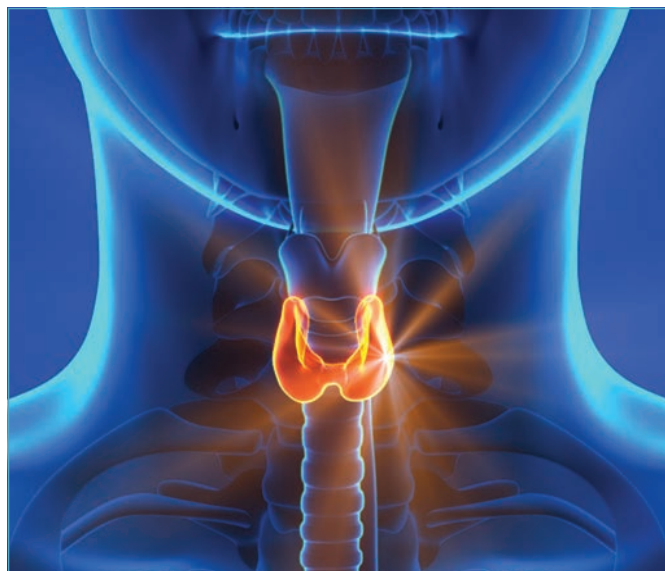


Hypothyroidism



What is the thyroid gland?

The thyroid gland sits just below your Adam's apple across the front of the windpipe, extending to both sides. The gland produces thyroid hormone. The gland's production of thyroid hormone is under the control of another hormone (thyroid stimulating hormone or TSH) released by the pituitary gland in the brain.

What does thyroid hormone do?

Thyroid hormone has two forms: T3 (tri-iodothyronine) and T4 (thyroxine). The T4 hormone is inactive but it is converted into active T3, which stimulates metabolism. Thyroid hormone influences many different bodily functions, but it affects metabolism and physical and mental energy levels in particular.

What is hypothyroidism?

Hypothyroidism (having an underactive thyroid) means that you have too little thyroid hormone working in your body. There are several reasons this can occur. Fortunately, a lack of thyroid hormone is most often very easy to correct with regular treatment. (Hyperthyroidism means the opposite – you have an overactive thyroid, or too much thyroid hormone. This is not covered here.)

What causes hypothyroidism?

Hypothyroidism becomes more likely as you age and women get it much more often than men. The most common cause of an underactive thyroid gland is the development of self-immunity against the thyroid (Hashimoto's disease) and patients with this condition typically have measurable antibodies against the thyroid circulating in their blood-stream. About one in 10 of all women have these thyroid antibodies and yet most of these patients never develop an underactive gland.

Other risks for an underactive thyroid gland are cancer radiotherapy, some viral infections, thyroid surgery, iodine deficiency and some medicines (eg, amiodarone or lithium). It can be associated with other self-immune conditions such as type 1 diabetes, rheumatoid arthritis, Addison's disease, and Coeliac disease. Those with Down syndrome or Turner's syndrome are also at increased risk of hypothyroidism. Treatment for an overactive thyroid gland (eg, radioactive iodine) can also sometimes lead to an overcorrection, and therefore hypothyroidism. Temporary hypothyroidism can occur in women after giving birth.

What are the symptoms?

Not everyone with low thyroid hormone levels notices symptoms (see panel) – often, it is picked up first by blood tests. About six in every 100 New Zealanders has hypothyroidism but without symptoms.

Common symptoms of hypothyroidism

- ongoing physical tiredness
- mental fatigue and poor concentration and memory
- feeling cold most of the time
- unexplained increases in weight
- dry, cold and pale skin
- generalised hair and eyebrow thinning and brittle nails
- hoarseness
- water retention causing puffy eyes, face and ankles
- constipation
- muscle and joint aches, or tingling hands
- uncomfortable breathing and low capacity for exercise
- menstrual cycle disturbances
- depression.

How can my doctor help?

Thyroid function tests are commonly ordered by doctors. Your doctor may advise you to have a blood sample taken to test for thyroid stimulating hormone (TSH) levels and sometimes T4 if it is suspected you may have symptoms related to hypothyroidism or if you are at risk of hypothyroidism. Other thyroid hormones will be checked by the laboratory if the TSH is abnormal. The results are likely to determine whether the thyroid gland is the cause of your symptoms. If you do not have symptoms, the results can still help your doctor decide if treatment is needed.

Your doctor may also order an antibody test from your blood sample to determine whether this common cause is behind your low thyroid function.

Infrequently, blood test results suggest the thyroid gland itself is not the problem; rather, the problem is with the pituitary gland or pituitary hormone (TSH) that controls the thyroid, or some other cause. If this is the case, your doctor may refer you to a specialist, eg, an endocrinologist for further tests.

Your doctor may also test your cholesterol levels as hypothyroidism can cause the body's LDL cholesterol level to increase, which is a risk factor for heart disease.

Do I need treatment?

Your test results should clarify whether your thyroid hormone level is low or within the normal range. This, and whether you have symptoms or other health problems that need taking into account, should allow you and your doctor to agree on whether treatment is needed.

Even if you have a low thyroid hormone level but no symptoms, your doctor might suggest more blood tests every six or 12 months to monitor your thyroid function. About one in 10 of these patients being monitored without treatment go on to develop symptoms in any year, but about one in 20 with antibodies as the cause of their hypothyroidism find their thyroid function returns to normal spontaneously.

Treatment for hypothyroidism

Treatment for hypothyroidism means taking regular tablets of thyroid hormone (specifically T4, also called thyroxine or levothyroxine). Replacement of tri-iodothyronine (T3) is not recommended. Studies have shown there is no benefit in combination therapy (T4 and T3) over thyroxine (T4) alone.

Thyroxine needs to be introduced slowly, so the dose you take and the frequency are gradually built up to reach your required level. You will need a blood test four to six

weeks after starting treatment. This is because it often takes about six weeks for the dose to have its full effect. Thyroxine is ideally taken on an empty stomach, one hour before food, and no other medications at the same time. Different brands of thyroxine are not equivalent. Therefore, if you switch brands of levothyroxine you will need a blood test six weeks later.

Once your TSH target is reached, a further blood test in three to four months will help ensure the TSH level is stable. Further blood tests every six to 12 months allow your doctor to monitor your thyroid hormone level, adjust the dosage of your thyroxine if necessary and keep you within the normal range, even if your hormone levels remain stable year after year.

The amount of thyroxine you need can change over time because the function of your thyroid gland can continue to change. Also, women using thyroxine who become pregnant should talk to their doctor as the amount of thyroxine needed can increase. It is best to let your doctor know in advance if you are trying to get pregnant.

Over-replacement of thyroxine can be dangerous so it is important to keep to the dosage advised by your doctor.

Further information and support

American Thyroid Association

www.thyroid.org

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