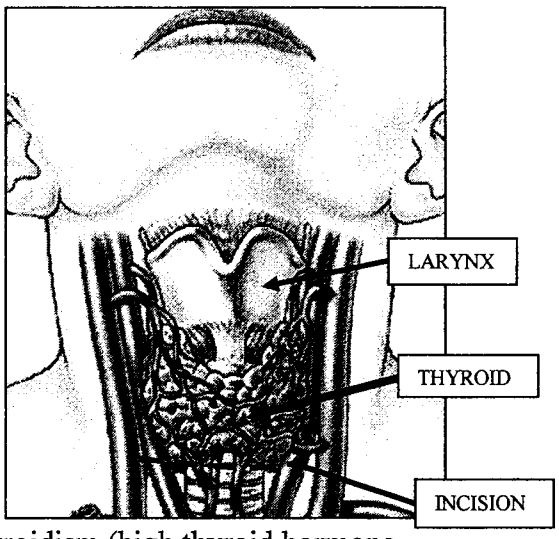
Thyroid Surgery

What is the thyroid gland?

The thyroid gland is a butterfly-shaped gland centered in the lower neck below the larynx (voice box) and just above your clavicles (collarbones). Its function is to produce thyroid hormone (T4 and T3) which regulates the body's metabolism. The level of thyroid hormone in the blood is monitored by the pituitary gland at the base of the brain which produces Thyroid Stimulating Hormone (TSH) to increase T4 and T3 production in the thyroid.



Diseases of the thyroid gland are very common, affecting millions of Americans. The most common diseases are an over- or under-active gland. Hypothyroidism (low thyroid hormone levels) results in fatigue, cold intolerance, weight gain, skin/hair thinning, and depression. This is usually treated by taking oral thyroid hormone supplements. Hyperthyroidism (high thyroid hormone levels) results in heat intolerance, weight loss, hyperactivity, and insomnia. This is treated with thyroid suppressing medications, radioactive iodine, or surgery.

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.

What are thyroid nodules?

Some people 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). Most thyroid nodules are benign growths that can be followed or suppressed with oral thyroid hormone supplements. Some thyroid nodules are malignant (cancer) and are generally treated with surgery followed by radioactive iodine therapy. A needle biopsy is often used to determine if the nodule is benign or malignant. A thyroid ultrasound may be used to determine the size of the nodule or if it is a cyst. A nuclear medicine thyroid scan can determine if the nodule is functioning at a higher level than the surrounding thyroid tissue (hot nodule) or at a lower level (cold nodule). Blood tests determine if thyroid hormone levels are appropriate.

When is thyroid surgery necessary?

If the fine needle aspiration is reported as suspicious for or suggestive of cancer, then thyroid surgery is required to make a definitive diagnosis and to treat the tumor. Sometimes surgery is performed to remove a benign nodule that is causing pain, pressure or difficulty swallowing.

How is thyroid surgery done?

Thyroid surgery is done in the operating room (OR) under general anesthesia. In the Pre-Op area, the anesthesiologist will talk to you about the anesthesia and answer any questions you may have. You will receive an antibiotic through an IV before being brought into the OR.

Once in the OR, you will receive medications through the IV to put you to sleep. The anesthesiologist will then place a tube through your mouth into your airway to help you breath during the surgery. An incision is made over the thyroid and the gland is exposed. The thyroid lobe (half) with the nodule is carefully freed from the surrounding tissues to remove it. The two parathyroid glands on each side are identified and protected if possible. These small glands regulate calcium levels in the body. The recurrent laryngeal nerve is identified running behind the thyroid as it travels up to the larynx. This nerve allows the vocal cords to move as we speak and breathe. A frozen section (an immediate microscopic pathology reading) may be used to determine if the rest of the thyroid gland should be removed. If the pathologist determines there is no cancer in the thyroid, no further surgery is necessary. If the pathologist determines there is cancer in the thyroid, then the other half of the thyroid is usually removed. When the surgery is finished, you will be allowed to wake and will be taken to the recovery room. Surgery can take two to three hours depending on the extent of the surgery.

After surgery, most patients are observed in the hospital one to three days after surgery. You will likely have a drain coming out of the lower neck skin to prevent fluid from collecting under the skin. This is removed when the fluid drainage decreases one or two days after surgery. If both lobes of the thyroid are removed, your calcium levels will be followed closely until stable. Sleeping with the head up is helpful the first week to reduce swelling from the surgery. It is important to take all prescribed antibiotics. Most patients require prescription pain medication such as Vicodin or Tylenol with Codeine, but over-the-counter Tylenol is often enough for moderate pain. Do not lift any heavy objects the first two weeks after surgery.

Most patients are seen back in the clinic one week after surgery for removal of sutures and review of the final pathology. Most patients return to work or school one week after surgery.

What signs of trouble should I look for after surgery?

If you have any of the following problems, call your surgeon:

- **Bleeding:** increasing, painful swelling and bruising under the incision suggest blood is collecting under the skin.
- **Fever:** a fever persisting above 38.3° C, or 101° F.
- **Signs of infection:**
  - an increase in pain, redness or swelling at the incision
  - a yellow or green discharge from the incision
- **Nausea:** any persisting nausea.

What are the risks of thyroid surgery?
Significant problems following thyroid surgery are unusual, but there are some risks associated with the surgery. Risks include recurrent thyroid cancer, laryngeal nerve injury with temporary or permanent hoarseness, parathyroid gland injury with temporary or permanent calcium regulation dysfunction, bleeding, hematoma, infection, skin numbness, difficulty swallowing, and prominent scar formation. Serious bleeding requiring blood transfusions is rare, but possible. Your anesthesiologist will discuss the risks of the general anesthesia. Thyroid surgery can change the resonance of the voice in subtle ways which may be important to patients who depend on their voice to make a living.

Patients who have thyroid surgery may be required to take long-term thyroid medication to replace thyroid hormones after surgery. The need for thyroid hormone replacement will depend on how much thyroid gland remains and what was found during surgery. Some patients may need to take long-term calcium replacement if their blood calcium is low.

Occasionally, the pathologist will find cancer in the thyroid that was not discovered in the frozen section pathology during the surgery. Usually, a return to the OR as soon as possible to remove the other half of the thyroid is recommended.

I have read the information about thyroid surgery including risks of surgery and have been given a copy of this information sheet.

(Patient/parent signature) X_____

(Print name) _____

Date: _____