ENGLISH

Hormone Disorders

Hypothyroidism

Patient's Guide

Average readability

ESPE
European Society for Paediatric Endocrinology

Child Growth Foundation
Supporting children & adults with rare growth conditions

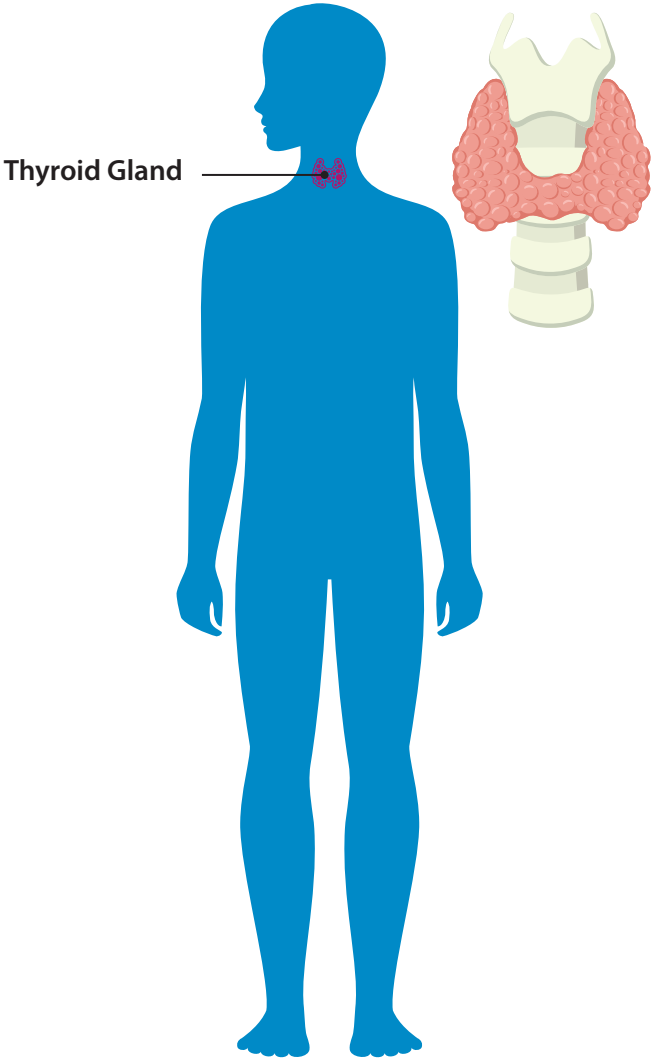
BSPED

Introduction

The aim of this leaflet is to provide information about hypothyroidism in babies, children and adults. We hope this information will give you a better understanding of this condition and form the basis for discussions with your GP, Paediatrician and Nurse.

What is the thyroid gland?

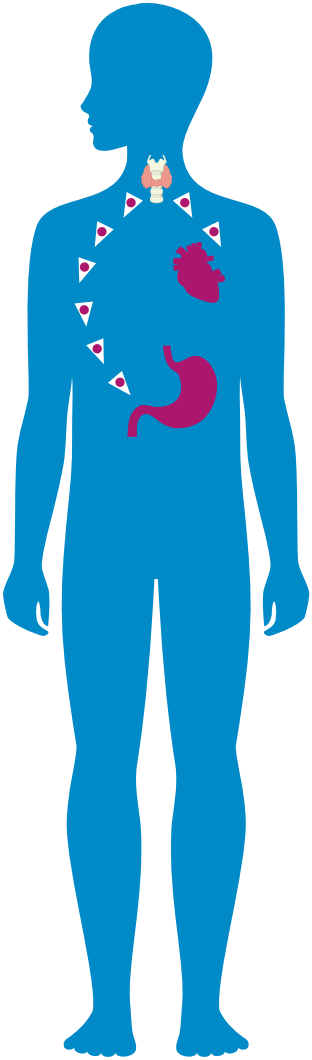
The thyroid gland is a small gland found in the neck below the larynx (Adam's apple). It makes and releases thyroid hormones to help regulate body growth and metabolism.



What do the thyroid hormones do?

Hormones are messengers used around the body to produce an effect. The main hormone produced by the thyroid gland is **thyroxine**. This hormone controls the amount of energy used by the body to maintain vital processes such as breathing, circulation and digestion.

Too much thyroxine makes the body work too fast, whereas too little allows the body to slow down. The thyroid hormones also affect brain growth and metabolism in babies in the womb and up to the age of about two years.



What is Hypothyroidism?

Normally, the thyroid gland should be fully developed in all babies by the 22nd week of pregnancy (just over halfway through). However, this development can go wrong and lead to underdevelopment or absence of the thyroid gland.

When the thyroid gland is poorly developed or absent, it will not produce thyroxine. This condition is called **congenital hypothyroidism**. In children, hypothyroidism usually appears as either congenital (which means present from birth) or acquired. There are important differences between these two forms of hypothyroidism, which will be described.

What is Congenital Hypothyroidism?

Congenital hypothyroidism is caused when the thyroid gland does not reach its proper position during development in the womb. In other occasions, the thyroid gland grows normally but fails to produce thyroxine. This condition is present from birth and some types can occur in several family members (inherited).

What are the symptoms of congenital hypothyroidism?

Common symptoms in babies include the following:

- Slow feeding
- Sleepiness
- Constipation
- Prolonged jaundice after birth (yellowish coloration)

Unfortunately, these are very common symptoms in babies, even when they do not have hypothyroidism. For this reason, all babies are now screened at birth for congenital hypothyroidism with the heel prick test. This test is done in the first week of life in all newborns. If this suggests the existence of this condition, additional blood tests and scans will be needed to confirm diagnosis.

How is diagnosis confirmed?

A blood sample from the vein will be taken to confirm diagnosis. This test will examine if the levels of thyroxine and TSH are within normal range. Other tests that may be performed include an X-ray of the knee and thyroid scans.

How is congenital hypothyroidism treated?

Once hypothyroidism has been diagnosed, treatment will start and it will often remain for life. Thyroxine will be given in tablet form once a day by mouth.

Most doctors will regularly check your baby's/child's levels of thyroxine in the blood. This is to make sure that they are on the correct dose. If the dose is much too high, symptoms of hyperthyroidism may develop, with restlessness, weight loss and mild diarrhoea.

Most doctors believe that children with congenital hypothyroidism should remain under the care of a paediatrician with experience in treating the condition until they are an adult.

What is Acquired Hypothyroidism?

Acquired hypothyroidism occurs when the thyroid gland becomes under-active in later childhood. Often this results from a condition in which the body attacks its own tissues (auto-immune). It also may occur because the gland gradually stops working over time.

Diagnosis is confirmed by measuring thyroid hormone and antibody levels in a blood test.

What are the symptoms of acquired hypothyroidism?

The most common symptoms include:

- **Growth problems:** Children may have slow growth and a tendency to put on weight. Puberty may be late, very slow or absent.
- **Physical changes:** Children may develop a gradual change in facial appearance. The face may develop a rather pale, puffy appearance. Other changes may include constipation, a slow heart rate, some hair loss and slow limb reflexes.

How is acquired hypothyroidism treated?

Treatment of acquired hypothyroidism is with thyroxine. This is given as a once daily tablet and the dose will vary according to individual needs.

Your doctor will review the dose from time to time as it may take some time to build up to the full replacement dose. The outcome for your child should be excellent. Usually, the symptoms disappear within the first 3 months of treatment.

It's very important that treatment is taken **every day**. This can become difficult with older children as they become responsible for taking their own treatment. So, as children become young adults, the importance of taking their treatment should be explained to them.

Who is at risk of developing hypothyroidism?

As already mentioned, thyroid problems may appear in families. Around 40% of children with acquired hypothyroidism have relatives who also have some type of thyroid gland problem. Girls and women are much more commonly affected than boys or men. In addition, the following conditions are considered a risk factor for hypothyroidism:

- Down's Syndrome
- Turner Syndrome
- Metabolic and Blood Conditions
- Pituitary Gland Problems

What are other sources of useful information?

The goal of this leaflet was to provide a basic overview of hypothyroidism.

Educational material can also be found by contacting the following organisations:

- **European Society for Paediatric Endocrinology**
  Starling House
  1600 Bristol Parkway North
  Bristol
  BS34 8YU
  espe@eurospe.org
  Telephone +44 (0) 1454 642246
  www.eurospe.org

- **British Society of Paediatric Endocrinology and Diabetes**
  bsped@endocrinology.org
  https://www.bsped.org.uk/

- **Child Growth Foundation**
  info@childgrowthfoundation.org
  Telephone +44 (0) 208 995 0257
  www.childgrowthfoundation.org

- **The Endocrine Society**
  www.endo-society.org

You can also consult your specialist team for additional information in your local area.

Hypothyroidism

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This leaflet is part of the **Hormone Disorders Series**

The following are also available:

- Growth Hormone Deficiency
- Puberty and the Growth Hormone Deficient Child
- Precocious Puberty
- Emergency Information for Children with Cortisol and GH Deficiencies and those Experiencing Recurrent Hypoglycaemia
- Congenital Adrenal Hyperplasia
- Growth Hormone Deficiency in Young Adults
- Constitutional Delay of Growth and Puberty
- Multiple Pituitary Hormone Deficiency
- Diabetes Insipidus
- Craniopharyngioma
- Intrauterine Growth Retardation or Small for Gestational Age
- Hyperthyroidism (overactive thryroid)
- Type 2 Diabetes and Obesity

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