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**Hypoparathyroidism**

Hypoparathyroidism is a rare condition characterised by inadequate parathyroid hormone production from the parathyroid glands, resulting in low calcium levels in the bloodstream.

Alternative name for hypoparathyroidism =Underactive [parathyroid gland](http://www.yourhormones.info/glands/parathyroid-glands/)

**What is hypoparathyroidism?**



The parathyroid glands are located in the neck just behind the butterfly-shaped [thyroid](http://www.yourhormones.info/glands/thyroid-gland/) gland

Two parathyroid glands lie behind each 'wing' of the thyroid gland (there are usually four in total). The parathyroid glands release a hormone called [parathyroid hormone](http://www.yourhormones.info/hormones/parathyroid-hormone/). This hormone helps to control the levels of calcium in the bloodstream.

Hypoparathyroidism is a **rare condition** in which not enough parathyroid hormone is produced, which results in **low calcium levels** in the body.

**What causes hypoparathyroidism?**

Most commonly, hypoparathyroidism is caused by damage to parathyroid glands during neck surgery. In particularly rare cases, the parathyroid glands are destroyed by [autoimmune](http://www.yourhormones.info/glossary/a#autoimmune) attack or by [radiation](http://www.yourhormones.info/glossary/r#radiation), usually as a result of treatment of a tumour, or rare diseases that attack the parathyroid glands.

Some people are born with hypoparathyroidism ([congenital](http://www.yourhormones.info/glossary/c#congenital)); a [genetic](http://www.yourhormones.info/glossary/g#genetic) basis of the disease is increasingly being recognised in those without surgery-[induced](http://www.yourhormones.info/glossary/i#induced) hypoparathyroidism.

**What are the signs and symptoms of hypoparathyroidism?**

The direct symptoms depend on the level of calcium in the bloodstream and the rate at which the calcium level has dropped. In mild cases of hypoparathyroidism, there may be no symptoms at all. Often the symptoms are not specific to the condition, such as tiredness, irritability, mood swings, brain fog anxiety and [depression](http://www.yourhormones.info/glossary/d#depression). There may be muscle pains, abdominal pain, tingling of the fingers, toes or face, numbness around the mouth, twitching of the face muscles, contraction or tightening of the muscles of the hands and feet, fits, fainting, confusion, headaches, tiredness, brittle nails, dry skin and hair, and uncontrolled spasms that cause muscle cramps.

When calcium levels fall very fast or become very low, there may be fits (seizures) or spasm of the muscles in the airways causing noisy and difficult breathing.

**How common is hypoparathyroidism?**

After complete removal of the thyroid glands (total [thyroidectomy](http://www.yourhormones.info/glossary/t#thyroidectomy)), the risk of permanent hypoparathyroidism is between 1% to 3%. All other causes of hypoparathyroidism are very rare.

**Is hypoparathyroidism inherited?**

Very rarely, there are inherited forms of hypoparathyroidism due to genetic causes. A family history of low calcium can suggest a genetic cause. Sometimes there may be other associated conditions, such as weakness of the immune system, deafness and [thrush](http://www.yourhormones.info/glossary/t#thrush). The pattern of inheritance can be complicated – an affected parent will not necessarily pass on the condition to his or her children. For patients with hypoparathyroidism due to genetic causes, specific advice and counselling should be available from a specialist in genetics.

**How is hypoparathyroidism diagnosed?**

Initially, diagnosis is made by measuring the bone profile and levels of calcium, [phosphate](http://www.yourhormones.info/glossary/p#phosphate), magnesium, 25-hydroxyvitamin D and parathyroid hormone in the blood.

**How is hypoparathyroidism treated?**

The aim of treatment is to relieve symptoms and minimise complications. All patients need adequate calcium intake (1.0–1.5 g per day). In most cases, a satisfactory level of calcium in the blood is maintained by taking a combination of calcium, and ACTIVE [vitamin D](http://www.yourhormones.info/hormones/vitamin-d/) tablets, usually in the form of [calcitriol](http://www.yourhormones.info/hormones/vitamin-d/) (Rocalctrol). These supplements are usually taken for your lifetime. Patients with hypoparathyroidism often need modest magnesium supplements.

Treatment and monitoring as an outpatient is important. Calcium levels are important but [kidney](http://www.yourhormones.info/glands/kidneys/) function should also be monitored. In very sudden, severe cases (for example if the condition is causing fits or restricting breathing), urgent hospital treatment may be needed to correct calcium levels using an [intravenous](http://www.yourhormones.info/glossary/i#intravenous) drip. Hypoparathyroidism is one of the rare hormone conditions where no direct medical method is currently widely available for replacing the parathyroid hormone, although the use of manufactured parathyroid hormone is currently being examined.

**Are there any side-effects to the treatment?**

Regular monitoring every 3 to 6 months is required. Simple urine tests may be needed to measure the amount of calcium passed through the [kidneys](http://www.yourhormones.info/glands/kidneys/). Too much calcium in the urine can lead to [kidney stones](http://www.yourhormones.info/glossary/k#kidney-stones) or deposits of calcium in the kidneys (known as nephrocalcinosis).

**What are the longer-term implications of hypoparathyroidism?**

It is important to recognise that long-term physical complications are uncommon in most patients who are treated for hypoparathyroidism, although some patients report a reduced quality of life and poorer general wellbeing, even after treatment.

Long-standing, uncorrected hypoparathyroidism may lead to deposits of calcium in the base of the brain. The clinical consequences of these findings are unclear at present.

Other rare complications include [cataracts](http://www.yourhormones.info/glossary/c#cataracts) and an [inflammation](http://www.yourhormones.info/glossary/i#inflammation) of the eye known as keratoconjunctivitis. Defective teeth (especially in childhood), thin skin, brittle nails and hair loss are also recognised as long-term complications of hypoparathyroidism.

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