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Your Thyroid Gland

What is Your Thyroid Gland?

Your thyroid gland is one of the endocrine glands, which make hormones to regulate physiological functions in your body. The thyroid gland manufactures thyroid hormone, which regulates the rate at which your body carries on its necessary functions. Other endocrine glands are the pancreas, the pituitary, the adrenal glands, the parathyroid glands, the testes, and the ovaries.

The thyroid gland is located in the middle of the lower neck, below the larynx (voice box) and just above your clavicles (collarbones). It is shaped like a "bow tie," having two halves (lobes): a right lobe and a left lobe joined by an "isthmus.". You can't always feel a normal thyroid gland.

When Is a Thyroid Gland Abnormal?

Diseases of the thyroid gland are very common, affecting millions of Americans. The most common diseases are an over- or under-active gland. These conditions are called hyperthyroidism (e.g., Grave's disease) and hypothyroidism. Sometimes the thyroid gland can become enlarged from over-activity (as in Grave's disease) or from under-activity (as in hypothyroidism). An enlarged thyroid gland is often called a "goiter." Sometimes an inflammation of the thyroid gland (Hashimoto's disease) will cause enlargement of the gland.

Patients may develop "lumps" or "masses" in their thyroid glands. They may appear gradually or very rapidly. Patients who had radiation therapy to the head or neck as children for acne, adenoids, or other reasons are more prone to develop thyroid malignancy. A doctor should evaluate all thyroid "lumps" (nodules).

How Does Your Doctor Make the Diagnosis?

The diagnosis of a thyroid abnormality in function or a thyroid mass is made by taking a medical history and a physical examination. Specifically, your doctor will examine your neck and ask you to lift up your chin to make your thyroid gland more prominent. You may be asked to swallow during the examination, which helps to feel the thyroid and any mass in it. Other tests your doctor may order include:

1. An ultrasound examination of your neck and thyroid
2. Blood tests of thyroid function
3. A radioactive thyroid scan
4. A fine needle aspiration biopsy
5. A chest X-ray
6. A CT or MRI scan

Fine Needle Aspiration

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If a lump in your thyroid is diagnosed, your doctor may recommend a fine needle aspiration biopsy. This is a safe, relatively painless procedure. A hypodermic needle is passed into the lump, and samples of tissues are taken. Often several passes with the needle are required. There is little pain afterward and very few complications from the procedure occur. This test gives the doctor more information on the nature of the lump in your thyroid gland and specifically will help to differentiate a benign from a malignant thyroid mass.

Treatment of Thyroid Disease

Abnormalities of thyroid function (hyper or hypothyroidism) are usually treated medically. If there is insufficient production of thyroid hormone, this may be given in a form of a thyroid hormone pill taken daily. Hyperthyroidism is treated mostly by medical means, but occasionally it may require the surgical removal of the thyroid gland.

If there is a lump of the thyroid or a diffused enlargement (goiter), your doctor will propose a treatment plan based on the examination and your test results. Most thyroid "lumps" are benign. Often they may be treated with thyroid hormone, and this is called "suppression" therapy. The object of this treatment is to attempt shrinkage of the mass over time, usually three-six months. If the lump continues to grow during treatment when you are taking the medication, most doctors will recommend removal of the affected lump.

If the fine needle aspiration is reported as suspicious for or suggestive of cancer, then thyroid surgery is required.

What Is Thyroid Surgery?

Thyroid surgery is an operation to remove part or all of the thyroid gland. It is performed in the hospital, and general anesthesia is usually required. Usually the operation removes the lobe of the thyroid gland containing the lump and possibly the isthmus. A frozen section (an immediate microscopic reading) may or may not be used to determine if the rest of the thyroid gland should be removed. Sometimes, based on the result of the frozen section, the surgeon may decide to stop and remove no more thyroid tissue, or proceed to remove the entire thyroid gland, and/or other tissue in the neck. This is a decision usually made in the operating room by the surgeon, based on findings at the time of surgery. Your surgeon will discuss these options with you preoperatively.

After surgery, you may have a drain (a tiny piece of plastic tubing), which prevents fluid from building up in the wound. This is removed after the fluid accumulation is minimal. Most patients are discharged one to three days after surgery. Complications after thyroid surgery are rare. They include bleeding, a hoarse voice, difficulty swallowing, numbness of the skin on the neck, and low blood calcium. Most complications go away after a few weeks. Patients who have all of their thyroid gland

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removed have a higher risk of low blood calcium post-operatively.

Patients who have thyroid surgery may be required to take thyroid medication to replace thyroid hormones after surgery. Some patients may need to take calcium replacement if their blood calcium is low. This will depend on how much thyroid gland remains, and what was found during surgery. If you have any questions about thyroid surgery, ask your doctor and he or she will answer them in detail.