Thyroid Surgery

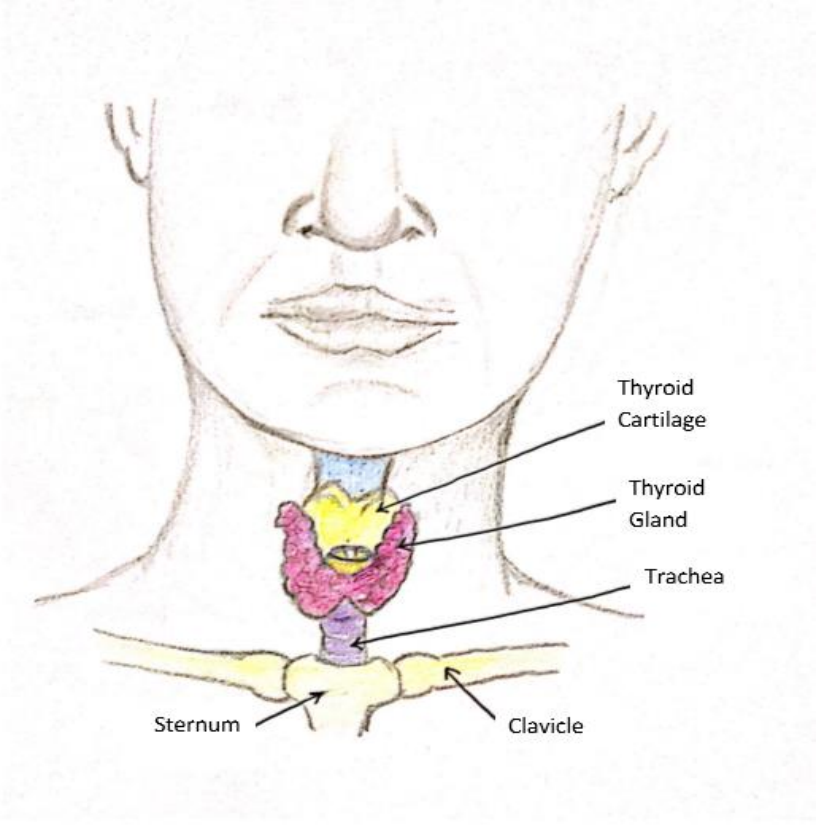
Information and advice for patients

CSTH professorial surgical unit

What is the thyroid gland?

The thyroid gland is a butterfly shaped organ located in front of your windpipe just below the Adam's apple. It is made up of two halves (lobes) joined by a central bridge (isthmus).

The thyroid gland produces a hormone known as thyroxine, which is vital for normal health as it involves in the control of body's metabolism and function of other organs including heart, brain and muscles.



What are the abnormal conditions of the thyroid gland?

- Increase in the size of the gland
    - This can be:
        - Development of a single lump (solitary nodule)
        - Development of multiple lumps (Multinodular goiter)
        - Uniform enlargement of the gland (diffuse goiter)
    - Causes for thyroid enlargement are multitude including iodine deficiency, hormonal problems, certain foods (goitrogens), inflammation and rarely cancer.
    - Enlarged gland may cause compression of the windpipe causing difficulty in breathing and rarely of the gullet causing difficulty in swallowing.
    - There is a rare risk of harboring a cancer which can be detected by the clinical assessment, ultrasound scan and needle biopsy performed by the clinic.
    - Occasionally enlarged gland produces too much thyroxine which will be discussed below.
    - There may be a cosmetic concern with the enlarged gland, even in the absence of compression, cancer or over activity.

- Inflammation of the thyroid gland (Thyroiditis)
    - Group of conditions resulting in damage to the thyroid tissues due to various reasons e.g. abnormality of your immune system, drugs and infections.
    - These may result in increased or decreased thyroxine production, pain and rare risk of development of cancer with certain types of thyroiditis.
- Production of too much hormones (hyperthyroidism)
    - The body processes starts to work faster resulting a pattern of symptoms (e.g. loss of weight, increased sweating) and examination findings (e.g. increased heart rate)
    - Condition is confirmed by abnormal blood tests that suggest increased thyroxine levels in the body.
- Too little production of hormones (hypothyroidism)
    - The body's functions work slower, resulting in a pattern of symptoms (e.g. fatigue, increased weight) and examination findings (e.g. hair loss, dry skin)
    - Condition is confirmed by abnormal blood tests that suggest decreased thyroxine levels in the body.

How are these conditions treated?

As there is a large variety of diseases involving the thyroid gland, different treatment options are available.

- Conservative management
- Medical management
- Radioiodine therapy
- Thyroid surgery

The management will be tailored depending on your individual case for which treatment modalities are used in isolation or in combination.

Surgery is generally recommended for several situations:

- A suspicion of a cancer
- An enlarged thyroid gland causing compression (discussed above)
- Increased production of thyroxine which cannot be controlled by medical therapy or radioiodine therapy.
- Growth towards the upper chest (Retro sternal extension)
- Cosmetic concerns due to a large goiter

Types of thyroid surgery include:

- Total thyroidectomy (Removal of all of the thyroid gland)
- Thyroid lobotomy (Removal of half of the thyroid gland)

The selection of the type of surgery will depend on the condition of your thyroid gland. Your doctor will explain the procedure suitable for you during preoperative clinic visits.

➢ Thyroid surgery (thyroidectomy) procedure

Procedure is performed under general anaesthesia (medications are given to put you in to a deep sleep). An incision of about 7-10 cm will be made across the front of the neck, just above the collar bone.

The surgeon will then be careful to identify and preserve your parathyroid glands and the nerves (important for the function of your voice box) which lie very close to the thyroid gland. The surgeon will free your thyroid gland from these and other surrounding structures and then remove all or half of it.

Certain cancers of thyroid gland will require removal of lymph glands in the neck. If your surgeon expects to remove lymph glands, this will be discussed with you in more detail.

Your skin cut will be closed generally with absorbable stitches which do not require removal.

What are the benefits of the surgery?

Mainstay of the management of thyroid cancer is thyroidectomy with or without removal of lymph glands to remove cancerous tissues from the body. This will facilitate the use of radioiodine therapy for certain thyroid cancers to complete the treatment.

Thyroidectomy removes the compression on windpipe or rarely on gullet in certain patients.

Thyroidectomy is effective when the toxicity due to increased thyroxine production cannot be controlled by the medical treatment or radioiodine therapy.

Thyroidectomy will address the cosmetic embarrassment when there is a large goiter even without compression, over activity or cancer.

What are the complications of having thyroidectomy?

Even though thyroidectomy is a commonly performed operation, it carries an element of risk.

In order to make an informed decision, you need to be aware of the possible complications which are either related to surgery or to anaesthesia.

➢ Specific complications

- Voice changes: most of the time this is temporary. The surgery is performed carefully to preserve the nerves that supply the voice box. However, external branch of superior laryngeal nerve injury and 1% risk of the recurrent laryngeal nerve injury cannot be eliminated. But it is common to have temporary nerve injury due to

bruising which recovers over a few weeks. Injury to both nerves is very rare but serious and may require a tube through the windpipe (tracheostomy) to breathe.

- Low calcium levels: This is due to the injury to parathyroid glands lying very close to thyroid gland and requires to take calcium containing medications. 3% will have permanent low calcium levels and 30% will have a temporary condition.
- Bleeding after the operation.
- Neck numbness

➢ General complications

- Surgical site infection: <1% risk
- Rarely lung and cardiac complication specially in patients with pre-existing medical conditions

Preparing for the surgery

The aims of your initial clinic visits are:

- To diagnose your thyroid condition
- To decide on management of your thyroid condition
- To assess and prepare for thyroid surgery if indicated

You will be asked for symptoms, medical history, allergies and will be carried out relevant examination at the clinic. Make sure that you bring the records of your other clinic follow ups, medications and previous surgical notes, if any.

They will further carry out blood tests, ultrasound scan and sometimes aspiration of few thyroid cells using a needle (Fine needle aspiration cytology) which would be done as an outpatient procedure to find out whether it is cancerous or not. You may be assessed with other investigation modalities such as CT (computerized tomography) scan if relevant for the diagnosis. Depending on the diagnosis of your thyroid condition the surgeon will discuss with you about the best management options for you.

If thyroid surgery (total thyroid or lobectomy as discussed above) is decided, you will be assessed for fitness for surgery. The doctor will carry out further investigations including blood investigations, x-rays, ECG and assessment of your voice box by passing a camera through your mouth as an outpatient procedure.

You will also see an anaesthetist before the procedure to check your fitness for general anaesthesia.

Some of your routine medications may affect the surgical procedure and anaesthesia. Therefore, you will be advised about the alteration of your routine medications. Sometimes you may be started on medications to optimize your thyroxine hormone level prior to surgery.

Once the preoperative assessment is satisfactory, a routine date for surgery will be reserved and you will be asked to provide an informed written consent.

You will be admitted one day prior to hospital for further preparation. You are supposed to bring white colour, loose-fitting and comfortable clothes for the surgery and investigation reports done so far. Leave your valuables with your guardian.

You will be asked to stay fasting for solids for 6 hours and clear fluid for 2 hours prior to surgery.

The day of your surgery

You need to be dressed up with white color clothes and will be taken to the theatre. After completing your planned surgery, you will be taken to the recovery room. Then you will be transferred back to the ward once you regain the consciousness adequately from general anaesthesia.

Your recovery

You will be monitored closely for post-operative complications. Later the same day you may drink and eat as required unless specific instructions are given not to.

You will be provided pain medications accordingly to keep you comfortable and pain free.

Your discharge and follow up

You are likely to be discharged between one and two days after the surgery. Advices on surgical site care, pain medication and follow up plan will be given prior to discharge.

If you have undergone complete removal of the thyroid, you will require to be on thyroxine tablets lifelong. This is by a once – a – day tablet taken with water on an empty stomach 1 hour before meals early morning. It is very important that you continue to take it every morning at a fixed time as the first thing in your day. In addition, you may be started on calcium tablets. Drug doses will be adjusted at follow up visits according to blood test results.

If only half of your thyroid was removed, requirement of thyroxine tablets will be assessed by blood tests to check the function of your remaining thyroid at your follow-up appointment and started if needed.

You may take a shower after the second post-operative day. Do not soak the wound dressing for first 3 days. Then remove the wound dressing and you may keep the surgical site open. If dissolving stitches are applied, there is no need to remove the stitches.

You should seek medical advice if you develop redness, swelling or increasing pain of the wound, numbness of your lips or fingers or any difficulty in breathing.

You will be assessed after one week for the assessment of surgical site. After that, you will get an appointment at the clinic in 6 weeks. At this appointment, the doctor will talk to you about the results of the

surgery and any further treatments and follow-up. You will be reviewed monthly or two monthly after that if you are on lifelong thyroxine. Thyroxine level of your body will be assessed regularly with blood investigations.

If you are diagnosed with thyroid cancer after surgery, you will be referred to an oncologist for further management with radioiodine or radiotherapy accordingly.

Resuming normal activity and returning to work

It is safe to attend light activities of daily living depending on your comfort at home. However, you should not drive, return to work, drink alcohol, operate machinery or be responsible for small children in the first 48 hours after your operation, even if you feel fine. You should be able to return to office work by two weeks.

Contacts

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