

# Hashimoto's Thyroiditis



Prepared  
by the American  
Association of Clinical  
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not-for-profit national organization of  
highly qualified specialists in hormonal and  
metabolic disorders whose primary professional  
activities focus on providing high-quality specialty care to  
patients with endocrine problems such as thyroid disease.



## What is Hashimoto's thyroiditis?

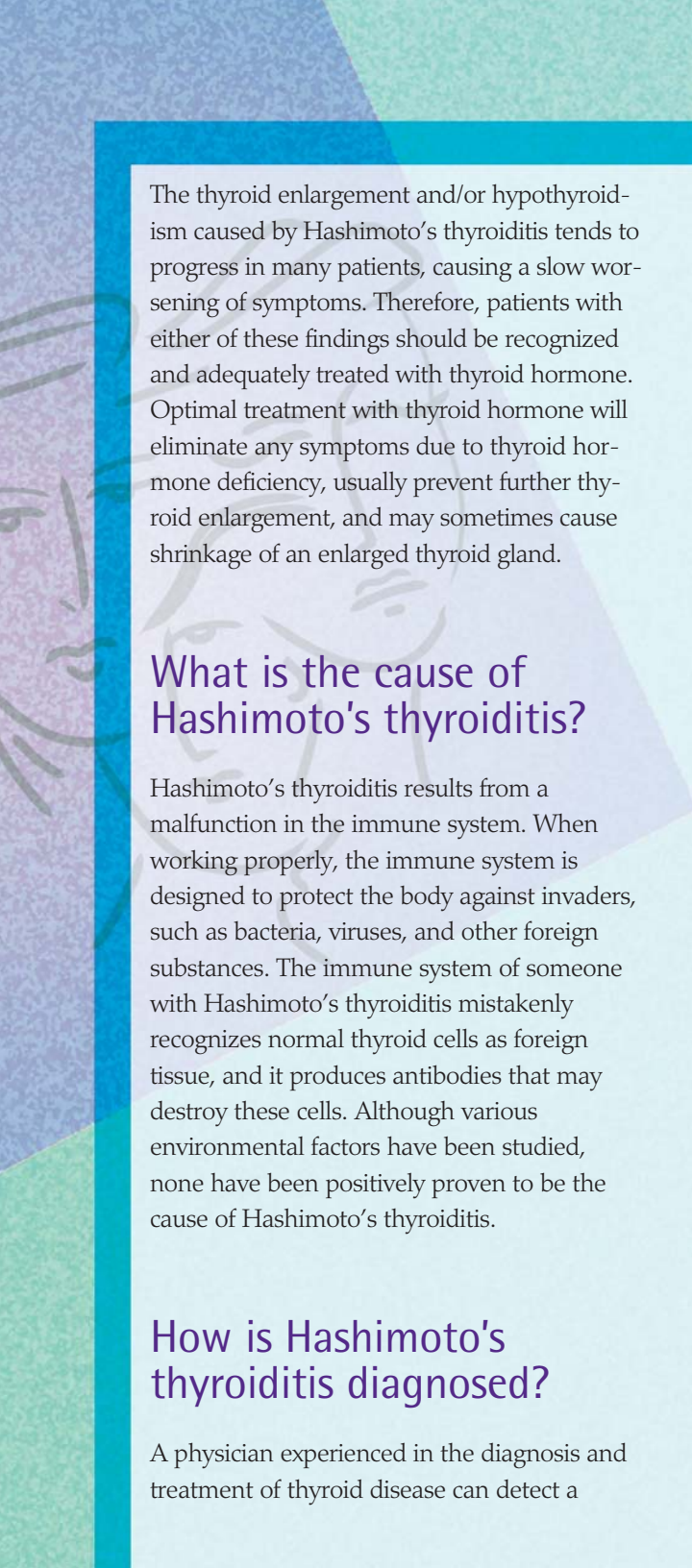
Hashimoto's thyroiditis (also called autoimmune or chronic lymphocytic thyroiditis) is the most common thyroid disease in the United States. It is an inherited condition that affects approximately 14 million Americans and is about 7 times more common in women than in men. Hashimoto's thyroiditis is characterized by the production of immune cells and autoantibodies by the body's immune system, which can damage thyroid cells and compromise their ability to make thyroid hormone. Hypothyroidism occurs if the amount of thyroid hormone which can be produced is not enough for the body's needs. The thyroid gland may also enlarge in some patients, forming a goiter.

## What are the symptoms of Hashimoto's thyroiditis?

Many patients with Hashimoto's thyroiditis may have no symptoms for many years, and the diagnosis is made incidentally when an enlarged thyroid gland or abnormal blood tests are discovered as part of a routine examination. When symptoms do develop, they are either related to local pressure effects in the neck caused by the goiter itself, or to the low levels of thyroid hormone. The first sign of this disease may be painless swelling in the lower front of the neck. This enlargement may eventually become easily visible and may be associated with an uncomfortable pressure sensation in the lower neck. Left untreated, a person may begin to have trouble swallowing or even breathing.

Although many of the symptoms associated with thyroid hormone deficiency occur commonly in patients without thyroid disease, patients with Hashimoto's thyroiditis who develop hypothyroidism are more likely to experience the following:

- ◆ Fatigue
- ◆ Drowsiness
- ◆ Forgetfulness
- ◆ Difficulty with learning
- ◆ Dry, brittle hair and nails
- ◆ Dry, itchy skin
- ◆ Puffy face
- ◆ Constipation
- ◆ Sore muscles
- ◆ Weight gain
- ◆ Heavy menstrual flow
- ◆ Increased frequency of miscarriages
- ◆ Increased sensitivity to many medications



The thyroid enlargement and/or hypothyroidism caused by Hashimoto's thyroiditis tends to progress in many patients, causing a slow worsening of symptoms. Therefore, patients with either of these findings should be recognized and adequately treated with thyroid hormone. Optimal treatment with thyroid hormone will eliminate any symptoms due to thyroid hormone deficiency, usually prevent further thyroid enlargement, and may sometimes cause shrinkage of an enlarged thyroid gland.

## What is the cause of Hashimoto's thyroiditis?

Hashimoto's thyroiditis results from a malfunction in the immune system. When working properly, the immune system is designed to protect the body against invaders, such as bacteria, viruses, and other foreign substances. The immune system of someone with Hashimoto's thyroiditis mistakenly recognizes normal thyroid cells as foreign tissue, and it produces antibodies that may destroy these cells. Although various environmental factors have been studied, none have been positively proven to be the cause of Hashimoto's thyroiditis.

## How is Hashimoto's thyroiditis diagnosed?

A physician experienced in the diagnosis and treatment of thyroid disease can detect a

goiter due to Hashimoto's thyroiditis by performing a physical examination and can recognize hypothyroidism by identifying characteristic symptoms, finding typical physical signs, and doing appropriate laboratory tests.

### Antithyroid antibodies

Increased antithyroid antibodies provide the most specific laboratory evidence of Hashimoto's thyroiditis, but they are not present in all cases.

### TSH (thyroid-stimulating hormone or thyrotropin) test

Increased TSH level in the blood is the most accurate indicator of hypothyroidism. TSH is produced by another gland, the pituitary, which is located in the center of the head behind the nose. The level of TSH rises dramatically when the thyroid gland even slightly underproduces thyroid hormone, so a normal level of TSH reliably excludes hypothyroidism in patients with normal pituitary function.

### Other tests

- ◆ Free T4 (thyroxine) - the active thyroid hormone in the blood. A low level of free T4 is consistent with thyroid hormone deficiency. However, free T4 values in the "normal range" may actually represent thyroid hormone deficiency in a particular patient, since a high level of TSH stimulation may keep the free T4 levels "within normal limits" for many years.
- ◆ Fine-needle aspiration of the thyroid—usually not necessary for most patients with Hashimoto's thyroiditis, but a good way to diagnose difficult cases and a necessary procedure if a thyroid nodule is also present.

## How is Hashimoto's thyroiditis treated?

For patients with thyroid enlargement (goiter) or hypothyroidism, thyroid hormone therapy is clearly needed, since proper dosage corrects any symptoms due to thyroid hormone deficiency and may decrease the goiter's size. Treatment consists of taking a single daily tablet of levothyroxine. Older patients who may have underlying heart disease are usually started on a low dose and gradually increased, while younger healthy patients can be started on full replacement doses at once. Thyroid hormone acts very slowly in the body, so it may take several months after treatment is started to notice improvement in symptoms or goiter shrinkage. Because of the generally permanent and often progressive nature of Hashimoto's thyroiditis, it is usually necessary to treat it throughout one's lifetime and to realize that medicine dose requirements may have to be adjusted from time to time.

Optimal adjustment of thyroid hormone dosage, based on laboratory tests rather than symptoms, is critical, since the body is very sensitive to even small changes in thyroid hormone levels. The tablets come in over 10 different strengths, and it is essential to take them in a consistent manner every day. If the dose is not adequate, the thyroid gland may continue to enlarge and symptoms of hypothyroidism will persist, and may be associated with increased serum cholesterol levels, which may increase the risk for atherosclerosis and heart disease. If the dose is too strong, it can cause symptoms of hyperthyroidism, creating excessive strain on the heart and an increased risk of developing osteoporosis.

## Other associated disorders

As noted above, Hashimoto's thyroiditis is a common disorder of the immune system which affects the thyroid gland. However, much less often, the immune system can also mistakenly target virtually any other part of the body, causing it to malfunction, and this tendency runs in families. Although the majority of patients with Hashimoto's thyroiditis and their genetic family members will never experience any other autoimmune condition, they do have a statistically increased risk of developing the following disorders:

- ◆ Type 1 Diabetes Mellitus (insulin-requiring)
- ◆ Graves' disease (goiter and hyperthyroidism or overactive thyroid)
- ◆ Rheumatoid arthritis
- ◆ Pernicious anemia (inability to absorb vitamin B12, potentially causing anemia and neurologic problems)
- ◆ Addison's disease (adrenal failure; the adrenal gland provides cortisone to handle stress and illness)
- ◆ Premature ovarian failure (early menopause)
- ◆ Vitiligo (patchy loss of skin pigmentation)
- ◆ Thrombocytopenic purpura (bleeding disorder due to inadequate platelets in the blood)
- ◆ Lupus erythematosus (autoimmune disease that involves skin, lymph glands, heart, lungs, kidneys)

Appropriate management of Hashimoto's thyroiditis requires continued care by a physician who is experienced in the treatment of this disease.

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