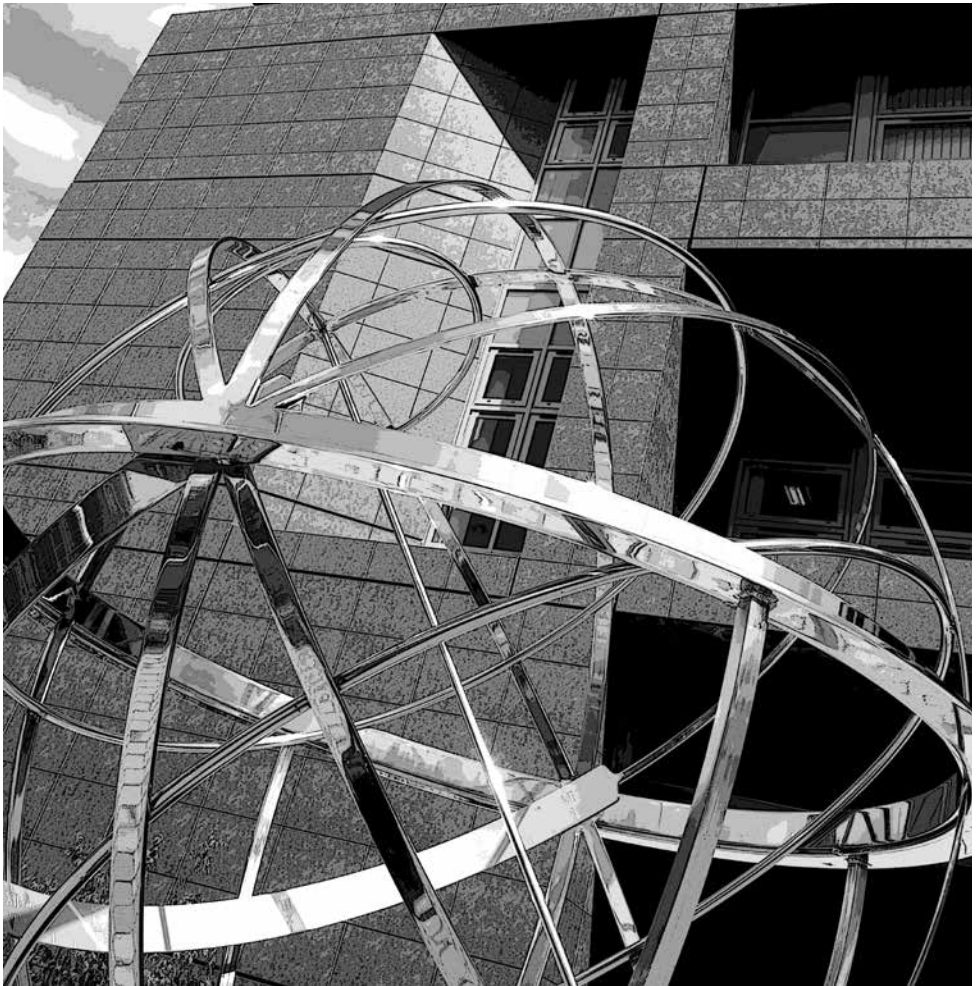


Oxford Centre for Head and Neck Oncology

The Thyroid Gland and Thyroid Cancer

Information for patients



What is the thyroid gland?

The thyroid gland is an endocrine gland which makes hormones that are released into the bloodstream. These hormones affect cells and tissues in other parts of the body and help them to function normally.

The thyroid is made up of two lobes, each about half the size of a plum. The two lobes lie on either side of your windpipe, with the gland as a whole lying just below your Adam's apple.

The thyroid gland produces three hormones, that are released into the bloodstream:

- thyroxine, often called T4
- triiodothyronine, often called T3. In the body, T4 is converted into T3 and this is what influences the way cells and tissues work.
- calcitonin – this is involved in controlling calcium levels in the blood. With medullary thyroid cancer (MTC), too much calcitonin is produced, however this does not lead to any significant change in calcium levels.

Thyroxine and T3 can both be replaced by medication and the body can function perfectly well with little or no calcitonin.

Thyroid hormones T3 and T4 help to control the speed of body processes – otherwise known as your metabolic rate. If too much of these thyroid hormones is released, your body starts to work faster than normal and you develop 'hyperthyroidism'. This would make you feel overactive and anxious, hungrier than usual, and you would lose weight. However, if too little of these thyroid hormones is produced, your body will start to work slower than normal and you develop 'hypothyroidism'. This makes you feel tired and sluggish.

Thyroid cancer

Most cancers of the thyroid gland are very slow growing and it may be many years before the symptoms become obvious. There are different types of thyroid cancer:

- papillary carcinoma – this is the most common thyroid cancer. It is more common in younger people, particularly women.
- follicular carcinoma – this is less common and tends to occur in slightly older people.
- medullary carcinoma – this is a rare cancer which is sometimes hereditary (passed down through a family from one generation to the next).
- anaplastic thyroid cancer – this is a very rare form of a very aggressive cancer, usually occurring in older people.

Most thyroid cancers are very treatable and curable, but it is possible that they will return, especially in very young and very old people. This can occur at any stage, but recurrences can be treated successfully, so lifelong follow-up is very important.

What is the cause of thyroid cancer?

The cause of thyroid cancer is unknown, but exposure to radiation is known to increase the risk of getting thyroid cancer. For example, after the Chernobyl accident, many more children in the area developed thyroid cancer. Similarly, it has been found in people who had external radiotherapy to their neck 10 or 20 years earlier. Research into the causes of thyroid cancer is ongoing.

Very occasionally, papillary cancer can be hereditary, and medullary cancer is quite often hereditary.

What are the symptoms of thyroid cancer?

A painless lump in the central part of the neck is the most common sign of thyroid cancer. Some people might experience:

- Difficulty in swallowing (dysphagia), because of the pressure of the enlarged thyroid gland on the oesophagus (gullet).
- Difficulty in breathing (dyspnoea), because of the pressure of the enlarged thyroid gland on the trachea (windpipe).
- Hoarseness of their voice.

Symptoms of hyperthyroidism (overactive thyroid) and hypothyroidism (underactive thyroid) are rare, as cancer cells do not generally affect hormone production from the thyroid.

Often there are no symptoms and the cancer is found 'by chance'.

What tests will I need?

Fine needle aspiration: This is carried out in an outpatient hospital appointment. A very small needle will be inserted into any swelling you may have in your neck, and a sample of cells will be taken out. These cells are then analysed under a microscope. This is one of the main tests that will help clarify your diagnosis.

Blood tests: You may have some additional blood tests to re-check the function of your thyroid and your levels of thyroid auto antibodies. Thyroid autoantibodies are antibodies that attack thyroid cells. They are produced if you have thyroiditis (inflammation of your thyroid gland). Over time they can gradually destroy the thyroid gland.

Ultrasound scan: In this test we use a hand-held device over your skin to create a picture of your thyroid gland on a screen. This is done using sound waves and it will show up any solid

lumps or cysts. This on its own cannot diagnose cancer but it can show us any enlarged lymph nodes that could be affected by the local spread of the cancer.

What happens after my diagnosis?

If you are diagnosed with thyroid cancer, your case will be discussed at a multi-disciplinary team (MDT) meeting to consider which treatment(s) may be the best option. The members of the team consist of:

- Endocrine Consultant Surgeons
- Consultant Oncologists (cancer specialists)
- Consultant Pathologists (doctors who examine tissues under a microscope to help with diagnosis)
- Nurses involved in your future care
- Radiographers (specialists in scans and X-rays (imaging)).

After the MDT meeting your consultant surgeon and other members of your care team will meet with you. They will discuss the results of your investigations and the treatment options that they recommend. Your surgeon will also answer any questions you have on the benefits and risks of these treatments.

What treatment will I be offered?

Surgery (thyroidectomy) is usually the first line of treatment for thyroid cancer. Usually the whole thyroid gland will need to be removed (total thyroidectomy), but sometimes only one lobe needs to be removed. This will depend on various factors, such as your age, the size of the lump and the results of the tests mentioned previously.

After a thyroidectomy, you will need to take **thyroxine tablets** for the rest of your life. To begin with, you will need regular blood tests to check that your thyroid hormone levels are within normal limits, and the TSH (thyroid stimulating hormone) level is suppressed. Eventually you should only need a blood test once or twice a year.

Some people with thyroid cancer will also need to have some of the lymph glands in their neck removed. This may be carried out during an initial operation along with a thyroidectomy, or it may be carried out during a further operation some time later.

The lymph nodes can usually be removed through the cut made during your thyroid operation, but it may mean that the cut needs to be slightly longer. After the removal of neck nodes, you are likely to have a drain (small tube to drain away fluid), which will usually stay in place for 48 hours or so. This will mean that you need to stay in hospital for an extra day or so.

You are likely to need to have **radioactive iodine** treatment after surgery. This treatment is used to destroy any thyroid cells that may have “escaped” surgical removal. Your doctor will tell you if you need this treatment.

Radioactive iodine treatment is painless and comes as a capsule-type tablet, in a single dose. The capsule contains a fixed dose of radioactive iodine.

The radioactive iodine is taken up by any thyroid cells left after the surgery. It can't be taken up into any other type of cells, so

this provides a 'magic bullet' for any persistent thyroid cancer cells. The cells will be destroyed by the radioactivity during the following weeks after taking the capsule.

You will not lose any hair after taking the radioactive iodine, but may experience side effects of nausea, headache and swelling at the site of your surgery.

It is a low dose of radiation but, for the safety of others, for the first 3 days after taking the radioactive iodine you will need to stay in hospital. You will also not be able to have close contact with children or pregnant women for two weeks after the treatment. This is because the radiation can affect young children and unborn babies.

Your specialist consultant will tell you if you need this treatment. You will also be given an information booklet like this one before you start the treatment.

If you are taking T3 (liothyronine) tablets, these should be stopped for 10 days before your radioactive iodine treatment.

If you are on thyroxine tablets, you should stop taking them for four to six weeks before the radioactive iodine treatment. During this time your specialist may change you to T3 tablets, and then stop your tablets altogether for the last 10 days before your treatment.

You may feel tired when you are not taking your tablets. This is normal and will get better once you start taking them again, which is usually a few days after you have had the radioactive iodine.

It is important that you follow the instructions given to you by your doctors about stopping your thyroid medication. If you are unsure about your medication, please contact your specialist centre six weeks before your planned date for radioactive iodine treatment.

Do I have to come into hospital for radioactive iodine treatment?

Yes, you will probably need to stay in hospital for 3 days. How soon you can go home depends on how quickly the radioactivity leaves your body.

Will I need radioactive iodine treatment again? The treatment may need to be repeated until all of your remaining thyroid tissue has been destroyed. Most people require one dose and some people require more than one treatment.

Please remember that although this is a low dose of radiation, these precautions are to protect you and others in case they should need to have radiation treatment in the future. The aim is to keep everybody's radiation exposure to a minimum (both you and those around you).

How to contact the Oxford Thyroid Cancer MDT

Please contact your specialist treatment centre if you have any questions or concerns after reading this information. Together we can help you through your investigations, treatment and recovery.

Mr Gregory P Sadler

Consultant Endocrine Surgeon

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Consultant Endocrine Surgeon

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Superintendent Radiographer

Tel: 01865 235 804

Yun Li

Clinical Nurse Specialist

Tel: 01865 234 346

Jacky Rawlings

Clinical Nurse Specialist

Tel: 01865 234 346

Other useful contacts

The British Thyroid Foundation

Tel: 01423 709 707 or 01423 709 448

Website: www.btf-thyroid.org

Association for Multiple Endocrine Neoplasia

Website: www.amend.org.uk

Email: jo.grey@amend.org.uk

Macmillan Cancer Support

Freephone: 0808 808 0000

Website: www.macmillan.org.uk/home.aspx

Oxfordshire Cancer Information – Maggie’s Centre

Website: <http://oxford.cancerlinks.maggiescentres.org/>

For thyroid cancer information go to cancer types, then click on thyroid.

Cancer Research UK

Tel: 0808 800 4040

Website: www.cancerresearchuk.org/

Butterfly Thyroid Cancer Trust

Website: www.butterfly.org.uk

Helpline: 01207 545 469

Other useful sites can be found through the British Thyroid Association

Website: www.british-thyroid-association.org/Links/

Macmillan Cancer Support

Macmillan Cancer Support is the UK's largest cancer information charity. It provides information, support and practical advice on all cancers, treatments and supportive issues.

Website: www.macmillan.org.uk

Some of Macmillan's most commonly requested cancer information is available in different languages, please see their website for information. They can also provide interpreters in many languages.

Tel: 0808 808 0000

If you have a specific requirement, need an interpreter, a document in Easy Read, another language, large print, Braille or audio version, please call **01865 221 473** or email **PALSJR@ouh.nhs.uk**

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Compiled with the help of patients, carers and The Head & Neck Team
November 2015
Review: November 2018
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