequency and prostate problems
(sometimes may also be related to interactions between thyroid hormones and male sex hormones)

Therefore, it is important to address thyroid and sex hormone imbalances at the same time to optimize treatment.

I have often seen women with significant menstrual dysfunction, including irregular periods, heavy bleeding, painful periods, infertility, PMS, and more, resolve these problems once thyroid treatment is adequately implemented.

“I have often seen women with significant menstrual dysfunction, including irregular periods, heavy bleeding, painful periods, infertility, PMS, and more, resolve these problems once thyroid treatment is adequately implemented.”

There are many ways to address the balancing of sex hormones. This is the subject of another report. However, balancing your hormones is possible through improved diet, exercise, supplements and herbal therapies, and stress management.

Tests are available that find low levels of total and free testosterone for men with testosterone problems and male menopause. For women, it is possible to measure hormones to identify estrogen, progesterone, and testosterone imbalances, all of which cause many hormonally related disorders for females.

“All the hormones need to be in balance for someone to be fully healthy.”

The key is to understand that all the hormones need to be in balance for someone to be fully healthy. These include the stress, thyroid, and sex hormones in both men and women. Balancing insulin and blood sugar is another important factor in balancing thyroid function. Addressing all the hormonal imbalances can lead to the resolution of many chronic problems that often seem unrelated.

Environmental Toxins and Thyroid Function

Thyroid function can also be altered by many factors in the environment, including pesticides; herbicides; fungicides; organochlorine compounds such as polyhalogenated aromatic hydrocarbons and polychlorinated biphenyls (PCBs); chemicals in cigarette smoke; and, heavy metals such as mercury, lead, and arsenic.

These agents can all disrupt the normal metabolism and the action of your hormones in general. Thyroid hormones are particularly sensitive. Much has been written about this in the books *Our Stolen Future* (<http://thyroid.ultrawellness.com/stolenfuture>) by Theo Colborn and *Hormonal Chaos* (<http://thyroid.ultrawellness.com/chaos>) by Sheldon Krimsky. Both are good resources.

Some of these chemicals, such as PCBs and dioxin, have a structure similar to our own thyroid hormones and may imitate thyroid hormones or render them inactive. They are very prevalent in our environment and in our tissues. PCBs were banned in the United States in 1977, but exposure still occurs through contact with older transformers, capacitors, fluorescent lighting fixtures, and electrical devices and appliances.

Exposure to industrial pollution and heavy metals like mercury can come from foods such as predatory ocean fish and fish from contaminated rivers and waterways.

Dioxins are found everywhere in the environment, and most people have background levels of exposure from the air, food, or skin contact with dioxin-contaminated materials. For most of the population, 90 percent of the exposure to dioxins results from food, mainly meat, dairy products, and fish. These compounds bioaccumulate in the environment up the food chain and are found in higher concentrations in the fatty tissues of animals.

“Toxins slow metabolism and damage thyroid function.”

Toxic Chemicals

In studies of weight loss and metabolism, it was found that organochlorines such as pesticides were released from stored fat tissue. They have a negative effect on thyroid function. The increased release of toxins during weight loss and their negative effect on thyroid function may account for the fact that people often reach a plateau during weight loss.

A recent study titled “Energy Balance and Pollution by Organochlorines and Polychlorinated Biphenyls” was published in a journal called *Obesity Reviews*. The conclusion was that pesticides such as organochlorines and PCBs from industrial pollution are released from the fatty tissue where they are typically stored, poison our metabolism, and prevent us from losing weight. The researchers found in reviewing more than 63 studies that people who have a higher body mass index and lose weight will release more stored toxins.

This causes a reduction in thyroid hormone levels and increases the excretion of thyroid hormones by the liver. The toxins also compete with the thyroid hormones by blocking thyroid receptors, which are sites on your cells where the thyroid has its effect on increasing your metabolism.

In these cases, the thyroid hormones make it to the place in your body they are supposed to be, but toxins get in their way, preventing them from completing the task they are assigned to; sort of like successfully making it to the office on time only to find someone has already parked in your spot!

In addition, toxins cause problems by vying for thyroid transport proteins so that the thyroid hormones have no way of getting to their site of action—something like someone stealing your car.

The bottom line is that pesticides, PCBs, and many other environmental chemicals lower thyroid hormone levels, can interfere with their function, and consequently slow your metabolic rate.

Therefore, it is important to identify the effects of exposure to environmental chemicals as well as to find ways to enhance and optimize detoxification. Other iodine-like compounds such as chlorine, fluoride, and bromide can also interfere with thyroid function.

I encourage people to avoid exposure to chlorine and fluoride in water by drinking filtered water (see resources link to purchase filters), to avoid bromide in foods, and to eat organic food whenever possible. Chlorine, fluoride, and bromide all compete with iodine during the production of thyroid hormones by the thyroid gland.

Mercury and the Thyroid

Mercury toxicity is another common reason for thyroid dysfunction, something I have seen in many of my patients. Mercury toxicity results from, among other things, dental amalgams (silver fillings). This occurs because of the vaporization of the mercury, which is then absorbed or inhaled and stored in the body. It can interfere with thyroid function and particularly inhibits the enzyme that converts T4 to T3. It is also a direct thyroid toxin and may increase the risk of thyroid cancer.

Mercury is also found in large predatory fish such as tuna, swordfish, shark, king mackerel, and tilefish. In addition, it can be found in most river fish, in our water supply, and in the air we breathe; it is also produced by medical incinerators and cement plants.

Testing for heavy metals can be done through hair analysis, which primarily identifies methylmercury from fish consumption. A provocation challenge test using a chelating agent such as DMSA or DMPS can be used to look at heavy metals stored in the tissues. These results can be useful in assessing your overall risk of heavy-metal toxicity and determining whether further treatment is necessary.

Detoxification of pesticides, industrial petrochemicals, and heavy metals can be an important component of thyroid treatment. Toxicity needs to be identified and addressed.

Learning to support your detoxification system and eliminating the common sources of toxins from your life can go a long way toward helping you regain your health. I have written about this in my books *UltraPrevention* (www.ultrawellness.com/store/books/ultraprevention-0) and *UltraMetabolism* (www.ultrawellness.com/store/books/ultrametabolism), and have developed a detailed home program, available in *The Detox Box* (www.ultrawellness.com/store/av/the-detox-box). But here are the basics:

1. Eat organic food and organic animal products when possible.
2. Drink filtered water (reverse osmosis) and try to avoid drinking out of plastic bottles.
3. If you live in an urban environment, use an air filter (HEPA air filter).
4. Eat cruciferous vegetables daily (broccoli, collards, kale, bok choy, cabbage, etc.).
5. Boost your fiber by having two tablespoons of ground flaxseeds daily and eating an abundance of vegetables, fruit, beans, nuts, seeds, and whole grains.
6. Also, be sure you move your bowels one to two times a day.
7. Use infrared saunas regularly to help eliminate toxic chemicals and metals from your body. The brand that I personally use can be found here: <http://thyroid.ultrawellness.com/sunlightsaunas>.
8. Take a good multivitamin daily.
9. Use the herb milk thistle to help your liver detoxify.

Inflammation in the Thyroid Gland

Anything that causes inflammation can affect thyroid function and needs to be carefully addressed. Hidden inflammation in the body is an increasing problem in our population that leads not only to thyroid problems but also to obesity, heart disease, cancer, diabetes, Alzheimer's, and accelerated aging.

This hidden inflammation can be caused by poor diet, sugar, trans fats, stress, nutritional deficiencies, allergens, toxins, and hidden infections. By following the suggestions in this report, you will go a long way toward reducing inflammation and disease. For more information about inflammation, see my books *UltraPrevention*

(www.ultrawellness.com/store/books/ultraprevention-0) and *UltraMetabolism* (www.ultrawellness.com/store/books/ultrametabolism). Without this and other underlying causes being addressed, thyroid function often cannot be fully normalized.

Gluten, Food Allergies, and the Thyroid

Among the most common causes of thyroid dysfunction are gluten and food sensitivities. Both of these cause inflammation that impairs thyroid function.

Gluten is a common protein found in wheat, barley, rye, oats, spelt, and kamut that can cause autoimmune responses in the body, including Hashimoto's thyroiditis, a common autoimmune thyroid condition. While there are many causes for this autoimmune condition, about 30 percent of the patients with it have an abnormal reaction to gluten. This is caused by an inherited genetic susceptibility to inflammation from eating gluten, which makes you susceptible to an immune reaction to this protein found in wheat and other grains. This condition goes mostly unrecognized. The average time to diagnosis is 11 years, and it is not uncommon for people to suffer with this for their whole lives, never being diagnosed.

When the normal balance in your immune system is disrupted through stress or infection, your gut may be exposed to these antigens or proteins and the autoimmune response initiated. Gluten can cause many, many autoimmune diseases and is often a significant factor in thyroid dysfunction.

When your digestive system—your gut—is malfunctioning, foods you eat aren't completely digested. This allows undigested particles called peptides to enter your bloodstream. Your body recognizes these peptides as antigens—something that shouldn't be there in the body—and then releases little armies of antibodies to go after these antigens and help remove them from your body.

The problem is, sometimes these undigested peptides have a chemical makeup that's similar to molecules found in your thyroid, so when your body gears up to fight the undigested food particles, it accidentally attacks molecules that may be in your thyroid as well.

Other more mild food sensitivities, including IgG food sensitivities, which are a type of delayed allergy, can cause thyroid problems. They should be assessed and identified by blood tests or elimination diets.

Eliminating the offending foods for three months while repairing the gut with probiotics (healthy bacteria), omega-3 fats, zinc, and other nutrients can reduce or eliminate the effects of these temporary delayed food sensitivities. Getting rid of the problem foods in your diet can have a dramatic impact on your health and well-being, helping not only your thyroid gland, but improving your energy and digestion and relieving headaches, arthritis, sinus problems, irritable bowel syndrome, acne, eczema, and more.

Testing can be done for gluten and food sensitivities (see the table above for recommendations).

Mild cases of gluten sensitivity or allergy may be present in up to 30 percent of the population, though only 1 percent is severely affected. A celiac panel is a key test to be used to identify gluten problems. This includes IgG and IgA antigliadin antibodies and IgA tissue transglutaminase antibodies. Total IgA levels should be measured to rule out an IgA deficiency, which can make it appear as though you don't have a gluten problem when you really do. See information on testing, above.

If the first set of tests for gluten problems are negative, further testing should be done to help identify more subtle problems with gluten. These include stool testing to look at IgA antigliadin antibodies and IgA tissue transglutaminase antibodies. Gene testing that looks at HLA DQ8 and DQ2 genes that are found in 95 to 98 percent of patients with celiac disease can help in harder-to-diagnose cases.

A new kind of testing not done by most allergists detects hidden and subtle food reactions. This is called IgG food sensitivity testing. It is useful to help identify common food reactions. Although these tests are not perfect, they can help identify foods that may activate your entire immune response, causing inflammation throughout your body and leading to thyroid dysfunction. Getting off the foods for which you test positive for 12 weeks can allow your immune system to heal. Then you can often reintroduce them and eat them from time to time without a problem.

Infections and the Thyroid

Some viral or fungal infections, including yeast overgrowth, Candida, and even environmental molds, can also interfere with thyroid function. All these may interfere with normal thyroid metabolism, particularly conversion of T4 to T3, which is the active hormone.

Testing for mold and mold toxin antibodies is available, as are urine testing for yeast by-products and stool tests to identify yeast overgrowth in the gut (see the table above for recommendations). If you have elevated antibodies to molds or mold toxins, or you have by-products of yeast in your urine or growth of yeast in your stool, it is very important to treat the condition by getting out of your moldy environment, eating a diet low in sugar and yeasted products, using herbal or prescription antifungals, and using probiotics, or healthy bacteria.

The best herbal treatments for yeast overgrowth include oregano, undecylenic acid, caprylic acid, and berberine. Prescription antifungals include nystatin, Diflucan, Sporanox, and Lamasil.

Once you have identified and begun to address the underlying problems that are contributing to hypothyroidism, you need to look at your diet and the critical role nutrition plays in thyroid maintenance.

STEP 2: SUPPORT YOUR THYROID THROUGH OPTIMAL NUTRITION

In Functional Medicine, it is important to understand that the body requires certain raw materials to function optimally. Without those raw materials, normal function and metabolism cannot occur, normal gene function cannot occur, and disease often arises.

“The body requires certain raw materials to function optimally.”

This is certainly true in thyroid disease, where multiple nutrients are needed in various steps along the way, from the production of thyroid hormone and the conversion of the inactive form to the active form of the thyroid hormone to the action of the thyroid hormone on the receptors on nucleus of the cell, leading to gene transcription and increased metabolism. Now I will show you how these nutrients play a role in each of the steps, from the production of the thyroid hormones to how they work in the body.

The production of thyroid hormone requires tyrosine, an amino acid that comes from protein we eat and from iodine from sea vegetables (seaweed) and fish. The conversion of T4 to T3 requires a number of nutrients, especially selenium, which can be found in Brazil nuts, scallops, smoked herring, and smelt.

Vitamins A and D are critical in activation of the thyroid receptor and in making your thyroid hormone turn on the genes that improve your metabolism. Vitamins A and D combine with the active hormone T3. That allows the hormone to “dock” on its receptor or landing spot on the cell. This is how nutrients “talk” to your genes.

All these pieces must be functioning optimally for the body to respond properly. Therefore, it is critical that you use specific foods and supplements to help optimize the thyroid function.

“Diet has a significant impact on thyroid function. Using specific foods and supplements to optimize the thyroid function is critical.”

Diet has a significant impact on thyroid function. Eating certain foods can impair your thyroid function, making your problem that much more difficult to overcome. On the other hand, there are some foods you can eat that will help give you the specific nutrients you need to support your thyroid.

I would like to go through these foods in detail, explain why it is important to make these changes in your diet, and offer some suggestions about how you can do that.

Foods That May Impair Thyroid Function

Dietary factors that can interfere with thyroid function, as we discussed earlier, include gluten and food allergies. These need to be identified and addressed if they are a problem for a particular person. They are not always an issue but can be and need to be evaluated in any case of thyroid problems.

In addition, there are a number of foods that contain substances called goitrogens, which interfere with the utilization of iodine by the thyroid gland. These include root vegetables such as turnips and rutabagas, foods in the cabbage family, other brassicas (including broccoli, collards, mustard greens, and kale), and soybeans, peanuts, pine nuts, and millet. It is important to note that cooking inactivates these goitrogens and that in an ordinary diet these foods cause no significant problems.

If large quantities of any of these substances are eaten, they have the potential to alter thyroid function. However, the benefits of foods such as soybeans, broccoli, collards, and kale are so great that I do not advise eliminating them but simply monitoring your thyroid function on a diet that includes regular but not excessive amounts. A normal amount of soy would be one or two servings a day, which is half a cup. One or two cups of dark green leafy vegetables a day constitutes a healthy serving of those. These amounts would not cause thyroid dysfunction.

Foods That Help Thyroid Function

Conversely, there are many foods that help normalize and support thyroid function that can be incorporated into your diet. Below, I outline the best food sources of all the essential nutrients needed for optimal thyroid function.

Iodine

Iodine, as mentioned previously, is a critical nutrient that can be obtained from iodized salt; however, it is not found naturally in salt. It is found naturally in sea vegetables and seaweed, including foods like hijiki, wakame, arame, dulse, nori, and kombu.

Omega-3 fats

In addition, omega-3 fats are important in the production of thyroid hormones, and deficiencies in these important fats affect thyroid function. Therefore, adequate amounts of omega-3 fats, from foods such as walnuts, flaxseeds, sea vegetables, and particularly wild fish such as sardines and wild salmon, are very important for thyroid health.

Vitamin D

Vitamin D is a critical factor in thyroid function as it helps the T3 thyroid hormone bind to the receptor on the nucleus that controls gene function and our overall metabolism. Vitamin D deficiency affects up to 40 percent of Americans. It is much more common in northern climates. It is also widely underdiagnosed and undertreated.

Treatment often requires much higher doses of vitamin D than is commonly assumed. Vitamin D levels (25-hydroxy vitamin D test—see chart above for testing information) should be between 50 and 75 ng/ml (nanograms per milliliter) in the blood. Doses of vitamin D from 5000 to 10,000 units a day for a number of months may be required to get the levels up. Long-term maintenance doses of 1000 to 2000 units a day are usually adequate.

When your level is low, high doses for a few months are necessary to get the levels back to normal. You should measure your calcium, phosphorus, and vitamin D regularly with the help of your physician to prevent overdosing. Too much vitamin D can cause a high calcium level, which can be dangerous because the body needs to keep its blood calcium within a very narrow range for health.

In addition to contributing to hypothyroidism, low vitamin D can also cause many other problems, including osteoporosis, cancer, heart disease, fatigue, depression, seasonal affective disorder (SAD), and fibromyalgia.

Food sources for vitamin D include fatty fish such as mackerel, sardines, and herring. Sun exposure helps the skin produce vitamin D, although this must be considered against the risk of skin cancer due to excessive sun exposure. Our ability to make vitamin D in our skin with the help of the sun is reduced dramatically as we age.

Other Important Nutrients: Selenium, Zinc, Vitamin A, and B Vitamins

Selenium is also critical, as it helps convert T4 to T3 and allows the production of the active thyroid hormone. Sources of selenium in the diet include smelt, smoked herring, scallops, and Brazil nuts. Adequate supplementation is important as well. (See below for more information.)

Zinc is also important for thyroid function and can be found in adequate levels in seafood (especially oysters), oatmeal, chicken, liver, spinach, nuts, and pumpkin seeds.

B vitamins are also critical for thyroid function. These are found in whole grains, liver, and green leafy vegetables.

Dandelion greens have vitamin A, which is also important for the binding of thyroid hormone to the receptor on your cells and is an important nutrient in thyroid function.

Making the necessary changes in your diet is an important step on the road to recovery. I recommend that anyone who is suffering with a low-functioning thyroid make the changes above regardless of the severity of his or her condition. These changes can help balance your thyroid and overcome the health problems you face.

Another important component of treatment is coping with adrenal exhaustion and stress. Stress hormones have a serious impact on the thyroid, and learning how to relax can help you overcome these problems.

Experience the Power of Food

The most dramatic way to see how the power of food can change your health quickly and change your life forever is to do a 4-week “experiment”. I call it the “Addition/Elimination Diet”. You ADD all the foods that support your health. In the case of hypothyroidism, you include some very unique and specific whole foods. You also ELIMINATE all the foods that block or interfere with your health—in the case of hypothyroidism you eliminate foods that interfere with your thyroid function.

I find that starting any health program this way achieves the most dramatic and profound changes. If I could package this approach in pill it would be the world's all-time best blockbuster drug. Food is THAT powerful. Most of us have never tried to, all at once, take out the foods that make us sick and add the foods that turn on genes that almost instantly create health. When we do, the results are extraordinary.

The way to accomplish this is disarmingly simple. It is the basis of what I call The UltraSimple Diet. You just:

Take out the Bad Stuff

Eliminate all edibles that are NOT real food.

- That means processed foods; junk foods; artificial sweeteners; trans fats; anything in a box, package, or can; and anything with ingredients you don't recognize or can't pronounce.
- It means eating ONLY whole foods – not derivatives of real whole food like refined sugars and flours or sweetened drinks.
- It also means taking a 4-week break from uppers and downers – stimulants and sedatives – like caffeine and alcohol (and obviously nicotine)
- And it means eliminating all the foods that many of us have developed allergies to – foods that can interfere with thyroid function by creating inflammation – such as gluten, dairy, eggs, corn, yeast, citrus and nightshades.

Add the Good Stuff

Include foods that optimize your health and create UltraWellness.

- Eat only whole, unprocessed, real foods
- Eat mostly plant foods -- vegetables, fruits, nuts, seeds, whole grains, and beans
- Eat small amounts of lean animal protein – sardines, wild salmon, lean poultry
- For your thyroid add special foods like sardines, scallops, Brazil nuts, pumpkin seeds, seaweed like hijiki, wakame, arame, dulse, nori, and kombu, dandelion greens, and other green leafy vegetables.

STEP 3: ELIMINATE ADRENAL EXHAUSTION AND MINIMIZE STRESS

The thyroid and adrenal glands are very interconnected and related in their function. It is important to treat both for full recovery.

Many of us are under chronic stress, which results in increased adrenalin and cortisol in the body. This increase in cortisol has a negative impact on your thyroid function, leading to an increased need for thyroid hormone during chronic or even acute stress. What usually happens is that thyroid hormone levels drop with stress, while the need for thyroid hormones increases.

“Thyroid hormone levels drop with stress, while the need for thyroid hormones increases.”

The stress response is also known as the fight-or-flight response, because it is designed to help the body respond to danger or injury. In the right circumstances, it is a very beneficial function of the body.

But when stress becomes chronic, the flood of the stress chemicals cortisol and adrenalin produced by the adrenal gland has many negative effects on the body. In addition to the interference it causes with thyroid hormones, it can also contribute to accelerated aging and increases in obesity, blood pressure, cholesterol, blood sugar, and more.

Dealing with adrenal dysfunction (an increased or exhausted stress response) in treating thyroid disease is very important. It is clear that increases in stress reduce your thyroid function and amplify the symptoms of hypothyroidism. Therefore, I recommend the regular use of stress reduction techniques as well as some other self-treatment remedies as part of an integrated approach to thyroid disorders.

I include specific recommendations, in *UltraMetabolism* (www.ultrawellness.com/store/books/ultrametabolism), on managing the stress response. However, I would like to give you a brief overview of the condition and the treatment methods here, because it is such an important issue when treating a thyroid disorder.

The Symptoms of Adrenal Dysfunction

Adrenal insufficiency, or dysfunction, is common, and symptoms can include weakness, lack of libido, allergies, dark circles under the eyes, low blood pressure, low blood sugar, food and salt cravings, dizziness upon standing, poor sleep, the “tired but wired syndrome,” trouble recuperating from stress, poor stamina, poor recovery from exercise, lower immune function, anxiety, depression, being easily startled, premature aging, and muscle and joint pains.

Always Treat the Thyroid and Adrenals at the Same Time

These symptoms are also often seen with low thyroid function. The conditions and symptoms of low thyroid and poor adrenal function tend to interact to produce even worse symptoms.

Treating the thyroid without addressing the adrenals may make you feel worse initially. That is because thyroid hormones will stimulate your metabolism, and if you are unable to cope with this increase in your metabolism you will often feel worse.

It is critically important to address adrenal gland health and the health of your autonomic, or automatic, nervous system, which controls unconscious functions such as breathing, digestion, heartbeat, and the flight-or-flight or stress response. Otherwise, a full recovery is not possible.

Treating Adrenal Dysfunction

Dealing with stress is a critical component of normalizing thyroid function. The following steps are helpful:

- **Identify and reduce the causes of stress.** It is important to identify the causes of stress in your life, which can include your job, relationships, financial situation, children, various psychological disorders, and the state of the world. Other causes are physical stress from being overweight; chronic illness; allergens; toxins; poor diet items such as sugar, high-fructose corn syrup, and trans and saturated fats; chronic infections; and alcohol, tobacco, and other drugs. It is important to try to identify these and reduce the effects of these things by eliminating or reducing them from your life when possible.
- **Balance your blood sugar** by reducing refined sugars and high-glycemic-load carbohydrates; these are carbohydrates that are quickly turned to sugar in your blood, such as white flour and white sugar and trans and saturated fats.
- **Include foods like** wild fish, high-fiber foods, dark green leafy vegetables, fruits, nuts and seeds, whole grains, beans, and flaxseeds, which can all help you overcome physical stressors.
- **Get regular aerobic exercise to burn off stress hormones.** This can be done with a 20-to-30-minute walk in the morning. Thirty minutes five times a week is ideal. (See more on exercise below.)
- **Get enough sleep,** at least seven to eight hours a night, to avoid increased hunger and reduce stress hormones.

- **Practice the rhythm method of waking up and sleeping at the same times every day, and eat at regular times** during the day. This keeps your stress hormones in balance.
- **Expose yourself to bright sunlight or full-spectrum light** for 20 minutes every morning to rebalance your circadian rhythm, which is important in keeping your stress hormones in balance.
- **Practice active relaxation every day.** Doing something, even if it is only for five minutes, such as breathing exercises, yoga, or progressive muscle relaxation, is very important. The use of biofeedback devices such as Stress Eraser (<http://thyroid.ultrawellness.com/stresseraser>) is also helpful in modulating the relaxation response.

I have created a separate bonus on active relaxation to go along with this guide, titled “How to Boost Your Thyroid through Simple Relaxation.” It will give you some powerful tools for reducing your stress levels and improving your thyroid condition.

This is one of the easiest, most important, and *most overlooked* aspects of thyroid treatment. I **strongly** urge you to engage in active relaxation if you want to fully heal from your thyroid condition.

- Also **try saunas** (<http://thyroid.ultrawellness.com/sunlightsaunas>) and steam baths to help reduce the stress response and balance your nervous system. (This is also important for thyroid recovery, and there is more information in step 6.)
- **Try herbal remedies for stress.** A number of different herbs, including ginseng, licorice, rhodiola, ashwagandha, and other adaptogens, can be very helpful in normalizing and balancing the stress response.
- **Add supplements.** Taking a basic multivitamin, calcium, magnesium, and fish oil is important. You may also need some extra B vitamins, magnesium, vitamin C, and zinc, which can all help balance the stress response.
- **Testing is sometimes helpful** to identify the level of stress response. Tests that are available include salivary cortisol testing throughout the day (adrenal stress index), or even a 24-hour urine cortisol test. These can be used to identify the level of cortisol and stress hormone response in your system. This can all be done through self-testing (see the table above for recommendations).

Overcoming the effects of adrenal dysfunction and managing your stress are self-healing techniques that can not only help your thyroid but have a tremendous impact on the rest of your life as well. I recommend these techniques for everyone.

To continue with the treatment program for hypothyroidism, I would now like to move on to step 4, below.

STEP 4: ENGAGE IN THYROID-STIMULATING EXERCISE

Exercise is particularly important in the treatment of low thyroid function because it stimulates the thyroid gland to secrete more thyroid hormone and it increases the sensitivity of all your tissues to thyroid hormones.

In fact, many of the health benefits of exercise may be the results of improved thyroid function. For those who have been chronically dieting, exercise is critical to increase metabolism. Chronic dieting decreases your metabolic rate as the body attempts to conserve fuel. Exercise has been shown to prevent the reduction in metabolic rate in response to dieting.

Start with just walking. A 30-minute brisk walk is a great form of exercise, and all you need is a pair of shoes (and maybe not even those if you live near a beach!). As you become more fit, increase the speed and duration and vary the type of exercise to include activities such as jogging, biking, swimming, sports like tennis, or anything that is fun.

I also encourage you to discover such strength-training activities as weight lifting, calisthenics, or yoga to build muscle, which helps your metabolism and thyroid function. Some yoga poses, particularly inversion poses like the plow or shoulder stand, can increase thyroid circulation.

In addition to the exercise, diet, and stress reduction activities discussed in this guide, nutritional supplementation is also necessary to treat a low-functioning thyroid. I will address this in detail in the next step.

STEP 5: USE SUPPLEMENTS FOR ENHANCED THYROID SUPPORT

As I have reviewed in my books *UltraMetabolism* and *UltraPrevention*, I believe that everybody needs basic supplementation, including a high-quality multivitamin and mineral supplement, calcium, and magnesium with vitamin D, as well as omega-3 fatty acid supplements or fish oil supplements. These nutrients will help the thyroid function optimally and are safe to take with medications.

“I believe that everybody needs basic supplementation.”

I will start by explaining my program for basic nutritional support, and then I will identify exactly which additional supplements you may need to support your thyroid function.

Basic Nutritional Support

Ninety-two percent of Americans are deficient in one or more essential vitamins and minerals, and more than 99 percent of Americans are deficient in the essential omega-3 fatty acids. Therefore, I recommend that *all* people take a basic multivitamin and multimineral, calcium, magnesium with vitamin D, and omega-3 fats as the foundation for good health and a healthy metabolism. Ample scientific evidence supports this recommendation, including guidelines published in the *New England Journal of Medicine* and the *Journal of the American Medical Association*.

I recommend that everyone follow these recommendations for basic nutritional support. Nearly all people need these basic supplements to create and maintain good health and optimal metabolism. The food we eat today simply does not give us all of what we need in terms of vitamins and minerals. So many parts of your metabolism depend on vitamins, minerals, and essential fats that you cannot have an optimal metabolism or long-term health without those things.

These are all safe to take with medications. They are simply part of your natural physiology and biochemistry needed for optimal health.

If you are interested in supplements and want to get started on a supplement regimen now, consider the following:

1. A multivitamin and multimineral combination
2. A balanced, absorbable calcium, magnesium, and vitamin D supplement
3. An omega-3 fatty acid supplement

1. Multivitamin and Mineral

A good multivitamin and multimineral generally contains the following:

- ✓ Mixed carotenes (alpha, beta, cryptoxanthin, zeaxanthin, and lutein), 15,000–25,000 units
- ✓ Vitamin A (preformed retinol), 1000–2000 international units
- ✓ Vitamin D3, 400–800 international units
- ✓ Vitamin E (mixed tocopherols, including d-alpha, gamma, and delta), 400 international units
- ✓ Vitamin C (as mixed mineral ascorbates), 500–1000 milligrams
- ✓ Vitamin K1, 30 micrograms
- ✓ B1 (thiamine), 25–50 milligrams
- ✓ B2 (riboflavin), 25–50 milligrams
- ✓ B3 (niacin), 50–100 milligrams
- ✓ B6 (pyridoxine), 25–50 milligrams
- ✓ Folic acid (ideally as mixed with folic acid 5-methyltetrahydrofolate), 800 micrograms
- ✓ B12, 100–500 micrograms
- ✓ Biotin, 150–1000 micrograms
- ✓ Pantothenic acid, 100–500 milligrams
- ✓ Iodine, 25–75 micrograms
- ✓ Zinc (as amino acid chelate), 10–30 milligrams
- ✓ Selenium, 100–200 micrograms
- ✓ Copper, 1 milligram
- ✓ Manganese, 5 milligrams
- ✓ Chromium (ideally as chromium polynicotinate), 100–200 micrograms
- ✓ Molybdenum, 25–75 micrograms
- ✓ Potassium, 50–100 milligrams
- ✓ Boron, 1 milligram
- ✓ Vanadium, 50 micrograms
- ✓ Inositol, 25–50 milligram
- ✓ Choline, 100–200 milligrams

Keep in mind that it usually requires the intake of two to six capsules or tablets a day to obtain adequate amounts. Some people may have unique needs for much higher doses that need to be prescribed by a trained nutritional or Functional Medicine physician.

2. Balanced Absorbable Calcium, Magnesium, and Vitamin D

In addition to a multivitamin and multimineral, you will need to consider taking additional calcium, magnesium, and vitamin D. They are usually found packed together in one supplement. I recommend the following:

- ✓ Calcium citrate, 800–1200 milligrams per day
- ✓ Magnesium amino acid chelate (aspartate, glycinate, ascorbate, or citrate), 400–600 milligrams per day
- ✓ Vitamin D3, 400–800 international units a day (in addition to what is in the multivitamin, because so many people are significantly vitamin D deficient)

3. Omega-3 Fatty Acids

Finally, I recommend supplementing your intake of omega-3 fatty acids. They are so difficult to come by in our modern diet that supplements help almost everyone. Try the following:

- ✓ EPA/DHA (approximately 400mg/200mg ratio per capsule), one to four capsules a day (this must be from a reputable company that certifies purity from heavy metals and pesticides)

Additional Supplements

Depending on a person's overall diet, nutritional status, and test results, I often recommend other supplementation as well to help support thyroid function. If you have a deficiency of any of these nutrients, supplementing with additional amounts can have a significant impact on your thyroid function. For example, selenium can help convert the inactive to the active thyroid hormone, and vitamin D can help boost thyroid hormone action at the cellular level. These special thyroid-boosting nutrients include the following:

Adequate levels of **selenium, up to 200 to 300 mcg a day.**

Vitamin D3 is important to raise the blood level of 25-hydroxy vitamin D to 50 to 75 ng/ml. This may require high doses in the short term to fill the body's reserves of vitamin D. Doses **between 1000 and 2000 units a day can be used for long-term maintenance, and doses between 5000 and 10,000 units a day** may be used safely for short-term treatment (three to six months). This needs to be monitored with 25-hydroxy vitamin D levels, calcium, phosphorus, and parathyroid hormones to make sure there is not overtreatment.

Adequate **zinc** is important as well; **take between 20 and 30 mg a day.**

Iodine, as mentioned previously, can be useful as a supplement at **between 75 and 150 mcg a day.**

B complex is important, particularly a formula containing riboflavin and niacin, which are important in thyroid function. A balanced B complex formula is available from many companies. I would recommend against a straight B 50 or B 100—because you may need 400 mcg of folate and only 25 mg of B6 rather than 50 or 100 mg of everything. A good multivitamin with the doses of B vitamins I recommended above will usually be adequate, unless your diet is very poor or you are under a lot of stress.

Vitamin A in approximately 2500 to 5000 units of retinyl palmitate a day helps support thyroid function.

Please note that these are the total amounts that should be taken in all supplements combined. Make sure you are not overdosing; review the doses in other supplements you may be taking and check to see that the total amount of all the supplements you take for any one does not exceed the total dosage listed. Be sure to check with a trained health care professional before changing any medications or supplements. Pregnant women should avoid ALL supplements or medications unless they are reviewed with their doctor first.

Herbal Therapies

Herbal therapies in the context of thyroid disease are less useful except in the treatment of other conditions that may promote thyroid dysfunction, including imbalances in sex hormones and stress hormones, or as treatments to enhance detoxification from exposures to pesticides and heavy metals.

Sauna and heat therapy is another excellent treatment method for treating a low-functioning thyroid, and I would like to give you some information on this in the next step.

STEP 6: ENJOY SAUNA AND HEAT THERAPY TO ELIMINATE TOXINS

In addition to the steps already addressed in this guide, saunas or steam baths are often a critically important method of reducing the effects of toxins on thyroid function by helping your body eliminate petrochemical toxins and metals including PCBs, pesticides, and mercury.

It is clear from the research that as you lose weight these toxins are released from stored fat tissue and interfere with thyroid function. By using saunas and enhancing your detoxification capacity, you will be able to improve your thyroid function.

You can use such saunas as dry saunas or steam baths, or even use far-infrared saunas that promote detoxification at lower temperature. These can be purchased for your home from <http://thyroid.ultrawellness.com/sun-lightsaunas> and can be a useful adjunct to increasing metabolism, balancing stress, improving detoxification, and helping with weight loss and chronic health conditions.

Heat therapy is an underutilized modality in medical treatment but has been used widely for centuries in many cultures.

What follows is a step-by-step treatment of how to take saunas or steam baths at your local gym. As an alternative approach I have also described how you can do detoxifying baths in your homes. This later option isn't as effective as a sauna, but it can still be a helpful form of detoxification.

Sauna or Steam Baths

- ✓ Find a health club or gym near you that has a sauna or steam room.
- ✓ Minimize alcohol, caffeine, sugar, and processed foods during any regular sauna therapy protocol.
- ✓ Avoid eating two hours before and one hour after heat therapy.
- ✓ Engage in exercise before your sauna or steam bath and massage therapy afterward to maximize the benefits of the therapy.
- ✓ Use a skin brush or loofa sponge to help with the excretion of toxins and exfoliation of dead skin after the sauna, steam, or bath.
- ✓ Drink at least sixteen ounces of purified water before entering the sauna.
- ✓ Drink water during the treatment if you can and at least sixteen ounces after the therapy of help flush the mobilized toxins through your kidneys and circulation. Drink more if you are thirsty.
- ✓ If you are generally healthy, start with ten minutes and increase by five minutes daily to a maximum of thirty to forty minutes.
- ✓ If you are chronically ill or take medication, be sure to get your doctor's permission and start with five minutes. Then increase gradually as tolerated.
- ✓ Sauna temperatures should be no higher than 140 to 150 degrees for those with environmental illness or a history of increased toxic exposures.
- ✓ Far infrared saunas are lower temperature and may be more effective and more easily tolerated than regular saunas for liberating stored toxins.
- ✓ Shower thoroughly after the sauna to remove the liberated toxins from your skin.
- ✓ If you are doing regular saunas, take a multimineral at a high dose because of the loss of trace minerals in the sweat. Calcium, magnesium, zinc, and potassium are especially critical.
- ✓ Take a multivitamin to help with the processing of liberated toxins.
- ✓ Try 100 milligrams of niacin (vitamin B3) about half an hour before entering the sauna. Use the short-acting form. This will cause a flushing reaction that may include a prickly, itchy sensation in the skin. It is not an allergic reaction, nor is it dangerous. This increases circulation and dilation of the skin capillaries and lasts about an hour. If you use this regularly, you will need to increase the dose to get the beneficial flushing reaction. This can greatly speed the detoxification process.
- ✓ Make sure you get enough fiber and have at least two bowel movements a day during this process.
- ✓ Try taking two to six capsules of activated charcoal by mouth just before the sauna to bind toxins released in the bile.
- ✓ For those needing an intensive detoxification program, daily saunas for six to eight weeks can be dramatically helpful. Then follow up with once-a-week maintenance therapy afterward.
- ✓ Some people have symptoms from the release of toxins including skin rashes, headaches, fatigue, nausea, irritable bowel, confusion, or memory problems. If you experience these side effects, take buffered vitamin C.

Detoxifying Baths

This is a poor man's sauna. Done regularly and properly, detoxifying baths in your home can be profound aids to restoring vital health.

Follow these guidelines:

- ✓ Use a filter if you have chlorinated water because of the toxic chloroform released. You don't want to compound the problem.
- ✓ Clean the bathtub with nontoxic cleaning materials. (I recommend Seventh Generation or Earth Friendly Products.)
- ✓ Use water as hot as you can tolerate and make it as deep as possible. You want to be immersed up to your neck.
- ✓ Start with five minutes in the bath at a time.
- ✓ Drink eight ounces of filtered water before, during, and after the bath.
- ✓ Shower with soap, wash your hair, and perform skin brushing after the bath to remove toxins.
- ✓ Take 2000 milligrams of buffered vitamin C after your bath to help with detoxification.
- ✓ Use Epsom salt (magnesium sulfate). Start with a quarter of a cup and build up to two cups in the bath. The magnesium is absorbed through the skin, as is the sulfate. Both are critical for detoxification. This process also increases circulation and perspiration.
- ✓ Add eight ounces of baking soda (sodium bicarbonate) to the bath to help with acid/alkaline and mineral balance.
- ✓ Get out of the bath slowly. You might feel dizzy or weak because your blood vessels are all dilated.
- ✓ Add essential oils such as lavender, geranium, or sandalwood to facilitate relaxation. For a more invigorating bath try juniper, cinnamon, bergamot, or rosemary. Some commercial blends, designed for detoxification, are also available. Use ten drops in a hot bath. Before you use an essential oil, put a few drops behind your ear and leave for a day to check for an allergic reaction.
- ✓ Consider trying other forms of hydrotherapy, such as alternating hot and cold showers. Begin with a warm shower and increase until it is as hot as you can tolerate. Then switch to a cold shower for about fifteen seconds. Then switch back again. Repeat this several times.
- ✓ Cold immersion therapy can also boost immunity and help with fatigue, chronic pain, poor circulation, and menopausal symptoms.

STEP 7: UTILIZE THYROID REPLACEMENT THERAPY

After you have fully evaluated your symptoms and physical signs; you have had adequate thyroid testing; you have looked for and addressed other conditions that influence your thyroid function, including increased stress and sources of inflammation such as gluten or food allergies, infections, environmental toxins, and other hormonal imbalances; and you are still symptomatic, the question is, "What next?"

Though many people can normalize their thyroid function without medication by addressing the issues outlined in this report so far, some people do need thyroid hormone replacement. For that reason, it is important to be as informed as possible about how these medications work, what kinds of thyroid formulations are available, and what to talk with your doctor about if it comes to the point that you need thyroid hormone replacement.

In this section, I will review each of these elements of thyroid replacement therapy. First, I would like to give you some grounding by explaining how medications work.

There are two basic categories all medications fall into. These are listed below:

1. Drugs that interfere with or alter some normal function in the body

These are the typical medications such as beta-blockers, anti-inflammatories, antibiotics, ACE inhibitors, etc. They alter our basic biology by stopping or interfering with a normal process. This can be helpful in extreme situations, but most of the time, if we can identify the causes of illness and find the things the body needs, these types of medications will not be needed.

2. Substances that support normal function in the body

The second class of medications, drugs, or substances includes those that enhance, normalize, or optimize some function of our biology.

In the case of thyroid treatment, it is important to recognize that thyroid hormone is a part of your normal physiology and that replacement of thyroid hormone to adequate physiologic levels is not a pharmacological intervention but is a functional intervention. What this means is that thyroid hormone is essential for your body to function optimally.

When the levels are low or the function of the thyroid is weak, extra support can help you regain balance. These drugs are designed to help normalize and optimize the normal systems and processes in your body. Your body has receptors and systems for managing and dealing with thyroid hormone that are different from medications. It is important to understand this as you embark on treatment that may include thyroid hormone replacement therapy.

With that said, it is important to recognize that thyroid hormone treatment should be highly personalized and individualized. What follows are some guidelines about how you might do that.

Personalizing Thyroid Hormone Treatment

While there are some general starting points and ways of evaluating treatment and making choices about the right hormone preparation, it is important to understand that not everybody responds to the same treatment in the same way.

One of the basic tenets of Functional Medicine is biochemical individuality and personalized medicine. That means this is a patient-centered health care approach that helps to address individuals' needs based on their own unique situations, genetics, environment, and lifestyles. There is no health condition in which this is more important than in the treatment of thyroid disease, particularly hypothyroidism.

“One of the basic tenets of Functional Medicine is biochemical individuality and personalized medicine. There is no health condition in which this is more important than in the treatment of thyroid disease, particularly hypothyroidism.”

Treatment Options: Choosing the Right Hormone Preparation

The options for treatment of hypothyroidism using medication include the following:

1. Use of T4

This is the treatment commonly used by physicians in the form of **Synthroid, Levoxyl, Levothroid, Unithroid, and levothyroxine**, and is the established treatment in current medical practice.

It is assumed that the T4, which is the inactive thyroid hormone, will be converted by the body to T3, the active hormone. However, you have seen that many factors can interfere with this, such as nutritional deficiencies of selenium, omega-3 fatty acids, and zinc; yeast or molds in the environment; heavy metals; petrochemical toxins; and stress.

Given our modern world and society, it is not uncommon for patients to receive only partial benefit from T4 treatment alone. They often have inadequate levels of T3, which perpetuates the cycle of hypothyroidism and poor health.

2. T3 therapy

T3 therapy alone is often too stimulating. It has been used in the treatment of depression by psychiatrists in the form of **Cytomel**. This is a very short-acting form of T3 that can cause palpitations, anxiety, irritability, and sleeplessness, and is often too strong to use alone. It can, however, be used safely in small doses along with Synthroid or Levoxyl. This combination of T3 and T4 is helpful in some patients.

In addition to the short-acting T3, there is **sustained-release, or long-acting, compounded T3** that is made by special pharmacies and can be used to help customize treatment of patients who need subtle changes in their doses to create the best outcome.

3. Combined T4 and T3 therapy

This is my preference in practice. The exact ratio of T4 and T3 is in debate, given that most of the thyroid hormone produced by the body is T4 and there is only a small amount of T3 made in the thyroid gland.

Some people hypothesize that the ratio should be in the 93 to 7 percent or 98 to 2 percent range for T4 to T3, respectively. However, in practice, I find that a combination of hormones in a glandular product that has been around for more than half a century, called Armour Thyroid, can be an effective treatment.

Armour Thyroid is a combination of thyroid hormones including T4, T3, and T2 (a little-known product of thyroid metabolism that is also important in thyroid function). It is a prescription drug that is made from desiccated, or dried, porcine thyroid and contains a full spectrum of thyroid hormones. The dosage ranges from 15 to 180 milligrams (mg), depending on the person.

Many physicians still hold the outdated belief that this preparation is unstable and the doses are difficult to monitor. This was true of the old preparation of Armour Thyroid but is not true of the new one. See www.armourthyroid.com for more information.

Often, if a patient is symptomatic (even if his or her tests are normal) and I am highly suspicious of thyroid dysfunction based on the patient's history, symptoms, physical examination, and other factors, I might use a trial of thyroid hormone for three months to see if the patient improves.

Once medication is started, it is not necessary to take it for life, which is another common misperception. Once all the factors that disturb thyroid function have been corrected, you may be able to reduce or discontinue the thyroid hormone.

“Once all the factors that disturb thyroid function have been corrected, you may be able to reduce or discontinue the thyroid hormone.”

It is important to work with an experienced physician when using thyroid hormones, because careful monitoring is essential (more on how to monitor your symptoms in a moment). It is important that you take the right amount. Too little can lead to ill health. Too much can cause side effects such as anxiety, insomnia, palpitations, and, over the long term, bone loss. However, the concern about bone loss is usually exaggerated, and with careful monitoring and optimizing of calcium status, vitamin D, and magnesium, as well as exercise and general healthy lifestyle, any adverse effects on bone can be eliminated.

Review of Thyroid Preparations

Here is a review of the thyroid medications available.

1. Combination preparations (T3 and T4)

- Armour Thyroid
- Thyrolar
- Naturthroid
- Westroid
- Compounded and generic preparations

2. T4 preparations (l-thyroxine)

- Synthroid
- Levoxyl
- Levothroid
- Levothyroxine
- Unithroid

3. T3 preparations (thyronine or triiodothyronine)

- Cytomel
- Time-release T3

Finding the Right Prescription for You

In my experience, people who have been treated with long-term thyroid medication such as Synthroid will often have an incomplete resolution of their symptoms. A switch to Armour Thyroid or substitution of some of their Synthroid with Armour Thyroid can make a huge difference in their overall wellbeing, health, and energy. Doses will change and needs will change based on levels of stress, levels of nutrition status, and infections, and the patient will need to be monitored carefully over time.

However, the right dose and prescription can be life changing for you and can help resolve many chronic health conditions from fatigue to depression to hormonal problems, sexual dysfunction, and memory disorders, as well as common complaints of aging, dry skin, dry hair, digestive problems (such as constipation), fluid retention, joint pains, muscle aches, and many other symptoms. These things are not symptoms that we need to suffer from with our current knowledge of medicine. You don't have to wait until you are really ill to correct these problems.

“You don't have to wait until you are really ill to correct these problems.”

HOW TO MONITOR YOUR THYROID TREATMENT

Monitoring your progress over time is important, and assessing the effectiveness of therapy on a regular basis is essential for providing optimum treatment.

Monitoring your symptoms on your own, although not a completely objective method, is helpful. Keep track of all the symptoms that showed up positive on your quiz. Take the quiz once a month to see whether your symptoms are improving. If these resolve or improve (including fatigue, memory function, dry skin, dry hair, nails, digestion, chronic constipation, menstrual disorders, libido, depression, fluid retention, etc.), then it is clear that therapy has been effective.

However, you still may need further help, depending on the degree to which these symptoms have resolved. Reevaluation of your hormone levels, including free T3, free T4, and TSH, is helpful for monitoring progress. These are the most important thyroid tests. The other thyroid tests such as the TRH stimulation test, thyroid ultrasound, thyroid scan, and fine-needle aspiration are things that may need to be done from time to time with the guidance of your physician but are not part of routine monitoring of thyroid function. Lifestyle changes, diet, supplements, and herbs can all be helpful in improving thyroid function, even without medication.

I also recommend checking your basal body temperature regularly and keeping a log or chart to monitor change with therapy. Your temperature should rise to about 98.6 degrees.

Depending on the results of your tests, you need to work with your practitioner to address the specifics of your therapy. I would always recommend starting out slow with low doses of thyroid replacement. For example, I start with 15 mg of Armour Thyroid for someone who has never been treated. If you are on medication, I would try to use an equivalent dose. Synthroid at 0.1 mg is approximately equal to 60 to 90 mg of Armour Thyroid (although this is not an exact conversion, and the effects may be different in different individuals).

Your ideal treatment dose should be the dose at which you are symptom free and do not have hyperthyroid symptoms such as anxiety, palpitations, insomnia, diarrhea, high blood pressure, or a rapid pulse (more than 80 beats per minute).

I monitor thyroid hormones including TSH, free T3, and free T4 every six weeks until a patient is on the dose at which the symptoms are normalized and the thyroid hormone levels are within the ideal range. The ideal range for TSH is between 1 and 2. Slightly less than 1 is acceptable if the patient has no symptoms of hypothyroidism and is feeling good on that dose.

It is important to recognize that if you take your morning dose of Armour Thyroid and then have your blood tested right after, you are going to see a high level of T3 in the blood. This may not mean that you are taking too much, but it can be confusing to the practitioner and result in incorrect reduction of the dose despite effective therapy. Therefore, it is important to take your levels of thyroid hormone without taking your morning dose of thyroid, to properly assess therapy.

It is important to work with a comprehensive approach that deals with the underlying causes of thyroid disease, including environmental toxins, food allergens, gluten, stress, hormonal imbalances, and nutritional deficiencies. All those things when addressed comprehensively can create a dramatic shift in health and wellbeing.

If treatment is ineffective, it is important to think of other causes for your symptoms and to work with your practitioner to identify other underlying issues that may contribute to your symptoms. It is often the case that many factors are involved in promoting ill health and that all these factors need to be addressed systematically and in stepwise fashion to achieve full therapeutic benefit. Often, treating a patient is like peeling an onion—working through the layers of imbalances, deficiencies, or stresses on the system and gradually helping the body to repair and heal while removing those things that alter and impair normal function.

What to Do Next

Now that you understand the causes of thyroid disease and the seven steps to improving your thyroid function and overall health, I will summarize the key points for you to take action on so you can start getting healthy as soon as possible.

1. Get the Appropriate Tests.

It is my belief that people can be empowered to make decisions about their own health. In fact, they should be the ones making the primary decisions, with physicians and other practitioners serving as guides and coaches to help them navigate through their specific health information and concerns.

Therefore, I believe strongly that patients can influence their doctors to obtain tests they would like for themselves, including all the tests that I recommend in this thyroid report. Key tests that you should obtain through your physician include the following:

<i>Name of Test</i>	<i>What It Means</i>	<i>Where Your Doctor Can Order It</i>
1. TSH, free T3, free T4	If these show less-than-optimal function with TSH of greater than 2.0, free T3 of less than 300, or free T4 of less than 1.2, you should strongly consider the possibility of thyroid disease. (NOTE: The units mentioned above are the most commonly used, but may vary from lab to lab.)	LabCorp www.labcorp.com or Quest Diagnostics www.questdiagnostics.com
2. Thyroid peroxidase antibodies, anti-thyroglobulin antibodies	Any elevation in thyroid antibodies is considered abnormal and may have other causes, such as gluten or environmental triggers for autoimmunity, that should be assessed. Patients with normal thyroid function tests with normal TSH, free T3, and free T4 but elevated thyroid antibodies may benefit from treatment.	LabCorp www.labcorp.com or Quest Diagnostics www.questdiagnostics.com

<p>3. IgG and IgA antigliadin antibodies and IgA tissue transglutaminase</p>	<p>These are celiac tests that help you identify sensitivities to gluten found in wheat, barley, rye, spelt, kamut, and oats. Gluten is a major cause of thyroid problems.</p>	<p>LabCorp www.labcorp.com or Quest Diagnostics www.questdiagnostics.com</p>
<p>4. IgG food sensitivity testing such as Immuno Laboratories Blood Print 1</p>	<p>This test for delayed allergies picks up trigger foods for many chronic symptoms such as fatigue, brain fog, joint pains, digestive problems, sinus problems, and more. These delayed allergies or sensitivities are NOT recognized by most conventional doctors but play a BIG role in many people with chronic health complaints. Allergic reactions to food can be major contributing factors to a low-functioning thyroid.</p>	<p>Immuno Laboratories www.immunolabs.com</p>
<p>5. 25-hydroxy vitamin D level</p>	<p>For any blood level lower than 50, I recommend supplementation with vitamin D as noted below. This can be important in addressing many health problems.</p>	<p>LabCorp www.labcorp.com or Quest Diagnostics www.questdiagnostics.com</p>
<p>6. Mercury testing</p>	<p>Mercury testing can usually be done through hair analysis. The normal level is less than 1 part per million in hair analysis of mercury or any other heavy metal. High levels may indicate exposure to methylmercury from fish or other environmental sources.</p> <p>For those who are concerned about dental amalgams, provocation testing using DMSA is possible. A functional or environmental doctor will order this test using 20 to 30 mg per kilogram of DMSA, or 500 mg of DMPS, by mouth, with a six-hour urine collection for toxic elements sent to Doctor's Data. This should only be done in consultation with a physician experienced in heavy-metal detoxification treatment.</p>	<p>Doctor's Data www.doctorsdata.com</p>

7. Adrenal hormone testing	<p>This can be very important, particularly the adrenal stress index by Diagnos-Techs or Metamatrix. The testing measures the salivary cortisol levels in the morning, at lunch, at four in the afternoon, and at bedtime to assess overall adrenal function throughout the day. Low levels throughout the day indicate adrenal exhaustion and burnout. High levels indicate hypercortisolism and excess cortisol. These both need to be treated to optimize thyroid function.</p>	<p>Diagnos-Techs www.diagnostechs.com or Metamatrix www.metamatrix.com</p>
8. Thyroid-releasing hormone stimulation test	<p>For those who have normal thyroid tests, but there is still high suspicion clinically of thyroid disease, I would recommend referral to a specialist who can do this test.</p>	<p>See your physician.</p>
9. Cardio C-reactive protein	<p>This test can determine how much inflammation there is in your body. The result should be lower than 1 and is often elevated in the face of hypothyroidism.</p>	<p>LabCorp www.labcorp.com or Quest Diagnostics www.questdiagnostics.com</p>
10. Lipid panel, including total cholesterol, HDL, LDL cholesterol, and triglycerides	<p>Elevations in LDL cholesterol are very common in hypothyroidism, and it is important to monitor this during treatment. Many people with high cholesterol have undiagnosed hypothyroidism.</p>	<p>LabCorp www.labcorp.com or Quest Diagnostics www.questdiagnostics.com</p>
11. Blood sugar and insulin monitoring	<p>Fasting blood sugar should be lower than 90. Fasting insulin should be lower than 5. These are often indicators of metabolic syndrome, which is made worse by thyroid dysfunction.</p>	<p>LabCorp www.labcorp.com or Quest Diagnostics www.questdiagnostics.com</p>

2. Go Shopping.

I encourage people to include a variety of foods in their diets to help support their thyroid function. These foods were addressed in earlier sections. Now it's time to go out, purchase those items at your grocery store, and start including them in your diet.

Include the following items on your list for your next trip to the grocery store:

- ✓ Sea vegetables such as seaweed—hijiki, wakame, arame, dulse, nori, and kombu—which all contain high levels of minerals and iodine
- ✓ Brazil nuts, herring, and scallops, which contain selenium
- ✓ Dandelion greens, which you can try using in a stir fry or a salad and which contain vitamin A
- ✓ Fatty fish such as sardines, mackerel, salmon, and herring, which contain vitamin D and omega-3 fats as well as iodine

All these foods can help improve thyroid function. If you are interested in learning more about how to prepare these foods, and finding other delicious recipes based on a whole-foods diet, I refer you to www.whfoods.org. There you will find more nutritional information about the food you eat so you can create a tasty and healthy diet to support your thyroid.

3. Take Supplements.

It is important to use supplements to support thyroid function, as I have already discussed. Specific recommendations on the amount of each supplement to take can be found earlier in this report.

Finding the best products to support health has always been the most difficult part of my job. The lack of adequate government regulations, the dizzying number of products on the market, and the large variations in quality all create a minefield of obstacles for anyone trying to find the right vitamins or herbs.

Fortunately, in a sea of poor quality and lowered standards, a few companies stand out and step up to the responsibility of producing safe and effective products that meet my specific criteria for quality and effectiveness.

While I have tried to make educated judgments about companies and their products, I am unable to verify all claims about every product. Therefore all people must be cautious and must evaluate companies and products themselves. I offer this only as part of my hard-won knowledge about how to evaluate supplements.

1. Look for GMP (good manufacturing practices) drug or supplements standards from an outside certifying body.
2. Try to verify third-party analysis for active ingredients and contaminants (see www.consumerlab.com).
3. Try to use products that have some basis in basic science or clinical trials, or have a long history of use
4. Use clean products, free of fillers, binders, excipients, flow agents, shellacs, coloring agents, gluten, and lactose

Use these guidelines and follow my recommendations for the amounts of each supplement to take daily. Doing so will not only help you heal your thyroid but will also help you balance all of the systems in your body that create health and wellness.

4. Do Further Research Using Other Resources.

To fully implement the recommendations in this report and to fully support your health and your thyroid, you need specific tools and resources. I have reviewed many resources and have selected several because of their quality and effectiveness in my practice.

The following is a list of resources for air and water filtration products to assist in your detoxification process, further information on where to purchase home sauna systems, specific tools for stress reduction and relaxation, and a list of readings to help you further educate yourself on the thyroid.

Water filters. I think that a water filter is essential and prevents the need for bottled water, which in hard plastic bottles still has a risk of containing phthalates, a plasticizer petrochemical product that leaches into the water and causes adverse health effects. I also encourage filtration to remove the chlorine, fluoride, and other petrochemical toxins often found in addition to heavy metals in water. Many filters are on the market; the best, Purefecta, can be obtained through Pall Corporation, 674 South Wagner Road, Ann Arbor, MI 48103. The telephone number is 888-426-7255. The Web site is www.pall.com. More inexpensive reverse-osmosis filters can be obtained from www.freedrinkingwater.com.

Air filtration. Air filtration can be very helpful, particularly in urban environments where there is a mold and a high level of particulate matter from industrial pollution. Many air filters are available, including HEPA filters and ones with ionizing properties, and those that use ultraviolet light. Ultraviolet light is the only technology that can help kill mold spores, which can be very important. The best filter for you will depend on the size of the room and type of contaminants you need to clean from the air. A number of companies make high-quality air filters, and many of these can be found at www.nationalallergysupply.com. The IQ Air Health Pro Series is among the best. A range of filters is available from www.allergybuyersclubshopping.com/airpurifiers.html#voc.

Sauna therapy. My favorite sauna for home use is the far-infrared sauna. You can obtain a one-person unit or a multiple-person unit from <http://thyroid.ultrawellness.com/sunlightsaunas>.

Relaxation biofeedback products. I recommend two products in particular to help engage the relaxation response and provide support in engaging the relaxation response. **The Stress Eraser** (<http://thyroid.ultrawellness.com/stresseraser>) is a handheld biofeedback unit that monitors heart-rate variability. It can help you engage the relaxation response on a consistent basis. I also recommend a device called **RESPeRATE** at <http://thyroid.ultrawellness.com/resperate>, it is a small, personal biofeedback device that can help you train yourself to relax when you use it consistently.

A basal body temperature thermometer can be helpful in assessing low body temperature. This is a good digital one for home use. It is usually used for checking ovulation but can be used for assessment of thyroid function as well.

Recommended reading. Further information on thyroid function can be found in a number of books, including these:

Thyroid Power: Ten Steps to Total Health by Richard Shames and Karilee H. Shames (<http://thyroid.ultrawellness.com/thyroidpower>)

Living Well with Hypothyroidism by Mary Shomon (<http://thyroid.ultrawellness.com/livingwell>) is a useful resource.

UltraMetabolism: The Simple Plan for Automatic Weight Loss by Mark Hyman, MD (www.ultrawellness.com/store/books/ultrametabolism), which provides further information on detoxification, hormonal balance, and managing stress responses as well as dealing with inflammation—all of which can be helpful in treating thyroid function.

UltraPrevention: The 6-Week Plan That Will Keep You Healthy for Life by Mark Hyman, MD, and Mark Liponis (www.ultrawellness.com/store/books/ultraprevention-0) is also a useful resource for understanding and optimizing your health and understanding the basics of Functional Medicine.

You should also consider looking at www.ultrawellness.com for additional resources and links to other useful Web sites.

Green Housekeeping by Ellen Sandeck (<http://thyroid.ultrawellness.com/housekeeping>), a helpful guide to choosing nontoxic products for the home.

The medical article “Sub-laboratory hypothyroidism and empirical use of Armour Thyroid” by Alan Gaby in *Alternative Medicine Review* (volume 9, number 2, 2004, pages 157–179) is a great review. <http://thyroid.ultrawellness.com/sublaboratory>

Physician resources include the Institute for Functional Medicine, www.functionalmedicine.org, and *The Textbook of Functional Medicine* (<http://thyroid.ultrawellness.com/textbook>).

To find practitioners who understand the principles of Functional Medicine and will treat you according to the concepts and principles outlined in this report, see the Find a Doctor link on my Web site at www.ultrawellness.com/tools/find-a-doctor.

5. See Your Doctor.

If you have taken the steps in this guide and find that you are still suffering from symptoms of hypothyroidism or you have assessed your condition based on the recommendations here and find that your condition warrants a visit to your doctor, I recommend you do that sooner rather than later.

I would also encourage you to share what you have learned in this guide with your physician and ask him or her to take the functional medical approach I have outlined. To help you explain what Functional Medicine is and why it's important in the treatment of hypothyroidism, I have created a “Letter to Your Doctor” as a bonus that goes along with this guide.

That letter and the medical references at the end of this guide should give your physician much of the background that he or she will need to help you assess and treat your condition based on the approach you have been reading about.

Before I close this guide, there is one more item I would like to address. I have had many questions come up from patients over the years, and I want to give answers to as many of these questions as I can.

Other Frequently Asked Questions

What do I do if my physician refuses to order the tests I request, misinterprets the results, or refuses to give me a trial of Armour Thyroid?

In this report and accompanying materials, I have recommended resources for self-testing and composed a generic letter to help your doctor understand the reasoning behind this approach as well as the correct interpretation for the results. If you are still having difficulty, I suggest working with other practitioners. I encourage you to start with www.functionalmedicine.org or the “Find the Doctor” tab on my Web site, www.ultrawellness.com/tools/find-a-doctor, to locate a practitioner in your area who understands these principles and can work with you.

Will my thyroid ever return to normal, and do I have to take meds for life?

Depending on your situation, there may be circumstances in which thyroid function can return to normal and thyroid medication is not needed for life. Someone who has recovered from a chronic illness such as chronic fatigue or fibromyalgia or has had an acute stress or toxic exposure may need temporary thyroid support with medication but sometimes does not require medication for life.

However, most people who start thyroid replacement do need thyroid hormone for life; in these cases, it is my opinion that it should not be considered a medication but simply a way of supporting and normalizing your thyroid function.

How do you know when your thyroid is not functioning properly and is the reason you are not losing weight?

This report outlines the basic symptoms and signs as well as testing that will help you navigate the question of whether your thyroid is functioning properly. If you normalize the thyroid function through the approach in this report and are still having difficulty with weight loss and metabolism, I suggest that you read *UltraMetabolism: The Simple Plan for Automatic Weight Loss* (www.ultrawellness.com/store/books/ultrametabolism), my book on understanding all the underlying causes of obesity and weight issues, only some of which are related to thyroid.

What is the best way to improve my thyroid function without medications?

As I have outlined in this report, a comprehensive approach to dealing with lifestyle factors, diet, stress management, exercise, supplementation, environmental toxins, allergies, and chronic infections can help to improve thyroid function without medication.

However, this may not be adequate, and the thyroid may not be able to recover fully without additional help. I encourage people to use adequate thyroid hormone replacement to address chronic illness. The downside of inadequate treatment is poor quality of life and perhaps premature disease, including cardiovascular disease and impaired cognitive function.

Can I eat soy if I am hypothyroid, or should I avoid it, particularly if I am taking medication?

My view is that soy eaten in normal amounts such as one to two servings a day will have no long-term harmful effects on the thyroid. Raw soybeans should be avoided because they contain the goitrogens, or factors that interfere with thyroid function. However, cooked soy products are certainly a valuable addition to health. Those who are not allergic to soy should not avoid it in the face of thyroid disease or thyroid replacement.

Is there a connection between hypothyroidism and high cholesterol?

Low thyroid function often causes all the body's functions to slow down, including lipid and cholesterol metabolism. Treatment of thyroid disease often results in a dramatic lowering of cholesterol, and anyone with high cholesterol should be screened for thyroid disease.

What do I do if I have had a thyroidectomy or radioactive iodine and have no thyroid function at all?

This is a unique situation that requires a slightly different approach; however, all the suggestions to deal with the causes of thyroid imbalance as well as treatment apply, and the only caveat is that higher doses of thyroid hormones are needed and careful adjustment of the doses to resolve the symptoms is important, including the use of a combination of T3 and T4.

What if the tests show that the thyroid is normal but I still feel hypothyroid symptoms?

If the tests are normal and all the other evaluations that I suggested in this report have been done and any problems addressed, it may be that there are other causes of hypothyroid symptoms. However, a short trial of three months of a dose of Armour Thyroid, such as 15 mg, may be helpful to rule out any possibility that symptoms are related to thyroid disorders.

What do I do if I have side effects from taking thyroid drugs?

Properly dosing thyroid replacement produces only benefits without side effects. Side effects that are common from taking too much thyroid replacement include over activity in many systems of the body, including high pulse, high blood pressure, palpitations, anxiety, insomnia, irritability, anger, diarrhea, and tremor. If you have any of these symptoms, you should immediately have your thyroid function checked by a lab and review this with your physician to assess the need for reduction in dosage.

The main concern regarding thyroid replacement in subclinical or borderline hypothyroidism is the possibility of osteoporosis and increased bone turnover or loss. While this is a theoretical problem and is certainly an issue with overtreatment of thyroid disease, if people are treated adequately and their thyroid hormone levels are kept within normal limits, recent research suggests that thyroid replacement is not harmful to the bones in individuals who have hypothyroidism.

Proper care of bones is important for everyone and includes adequate calcium citrate (1000 mg a day) and magnesium (400 mg a day);, vitamin D adequate to achieve a vitamin D level between 50 and 100 mIU/L is critical. Also important for bone health are strength training and regular exercise, avoiding caffeine and alcohol, avoiding excess sugar, and managing stress. Therefore, I do not feel that thyroid replacement's effect is a real concern. It is often overstated by most physicians and needs to be carefully addressed in each individual.

With that said, it is important to properly evaluate bone density at baseline and monitor regular bone turnover markers such as deoxypyridinoline and pyridinium (Genova Diagnostics), as well as parathyroid hormone, 25-hydroxy vitamin D, calcium, phosphorus, and ionized calcium. If these are monitored carefully there is no danger in long-term use of thyroid hormone to promote health and address thyroid disease.

Final Thoughts

We are at the beginning of a new era in medicine. I have given you a glimpse of a new way of thinking about common problems and, specifically, a comprehensive view of the causes of and integrated treatment for low thyroid function.

You now understand that, to deal with any chronic illness, you must first address the underlying causes and then support the body to function optimally with the right foods, nutritional supplementation, exercise, and stress management.

I hope I have also inspired you to take control of your own health and to become a partner with your health care provider, given you new tools to use to help you create optimal health, and helped you empower yourself and transform medicine at same time.

These are the tools you need to achieve a level of health you may have never experienced before. I call it UltraWellness, and it is available to everyone right now. You don't have to wait until practices like mine and techniques like the ones you learned in this report make it to your doctor's office. You can start feeling vitally alive today.

Request for Feedback

I'd like to get your feedback on this thyroid report, in terms of what you liked or didn't like, what could be improved or added, etc. I've created a short survey where you can contribute your thoughts—simply click on the link below to access this survey.

<http://thyroid.ultrawellness.com/feedback>

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