



Thyroid Nodules

WHAT IS THE THYROID GLAND?

The thyroid gland is a butterfly-shaped structure located in the front of your neck just below your voice box. It produces two thyroid hormones—triiodothyronine (T3) and thyroxine (T4). T3 and T4 help regulate your metabolism—how your body uses and stores energy.

DID YOU KNOW?

You may not be aware that you have a thyroid nodule, but may notice it if it starts to grow, especially if it's visible.

WHAT ARE THYROID NODULES AND WHO IS AT RISK?

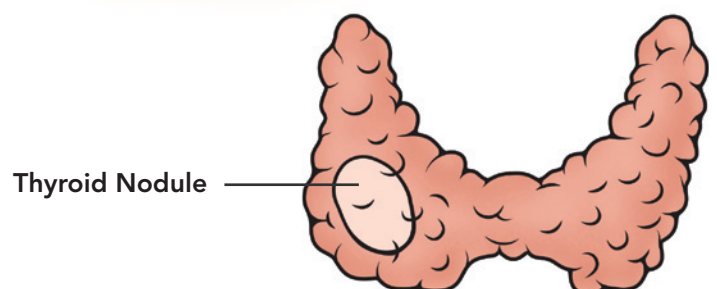
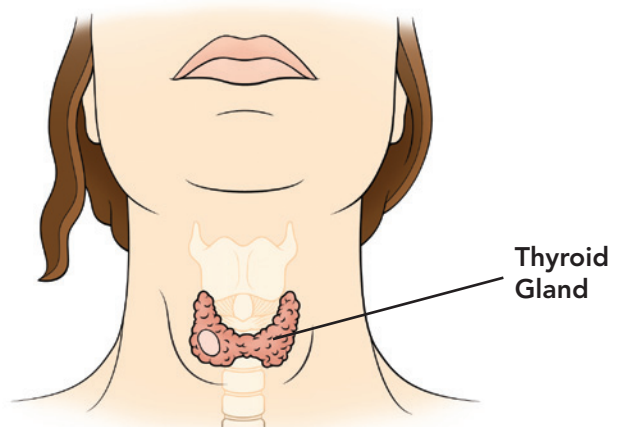
A thyroid nodule is a growth of thyroid tissue or a fluid-filled cyst that forms a lump in the thyroid gland. Nodules are very common. Chances of developing nodules increase as you get older. Although symptoms are not common, a nodule that is large enough may sometimes cause pain or hoarseness, or get in the way of swallowing or breathing.

Doctors are concerned about thyroid nodules because they can sometimes be cancerous. Thyroid cancer is found in about 8 percent of nodules in men (or 8 out of 100) and in 4 percent of nodules in women. Thus, about 90 percent of all thyroid nodules are benign (noncancerous).

The cause of most benign nodules is not known but they are often found in members of the same family. Worldwide, lack of iodine in the diet is a very common cause of nodules.

HOW ARE THYROID NODULES DIAGNOSED?

Most thyroid nodules are found during a routine physical exam. After a nodule is found, your doctor will use lab tests to learn whether the thyroid nodule is hyperfunctioning (producing too much thyroid hormone, called a "hot nodule") or hypofunctioning (producing no thyroid hormone, called a "cold nodule").



However, these tests are not enough to rule out thyroid cancer. To gather more information about the nodule, your doctor might do one or more of the following tests:

- **Fine-needle aspiration** biopsy uses a thin needle to remove cells or fluid samples from the nodule. This test is very accurate for identifying cancerous or “suspicious” nodules.
- **Thyroid ultrasound** is used to get an exact picture of the thyroid and see if the nodule is solid or filled with fluid (cystic). Although this test cannot tell if the nodule is cancerous, it is very useful to guide the needle to remove (aspirate) cells from nodules. This procedure is called “ultrasound-guided fine needle aspiration biopsy.”
- **Thyroid scan** uses a small amount of radioactive iodine and a special camera to get a picture of the thyroid and learn if the nodule is hypofunctioning or hyperfunctioning. The level of activity can provide clues as to whether it may or may not be thyroid cancer. This procedure is usually done when your doctor suspects you may have a hot nodule.

HOW ARE THYROID NODULES TREATED?

Treatment depends on the type of thyroid nodule. Experts recommend surgical removal of the thyroid for nodules that are cancerous or suspicious. After surgery, radioactive iodine therapy may be used to destroy any remaining thyroid cells.

Other types of nodules, even when they are not cancerous, may need to be removed when they get too big and cause problems with swallowing or breathing.

Hyperfunctioning nodules are almost never cancerous, but they may cause hyperthyroidism—too much thyroid hormone in the body—which can lead to health problems. These nodules may be surgically removed or treated with radioactive iodine.

Every 6 to 12 months, your doctor needs to monitor any thyroid nodule that is not removed. This follow-up may involve a physical exam or a thyroid ultrasound or both. If the nodule gets larger, you may need to have a repeat fine needle biopsy. Even if this biopsy is benign, your doctor may recommend surgical removal of a nodule that is getting bigger.

WHAT SHOULD YOU DO IF YOU THINK YOU HAVE A THYROID NODULE?

If you think you have a thyroid nodule, see your doctor. Your doctor may refer you to an endocrinologist (a specialist in hormone-related conditions) for diagnosis and treatment. Then get the recommended treatment and follow up with your doctor as needed.

Questions to ask your doctor

- What kind of nodules do I have?
- Am I at risk for thyroid cancer?
- What treatment do I need?
- What are the risks and benefits of each of my treatment options?
- Should I see an endocrinologist?

RESOURCES

- Find-an-Endocrinologist: www.hormone.org or call 1-800-HORMONE (1-800-467-6663)
- Hormone Health Network information about thyroid disorders: www.hormone.org/Thyroid/index.cfm
- National Endocrine and Metabolic Diseases Information Service: www.endocrine.niddk.nih.gov/pubs/thyroidtests/index.aspx
- Mayo Clinic: www.mayoclinic.com/health/thyroid-nodules/DS00491
- American Thyroid Association: www.thyroid.org

EDITORS

E. Chester Ridgway, MD
Peter Singer, MD
Leonard Wartofsky, MD

March 2010, 3rd Edition

The Hormone Health Network offers free, online resources based on the most advanced clinical and scientific knowledge from The Endocrine Society (www.endo-society.org). The Network's goal is to move patients from educated to engaged, from informed to active partners in their health care. This fact sheet is also available in Spanish at www.hormone.org/Spanish.

Thyroid Nodules Fact Sheet



www.hormone.org