

Thyroid gland

Health information after cancer treatment as a child or teenager

The purpose of this factsheet is to tell you about long-term side effects (called 'late effects') that can happen after having cancer treatment. They can happen soon after treatment has finished or later in life. The medical team at the hospital where you received your treatment or your long-term follow-up team will be able to help you with specific information about which late effects are relevant to you.

What is the thyroid gland?

The thyroid gland is in your neck and in front of your windpipe. It makes hormones which control your metabolism (how quickly or slowly your body converts food and drink into energy). The hormones from your thyroid gland are controlled by the hormones produced by the pituitary gland (see pituitary information sheet).

Thyroid gland problems are common in the population as a whole, particularly women, but are even more common if you have had particular treatments to treat your cancer.

The thyroid gland can be affected in three ways by cancer treatment:

- damage to the thyroid gland can affect the amount of thyroid hormone that it is able to produce which causes an underactive thyroid (hypothyroidism) or sometimes an overactive thyroid (hyperthyroidism)
- damage to the thyroid gland, particularly following radiotherapy, can cause thyroid nodules (lumps within the thyroid gland) to develop which need to be checked to make sure they do not contain cancer
- the thyroid gland does not produce enough thyroid hormone because of damage to the pituitary gland (see CCLG late effects factsheet - pituitary gland)

Depending on what cancer treatment you had, thyroid gland damage can happen immediately, following radiotherapy, or over many years. There is a chance that at some point in your life you may develop a thyroid problem, even if you aren't showing signs at this time. It is important that if you have had treatment which affects your thyroid gland, you have regular checks of your thyroid hormones and examinations of your thyroid gland.

What do I look out for?

Some people have symptoms when their thyroid gland is either producing too little or too much thyroid hormone (see table below). Mostly, there are no symptoms and thyroid hormone problems are picked up by routine blood tests.

A thyroid nodule (a solid or fluid-filled lump) would either appear as a swelling over the front part of the neck which might be noticed by you, or a family member or friend, or felt when a doctor examines you in clinic. Less commonly, people may have symptoms including hoarseness or change in voice. Symptoms of pain are very uncommon. Sometimes, a nodule is too small to be seen or felt and is picked up on a scan called an ultrasound.

Symptoms of underactive thyroid:

- feeling tired
- gaining weight
- feeling cold
- constipation
- dry skin and hair loss
- irregular periods in women

Symptoms of overactive thyroid:

- feeling hyperactive, anxious and/or tired
- weight loss
- heat intolerance
- diarrhoea
- hair loss
- irregular periods in women

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Who is at risk?

Thyroid issues can occur if you have had:

- tumour or cancer of the brain, pituitary gland, neck, and thyroid gland
- radiotherapy to the brain, eye, nose, face, neck, upper part of your chest or spine or whole body
- surgical removal of the thyroid gland with or without radioiodine treatments
- high doses of MIBG (sometimes used to treat neuroblastoma)
- stem cell (bone marrow) transplantation

How do we monitor thyroid issues?

Thyroid hormone problems can be screened for by a blood test called the **thyroid function test**.

Thyroid nodules are screened for by the doctor examining your thyroid gland for lumps, and if one is felt, then they will organise for you to have an ultrasound scan. Depending on what the nodule looks like on the scan, some cells from the nodule may be taken out by a needle biopsy so the cells can be looked at more closely under a microscope.

How are thyroid problems treated?

An **underactive thyroid** is treated by thyroid hormone replacement called levothyroxine, which is a small tablet taken once a day. Thyroid hormone levels are easily monitored by routine blood tests usually every six months.

An **overactive thyroid** is usually treated by tablets called carbimazole or propylthiouracil, and some people may need radioiodine treatment or surgery.

For **thyroid nodules**, it depends on their appearance on a scan and what the cells look like under the microscope. If the doctors are happy that the nodule does not contain cancer, then no treatment will be required. Often it can be difficult to say for certain, so they might repeat the scan and the needle biopsy, or the doctors might discuss that it would be best to have an operation to remove half of the thyroid gland containing the nodule to allow it to be properly tested.

Only a small percentage of thyroid nodules are cancerous (just 1 in 20 nodules). If thyroid cancer is diagnosed then you will need to have all of your thyroid gland removed, and you may also require a treatment called radioactive iodine treatment. Although it depends on a range of factors, thyroid cancer on the whole is very curable.

What can I do?

You cannot prevent thyroid problems from developing, but you can make sure problems are picked up and treated early. Attend all your check-ups so that your thyroid levels can be monitored regularly and your thyroid gland examined. Speak to your doctor if you have symptoms of abnormal thyroid levels (as listed above) or if you feel a lump in your neck.

Where can I find more information?

Society for Endocrinology
www.yourhormones.info

British Thyroid Foundation
www.btf-thyroid.org

British Society for Paediatric Endocrinology and Diabetes
www.bsped.org.uk/media/1433/hypothyroidism-in-childhood.pdf



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ChildrensCLG CCLG_UK

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Written by CCLG Late Effects Group, a national network of experts who specialise in looking after young cancer survivors, in conjunction with the CCLG Information Advisory Group, comprising multiprofessional experts in the field of children's cancer. If you have any comments on this factsheet, please contact us. CCLG publications on a variety of topics related to children's cancer are available to order or download free of charge from our website.

Children's Cancer and Leukaemia Group (CCLG) is a leading national charity and expert voice for all childhood cancers.

Each week in the UK and Ireland, more than 30 children are diagnosed with cancer. Our network of dedicated professional members work together in treatment, care and research to help shape a future where all children with cancer survive and live happy, healthy and independent lives.

We fund and support innovative world-class research and collaborate, both nationally and internationally, to drive forward improvements in childhood cancer. Our award-winning information resources help lessen the anxiety, stress and loneliness commonly felt by families, giving support throughout the cancer journey.

Our work is funded by donations. If you would like to help, text 'CCLG' to 70300 to donate £3. You may be charged for one text message at your network's standard or charity rate. CCLG (registered charity numbers 1182637 and SC049948) will receive 100% of your donation.