



# Hyperthyroidism

## WHAT IS THE THYROID GLAND?

The thyroid gland is located in the neck, just below your larynx (voice box). It produces two hormones, triiodothyronine (T3) and thyroxine (T4). T3 and T4 travel through the bloodstream to all parts of the body where they regulate metabolism—how the body uses and stores energy.

Thyroid function is controlled by the pituitary gland, a small gland located at the base of your brain). The pituitary produces thyroid-stimulating hormone (TSH), which tells the thyroid to produce T3 and T4.

## DID YOU KNOW?

**Hyperthyroidism is most common in women between ages 20 and 40, but men can also have this condition.**

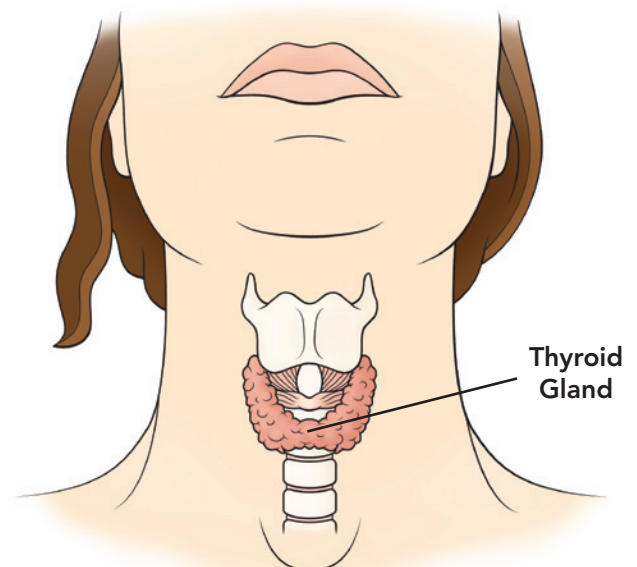
## WHAT IS HYPERTHYROIDISM?

Hyperthyroidism is a condition in which the thyroid gland is overactive and produces too much thyroid hormone.

If left untreated, hyperthyroidism can lead to other health problems. Some of the most serious involve the heart (rapid or irregular heartbeat, congestive heart failure) and the bones (osteoporosis). People with mild hyperthyroidism or the elderly may not have any symptoms at all.

## SIGNS AND SYMPTOMS OF HYPERTHYROIDISM

- Feeling too hot
- Increased sweating
- Muscle weakness
- Trembling hands
- Rapid heartbeat
- Tiredness/fatigue
- Weight loss
- Diarrhea or frequent bowel movements
- Irritability and anxiety
- Eye problems, such as irritation or discomfort
- Menstrual irregularities
- Infertility



## WHAT CAUSES HYPERTHYROIDISM?

Graves' disease is the most common cause of hyperthyroidism. It occurs when the immune system attacks the thyroid gland, causing it to enlarge and make too much thyroid hormone. It is chronic (long-term) and typically runs in families with a history of thyroid disease. Some people with Graves' disease also develop swelling behind the eyes that causes the eyes to bulge outward.

Less common causes of hyperthyroidism include

- **Thyroid nodules:** Lumps on the thyroid gland that may secrete too much thyroid hormone
- **Subacute thyroiditis:** A painful inflammation of the thyroid typically caused by a virus
- **Lymphocytic thyroiditis:** A painless inflammation caused by lymphocytes (a type of white blood cell) inside the thyroid
- **Postpartum thyroiditis:** Thyroiditis that develops shortly after pregnancy

## HOW IS HYPERTHYROIDISM DIAGNOSED?

Your doctor will perform a physical examination and order blood tests to measure your hormone levels. You have hyperthyroidism when the levels of T4 and T3 are higher than normal and the level of TSH is lower than normal.

To determine the type of hyperthyroidism you have, your doctor may do a radioactive iodine uptake test to measure how much iodine your thyroid collects from the bloodstream. (The thyroid uses iodine to make T3 and T4.) Your doctor may also take a picture of your thyroid (a thyroid scan) to see its shape and size, and to see whether there are any nodules present.

## HOW IS HYPERTHYROIDISM TREATED?

Treatment for hyperthyroidism will depend on its cause, your age and physical condition, and how serious your thyroid problem is. Available treatments include

- **Antithyroid medications.** These drugs lower the amount of hormone the thyroid gland makes. The preferred drug is methimazole. For pregnant or breastfeeding women, propylthiouracil (PTU) may be preferred. Because PTU has been linked to greater side effects, it is not used routinely outside of pregnancy. Both of these drugs control, but may not cure, hyperthyroidism.
- **Radioactive iodine.** This treatment will cure the thyroid problem, but usually leads to permanent destruction of the thyroid. You will likely need to take thyroid hormone pills for the rest of your life to provide normal hormone levels.
- **Surgery.** Surgical removal of the thyroid gland (thyroidectomy) is a permanent solution, but not usually preferred, because of the risk of damage to the nearby parathyroid glands (which

control calcium levels in the body) and to the nerves to the larynx (voicebox). Doctors may recommend surgery when either antithyroid medication or radioactive iodine therapy would not be appropriate.

- **Beta blockers.** These drugs (such as atenolol) do not lower thyroid hormone levels, but can control many troubling symptoms, especially rapid heart rate, trembling, and anxiety.

All of these therapies have risks. Your doctor will work with you to decide which treatment option is best for you.

## WHAT SHOULD YOU DO IF YOU THINK YOU MIGHT HAVE THYROID PROBLEMS?

Many of the signs and symptoms of hyperthyroidism may occur in other conditions. An endocrinologist, a specialist in hormone-related conditions, can help diagnose and treat hyperthyroidism.

If you have ever been treated for hyperthyroidism, or are currently being treated, see your doctor regularly so that your condition can be monitored. It is important to ensure that your thyroid hormone levels are normal and that you're getting enough calcium to keep your bones strong.

## Questions to ask your doctor

- Do I have hyperthyroidism?
- What treatment do I need for it?
- What are the risks and benefits of each of my treatment options?
- What else can I do to stay healthy?
- Should I see an endocrinologist?

## RESOURCES

- Find-an-Endocrinologist: [www.hormone.org](http://www.hormone.org) or call 1-800-HORMONE (1-800-467-6663)
- Hormone Health Network information about thyroid disorders: [www.hormone.org/thyroid/index.cfm](http://www.hormone.org/thyroid/index.cfm)
- MedlinePlus (National Institutes of Health-NIH):  
— [www.nlm.nih.gov/medlineplus/thyroiddiseases.html](http://www.nlm.nih.gov/medlineplus/thyroiddiseases.html)  
— [www.nlm.nih.gov/medlineplus/ency/article/000356.htm](http://www.nlm.nih.gov/medlineplus/ency/article/000356.htm)
- National Endocrine and Metabolic Diseases Information Service (NIH): [www.endocrine.niddk.nih.gov/pubs/Hyperthyroidism/](http://www.endocrine.niddk.nih.gov/pubs/Hyperthyroidism/)
- Mayo Clinic information about hyperthyroidism: [www.mayoclinic.com/health/hyperthyroidism/DS00344](http://www.mayoclinic.com/health/hyperthyroidism/DS00344)
- American Thyroid Association: [www.thyroid.org](http://www.thyroid.org)
- Graves' Disease & Thyroid Foundation: [www.gdatf.org](http://www.gdatf.org)

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The Hormone Health Network offers free, online resources based on the most advanced clinical and scientific knowledge from The Endocrine Society ([www.endo-society.org](http://www.endo-society.org)). The Network's goal is to move patients from educated to engaged, from informed to active partners in their health care. This fact sheet is also available in Spanish at [www.hormone.org/Spanish](http://www.hormone.org/Spanish).

Hyperthyroidism Fact Sheet



[www.hormone.org](http://www.hormone.org)