

# Hypothyroidism - the life-changing disease that affects 2 in 100 people

## What is hypothyroidism?

Hypothyroidism occurs when the thyroid gland produces less thyroid hormone than it should - which then causes the metabolism to run too slow. Hypothyroidism is also known as myxoedema or an underactive thyroid.

Subclinical hypothyroidism (borderline hypothyroidism) is when patients have the symptoms but only one of the thyroid tests is abnormal - the thyroid-stimulating hormone (TSH) test.<sup>1</sup>

Hypothyroidism is mostly seen in women between the ages of 40-50 and is seen in women ten times more often than men.<sup>2</sup> It often occurs during the menopausal years and symptoms are often ignored during the early stages by both patients and doctors if the patient is at this age.

The prevalence of hypothyroidism is 1-2% (approximately 2 in every 100 people) but some doctors feel that the rate is much higher than this.<sup>3</sup>

Subclinical hypothyroidism is found in 8-10% of the population, is more common in women and increases with age.<sup>4</sup>

## What causes hypothyroidism?

The main causes of hypothyroidism are:

- Hashimoto's disease - an autoimmune disease where the antibodies may first stimulate the thyroid and then destroy it.<sup>4</sup>
- genetic dysfunction - the thyroid may be dysfunctional at birth (congenital hypothyroidism)<sup>5</sup>, or there is a polymorphism (a gene that is different to usual) that isn't found until the person is an adult.<sup>6</sup>
- pituitary or hypothalamic failure, causing secondary hypothyroidism (central hypothyroidism).<sup>5</sup>
- iodine or selenium deficiency.<sup>5,7</sup>
- environmental challenges or deficiencies - chemicals and some foods and drinks can cause problems for the thyroid.<sup>8,9</sup>
- previous thyroid surgery (thyroidectomy) or radioactive iodine treatment.<sup>5</sup>
- drug treatment for hyperthyroidism.<sup>5</sup>
- certain drugs can cause hypothyroidism.<sup>5</sup>
- inability to absorb synthetic levothyroxine adequately.<sup>10</sup>
- lack of conversion from T4 to T3.<sup>10,11</sup>
- receptor resistance.<sup>12</sup>

## What are the symptoms?

There are many signs and symptoms of an underactive thyroid, the main ones being: <sup>13-18</sup>

- fatigue/lethargy
- weight gain, even though you eat less
- cold intolerance
- muscle weakness, arthralgia, myalgia
- constipation
- menstrual problems
- depression
- impaired concentration and memory
- hair loss body, scalp and eyebrows
- hoarse voice/deepening of voice
- goitre, difficulty swallowing
- delayed relaxation of deep tendon reflexes
- loss of libido
- fertility problems
- raised cholesterol
- breathlessness
- dry/gritty eyes

Read Hypothyroid signs and symptoms for a fuller list.

## What tests are used to diagnose hypothyroidism?

Blood tests should reveal whether the thyroid gland is underactive although some doctors may not do all the blood tests available.

There are several thyroid tests that can be done to diagnose hypothyroidism: <sup>19</sup>

- TSH (thyroid-stimulating hormone)
- FT4 (FreeT4)
- FT3 (FreeT3)
- TPO (thyroid peroxidase antibody)
- TgAb (thyroglobulin antibody)

However, the TSH test is often the only test performed by doctors which means there is a possibility that autoimmune hypothyroidism and secondary hypothyroidism may be missed.

Some doctors think that this test is not suitable on its own because it is an indirect test and not a true thyroid hormone test. The (now archived) guidance, *“UK Guidelines for the Use of Thyroid Function Tests”* <sup>20</sup> state that although a TSH test *“may be cost effective for a wide range of clinical purposes it may be inappropriate in patients being tested for the first time, and in some specific clinical settings.”* These guidelines say that TSH and FT4 should be done when optimising levothyroxine therapy in newly diagnosed patients with hypothyroidism, diagnosing and monitoring thyroid disorders in pregnancy and monitoring patients with hyperthyroidism in the early months after treatment.

These guidelines also say that both tests should be done in rare situations such as central hypothyroidism, end-organ thyroid hormone resistance and TSH-secreting pituitary adenomas and

*“if clinical details are not available that allow the identification of the above categories of patient, then it may be prudent for laboratories to measure serum TSH and FT4 on all specimens rather than embark on a first-line serum TSH testing strategy followed by a cascade to include FT4 and FT3 if indicated.”*

In our experience, many doctors are not aware of either the rarer forms of hypothyroidism or these particular sections of the guidelines. Therefore, it might be an idea to discuss the guidelines with your GP even though they are archived.

Unfortunately, more recent guidance doesn't clarify that FT4 testing should be done, even if the patient is on liothyronine (synthetic T3).<sup>21,22</sup>

Thyroid UK feels that in many instances, patients should be referred to an endocrinologist to check for central hypothyroidism and other thyroid disorders. However, patients are very rarely referred to an endocrinologist for hypothyroidism as it is considered that the GP can deal with treatment.

## **What test results would give a diagnosis of hypothyroidism?**

A level of FT4 below the reference range together with a TSH level above the reference range will usually give a diagnosis of hypothyroidism.

However, the *“UK Guidelines for the Use of Thyroid Function Tests”* state that, *“There is no evidence to support the benefit of routine early treatment with thyroxine in non-pregnant patients with a serum TSH above the reference range but <10mU/L (II,B). Physicians may wish to consider the suitability of a therapeutic trial of thyroxine on an individual patient basis.”* Therefore, many doctors will not diagnose hypothyroidism until a patient's TSH level is more than 10. If your TSH is above the range but less than 10, discuss a therapeutic trial of levothyroxine with your doctor.

There is controversy in regard to when a patient is classed as hypothyroid and whether they should be treated or not.

Experts don't agree on what level of TSH should enable patients to be treated. Some feel that a level to 2.5<sup>23</sup> should be the point at which patients should be treated.

**For more support check out our online community:**

<http://www.healthunlocked.com/thyroiduk>

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