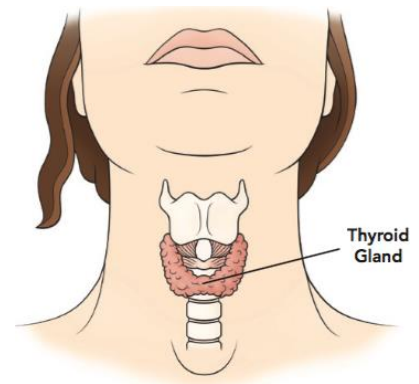


Graves' Disease and Hyperthyroidism

What is the Thyroid Gland?

The thyroid gland is found at the front of your neck and makes two thyroid hormones: **thyroxine (T4)** and **triiodothyronine (T3)**. These two hormones control how your body uses and stores energy, also known as your metabolism. The thyroid uses **iodine** in our blood to make thyroid hormones.

The thyroid is controlled by the pituitary gland in your brain. The pituitary makes **thyroid-stimulating hormone (TSH)**, which tells the thyroid to make T3 and T4.



Hormone Health Network

What is Graves' Disease and Hyperthyroidism?

Graves' disease is an autoimmune condition. This means your immune system is attacking your own thyroid gland. In Graves' disease, this causes your thyroid to make too much thyroid hormone.

Hyperthyroidism is when your thyroid produces too much thyroid hormone. Graves' disease is the most common cause of hyperthyroidism, but other causes include:

- Thyroid Nodules: lumps on the thyroid gland that may cause the thyroid to make too much hormone
- Subacute Thyroiditis: inflammation of the thyroid caused by a virus
- Lymphocytic Thyroiditis: inflammation of the thyroid caused by lymphocytes (a type of white blood cell) inside the thyroid
- Postpartum Thyroiditis: inflammation of the thyroid caused by pregnancy

Both Graves' Disease and Hyperthyroidism are most common in women between the ages of 20 and 50, but they can occur in men as well.

Signs and Symptoms

- | | |
|--|---|
| • Large thyroid gland (goiter) | • Hair or skin changes |
| • Eye problems (itchy, swollen, bulging) | • Muscle weakness |
| • Troubles breathing | • Shaky hands |
| • Anxiety or irritability | • Irregular menstrual periods |
| • Trouble sleeping/tiredness | • Infertility (difficulties getting pregnant) |
| • Rapid heartbeat | • Weight loss |
| • Excess sweating | |

How are Graves' Disease and Hyperthyroidism diagnosed?

To diagnose Graves' disease and hyperthyroidism, your doctor may do the following:

- Review your symptoms and your personal and family medical history.
- A **physical exam** to look at the size of your thyroid gland, to see if you have any eye irritation, and to measure your pulse.
- A **blood test** may be used to check hormone levels.
- A **Radioactive Iodine Uptake Test** may be used to measure how much iodine your thyroid gland is using to make thyroid hormones. If the thyroid gland is making too much thyroid hormone, it uses more iodine. This test is done by swallowing a pill with a small amount of radioactive iodine, which is not harmful. If a lot of the iodine from the pill is used up, you may have Graves' disease.

How are Graves' Disease and Hyperthyroidism treated?

Both Graves' disease and hyperthyroidism can be treated. The treatment for hyperthyroidism depends on its cause, your age, physical health, and how serious your thyroid condition is.

Treatment options include:

- **Antithyroid Medications:** These medications lower the amount of hormone your thyroid makes. Methimazole is the most common medication that is used. If you are pregnant or breastfeeding, propylthiouracil (PTU) may be a better option. These medications will help control hormone levels but are not a cure for Graves' disease or hyperthyroidism.
- **Radioactive Iodine:** This treatment will cure the thyroid condition, but it will permanently stop the thyroid from producing hormones. With this treatment, thyroid hormone replacement pills should be used for the rest of your life to help you have normal hormone levels.
- **Surgery:** This treatment removes the thyroid and is a permanent solution. However, this is not always used because it may damage other glands and/or the voice box. This treatment is only used if antithyroid medications and radioactive iodine will not work.
- **Beta Blockers:** These drugs help manage symptoms such as a rapid heart rate, trembling, and anxiety. These do not cure or treat hyperthyroidism.



Be sure to talk to your doctor if you have questions about the types of treatments available to you.

Complications of Graves' Disease and Hyperthyroidism

If hyperthyroidism is not treated, it can lead to heart failure or weak bones (osteoporosis). Graves' disease may cause swelling behind the eyes, but this is rare.

In pregnancy, women with uncontrolled Graves' disease are at a greater risk of miscarriage, premature birth, or having a baby with a low birth weight.