**Thyroid Dysfunction**  
(Hypothyroidism/Hyperthyroidism)

**What Is It?**

The thyroid gland is a butterfly-shaped gland that sits below the larynx and in front of the trachea, or wind pipe. In men, this is just below the Adam’s apple. This endocrine gland produces hormones that regulate metabolism. Metabolism includes all the physical and chemical processes that maintain life, such as body temperature, heart rate, growth and energy production.

The two main hormones produced by the thyroid are thyroxine (T4) and triiodothyronine (T3). The thyroid is controlled by the pituitary gland and the hypothalamus. Together these three glands make up the hypothalamic-pituitary-thyroid (HPT) axis. The hypothalamus signals the pituitary gland to make and release thyroid-stimulating hormone (TSH) which travels to the thyroid and triggers the release of T4 and T3 from the thyroid (see diagram). T4 is secreted in much greater amounts than T3, but T3 is much more biologically active. T3 is actually formed from T4 when the body is functioning properly.

The thyroid uses iodine and tyrosine to make these hormones. Though the thyroid is the principal user of iodine in the body, several other organs actively concentrate iodine. All cells in the body depend on thyroid hormones for metabolism. The most common thyroid problems will be discussed here:

- Hypothyroidism
- Hyperthyroidism

Hypothyroidism involves the decreased production of thyroid hormones. This lowers the metabolic rate leading to lower energy levels. Conversely, an increased production of these hormones is known as hyperthyroidism. This results in an increased metabolic rate.

Thyroid hormones have an effect on all digestive organs. The gut-thyroid connection is seen in the many ways that thyroid dysfunction affects the digestive system. Both hypo- and hyperthyroidism negatively affect each part of the digestive system in similar ways. Of all the organs affected, the liver is the most impaired. Increased liver enzymes and liver injury may occur. Other digestive manifestations of thyroid dysfunction include:

- Constipation
- Abdominal pain
- Fluid retention
- Fat malabsorption
- Diarrhea
- Impaired motility
- Decreased peristalsis
- Esophagitis
- Hiatal hernia
- Gluten sensitivity
**What Causes It?**

**Hypothyroidism** may occur for different reasons:

- Autoimmune reaction (Hashimoto’s thyroiditis)
- Treatment for hyperthyroidism
- Excessive exposure to iodine
- Lithium medication
- Exposure to toxins

Hashimoto’s thyroiditis is an autoimmune disorder in which the body attacks itself. Specifically, the body produces antibodies which destroy the thyroid gland. This results in decreased production of thyroid hormone.

One of the treatments for hyperthyroidism destroys part of the thyroid gland so that it will produce less thyroid hormone. Sometimes this results in too great of a reduction however, and hypothyroidism develops as a consequence. Another treatment for hyperthyroidism, and also for thyroid cancer, is the partial or total removal of the thyroid gland. This can result in hypothyroidism. Excessive exposure to iodine, as with certain medications or medical treatments, can result in destruction of the thyroid gland, leading to hypothyroidism.

Another contributor to the development of hypothyroidism is the poor conversion of T4 to T3. Causes of this are discussed later in this section.

**Hyperthyroidism** occurs for different reasons:

- Autoimmune reaction (Grave’s disease)
- Toxic adenomas or toxic goiter
- Cancer
- Subacute thyroiditis
- Pituitary gland malfunctions
- Exposure to toxins
Grave's disease is the most common form of hyperthyroidism. It is an autoimmune disease in which the body's immune system attacks the thyroid resulting in the overproduction of T4 and T3 with very low levels of TSH. This is usually accompanied by an enlargement of the thyroid gland, also known as a goiter.

Toxic adenomas, benign tumors that may develop in the thyroid, can also cause the thyroid to produce excess thyroid hormone. These adenomas may be found in goiters, called toxic goiters, because they produce too much thyroid hormone. In a similar way, cancerous growths in the thyroid, just like benign growths, may also trigger the release of excess hormone.

Subacute thyroiditis occurs when inflammation in the thyroid causes thyroid hormone to secrete excess hormone for a short period of time. This can last from a few weeks to a few months.

If the pituitary gland is not functioning properly, it may trigger the release of TSH even when there is enough thyroid hormone in the blood. This will cause excessive production of thyroid hormone.

Toxin Exposure

Toxins may play a role in the development of both hypothyroidism and hyperthyroidism. Some particular toxins that affect thyroid function include:

- Hormone disruptors (xenohormones)
- Phytoestrogens
- Cigarette smoke
- Fluoride
- Pesticides
- Heavy metals
- Stain repellant

Hormone disruptors (or endocrine disruptors) are chemicals that come from the environment and disrupt hormone activity in the body. DDT, BPA (bisphenol A), phthalates, PCBs (polychlorinated biphenyls) and PVC (polyvinylchloride) are all hormone disruptors, to name a few. Humans come into contact with hormone disruptors every day. They are essentially ubiquitous. These chemicals are especially dangerous to children in the developmental stage, and have been linked to neurological disorders. This neurological damage may be a result of the hypothyroidism induced by these toxins. Hypothyroidism is of special concern during the early stages of life, and can result in significant damage to many aspects of growth and development.

Hormone disruptors cause a dysregulation of various hormones, including thyroid hormones, and may result in either hypothyroidism or hyperthyroidism. Unfortunately, safety studies only look at the endocrine effects of one chemical at a time. It is likely that the interactions between multiple chemicals is more dangerous than the sum effect of each one. They may react with each other producing new compounds that could be even more toxic. This is not taken into account when determining the safety of these chemicals for use in everyday products.

Phytoestrogens are estrogen compounds found in plants. The most well known of these are the isoflavones found in

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**Did You Know**

A goiter is an enlarged thyroid gland. Goiters may be present in either hypo- or hyperthyroidism. A toxic goiter is one that produces too much thyroid hormone, as in hyperthyroidism. A hypothyroid goiter is due to an underactive thyroid. Goiters can interfere with breathing and swallowing if they get too large. They are usually removed surgically.
soy. Phytoestrogens have an estrogenic effect in the body, but they have also been found to have negative effects on the thyroid that result in goiter growth. In general, it is thought that the consumption of soy foods (especially fermented soy like miso and tempeh) in moderation is not dangerous, but when isoflavones are taken in greater amounts, they may pose a problem for proper hormone function.

Smoking has been associated with an increase in Hashimoto’s thyroiditis, a form of hypothyroidism, and postpartum thyroid dysfunction, which usually involves mild hypothyroidism. Chemicals in cigarette smoke interfere with the binding of hormones to their receptors, which blocks their activity. Smoking also increases the risk of developing hyperthyroidism, especially in women.

Fluoride has been suggested as playing a role in hypothyroidism. It has been shown in animal studies to influence goiter growth. Fluoride is added to the public water supply, so it is wise to use a water filter that will remove it from drinking water.

Pesticide and nitrate exposure in polluted areas have been shown to negatively affect thyroid function. Those who live in industrial or agricultural areas are especially at risk.

Heavy metals have also been shown to impair thyroid function. Heavy metals, like other toxins, impair the normal detoxification processes that occur in the body. Impaired detoxification can interfere with the body’s normal processes. People with thyroid dysfunction often have poor detoxification, which needs to be addressed so that thyroid function can be restored.

Thyroid dysfunction has also been linked with exposure to a stain-repellent chemical, perfluorooctanic acid (PFOA). PFOA is used in both industrial and consumer goods, like nonstick cookware, in stain- and water-resistant coatings used in fabrics and carpets, and in the grease repellant found in fast-food containers and wrappers.

Celiac disease is associated with autoimmune thyroid dysfunction. This gut-thyroid connection illustrates the importance of maintaining healthy digestion. In fact, one study found that 43 percent of patients with Hashimoto’s thyroiditis have gluten sensitivity, and, in some cases, adherence to a gluten-free diet has even reversed autoimmune thyroid dysfunction. It may be prudent to try a gluten-free diet for those people with any autoimmune conditions. Often times, when there is an autoimmune condition in one part of the body, it can move to another area, triggering a different autoimmune disease.

One theory with autoimmune thyroid dysfunction is that an infectious organism may be the cause of the illness. Infectious agents have been shown to cause a variety of autoimmune disorders. Mycoplasma bacteria is one such organism that has been found in many patients with autoimmune thyroid dysfunction (Grave’s disease, Hashimoto’s thyroiditis).

**What Are the Signs and Symptoms?**

Many of the symptoms of thyroid dysfunction are related to metabolism. However, they also include mood and cognitive symptoms which are often difficult to control even when thyroid hormone levels normalize. With the

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**Did You Know**

The presence of an autoimmune condition may be associated with the development of autoimmune thyroid dysfunction like Grave’s disease or Hashimoto’s thyroiditis. These conditions include:

- Gluten sensitivity and celiac disease
- Type 1 diabetes
- Rheumatoid arthritis
- Adrenal insufficiency
- Pernicious anemia
- Lupus
- Vitiligo
correct treatment, however, it is possible to reverse these symptoms. It is important to find a doctor who does not dismiss these symptoms of thyroid dysfunction.

In hypothyroidism, metabolism is slowed, so the symptoms reflect that. Symptoms of hypothyroidism include:

- Fatigue
- Weakness
- Weight gain or difficulty losing weight
- Decreased appetite
- Coarse dry hair
- Dry, rough pale skin
- Hair loss
- Cold intolerance
- Muscle cramps and aches
- Constipation and bloating (often related to Candida overgrowth)
- Depression
- Irritability
- Memory loss
- Cognitive impairment
- Puffy eyes
- Abnormal menstrual cycles
- Infertility
- Decreased libido
- Swelling in the neck below Adam’s apple (goiter)

In hyperthyroidism, metabolism speeds up, so the symptoms reveal this. These symptoms include:

- Nervousness
- Insomnia
- Breathlessness
- Increased bowel movements
- Light or absent menstrual periods
- Fatigue, especially at night
- Fast heart rate
- Trembling hands
- Weight loss
- Increased appetite
- Muscle weakness
- Warm, moist skin
- Hair loss
- Poor eyebrow growth
- Staring gaze
- Swelling in the neck below Adam’s apple (goiter)

**How Is It Diagnosed?**

The test for detecting early thyroid dysfunction is the TSH (thyroid-stimulating hormone) test. It detects the amount of TSH in the blood. TSH is the hormone that stimulates the release of thyroid hormone. When TSH is high, but T3 and T4 levels are normal, it means that the thyroid must work overtime to produce normal amounts of hormone. This is considered to be subclinical, or mild hypothyroidism.

If TSH is too low, it indicates that the thyroid is producing too much hormone. Low TSH and normal hormone levels indicate subclinical hyperthyroidism. An abnormal TSH level is usually the first indication of thyroid dysfunction. This test is usually done in conjunction with T4 and T3 tests, as the results are interpreted together. However, some physicians rely only on the TSH test to determine thyroid dysfunction. This does not tell the whole story, and, therefore, thyroid dysfunction can go largely undetected.

**Did You Know**

Mild hypothyroidism during early pregnancy may negatively affect the neurological development of the fetus. For this reason, it is recommended that pregnant women have thyroid hormone blood tests at the beginning of pregnancy. Supplementation of iodine is also important throughout pregnancy for proper thyroid support.
Normal TSH levels are debated among some doctors. Some studies show that levels over 2.0 may be considered abnormal. Many people have normal TSH levels (between 2.0 and 3.04), yet still exhibit many symptoms of hypothyroidism.

Some people are poor converters of T4 to T3. Since T3 is the more active hormone, this results in hypothyroid dysfunction even in the face of normal TSH levels. Low T3 levels indicate poor T4 to T3 conversion. This illustrates the importance of testing more than just TSH levels. Many factors can contribute to the poor conversion of T4 to T3. These include:

- Diet
- Stress
- Aging
- Obesity
- Diabetes
- Smoking
- Pesticides
- Medications
- Heavy metals
- Nutrient deficiencies
- Adrenal dysfunction
- Excess reverse T3

Adrenal dysfunction may underlie thyroid dysfunction. Until the adrenal disorder is treated, thyroid imbalance may persist. Without proper amounts of adrenal hormone, such as cortisol, the body is unable to convert T4 to T3. Interestingly, both low cortisol levels and high cortisol levels can interfere with conversion of T4 to T3. Therefore, it is important to test and optimize cortisol levels before addressing the thyroid dysfunction.

When T4 is converted into T3, it is actually converted into two types of T3—free T3 and reverse T3 (rT3); rT3 is an inactive form of T3. Normally these are produced in the same amounts, but sometimes rT3 is produced in much greater quantities than T3. The problem with this is that rT3 interferes with the uptake of free T3. When there is too much rT3, this can result in not enough T3 in the cells where it is needed. Poor conversion of T4 to T3 will cause an increased conversion of T4 to rT3, thus reducing the amount of available T3, leading to hypothyroidism.

Another problem encountered with diagnostic testing of thyroid dysfunction is the finding of normal TSH levels, but high thyroid peroxidase antibody levels. This indicates autoimmunity, such as Grave’s disease (hyperthyroid) or Hashimoto’s thyroiditis (hypothyroid), both common causes of thyroid dysfunction that may exist with normal hormone levels, especially in early stages.

The thyroid binding globulin test may be done when patients have abnormal thyroid levels, but seem to have normal thyroid function. This test can determine whether a person who does not exhibit any symptoms needs treatment.

Thyroid hormone resistance may also be responsible for thyroid dysfunction. Thyroid hormone resistance occurs...
when cells do not respond to thyroid hormone. Thyroid hormone resistance is similar to insulin resistance which is seen in type 2 diabetes. This is usually represented by excess T4 and T3 levels in the blood, but normal TSH levels.

When diagnosing thyroid dysfunction, symptoms should play an important role. Many doctors will tell the patient that thyroid dysfunction symptoms are, “all in your head,” especially after so-called “normal” thyroid hormone levels have been achieved. They may even prescribe antidepressants. Finding a doctor who takes all the factors of thyroid function into account will help to ensure proper treatment of thyroid dysfunction.

Another test frequently suggested by progressive health practitioners that may be helpful to determine contributing factors to thyroid disease is a food sensitivity test. (See the Appendix.)

**What Are the Standard Medical Treatments?**

**Hypothyroidism**

The standard treatment for people with hypothyroidism is the drug levothyroxine (synthetic T4 hormone) which comes under the brand names “Synthroid,” “Levoxyl,” “Levothroid,” “Levo-T” or “Unithroid.” This drug must be converted into the more active T3 hormone in the body. Interestingly, though T4 does effectively regulate TSH levels in the body, it has not been proven effective for treating the symptoms of hypothyroidism in any long-term study. Because T4 was introduced in 1917, before the FDA required testing to prove efficacy of new drugs, it was grandfathered in, earning approval even though it did not go through all the required testing.

For many patients, initial treatment with T4 is effective. However, after some time passes, hypothyroid symptoms often return. TSH levels may be normal, but the symptoms that accompany hypothyroidism come back. This is where opinions differ in the medical community. Traditional doctors may not recognize the symptoms as related to thyroid function. They may prescribe medications for depression or anxiety, or they may refer their patient to a psychiatrist. But many doctors are finding that there are other options for these patients.

Since conversion of T4 to T3 may be a problem, a combination of T4 and T3 may be given. This is available in two forms. Synthetically, T3 is available under the brand name “Cytomel.” Cytomel may be combined with T4 or given on its own, depending on the individual's hormone levels. Liotrix is a synthetic combination of T4 and T3, available under the brand name “Thyrolar.” The other form of T3 is the natural thyroid extract, brand name “Armour.” This extract comes from a porcine (pig) source, and is the bio-identical form of thyroid hormone. It contains the entire range of thyroid hormones, T1, T2, T3 and T4. Some doctors recommend taking T4 and T3 specifically as a ratio of 98 percent T4 to 2 percent T3. This matches the proportions of thyroid hormone that are naturally found in the body.

Thyroid medications are also available from compounding pharmacies that can provide pure hormone without the binders and fillers that are added to synthetic formulations which some people are sensitive to. Levothyroxine sodium USP pentahydrate is a bioidentical T4 hormone. Liothyronine USP is the T3 bioidentical. Compounding pharmacies can also prepare time-released T3, a form that some people find to be more effective. Slow-released T3 more closely mimics the activity of the thyroid in the body. The use of bioidentical hormones allows the treatment to be individually tailored to the patient. Due
to the many variances of thyroid function, this is a nice benefit. An example would be a patient who had a higher than normal reverse T3, and would need a compounded form of T4/T3 in a higher ratio than the normal 98 percent T4 to 2 percent T3. Individualization of hormone therapy may be necessary to achieve the optimum outcome.

Doctors who approach thyroid dysfunction with a broader, more integrated viewpoint will use the presence or absence of symptoms, along with careful examination of lab tests, to determine treatment. If symptoms are not reduced, treatment will be modified.

Hyperthyroidism

Treatment of hyperthyroidism depends on the cause. Most hyperthyroid dysfunction is due to Grave’s disease, which can be treated in one of three ways:37

- Radioactive iodine
- Anti-thyroid drugs
- Surgical intervention

In the U.S., radioactive iodine is the standard treatment for Grave’s disease. It involves the one-time ingestion of radioactive iodine, which acts to destroy thyroid tissue. This destruction results in a decrease in the production of thyroid hormone. In most people, the destruction of the thyroid is so great that it actually becomes hypothyroid, and the individual must be treated with thyroid hormone indefinitely.

Though this treatment is considered safe by the traditional medical community, many patients are hesitant to ingest a radioactive substance. Some endocrinologists prefer not to treat women of childbearing age due to the possibility of adverse effects.38 In fact, for five days after treatment, much care needs to be taken so that the substance is not transmitted to other people. No close contact should be made with young children or pregnant women. The patient cannot kiss, exchange saliva, or share food or utensils with anyone for five days. Dishes must be washed in a dishwasher. Even the toilet must be flushed twice after urination so that any radioactive iodine is discarded properly. These warnings bring into question the safety of the treatment. An increase in the risk for developing thyroid cancer after radioiodine treatment has been found in patients with toxic nodular goiter.39

The anti-thyroid drugs methimazole and propylthiouracil are used in patients with mild hyperthyroidism and small goiters.40 Other patients that may benefit from this treatment are children, the elderly, pregnant women, and those who are about to undergo radioiodine therapy. These drugs inhibit the production of thyroid hormone and can produce side effects.

Today, partial or total thyroid removal is usually only done for those individuals with suspected thyroid cancer.41 However, pregnant women or those who refuse the other two forms of treatment may also choose thyroid removal.

Cold intolerance is a symptom of hypothyroidism.
Lifestyle, exercise, diet, stress, environmental toxins, aging, sleep, and genetic variations are some of the variables to consider when evaluating thyroid function. Keep in mind the bigger picture will include juggling more than one variable at a time.

As mentioned above, there are numerous toxins and everyday foods in our diet that can create autoimmune conditions in the thyroid. Gluten sensitivity, as shown in one study, was present in 43 percent of patients with Hashimoto’s disease. (See the Gluten Sensitivity section.)

We do know that too much or too little iodine is dangerous to the thyroid. We have seen the RDI for iodine go up from 150 micrograms to 1.1 mg daily by WHO standards. However, this is considerably less than the 12.5 mg to 30 mg some doctors are using to treat patients. Thus, there is controversy among physicians about how much iodine to take, so it would be wise to find a doctor to help determine and monitor iodine supplementation as a part of overall thyroid management. I personally think that, for maintenance, 1-3 mg/day of organic iodine may be safe for most people.

There is an iodine challenge test to determine if there is enough iodine in the body. The patient takes 50 mg of iodine orally, and then collects 24 hours of urine and sends it for an iodine content test. If a patient has sufficient iodine in the body, at least 45 mg (which is 90 percent) of the iodine will show up in the urine. Otherwise, lower than 90 percent excretion indicates the body is retaining the iodine and, therefore, was deficient in storing iodine. The large majority of people tested are significantly below the 90 percent mark, which means most everyone is iodine deficient if the test is a good clinical indicator. A spot urine iodine/creatinine test (now thought to be as good as a 24-hour test) could also be used. Iodine levels should be around 170 to 320 mcg/L as an indicator of current sufficiency.

A very common indicator of non-thyroid iodine deficiency, even in the U.S., is fibrocystic disease of the breast in women. I have seen many women in my surgical practice respond with a decrease in their fibrocystic disease with periodic treatment of larger doses of iodide/iodine. They would periodically require these doses for retreatment since they were not doing regular supplementation. At the time, I was not aware that regular supplementation with organic iodine, as found in sea salt, may have been part of the long-term solution to fibrocystic conditions of the breast.

HYPOTHYROIDISM

• Usually seen as high TSH and low free T4 and low free T3. The earliest indication is a TSH > 5mU/L; although this number has been lowered by LabCorp to 4.5mU/L, and many think it should be even lower. The diagnosis relies upon laboratory tests because many of the symptoms of hypothyroidism, such as weight gain, constipation, fatigue, cold intolerance, myalgias, and menstrual irregularities are common symptoms for many...
conditions. However, it is very important to take a careful history and monitor symptom change with therapy.

- High TSH and low free T4 and low free T3 often occurs in autoimmune hypothyroidism where there are elevated TPO and thyroglobulin antibodies, typically known as Hashimoto’s disease. In this situation, thyroid replacement with Armour thyroid which is a T4/T3 ratio of around 4:1 is used. Many physicians have now switched to bioidentical T4/T3 in a 4:1 ratio, which is easily changed to meet individual needs. Some will increase the thyroid replacement until most symptoms are improved and the TSH is markedly lower—near 0.01mU/L. At this point, careful clinical acumen is needed to be sure the patient then doesn’t go into hyperthyroidism.

- The next step is the hardest, which is to find the cause of this autoimmune reaction. Many of the above tests can be helpful, but a look at toxic metal levels (especially mercury), gut issues and food allergies may be a good starting point.

**UNDERCONVERSION PERIPHERAL HYPOTHYROIDISM OR HYPOMETABOLISM**

Generally if the patient has a normal TSH, and total T4 and T3 as well as free T3 and T4, most doctors would consider that the patient does not have a thyroid problem. In a sense, they would be right in that the thyroid is making enough T4 and T3, but there are several things that can get off track, and they may be missing a diagnosis of a well-described condition (see Harrison’s Textbook of Medicine) known as peripheral under conversion hypothyroidism or hypometabolism.

It simply means that, both outside and inside the cells, T4 is not converting to T3. There are numerous things that interfere with the intracellular conversion of T4 to the only active thyroid hormone, T3. We will cover a few important ones.

Adrenal insufficiency or adrenal overload (either too high cortisol or too low cortisol) can block T4 going to T3. So can numerous drugs and mineral deficiencies, especially zinc, selenium, magnesium and calcium, all of which are lower in the presence of elevated levels of toxic metals, or chronic low-grade metabolic acidosis. It has been shown that chronic low-grade acidosis causes mineral wasting in the urine, which can affect T4 to T3 conversion, as well as create many other problems. A major correction would be more of a plant-based diet and mineral supplementation.

Another problem would be low iron and ferritin, which is necessary to transport the active hormone T3 and its receptor to the nucleus. It has also been shown there can be conformational problems with the T3 receptor which may prevent the binding of the T3 to its receptor. This can be helped by supplementing with enough vitamin D3 to get the blood 25 OH vitamin D levels in the 50-70 ng/mL range.

In this situation, if the patient’s symptoms strongly support hypometabolism, it would be appropriate to consider beginning some thyroid replacement, while fixing the adrenals, replacing missing minerals, and evaluating all the known causes of poor conversion of T4 to T3, while monitoring closely.

**HYPERTHYROIDISM**

Hyperthyroidism is commonly an autoimmune disorder known as Graves’ disease. The antibodies involved include TPO, thyroglobulin and TSH receptor antibodies. TSH receptor antibodies increase uptake of iodine and tyrosine, producing high levels of T4 and T3. Ultrasound is diagnostic with symmetrically enlarged thyroid gland and hypervascularity. I recently had a patient with this condition, and she had a very low TSH =0.01, and free T4 of 1311, and a TPO antibody over 1000! She paradoxically gained weight, had heart palpitations, was unable to sleep, and experienced profuse sweating. In these cases, patients are generally given beta-blockers (like atenolol) and put on thyroid drugs called thionamides, propylthiouracil (PTU) and methimazole (MMI, Tapazole®) to stop thyroid hormone production. These combinations of drugs will usually put patients into a remission, but some will relapse.

For more information go to www.thyroidscience.com
According to the American Association of Clinical Endocrinologists, 27 million Americans have a form of thyroid dysfunction. Half of these are undiagnosed, and 80 percent are female. Thyroid disorders can be greatly helped by diet and lifestyle changes. We must keep our core health (our gut) in check. Minimizing toxins in the body through cleansing and detox programs will support overall health and reduce damage to the thyroid.

In the previous section on thyroid dysfunction, we have given a clear view of the differences between an integrative/holistic approach and the narrow approach used in traditional medicine. So many people take the traditional approach, and never seek out other ways to help manage conditions like thyroid problems.

From the start, be sure that your digestive system has the right foundation with plenty of friendly bacteria. The possibility of food sensitivity also needs to be considered, especially for gluten and dairy. Many people with thyroid disorders have digestive issues. Constipation is especially prevalent in people with hypothyroidism. I remember distinctly one person I worked with who had hypothyroidism and suffered from constipation her whole life. Simple diet and supplement recommendations still did not help. After a gluten sensitivity test from EnteroLab came back positive, finally there was an answer to the constipation and thyroid imbalance. This is also true for me. After following a strict gluten-free diet long-term, my constipation and thyroid imbalance normalized.

The key to the gluten-free diet in cases like these, involving other areas of the body, is that they need to be followed (and adhered to) for at least three to six months before benefits may be noticed. People today expect instant results, but natural approaches to health are slow and steady, building a strong foundation for long-term health. Once the irritants are removed, the gut must then rebuild and repopulate with beneficial bacteria. This takes some time. Bear with it, it’s worth the wait.

**Recommended Testing**

- Food sensitivity test (See the Appendix.)
- Heavy metal hair analysis (See the Appendix.)
- Adrenocortex profile (See the Appendix.)

**Diet**

- Follow the Fiber 35 Eating Plan (see the Appendix), as a high-fiber diet helps to improve bowel elimination and remove toxins.
- Avoid xenoestrogen chemicals, like bisphenol A (BPA), pesticides and herbicides which disrupt normal hormone function.
- Decrease sugar and refined carbohydrates.
- Eat foods that contain trace minerals helpful in thyroid function like apricots, dates, egg yolks, molasses, parsley, prunes, whole grains, fish and chicken.
- For Hashimoto’s thyroiditis (autoimmune thyroid dysfunction), eat an anti-inflammatory diet low in meat and dairy, and high in fruits, vegetables and poly unsaturated fats.

**Lifestyle**

- Exercise daily to improve thyroid function. Improved thyroid function is one reason why exercise is so beneficial to health and metabolism.
- Reduce toxin exposure.
- Drink filtered water to avoid fluoride consumption.

**Complementary Mind/Body Therapies**

- Stress can be a major component of this disease, so find ways to reduce it with therapies such as meditation, yoga, deep breathing, massage, biofeedback, or music therapy.
- Acupuncture is also helpful for thyroid dysfunction.
- Rule out multiple chemical sensitivity when working with thyroid dysfunction
- Colon hydrotherapy is beneficial to help remove excess toxins.
<table>
<thead>
<tr>
<th>Recommended Nutraceuticals</th>
<th>Dosage</th>
<th>Benefit</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Critical Phase</strong></td>
<td><strong>Daily maintenance recommendations should also be taken during this phase unless otherwise indicated.</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Probiotics</td>
<td>200 billion daily for two weeks</td>
<td>Helps initially boost beneficial gut bacteria.</td>
<td>Look for high amount of bifidobacteria, the main beneficial bacteria in colon.</td>
</tr>
<tr>
<td>Multivitamin/mineral Formula</td>
<td>Use as directed</td>
<td>Corrects deficiencies that may interfere with thyroid hormones.</td>
<td>Be sure formula contains B complex, vitamin D, selenium and zinc.</td>
</tr>
<tr>
<td>Steps of Cleansing</td>
<td>See Appendix</td>
<td>Helps support the body’s seven channels of elimination, eliminates microbial invaders, and provides targeted detoxification.</td>
<td>Look for high-quality cleansing and detox formulas.</td>
</tr>
<tr>
<td><strong>Helpful</strong></td>
<td></td>
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</tr>
<tr>
<td>L-tyrosine</td>
<td>500 mg twice daily</td>
<td>May be low in people with hypothyroidism.</td>
<td>Take on an empty stomach.</td>
</tr>
<tr>
<td>Kelp</td>
<td>2,000 – 3,000 mg daily</td>
<td>Contains iodine, which may be deficient.</td>
<td>Work with health care practitioner to determine if iodine deficiency is a factor.</td>
</tr>
<tr>
<td><strong>Daily Maintenance</strong></td>
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</tr>
<tr>
<td>Fiber</td>
<td>4-5 grams twice daily</td>
<td>Promotes regular elimination and binds toxins.</td>
<td>Look for a formula containing flax, oat bran and acacia fibers.</td>
</tr>
<tr>
<td>Probiotics</td>
<td>30 - 80 billion culture count twice daily after critical phase</td>
<td>Balances intestinal flora and helps break down and remove toxins.</td>
<td>Look for high amount of bifidobacteria, the main beneficial bacteria in colon.</td>
</tr>
<tr>
<td>Omega Oils</td>
<td>Use as directed</td>
<td>Helps improve thyroid gland function.</td>
<td>Look for a combination of omega 3/5/6/7/9.</td>
</tr>
<tr>
<td>Digestive Enzymes</td>
<td>Take with meals</td>
<td>Helps digest and absorb nutrients from food.</td>
<td>If low stomach acid is found, find a formula that contains hydrochloric acid.</td>
</tr>
</tbody>
</table>

See further explanation of supplements in the Appendix.