

Your Care Clinics, LLC

5985 49th St. N., St. Petersburg, FL 33709 (727) 528-8997
1258 W. Bay Dr. , Unit #F, Largo, FL 33770 (727) 588-7600

Hypothyroidism

Introduction

Hypothyroidism is a condition in which the thyroid gland does not produce enough thyroid hormone. It is the most common thyroid disorder.

What is the Thyroid?

The thyroid is a butterfly-shaped gland in the middle of the neck, located below the larynx (voice box) and above the clavicles (collarbones). The thyroid produce two hormones, triiodothyronine (T3) and thyroxine (T4), which regulate how the body uses and stores energy (also known as the body's metabolism).

Thyroid function is controlled by a gland in the brain, known as the pituitary. The pituitary produces thyroid stimulating hormone (TSH), which stimulates the thyroid to produce T3 and T4.

Causes

In about 95 percent of cases, hypothyroidism is due to a problem in the thyroid gland itself and is called primary hypothyroidism. However, certain medications and diseases can also decrease thyroid function. As an example, HYPOTHYroidism can also develop after medical treatments for HYPERTHYroidism, such as thyroidectomy (surgical removal of the thyroid) or radioactive iodine treatment (to destroy thyroid tissue). In some cases, hypothyroidism is as result of decreased production of thyroid-stimulating hormone (TSH) by the pituitary gland.

Thyroid problems are common in women, increase with age, and are more common in whites and Mexican Americans than in blacks.

Symptoms

The symptoms of hypothyroidism vary widely; some people have no symptoms while others have dramatic symptoms or, rarely, life-threatening symptoms. The symptoms of hypothyroidism are notorious for being nonspecific and for mimicking many of the

normal changes of aging. Usually, symptoms are milder when hypothyroidism develops gradually.

General symptoms – Thyroid hormone normally stimulates the metabolism, and of the symptoms of hypothyroidism reflect slowing of metabolic process. General symptoms may include fatigue, sluggishness, weight gain, and intolerance to cold temperatures.

Skin – Hypothyroidism can decrease sweating. The skin may become dry and thick. The hair may become coarse and thin, eyebrows may disappear, and nails may become brittle.

Eyes – Hypothyroidism can lead to mild swelling around the eyes. People who develop hypothyroidism after treatment for Graves' disease may retain some of the eye symptoms of Graves' disease, including protrusion of the eyes, the appearance of staring and impaired movement of the eyes.

Cardiovascular system – Hypothyroidism slows the heart rate and weakens the heart's contractions, decreasing its overall function. Related symptoms may include fatigue and shortness of breath with exercise. These symptoms may be more severe in people who also have heart disease. In addition, hypothyroidism can cause mild high blood pressure and raise blood levels of cholesterol.

Respiratory system – Hypothyroidism weakens the respiratory muscles and decreased lung function. Symptoms can include fatigue, shortness of breath with exercise, and decreased ability to exercise. Hypothyroidism can also lead to swelling of the tongue, hoarse voice, and sleep apnea. Sleep apnea is a condition in which there is intermittent blockage of the airway while sleeping, causing fitful sleep and daytime sleepiness.

Gastrointestinal system – Hypothyroidism slows the actions of the digestive tract, causing constipation. Rarely, the digestive tract may stop moving entirely.

Reproductive system – Women with hypothyroidism often have menstrual cycle irregularities, ranging from absent to infrequent periods to very frequent and heavy periods. The menstrual irregularities can make it difficult to become pregnant, and pregnant women with hypothyroidism have an increased risk for miscarriage during early pregnancy. Treatment of hypothyroidism can decrease these risks.

Myxedema coma – In people with severe hypothyroidism, trauma, infection, exposure to the cold, and certain medications can rarely trigger a life-threatening condition called myxedema coma, which causes a loss of consciousness and hypothermia (low body temperature).

Diagnosis

In the past, hypothyroidism was not diagnosed until symptoms had been present for a long time. However, simple blood tests can now detect hypothyroidism at an early stage. A person may be tested for hypothyroidism if there are signs and symptoms, such as those discussed above, or as a screening test.

Blood tests – Blood tests can confirm the diagnosis and pinpoint the underlying cause of the thyroid hormone deficiency. The most common blood test for hypothyroidism is TSH (thyroid stimulating hormone). TSH is the most sensitive test because it can be elevated even with small decreases in thyroid function. Thyroxine (T4), the main product of the thyroid gland, may also be measured to confirm and assess the degree of hypothyroidism.

Routine screening - All newborn babies in the United States are routinely screened for thyroid hormone deficiency. The benefits of screening adults for thyroid disease if there are no symptoms is debated. Some expert groups recommend screening certain groups (e.g., women >50) for thyroid disease on a regular basis while others do not recommend screening anyone unless there are symptoms of hypothyroidism.

Some experts recommend routine screening for thyroid disease in all pregnant women or those hoping to become pregnant, while other groups recommend testing pregnant women only if there are symptoms or a family history of thyroid disease.

Hypothyroidism is common in elderly women, affecting up to 15 percent of women over the age of 70 years.

Treatment

The goal of treatment for hypothyroidism is to return blood levels of TSH and T4 to the normal range and to alleviate symptoms.

Medication – The treatment for hypothyroidism is thyroid hormone replacement therapy. This is usually given as an oral form of T4. T4 should be taken once per day on an empty stomach (1 hour before eating or two hours later). Generic (lvothyroxine) and brand-name (Synthroid, Levoxyl, Levothroid, Unithyroid formulations are equally effective. However, it is preferable to stay on the same type of T4 rather than switching between brand name and/or generic formulations.

If a switch is necessary, a blood test is usually done six weeks later to determine if the dose need to be adjusted. Color-coated tablets can also help with dose adjustments.

Some clinicians prescribe another form of thyroid hormone, triiodothyronine (T3) in combination with T4. However, since T4 is converted into T3 in other organs, the

majority of studies have not shown an advantage of combination T3 and T4 therapy over T4 alone.

In most cases, symptoms of hypothyroidism begin to improve within two weeks of starting thyroid replacement therapy. However, people with more severe symptoms may require several months of treatment before they fully recover.

Duration and dosage – A healthcare provider will prescribe an initial dose of T4 and then retest the blood level of TSH after six weeks. The T4 dose can be adjusted at that time, depending upon these results. This process may be repeated several times before hormone levels become normal. After the optimal dose is identified, a provider may recommend monitoring blood tests once yearly, or more often as needed. Most people with hypothyroidism require lifelong treatment, although the dose of T4 may need to be adjusted over time.

Never increase or decrease the T4 dose without first consulting a healthcare provider. Over replacement of T4 can cause mild hyperthyroidism, with the associated dangers of atrial fibrillation (irregular heart beat) and possibly, accelerated bone loss (osteoporosis).

Dose changes – Changes in the T4 dose are based upon the person's TSH and T4 level. The dose may need to be increased if thyroid disease worsens, during pregnancy, if gastrointestinal conditions impair T4 absorption, or if the person gains weight. A high fiber diet, calcium- or aluminum-containing antacids, and iron tablets can interfere with the absorption of T4 and should be taken at a different time of day.

The dose may need to be decreased as the person gets older, after childbirth, or if the person loses weight.

Monitoring – Individual T4 doses can vary widely and depend upon a variety of factors, including the underlying cause of hypothyroidism. People with certain conditions require more frequent monitoring.

Advanced age and heart disease – Thyroid hormone makes the heart work a bit harder. Therefore, a clinician may opt for more conservative T4 treatment in older adults and in people with coronary artery disease.

Pregnancy – Women often need higher doses of T4 during pregnancy. Testing is usually recommended every four weeks beginning after conception. Once the optimal T4 dose is established, testing is usually repeated at least once per trimester. After delivery, the woman's dose of T4 will need to be adjusted again.

Surgery – Hypothyroidism can increase the risk of certain surgery-related complications; bowel function may be slow to recover and infection may be overlooked if there is no fever. If pre-operative blood tests reveal low thyroid hormone levels, non-emergency surgery is usually postponed until treatment has returned T4 levels to normal.

Hypothyroidism without symptoms

In some cases, hypothyroidism is extremely mild or causes no obvious symptoms (called subclinical hypothyroidism). The decision to treat subclinical hypothyroidism with T4 is controversial. Many experts treat patients with subclinical hypothyroidism if their TSH is >10 mU/L to prevent development of hypothyroidism and associated symptoms. Treatment is also recommended for people who have a goiter or nonspecific symptoms of hypothyroidism, such as fatigue, constipation or depression.

Where to get more information

Your healthcare provider is the best source of information for questions and concerns related to your medical problem. Because no two patients are exactly alike and recommendations can vary from one person to another, it is important to seek guidance from a provider who is familiar with your individual situation.

