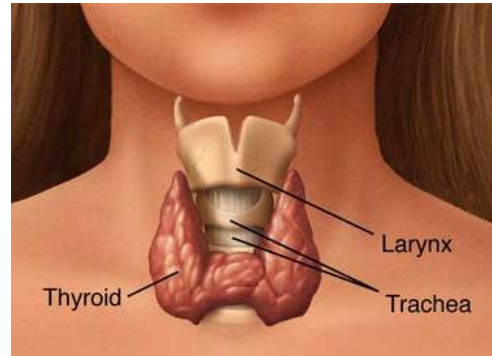


INFORMATION ON THYROID NODULES

What is thyroid?

Your thyroid is a butterfly-shaped gland in lower part of your neck, just above your collarbone. It is one of your endocrine glands, which make hormones. Thyroid hormones control the rate of many activities in your body. These include how fast you burn calories and how fast your heart beats. All of these activities are your body's metabolism. If too much of the thyroid hormone is produced (hyperthyroidism), the body cells work faster than normal. If too little of the hormone is produced (hypothyroidism); the body cells work more slowly.



What is a Thyroid Nodule?

The term thyroid nodule refers to an abnormal growth of thyroid cells that forms a lump within the thyroid gland. Although the vast majority of thyroid nodules are benign (noncancerous), a small proportion of thyroid nodules do contain thyroid cancer. In order to diagnose and treat thyroid cancer at the earliest stage, most thyroid nodules need some type of evaluation.

How is thyroid cancer diagnosed?

A diagnosis of thyroid cancer is usually made by a fine needle aspiration biopsy of a thyroid nodule or after the nodule is removed during surgery. Although thyroid nodules are very common, less than 1 in 10 harbors a thyroid cancer.

Follicular neoplasm is the term used to describe follicular adenoma (benign) and cancer when a clear distinction is not possible. The word follicular means the cells look like a group of small circles under a microscope. If the follicular cells are contained within the nodule, the condition is called benign. If the cells have invaded the surrounding tissue, the diagnosis is cancer. The nodule must be surgically removed and examined under a microscope to look for evidence of invasion into the normal thyroid tissue or blood vessels. About 15-20% percentage of follicular neoplasms would turn out to be cancers.

What are the types of thyroid cancer?

Papillary thyroid cancer. Papillary thyroid cancer is the most common type, making up about 70% to 80% of all thyroid cancers. Papillary thyroid cancer can occur at any age. Papillary cancer tends to grow slowly and often spreads to lymph nodes in the neck. However, unlike many other cancers, papillary cancer has a generally excellent outlook even if there is spread to the lymph nodes. A central compartment (nodes close to thyroid) dissection is performed in most of the cases.

Follicular thyroid cancer. Follicular thyroid cancer, which makes up about 10% to 15% of all thyroid cancers in the United States, tends to occur in somewhat older patients than does papillary cancer. As with papillary cancer, follicular cancer first can spread to lymph nodes in the neck.

Follicular cancer is also more likely than papillary cancer to grow into blood vessels and from there to spread to distant areas, particularly the lungs and bones.

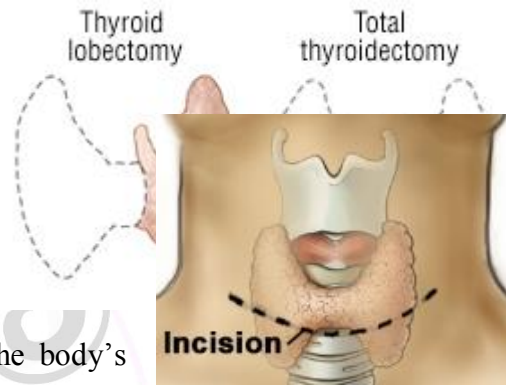
Medullary thyroid cancer. Medullary thyroid cancer, which accounts for 5% to 10% of all thyroid cancers, is more likely to run in families and be associated with other endocrine problems. In family members of an affected person, a test for a genetic mutation in the RET proto-oncogene can lead to an early diagnosis of medullary thyroid cancer and, subsequently, curative surgery to remove it.

Anaplastic thyroid cancer. Anaplastic thyroid cancer is the most advanced and aggressive thyroid cancer and is the least likely to respond to treatment. Fortunately, anaplastic thyroid cancer is rare and found in less than 2% of patients with thyroid cancer.

What is a thyroidectomy?

A thyroidectomy is the removal of all (total) or part (lobectomy) of the thyroid gland. Under a general anaesthesia, the surgeon makes a cut in along a skin crease in the lower part of the neck and lifts upper and lower flaps of skin and underlying tissues to give a good view of the thyroid gland. An incision (cut) is made into the front of the neck. If you have any naturally occurring skin creases the cut will be along one of these.

The blood vessels to the thyroid are tied off and the gland gradually freed, while the surgeon looks for and protects two important structures nearby – the nerves that control the vocal cords (recurrent laryngeal nerves) and the parathyroid glands that help control the body's calcium.



When the gland is free, it is sent for microscopic examination. The lymph glands around the thyroid (level VI nodes) are inspected and may be removed and sent for microscopic examination. In case of papillary thyroid cancer and medullary cancer these nodes are routinely removed and sent for examination. If enlarged nodes are present in the sides of the neck, then those are removed by performing selective lymph node dissection.

Any bleeding points are sealed and a fine suction drain is often left in each side of the neck to remove any secretions. These will be removed after a day or two. The skin wound is closed. To prevent any swelling or bruising after the operation you will have a small drain placed into the wound connected to a small plastic bottle into which fluid drains. This is usually removed after 24 hours. You can usually be admitted on the day of your surgery. Patients having a partial thyroidectomy (lobectomy) will usually go home the next day. Patients having a total thyroidectomy will go home in 2 – 3 days.

What are the risks specific to thyroidectomy?

Scar: there will be a scar; which may be red for a few months, before fading to a thin line. Very occasionally the scar becomes thickened and highly coloured red, this is sometimes called a keloid. This is more common in people with black skin.

Nerves supplying the voice box are close to the thyroid gland and are sometimes affected by this type of surgery resulting in hoarseness. This is usually temporary and your voice will return to normal after a few weeks. On rare occasions, you may develop minor voice changes such as mild huskiness or an inability to sing very high notes. This voice box damage is permanent in less than 2% of cases. Rarely a tracheotomy (breathing tube in the neck) may be required to be placed temporarily if severe breathing difficult is noted (strider).

Low blood calcium levels often occur following total thyroidectomy because the four parathyroid glands that control the level of calcium in your blood are very close to the thyroid gland. Early signs of low calcium levels are tingling in your hands, fingers, lips and around your nose. Please report any of these signs and a blood test can be performed to check the level of calcium in your blood. There is a 1% risk of having permanent low calcium that will require calcium supplements but this is usually only a temporary problem.

After the surgery.

- You may bath shower as normal after 24 hours. After bath pat the wound dry.
- You will normally have one long stitch in your wound with a small white ball at each end. We will remove this somewhere between 3-10 days after your operation. You will be given further instruction about this at your discharge from hospital.
- If you have had a total thyroidectomy you may be given calcium supplements (2 tablets 3 times per day) for several weeks until your calcium levels return to normal.

Further Treatment:

- If you have undergone lobectomy and the microscopy results suggest that you have a cancer, you might be advised further surgery (completion total thyroidectomy).
- In cases of cancer, you may be advised to undergo radio-iodine ablation.
- If you have undergone total thyroidectomy, you have to be on replacement for the hormone (tablets will be prescribed). In case of cancer the dose would be higher.
- You would be advised to be on long term followup with regular examination and test.