

## How is Graves' disease treated?

Graves' disease is a treatable disease that can be well-controlled and also definitively treated. Treatment options include:

- Antithyroid medications lower the amount of circulating thyroid hormones by blocking their production by the thyroid gland. These medications help control but may not cure the condition. In Australia, the available antithyroid medications are Carbimazole and Propylthiouracil. You may need to take a course of antithyroid medication for 12 to 18 months at the lowest dose required to control the hyperthyroidism. Some doctors may give you a fixed dose of Carbimazole in combination with Thyroxine for 6 to 9 months as a "block and replace" treatment regimen.
- Beta-blockers can control many symptoms such as rapid heart rate, trembling, anxiety. They do not cure the disease or reduce the production of thyroid hormones.
- Radioactive iodine will cure the hyperthyroidism 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 have normal hormone levels. Radioactive iodine treatment may make the symptoms of Graves' ophthalmopathy worse. If you have severe Graves' ophthalmopathy, radioactive iodine treatment may not be suitable for you. If the ophthalmopathy is moderately severe and your specialist advises radioactive iodine treatment, you will likely be treated with a course of steroid medication (prednisolone).

- Surgery involves the removal of the thyroid (thyroidectomy). It is a permanent solution. There is a risk of damaging the parathyroid glands (glands situated at the back of the thyroid glands that control calcium metabolism in the body) and the nerves to the larynx (voice box). Surgery is recommended when neither antithyroid medication nor radioactive therapy is appropriate.

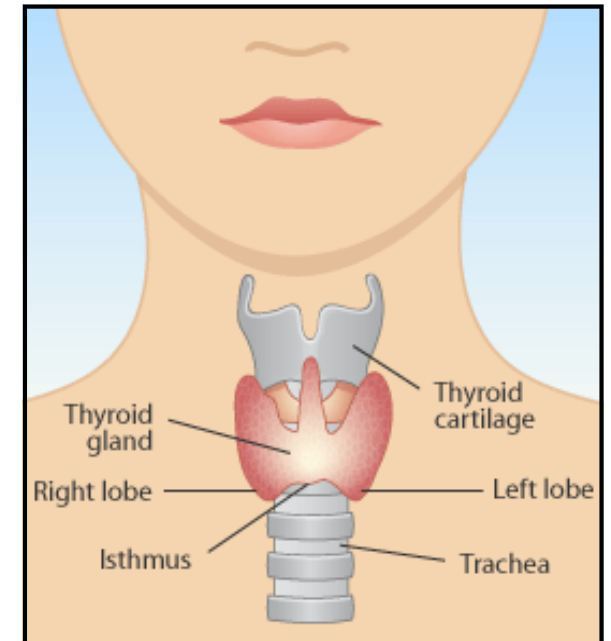


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## Information Brochure: Graves' Disease



## My doctor says I have Graves' disease

### What is Graves' disease?

Graves' disease is a condition where your immune system attacks your thyroid gland, causing it to enlarge and make too much thyroid hormone, a condition called hyperthyroidism. The disease affects about five in every 10,000 people. Although it can occur at any age in men or women, it is more common in women between ages 20-50 years, who often have a family history of thyroid disease.

### What is the thyroid gland?

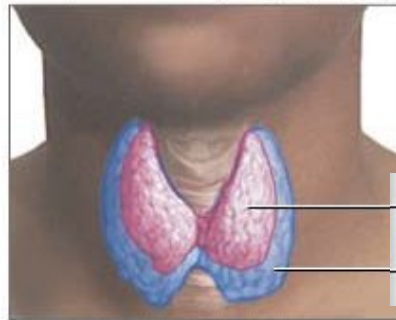
The thyroid gland is situated in the front of your neck, just below the Adam's apple. It is controlled by thyroid-stimulating hormone (TSH) which is produced by the pituitary gland, located in the brain. The thyroid gland produces two major thyroid hormones, thyroxine (known as T4) and triiodothyronine (known as T3). The thyroid hormones are important for the growth, development and normal function of your body, including regulation of your body temperature.

### What are the possible signs and symptoms of Graves' disease?

- Diffuse goitre (enlarged thyroid gland)
- Exophthalmos (bulging eyes), itchy or swollen eyes
- Anxiety, irritability, insomnia
- Heat intolerance, weight loss despite normal or increased food intake, fatigue
- Rapid or irregular heartbeat, breathlessness
- Diarrhea, irregular menstruation in women
- Changes in hair, skin



Exophthalmos (bulging eyes)



Normal thyroid

Enlarged thyroid

Diffuse goiter

### How is Graves' disease diagnosed?

Your doctor will use a combination of physical examination, blood tests and imaging to diagnose Graves' disease:

- History and physical examination. Your doctor will ask about your symptoms and family medical histories and look for enlargement of your thyroid gland, irritation of your eyes, check your pulse and look for signs of trembling.
- Blood tests. Hyperthyroidism is shown by very low levels of TSH and high levels of T4 or T3 in your blood. Elevated antibodies to the thyroid gland and TSH-receptor on the thyroid gland are consistent with Graves' disease.

- Radioactive iodine uptake test. The thyroid gland uses iodine to make thyroid hormone. When the thyroid is over-active it uses more iodine. This test involves your swallowing a capsule which contains a small, harmless amount of radioactive iodine followed by the measurement of the amount of iodine taken up by your thyroid. A high uptake of radioactive iodine is consistent with Graves' disease.

### What are the risks associated with Graves' disease?

If left untreated, hyperthyroidism can lead to rapid or irregular heart beat or heart failure and to brittle bones (osteoporosis). Pregnant women with uncontrolled Graves' disease are at greater risk of miscarriage, premature birth and having a baby with low birth weight.

Graves' disease can also cause swelling behind the eyes that makes them feel uncomfortable and sometimes bulge outward. This condition is called Graves' ophthalmopathy.



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