What causes hyperthyroidism?

Hyperthyroidism is caused from the body producing too much thyroxine (T4)—a hormone produced by your thyroid. This can happen for many reasons, including the following:

- Autoimmune thyroid disease: Autoimmune thyroid diseases include Graves' disease and Hashimoto's Thyroiditis. Graves' disease is the most common cause of hyperthyroidism. Graves' disease is caused by antibodies in the blood and most often affects young women. Hashimoto's Thyroiditis can also cause hypothyroidism.
- Thyroid nodules (hyperfunctioning thyroid nodules): A thyroid nodule is a lump that has been formed within your thyroid. Some nodules may increase their activity, producing an excess of thyroxine, thus causing hyperthyroidism.
- Thyroiditis (the inflammation of the thyroid): Thyroiditis can cause your thyroid to temporarily release excess thyroxine into the bloodstream. Such situations can occur after pregnancy (postpartum thyroiditis), if one takes too much thyroid hormone (from being hypothyroid), or from a number of other reasons.
- HCG induced hyperthyroidism (pregnancy induced hyperthyroidism): Hyperthyroidism can be caused by HCG or pregnancy hormone. This condition usually improves without medication at about 20 weeks gestation. In rare cases, it might require treatment with anti-thyroid medication.

For more information on Hyperthyroidism and other thyroid issues, please see our websites at www.wilmingtonendo.com & www.3DTHYROID.com.

Treating hyperthyroidism:

Treatment options for hyperthyroidism come in short and long-term. Short-term options include antithyroid medications such as PTU (propylthiouracil) or Methimazole. These medications work by blocking the thyroid gland from making any new thyroid hormone, thus normalizing its activity. Neither of these medications have any permanently damaging effects on the thyroid gland. About 20-30% of patients can develop remission with PTU or Methimazole. This means their thyroid gland can normalize and the antithyroid medication can be stopped. However, these patients will be at risk for relapse.

Side effects of these medications may include:

- Skin rash
- Elevated liver function and, in rare cases, liver failure
- Bone marrow suppression, including:
  - Low white blood cell count
  - Anemia
  - In extreme cases, agranulocytosis.

Once levels have normalized from the medication treatment, there are more permanent options:

Radioactive iodine treatment: Thyroid cells require iodine to produce the thyroid hormone, which they take up from the bloodstream. For this treatment, the patient will take a pill that contains radioactive iodine, which will then be taken up by the overactive thyroid cells. Over the next few weeks, the radioactive iodine slowly destroys the thyroid cells. Some patients may remain slightly hyperthyroid, leading them to a second radioiodine treatment. This treatment will likely leave you hypothyroid. Hypothyroidism is much more easily controlled than hyperthyroidism.

Thyroidectomy: Removal of the thyroid will undoubtedly cure hyperthyroidism since you will no longer have a thyroid to be overactive. Patients who undergo a thyroidectomy will become hypothyroid and can more easily control their thyroid hormone levels. Risks of surgery may include: hoarseness due to injury to the recurrent laryngeal nerve or hypocalcemia (low calcium) due to injury to the parathyroid gland.

HYPERTHYROIDISM INFORMATION

WILMINGTON ENDOCRINOLOGY PA

Your Guide to Hyperthyroidism

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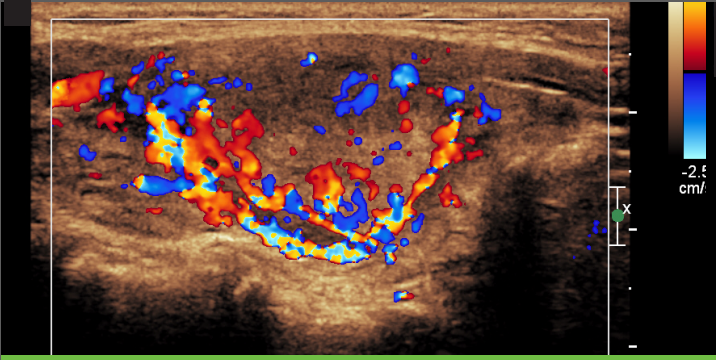
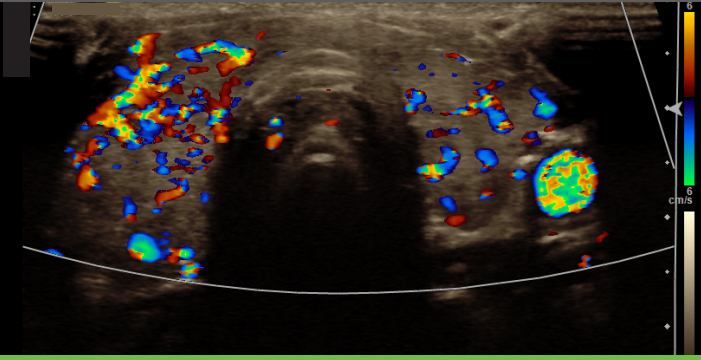


Hyperfunctioning Nodule

Hyperthyroid Gland caused by Graves'



Hyperthyroid Gland caused by Graves'

What is hyperthyroidism?

Hyperthyroidism is the diagnosis of an overactive thyroid gland. The thyroid makes more thyroid hormone than required for normal body functioning, causing the body to speed up all of its normal processes. If left untreated, it can lead to atrial fibrillation, bone loss, and heart disease.

Who can get hyperthyroidism?

Though not always, hyperthyroidism does tend to run in families, especially if it is hyperthyroidism caused by Graves' disease. It is very important to know your family history and to inform family members if you have been diagnosed with hyperthyroidism.

Hyperthyroidism is most common in young women, but anyone can be susceptible to the disorder. Hyperthyroidism symptoms tend to progress rapidly, so it is very important to inform your doctor of any symptoms you may be having.

What are the symptoms?

Hyperthyroidism affects your overall health and wellness because the extra thyroid hormone results in the acceleration of many of the body's metabolic functions. Symptoms accompanying hyperthyroidism may include fatigue, weight loss, increase in appetite, anxiety, nervousness, difficulty sleeping/insomnia, thinning of skin, fine brittle hair, weakness in muscles, heat intolerance, hand tremors, palpitations (racing heart), and increased heart rate. It is also possible to have a goiter (enlarged thyroid gland) or nodules (lumps formed within the thyroid gland), which you may be able to feel or see at the base of the neck.

Sometimes, it can seem as if you have more energy when you initially develop hyperthyroidism; but after a while the body breaks down from being on overdrive, leading to fatigue. It may be difficult at first to decipher whether or not you have a thyroid disorder or if symptoms are simply from normal stressors. Changes in hyperthyroidism can be abrupt and cause your body to change quickly, so it is very important that you inform your doctor of any symptoms.

Diagnosing hyperthyroidism:

Hyperthyroidism can be assessed first by a physical examination from your doctor. They may look for typical signs of hyperthyroidism such as: an enlarged thyroid, hand tremors, overactive reflexes, and moist skin.

The next step is to perform laboratory blood tests. You will typically be tested for TSH (thyroid stimulating hormone - this is released from the pituitary gland and tells your thyroid to produce thyroxine), free T4 (thyroxine), free T3 (triiodothyronine), blood count, hepatic function (liver function test), and TSH receptor antibody (the antibody for Graves' disease). If thyroxine levels are high and TSH levels are low, this is an indication of an overactive thyroid.

If necessary, you may need a thyroid scan and uptake. This test measures the activity of the thyroid gland and is performed at the hospital. This helps decide if medication is required to slow the thyroid hormone production in your thyroid gland.