

# Graves' Disease

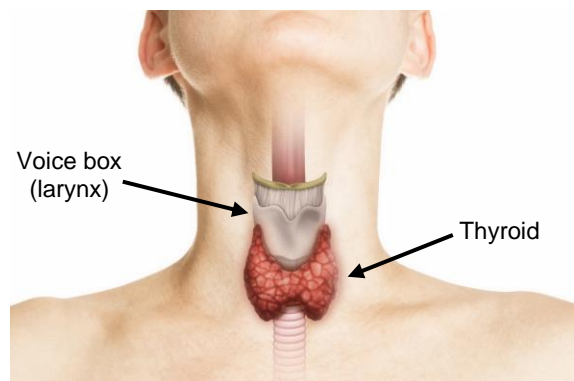
Graves' disease is an autoimmune disease. This means that the body attacks itself. Our immune system protects our body by making antibodies. With Graves' disease, the antibodies attack the thyroid gland and cause it to make and release too much thyroid hormone (Picture 1). Too much thyroid hormone in the blood is called hyperthyroidism.

Thyroid hormone controls how the body uses energy. Excess hormones speed up the body's metabolism. If uncontrolled, this can lead to health problems for the rest of your child's life.

The cause of Graves' disease is unknown, but it can be easily treated.

Graves' disease can happen at any age, and anyone may be affected. Your child is more at risk if they:

- Were born female.
- Have a family history of Graves' disease.
- Have a family history of other autoimmune diseases.



**Picture 1** Thyroid gland in the neck

## Signs and Symptoms

- Problems sleeping, tiredness, weakness
- Weight loss, even when eating normal
- Fast or irregular heart rate
- High blood pressure
- Shaky hands (tremor)
- A bulge at the base of the neck (goiter)
- Problems swallowing or feeling like the neck is swollen
- Irritability, mood swings, and emotional outbursts, like crying or yelling
- Problems focusing
- Increased energy
- Sensitivity to heat or cold
- Hair that breaks easily
- Change in menstrual periods
- Bulging eyes, seeing double

## Complications

When the body makes too much thyroid hormone, it can cause:

- Heart problems: A fast or irregular heart rate can lead to congestive heart failure.
- Brittle bones: Too much thyroid hormone affects how your body gets calcium into your bones. Your child may be more prone to breaking a bone.
- Eye changes: Bulging eyes, seeing double, redness, and tearing.
- Thyrotoxic crisis: A sudden increase in the symptoms of hyperthyroidism, like fast a heart rate and confusion. This rarely happens. If it does, get medical care right away.

## Diagnosis

To diagnose Graves' disease, your child's doctor or health care provider will:

- Ask you about your child's health and your family's health history.
- Do a physical exam.
- Do blood tests that measure the levels of thyroid stimulating hormone (TSH), thyroxine (T4), triiodothyronine (T3), and thyroid antibodies.
- May do a thyroid scan. They take a picture of your child's thyroid to see how it looks and works.

## Treatment

- At first, your child may take:
  - Anti-thyroid medicines to stop the thyroid from making too much thyroxine (T4).
  - Beta blockers to treat symptoms like a fast heart rate, sweating, and anxiety.
- If these medicines don't work, your child may need:
  - Surgery to take out most of the thyroid gland. This is called a thyroidectomy. They'll have to take thyroid medicine to replace the thyroid hormone for the rest of their life.
  - Radioactive iodine (RAI) pills to shrink the size of the thyroid so that it doesn't make too much thyroid hormone. These pills will not hurt other parts of the body.

## Follow-up Care

Your child will need to see their doctor or health care provider regularly to make sure their hormone levels stay in a normal range.