

Patient information from BMJ

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Graves' disease

Graves' disease is one of the most common causes of an overactive thyroid gland. It can cause symptoms including weight loss, sensitivity to heat, and eye problems. But there are several treatments that can help.

You can use our information to talk to your doctor about which treatments are best for you.

What is Graves' disease?

Graves' disease is a condition that causes your **thyroid gland** to become overactive. Your thyroid gland is in your neck. It makes hormones that control the amount of energy your body uses.

Graves' disease is caused by a problem with your **immune system**. Your immune system usually protects you from disease by attacking bacteria and viruses.

But if you have Graves' disease your immune system attacks your thyroid gland. This causes your thyroid gland to make larger amounts of hormones.

You are more likely to get Graves' disease if you are a woman or if you smoke.

What are the symptoms?

Graves' disease makes your thyroid produce extra hormones, which causes symptoms including:

- feeling uncomfortable in heat, even at temperatures than would normally bother you
- increased sweating
- losing weight without trying
- palpitations, when you're very aware of your heartbeat
- having a faster heartbeat than usual
- shaking
- swelling in your neck (a **goitre**)
- red, bulging, or watery eyes (a condition called **Graves' ophthalmopathy**)

Graves' disease

- feeling irritable, and
- sleep problems.

Graves' disease can cause more serious problems if it's not treated, especially in older people. These problems include an irregular heartbeat or muscle weakness.

Rarely, an overactive thyroid can lead to a serious problem called a **thyroid storm**. It causes:

- a very fast heartbeat
- a fever
- dehydration
- a yellow tinge to the skin (jaundice), and
- confusion and, rarely, hallucinations.

What treatments are available?

There are several treatments for Graves' disease. Your doctor will encourage you to think about which type of treatment best fits in with your preferences and your life.

The aim of treatment is to get your levels of thyroid hormones back to normal.

The first treatment your doctor might recommend is drugs called **beta blockers** or **calcium channel blockers**. These medications don't actually treat your thyroid. But they can help you to feel better until other treatments can get your hormones back under control.

Radioactive iodine

A common option for an overactive thyroid is **radioactive iodine**. It's a one-off treatment, which you take as a drink or a capsule.

Even though the amount of radiation involved is very small, this treatment isn't suitable for women who are **pregnant or breastfeeding**, and it's not usually recommended in **young children**.

Radioactive iodine treatment can work well, but it often shrinks the thyroid gland too much. This means that the thyroid gland can't make enough hormones.

If this happens you'll need to take pills for the rest of your life to replace the hormones your body can't make.

This treatment can cause **other side effects** in some people, including irritated eyes, a sore throat, or a rash. Your doctor should discuss the side effects with you before you have these treatments.

Antithyroid drugs

Instead of having radioactive iodine treatment, some people choose to take **antithyroid drugs** for the long term. Other people may take these drugs for a shorter time to regulate their thyroid before going on to have other treatments.

Graves' disease

Antithyroid drugs have some unpleasant side effects in some people.

For example, about 10 in 100 people get a **rash**. The drugs can also stop your immune system from working as well as it normally does, so it's important to tell your doctor about any infections you get, especially sore throats or a fever.

Surgery

Most people with Graves' disease don't need surgery. But it's sometimes recommended for:

- women in the second trimester of pregnancy
- children, and
- people with a very large swelling on their neck (a goitre).

If you are going to have surgery you'll need to take antithyroid drugs for a week or so to prepare your thyroid gland.

The surgeon will probably remove most or all of your thyroid gland. So you'll need to take hormones as tablets afterwards.

Like all surgery, the operation carries some **risks**. For example, there's a chance that the surgeon could accidentally damage the nerves in your neck that control your vocal cords.

This can make it difficult or even impossible to talk. If this happens, you'll need **speech therapy**. This happens to about 1 in every 100 people who have this operation.

There's also a chance of damaging the glands behind your thyroid that help regulate your body's calcium levels. If you get this problem you'll need to take calcium supplements for the rest of your life. This happens to about 2 in every 100 people.

If you're at risk of getting eye problems from Graves' disease, your doctor might suggest taking drugs called **corticosteroids** (often just called steroids) to help reduce the risk.

These drugs help reduce inflammation (swelling) and the problems it can cause.

Treatments for children

Most treatments for adults with Graves' disease are also considered safe for children. But radioactive iodine is not usually recommended for very young children.

If your child has Graves' disease, your doctor should discuss all the available treatments with you, as well as any possible side effects.

Treatments for pregnant women

Not all treatments for Graves' disease are considered safe for pregnant women.

For example, pregnant women should not have treatment with radioactive iodine.

Pregnant women can usually have antithyroid drugs. But the doses will be lower than for other adults. The drugs you can have will also depend on what stage your pregnancy is at. This is because some drugs are only safe in the early stages of pregnancy.

Graves' disease

If you have Graves' disease while pregnant your doctor should monitor your treatment closely through your pregnancy.

What to expect in the future?

Treatment works well for most people, but there's a good chance that you'll need more treatment in future.

If you choose **radioactive iodine or surgery**, your thyroid should no longer be over-active. But there's a strong chance that your thyroid level will now be too low. So you might need to take hormone pills.

If you choose long-term **antithyroid drugs**, there's a chance that your thyroid level will normalise on its own after a year or two. But about half of people will still have an overactive thyroid and will need to keep taking antithyroid drugs, or else choose another form of treatment.

Most people who get **eye problems** caused by an overactive thyroid find that these problems go away after treatment. However, some people get more serious eye problems that need specialist treatment.

Some people with Graves' disease get an abnormal heartbeat, called **atrial fibrillation**. This is more likely in older people. If this happens your doctor might recommend drugs to prevent blood clots and guard against the chance of a heart attack or stroke.

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