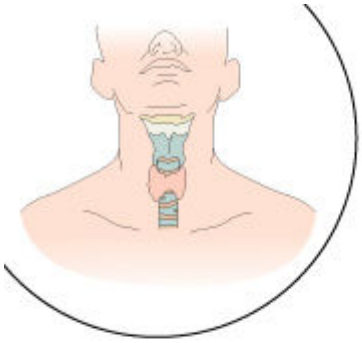
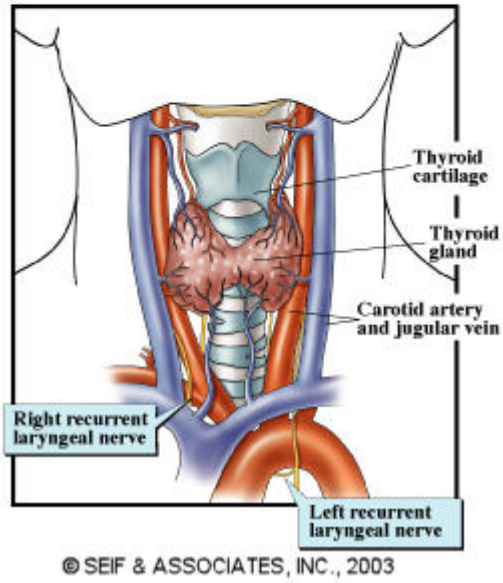
Thyroid Diseases

Your thyroid is a butterfly-shaped gland in your neck. It is located just above your collarbone. It is one of your endocrine glands, which make hormones. The thyroid helps set your metabolism. Metabolism is how your body gets energy from the foods you eat.



Millions of people have thyroid diseases. Women experience thyroid problems more often than men. In fact, overactive thyroid problems (*hyperthyroidism*) occur in 1% of all women. If you have a thyroid disease, your body may use energy more slowly or quickly than it should.

Thyroid problems also include an immune disease where your body reacts against your thyroid gland (called *thyroiditis*). A different problem involves lumps and bumps (called *nodules*) that develop in the gland. The nodules are usually, but not always, noncancerous.



THE MOST COMMON THYROID PROBLEMS & CAUSES ARE DISCUSSED BELOW

There are many causes for thyroid problems. Treatment depends upon the exact diagnosis and includes trying to reset your body's metabolism to a normal rate.

Hyperthyroidism

Too much thyroid hormone from an overactive thyroid gland is called *hyperthyroidism*. In hyperthyroidism, the body's metabolism speeds up. One of the most frequent forms of hyperthyroidism is known as Graves' disease. Graves' disease tends to run in families. Although Graves' is thought to be caused by a problem with the immune system, the exact nature of the genetic problem is unknown.

Hypothyroidism

Too little thyroid hormone from an underactive thyroid gland is called *hypothyroidism*. In hypothyroidism, the body's metabolism is slowed. Several things can cause this condition. Most causes affect the thyroid gland directly and hurt its ability to make enough hormone.

Rarely, there may be a pituitary gland tumor (located near the base of the brain). The tumor can block the pituitary from producing thyroid-stimulating hormone (TSH). Your body makes TSH to stimulate the thyroid to work properly. If the pituitary does not make enough TSH, the thyroid fails to make enough hormones needed for good health.

Whether the problem is caused by thyroid conditions or by the pituitary gland, the result is that the thyroid is not making enough hormones. Hypothyroidism causes many physical and mental processes to become sluggish. The body consumes less oxygen and produces less body heat.

Thyroid Nodules

A thyroid nodule is a small swelling or lump in the thyroid gland. They are common. These nodules represent either a growth of thyroid tissue or a fluid-filled cyst. Both form a lump in the thyroid gland. Almost half of all people will have tiny thyroid nodules at some point in their lives. Typically, these are not noticeable until they

become large and affect normal thyroid size. Larger nodules that are greater than a half inch across (about 1 centimeter) occur in about 5 percent of people.

Although most nodules are not cancerous, people who have them should seek medical care to rule out cancer. Also, some thyroid nodules may produce too much thyroid hormone or become too large. Large nodules or a large gland can interfere with breathing or swallowing or may cause neck discomfort.

Other problems
Other thyroid problems include cancer and thyroiditis. Thyroiditis is a malfunction of the body's immune system. Normally, the immune system works to defend the body against infection and other problems. When the immune system is not working properly, it may mistakenly attack normal cells, tissues, and organs. Examples of autoimmune diseases are Hashimoto's thyroiditis (which causes low thyroid function) and Graves' disease (which causes excess thyroid function).

SYMPTOMS

Symptoms vary greatly depending upon the exact type of problem with the thyroid.

Hyperthyroidism-is when your thyroid is too active and makes more thyroid hormone than your body needs. The most common cause is Graves' Disease. Too much thyroid hormone can cause some or all of the following symptoms:

- Anxiety.
- Irritability.
- Difficulty sleeping.
- Fatigue.
- A rapid or irregular heartbeat.
- A fine tremor of your hands or fingers.
- An increase in perspiration.
- Sensitivity to heat.
- Weight loss, despite normal food intake.
- Brittle hair.
- Enlargement of your thyroid gland (goiter).
- Light menstrual periods.
- Frequent bowel movements.

Graves' disease can specifically cause eye and skin problems. The skin problems involve reddening and swelling of the skin, often on your shins and on the top of your feet. Eye problems can include the following:

- Excess tearing and sensation of grit or sand in either or both eyes.
- Reddened or inflamed eyes.
- Widening of the space between your eyelids.
- Swelling of the lids and tissues around the eyes.
- Light sensitivity.
- Ulcers on the cornea.
- Double vision.
- Limited eye movements.
- Blurred or reduced vision.

Hypothyroidism- is when your thyroid gland is not active enough. This is more common than hyperthyroidism. Symptoms can vary a lot depending of the severity of the hormone deficiency. Symptoms may develop over a long period of time and can include several of the following:

- Fatigue.
- Sluggishness.

- Increased sensitivity to cold.
- Constipation.
- Pale, dry skin.
- A puffy face.
- Hoarse voice.
- High blood cholesterol level.
- Unexplained weight gain.
- Muscle aches, tenderness and stiffness.
- Pain, stiffness or swelling in your joints.
- Muscle weakness.
- Heavier than normal menstrual periods.
- Brittle fingernails and hair.
- Depression.

Thyroid Nodules - most do not cause signs or symptoms. Occasionally, some may become so large that you can feel or even see the swelling at the base of your neck. You may realize a lump or swelling is there when you are shaving or putting on makeup. Men might become aware of a nodule when shirt collars suddenly feel too tight.

Some nodules produce too much thyroid hormone. This can produce the same symptoms as hyperthyroidism (see above).
Thyroid nodules are seldom cancerous. However, a nodule is more likely to be malignant (cancerous) if it:
- Grows quickly or feels hard.
- Causes you to become hoarse or to have trouble swallowing or breathing.
- Causes enlarged lymph nodes under your jaw or in your neck.

DIAGNOSIS

Because there are so many possible thyroid conditions, your caregiver may ask for a number of tests. They will do this in order to narrow down the exact diagnosis. These tests can include:
- Blood and antibody tests.
- Special thyroid scans using small, safe amounts of radioactive iodine.
- Ultrasound of the thyroid gland (particularly if there is a nodule or lump).
- Biopsy. This is usually done with a special needle. A *needle biopsy* is a procedure to obtain a sample of cells from the thyroid. The tissue will be tested in a lab and examined under a microscope.

TREATMENT

Treatment depends on the exact diagnosis.

Hyperthyroidism
- Beta-blockers help relieve many of the symptoms.
- Anti-thyroid medications prevent the thyroid from making excess hormones.
- Radioactive iodine treatment can destroy overactive thyroid cells. The iodine can permanently decrease the amount of hormone produced.
- Surgery to remove the thyroid gland.
- Treatments for eye problems that come from Graves' disease also include medications and special eye surgery, if felt to be appropriate.

Hypothyroidism

Thyroid replacement with levothyroxine is the mainstay of treatment. Treatment with thyroid replacement is usually lifelong and will require monitoring and adjustment from time to time.

Thyroid Nodules

- Watchful waiting. If a small nodule causes no symptoms or signs of cancer on biopsy, then no treatment may be chosen at first. Re-exam and re-checking blood tests would be the recommended follow-up.
- Anti-thyroid medications or radioactive iodine treatment may be recommended if the nodules produce too much thyroid hormone (see Treatment for Hyperthyroidism above).
- Alcohol ablation. Injections of small amounts of ethyl alcohol (*ethanol*) can cause a non-cancerous nodule to shrink in size.
- Surgery (see Treatment for Hyperthyroidism above).

HOME CARE INSTRUCTIONS

- Take medications as instructed.
- Follow through on recommended testing.

SEEK MEDICAL CARE IF:

- You feel that you are developing symptoms of Hyperthyroidism or Hypothyroidism as described above.
- You develop a new lump/nodule in the neck/thyroid area that you had not noticed before.
- You feel that you are having side effects from medicines prescribed.
- You develop trouble breathing or swallowing.

SEEK IMMEDIATE MEDICAL CARE IF:

- You develop a fever of 102 ºF (38.9 ºC) or higher.
- You develop severe sweating.
- You develop palpitations and/or rapid heart beat.
- You develop shortness of breath.
- You develop nausea and vomiting.
- You develop extreme shakiness.
- You develop agitation.
- You develop lightheadedness or have a fainting episode.

Document Released: 10/14/2008 Document Re-Released: 03/14/2011
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