

Hyperthyroidism

The thyroid gland is located in the upper part of the neck, just above the sternum. As part of the endocrine system, the thyroid gland secretes growth- and metabolism-regulating hormones. Thyroid hormones are released into the bloodstream and transported to body organs and tissues. These hormones are chemical messengers that affect many things, for example, the body's metabolism, temperature, muscular strength and cholesterol levels. A hyperactive gland can speed up the body's metabolism and cause symptoms.

Hyperthyroidism is the term that is used to indicate that there is excess thyroid hormone in the body. Hyperthyroidism can be caused by a hyperactive thyroid gland, what is known as Graves' disease. Graves' disease is more common in young adults and in middle-aged people. Hyperthyroidism may be caused by diffuse toxic goiter (goiter is enlargement of the thyroid gland). It is caused by antibodies that are found in the blood and that stimulate the thyroid for it to increase in size and excrete excess amounts of thyroid hormone. This type of hyperthyroidism is hereditary. It may also be caused by excess consumption of thyroid hormone replacement medications when patients are diagnosed with hypothyroidism (low thyroid hormone levels). The reason why the thyroid becomes hyperactive is not always understood. Women are more likely to suffer from a hyperactive thyroid than men.

The symptoms of hyperthyroidism include:

- Increased frequency of stools.
- Loose stools and diarrhea.
- Weight loss.
- Increased sensitivity to hot temperature (feeling of heat all the time).
- Irritability and nervousness.
- Muscle weakness, primarily in the upper arms and thighs.
- Increased perspiration.
- Thinning of the skin.
- Decreased menstrual flow and less frequent menstrual periods in women.
- Thin and brittle hair.
- Trembling hands.
- Accelerated heart rate or heartbeats (tachycardia).

Treatment

There is a series of tests that are commonly used to measure the amount of thyroid hormone in the blood. If these tests are positive, the doctor may request additional tests to evaluate the gland's functioning and tests to determine the gland's size and structure. A thyroid scan evaluates the gland's size and shape.

A test known as thyroid uptake measures activity within the gland. Together, these tests can determine whether the entire gland is inflamed (thyroiditis) or if only parts of the gland (thyroid nodules) are functioning abnormally.

When hyperthyroidism is first diagnosed, medications to treat the symptoms of the disease are generally used. Beta-blockers are medications that block the effects of the thyroid hormone on the body's organs and tissues. This allows patients to feel more comfortable while prolonged treatments are started. There are three main ways to treat hyperthyroidism.

The doctor may prescribe medications called anti-thyroid agents. These medications treat hyperthyroidism since they decrease the amount of thyroid hormone in the blood. They are medications that are commonly taken for several years and are eventually suspended.

The most common treatment method is radioactive iodine. Radioactive iodine is taken orally and is absorbed by the thyroid gland. Radioactive iodine destroys the thyroid gland cells, which causes a decrease in thyroid hormone or, in general, the complete elimination of thyroid hormone production. Patients who receive this treatment in time must receive thyroid hormone replacement medications, since their own thyroid gland will have ceased producing it.

Surgery is another option. If only one nodule (an isolated area of the abnormal thyroid gland) of the thyroid tissue is hyperactive, it can be surgically removed. The rest of the thyroid gland tends to function again normally. If the entire thyroid gland is hyperactive, most of the gland or the whole gland must be removed. After this type of surgery, patients tend to need thyroid gland replacement medications for the rest of their lives.