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THYROIDECTOMY

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Contents

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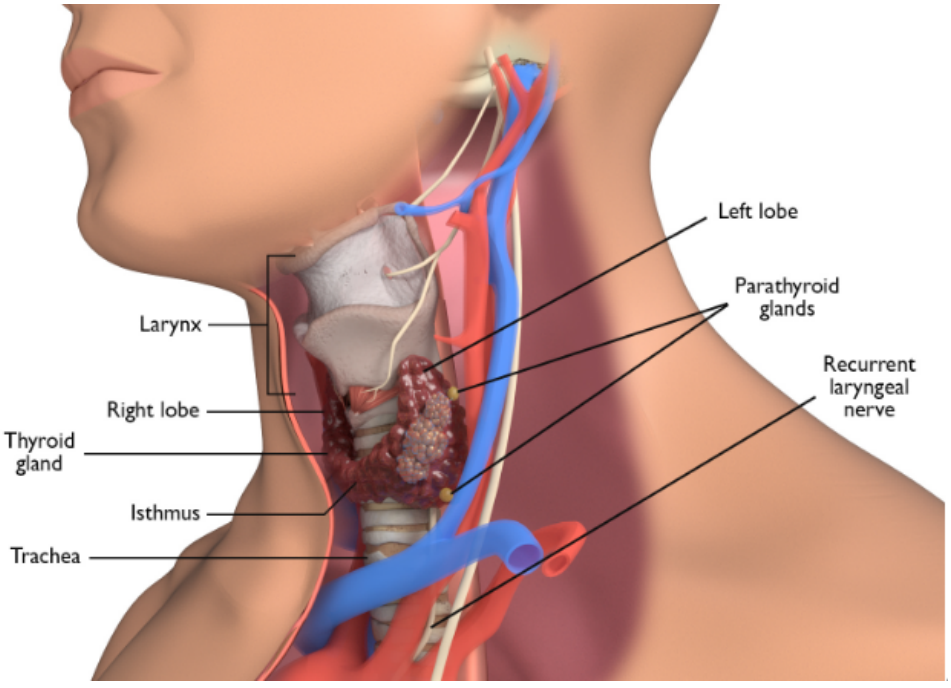
Thyroidectomy

This information aims to help you understand the operation, what is involved and some common complications that may occur. It may help answer some of your questions and help you think of other questions that you may want to ask your cancer care team; it is not intended to replace advice or discussion between you and your cancer care team.

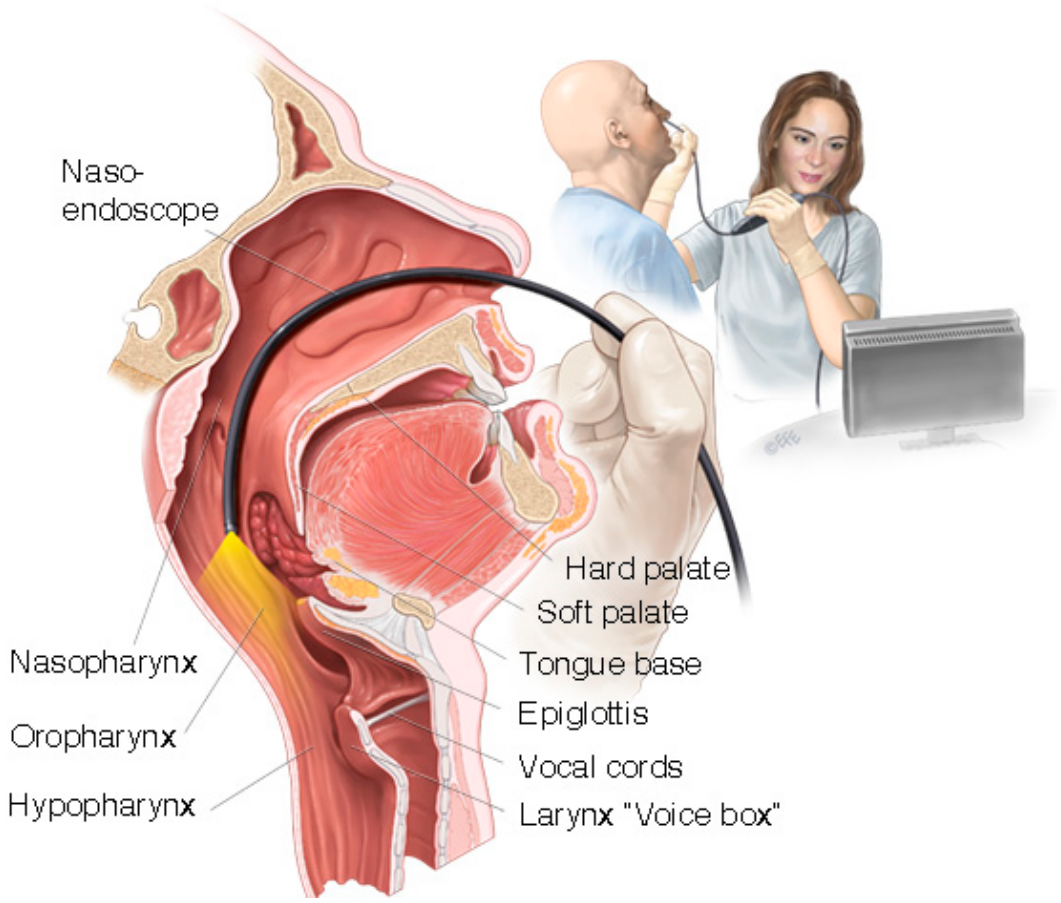
An overview to thyroidectomy

- The thyroid is located below the voice box around the windpipe (trachea). It is shaped like a butterfly with two lobes laying either side of the windpipe (see picture below).
    - The thyroid gland makes thyroid hormones that circulate around the body in the blood and control the speed at the cells in the body work. Too much of these hormones (hyperthyroidism), or too little (hypothyroidism) can make you unwell.



- Thyroidectomy is the removal of the whole of, or part of the thyroid gland.
    - If the whole thyroid gland is removed, thyroid hormone tablets are required to replace the thyroid's natural function after the operation.

- Next to the thyroid gland are two important structures that the surgeon needs to protect (see picture above):
    - The glands that control level of calcium in the blood, called the parathyroid glands
    - The nerves to the voice box, called the *recurrent laryngeal nerves*. Many surgeons will check whether these nerves are working normally before the operation by looking at the voice box. This can be done with a mirror or a telescope, called **nasendoscopy** (see below).



WHY IS A THYROIDECTOMY NEEDED

- A thyroidectomy is done to treat thyroid conditions such as cancer, nodules or enlargement of the thyroid (goitre) that are not cancerous, or an overactive thyroid. Visit the Head and Neck Cancer Australia website to view further information on thyroid cancer.
- The amount of thyroid to be removed depends on the reason for the operation. This may be part of the thyroid (partial); half (hemithyroidectomy); or all of the thyroid (total thyroidectomy).
    - Usually for thyroid cancer, the whole thyroid is removed. This is because thyroid cancers often need additional treatment called **radioactive iodine**, which is only effective if the thyroid gland is completely removed. However, not all thyroid cancers need to be treated with radioactive iodine or total thyroidectomy.
- Sometimes the lymph nodes in the neck may need to be removed and this is called a neck dissection. If there are no signs of cancer having spread to the lymph nodes, then usually just the lymph nodes near the thyroid are removed. This is called a *paratracheal* or *central compartment* dissection. You may want to download further information on **neck dissection**, which is available on the Head and Neck Cancer Australia website.
- Tissue removed from the thyroidectomy will be examined in detail by a specialist pathologist, under a microscope to look for cancer cells and assess whether additional treatment may be needed. Through this examination, the **cancer can be accurately staged**. Further information about staging of cancer is available on the Head and Neck Cancer Australia website.

HOW TO PREPARE FOR THE OPERATION

BEFORE THE OPERATION:

- You will need to fast (have nothing to eat or drink) for 6 hours before your operation (unless advised differently by your surgeon or anaesthetist) because thyroidectomy is performed under a general anaesthetic (you will be asleep and will not remember what happens during the operation).

- Your surgeon will explain the details of your operation. Be sure to bring up any questions or concerns, and share your needs and wishes with your cancer care team (**see box**).
- You should speak to your doctor about how to manage aspects of your lifestyle, such as smoking, drinking alcohol and chronic conditions (e.g. diabetes and obesity) that may increase the risk of complications.
    - If you take blood thinning medication for a heart condition or blood clots (such as Warfarin, Plavix, Aspirin or Pradaxa), make sure your surgeon is aware. Some of these medications need to be stopped more than a week before the operation. Sometimes a short-acting blood thinner (such as Clexane) is used before and after the surgery.
- Talk to your surgeon, endocrinologist and cancer care team about any likely side effects to expect following the operation. You may find it useful to talk to a dietitian, speech pathologist or specialist head and neck nurse about these issues.

Possible questions that you may want to ask your cancer care team

- How long will it take before I can eat again?
- How long will the incision be?
- Will my voice be affected?
- Will I need to take thyroid hormone medication (thyroxine)?
- How will I know if I am taking the right dose of thyroid hormone?
- Where should I store the medication?
- Will I need to take calcium medication after the surgery?
- What blood tests will I need after the surgery?
- Will I need other treatment, such as radioactive iodine?
- Can I fall pregnant and are there any special precautions?

Additional questions are listed at the end of this factsheet.

Visit the Head and Neck Cancer Australia website for further information on health professionals who may be part of your cancer care team

What to expect during the operation

- During thyroidectomy, an incision (cut) about 6 cm long will be made in the front of the neck, in one of the natural skin creases, where possible.
- Your surgeon will carefully remove your thyroid away from the laryngeal nerves and parathyroid glands.
- Some surgeons use a nerve monitor attached to the breathing tube during surgery. This can be very useful in difficult operations, such as when there is scaring from previous thyroid surgery.
- In some circumstances, the surgery may be done endoscopically (using a small video camera), through small cuts elsewhere in the neck or chest. It could also be done with the assistance of a robot, but these options are not very common in Australia.

What to expect after the operation

- After the operation, once you are fully awake, you will be moved to a bed in the hospital.
- You will have surgical drains coming from the site of the surgery to allow blood or lymphatic fluid to escape and prevent swelling. These will usually be removed before you go home but it may be possible to go home with the drains if you are ready.
- Some surgeons may use an ice pack on the wound to reduce swelling
- Your anaesthetist and surgical team will give you medicine to help control any pain and nausea after the operation. Some stronger pain medications may also be charted but you will need to ask the nurse for these as needed. You may want to download information about **pain management**, which is available on the Head and Neck Cancer Australia website.
- You should be able to eat and drink but soft food is usually recommended.
- If only a part of the thyroid is removed, further blood tests may not be necessary, however, if the whole thyroid is removed, blood tests will be needed to check the level of calcium and parathyroid hormone.

  - Some surgeons prescribe calcium medication for all patients and others wait to see what the blood tests show before deciding whether calcium is needed.
  - If calcium levels drop, you may notice tingling in the lips, fingers and/or toes or cramping in the hands and feet. Inform the nurse or doctor if you notice any of these symptoms. This usually takes 24 – 48 hours to occur.
- **Thyroxine, a thyroid medication, will be prescribed to patients who have had all of the thyroid gland removed, and it may be started the day after the operation. It is important to take the medication without food, milk or other tablets. Often the easiest time to take thyroxine is an hour before breakfast with a sip of water.**
- **Most patients stay in hospital for about 1–2 days after thyroid surgery.**

Possible risks of thyroidectomy

All operations carry some risks such as blood clots, wound infections, bleeding, chest infection, adverse reactions to anaesthetic, and other complications. These risks will be explained by your cancer specialist and anaesthetist.

Your doctor will explain details of the operation, general risks and side effects of the operation, they may recommend:

- stopping blood thinners (e.g. aspirin) before surgery to reduce the risk of bleeding
- a blood thinner (called heparin) may be injected before and after surgery to reduce the risk of blood clots
- antibiotics to reduce to risk of wound infection
- early mobilisation to reduce the risk of blood clots and chest infection
- special stockings to reduce the risk of blood clots.

Thyroidectomy is a very safe operation but there are some specific risks that you should know about:

- **Change in voice and speaking:** There are two nerves to the voice box on each side of the windpipe (trachea).
  - The nerves that make the vocal cords open and close are called the ***recurrent laryngeal nerves***.

  - The nerves that tighten the vocal cords are called the *external laryngeal nerves* (these are not as important, but if they stop working it may cause difficulty in singing high notes or projecting the voice).

- During thyroid surgery, nerves are carefully separated from the thyroid gland.
  - If one of the recurrent laryngeal nerves is injured, the voice may sound very 'breathy' and weak. The chance of this is low (Up to 2 people in 100 people).
  - If both recurrent nerves are injured it may be difficult to breath and, in extremely rare situations, a tracheostomy may be required. You may want to download information on **tracheostomy**, which is available on the Head and Neck Cancer Australia website.
- **Low calcium:** The parathyroid glands control calcium levels in the blood. They are very close to the thyroid and share the same blood supply. During thyroidectomy the parathyroid glands need to be separated from the thyroid without affecting their blood supply. This may be difficult and the parathyroid gland has to be implanted into a neck muscle where it will grow a new blood supply. Sometimes the parathyroid glands are within the thyroid and are removed at the time of the surgery. It is quite common for the parathyroid hormone levels to drop after a total thyroidectomy (about 20%) but usually this will recover over a period of weeks. If this happens, calcium and vitamin D medication may need to be taken until the levels recovers (don't take this at the same time as the thyroid hormone medication).
- **Bleeding:** Usually very little bleeding occurs during thyroid surgery. However, bleeding after the operation may be dangerous given the thyroid sits next to the wind-pipe. If this occurs, there may be some breathing difficulties and you will be taken back to the operating room. This is quite rare.

Side effects and their management

As with all operations, there is a chance that thyroidectomy may lead to a number of side effects. You may not experience all of the side effects. Speak with your doctor if you have any questions or concerns about treatment side effects.

Side effects common for all operations may include:

- **Nausea**: General anaesthetic may cause nausea. This will settle down soon after the operation and can be treated with medications.
- **Sore throat**: Your throat may be sore initially because of the breathing tube placed during the operation.
- **Pain management**: Pain is a common side effect of the operation. Your anaesthetist will give you pain medicine during the operation to keep you comfortable when you wake up, and you may continue on pain medicines to ensure pain is under control. Ensure you take pain relief medications as prescribed by your doctor and speak to you cancer care team if the pain is not under control, gets worse of if the medication causes any side effects. You may want to download further information about **pain management**, which is available on the Head and Neck Cancer Australia website.

Possible side effects of thyroidectomy include:

- **Scar:** There will be a scar across the neck. This may be red for a few months, before fading to a thin line. It is possible that the scar may become red and thickened (keloid scar). If you tend to scar badly, let your surgeon know to help reduce the risk of this happening.
- **Changes in voice and speaking:** Many patients may notice that their voice fatigues easily for a few months after thyroidectomy, even if the nerves are working well.
- **Thyroid hormone replacement:** Daily thyroid hormone tablets need to be taken for those who are having a total thyroidectomy. This helps replace the thyroid's natural function for the rest of your life. Occasional blood tests will be needed to check that you're on the right dose.

Other treatment(s)

- Additional treatment(s) depend on the nature and extent of the cancer
- Head and neck cancers often require treatment with more than one form of therapy to reduce the risk of the cancer recurring. Many patients need radioactive iodine therapy after the operation.

- Your **cancer care team** will be able to discuss the likelihood of needing further treatment before your operation.

Before going home

- Any particular instructions for **wound care** or medications will be provided to you before you go home. You may want to download further information about wound care on the Head and Neck Cancer Australia website.
- Your doctor may prescribe pain medications to help relieve pain following the operation. Ensure you take the pain relief medications as prescribed by your doctor and speak to your cancer care team if the pain is not under control, gets worse or if the medication causes any side effects. You may want to download further information about **pain management**, which is available on the Head and Neck Cancer Australia website.
- If you have had a total thyroidectomy, make sure you have a supply of thyroid hormone medication.
- You will be assessed by the team involved in your care before you go home and follow-up will be arranged with your surgeon and GP.
- If you were commenced on calcium medication, make sure you know when to have your next blood test to check the calcium level and who you should contact to get the result. **DO NOT RELY ON YOUR SURGEON TO CALL YOU.**
- Be sure you know who to call if there is a problem. Usually calling the surgeon or their team directly is best, but you can also go to your GP or call the hospital where you had surgery.

Care of the wound

- Each surgeon will close the wound in their own way. Often the wound will have sutures under the skin that cannot be seen. These will dissolve over time and they do not need to be removed. Avoid wearing any tight or restrictive clothing around the neck for a few weeks after the operation.

- There may be a small sticky dressing (called a 'steri-strip') over the wound when you are discharged from hospital. Your doctor will have specific instructions regarding when the dressing should be removed and whether you can get the wound wet.
- There may be a waterproof 'glue' dressing (Dermabond) over the wound following the operation. This is a temporary cover to keep the wound clean; it can be peeled off after a week or so.
- At your first postoperative check, the surgeon will discuss what you can apply to the wound to help avoid a noticeable scar.

Activities

- For the first few days after arriving home from hospital, it is important to rest and not do any activities that involve moving the neck a lot. If possible, take one or two weeks off work depending on how labour-intensive work may be.
- Do not do any heavy lifting, strenuous exercise or contact sports for a month after the operation, although it is ok to go for walks as soon as you feel up to it. If you have small children it is recommended that you do not lift them for 1–2 weeks.
- You can drive after a week or as soon as you feel comfortable with the range of movement in your neck, but you must not drive if you feel that your ability is impaired.

Thyroxine

- Thyroxine is the main hormone produced by the thyroid. After a total thyroidectomy (all of the thyroid removed) you are no longer able to produce thyroxine and a supplement of thyroxine is needed for the rest of your life.
    - If only half of the thyroid was removed (hemithyroidectomy), the thyroid is still able to produce thyroxine and a supplement may not be required.
- The common brand names for thyroxine are Oroxine® and Eutroxsig®
    - As there are different strengths of thyroxine tablets available (50, 75, 100 and 200 micrograms), it is helpful to know the thyroxine dose rather than number of tablets (e.g. 100 mcg per day x 7 days per week rather than 1 tablet per day). Sometimes it can take some time to get the thyroxine dose correct.
- Thyroxine should be:

  - **Taken ONE or TWO HOURS before food or drink** – It may be easiest to take it in the morning, as soon as you wake up before you begin your morning routine. It is very important that thyroxine is not taken with food. For those who are also taking calcium, do not take the two medications at the same time of the day (have the calcium with or after food).
  - **Stored in the fridge** – having it out for a day is fine if you are travelling, but refrigerate it as soon as possible. Make sure you always have enough tablets and if you are running out either call the surgeon's rooms, endocrinologist or see your GP to get a new prescription.

Symptoms to watch for after discharge from hospital

- **Significant swelling:** There may be some mild swelling after the operation. This is normal and may last for some weeks. However, if this becomes very noticeable and painful, contact the surgeon, your family doctor or the hospital.
- **Difficulty breathing or swallowing:** You should be able to breathe normally after your surgery. If you are having difficulty you must contact your surgeon, GP or go to the hospital emergency department.
- **Discharge from the wound:** If the wound becomes red, hot and starts to discharge you may have an infection and should contact the surgeon or your family doctor, as you may need antibiotics.
- **Fever:** If you develop a fever contact your surgeon or your family doctor.

Follow-up care

- The surgeon will discuss what to apply to the wound to help avoid a noticeable scar.
  - Different surgeons may have different recommendations and it may take 12 months (or longer) for the wound to completely settle down depending on your age and skin-type.
- If the tumour removed is benign (not cancer) then only one or two visits may be needed. However, if there is thyroid cancer then you will need long-term follow-up with your surgeon, endocrinologist, or both.
- Sometimes the diagnosis of thyroid cancer has been made prior to the operation, based on a needle biopsy, so you are prepared for this result. However sometimes (about 1 in

10 patients undergoing thyroidectomy) an unexpected cancer may be found. Should this happen, your treatment plan may change.

- Other referrals may be arranged as needed with other health professionals to assist you with any other difficulties or supportive care. Any additional treatments that you may need are planned after discharge. This enables time for you to recover from the initial operation, get results of the pathology that examined the tissue removed at the operation, and make the arrangements for any additional treatment or next steps.
- **Regular blood tests:** Are conducted to make sure the thyroxine dose is appropriate. Your surgeon or endocrinologist will give you blood test request forms. Usually the first thyroid function test is done 6 weeks after the operation because it may take one or two months for the levels to stabilise. The following are signs of an incorrect dose; ask your doctor for a blood test to check your thyroid hormone level if you are experiencing these:

Signs of too little thyroxine:

- Fatigue/lethargy
- Poor exercise tolerance
- Hair loss
- Dry skin
- Weight gain
- Impaired memory
- Cold intolerance
- Constipation

Signs of too much thyroxine:

- Shakes (tremor)
- Palpitations (heart racing)
- Increased appetite and thirst
- Weight loss
- Intolerance to heat
- Fatigue/muscle weakness
- Difficulty sleeping
- Osteoporosis (long-term)

Radioactive iodine

- Some patients with thyroid cancer may need radioactive iodine ablation (RAI; iodine that is radioactive to help kill any remaining thyroid cells in the body). This involves admission to hospital where a tablet containing radioactive iodine is taken.
- RAI does not work straight away, it takes many months to have any effect.

- High levels of thyroid stimulating hormone (TSH) are required during RAI to help stimulate the thyroid cells that remain. This can be achieved either by:
    - withdrawal (stopping thyroid hormone medication) 4–6 weeks prior to RAI; or
    - synthetic TSH (Thyrogen®) given as an injection for two days before RAI.
- After RAI a whole body scan will be used to look for any thyroid cells remaining and to make sure the cancer has not spread to other parts of the body. The scan may also show normal thyroid cells (where the thyroid was removed; very common) or salivary glands (common).

Ongoing surveillance

- Following a diagnosis of thyroid cancer, most patients are monitored for several years depending on their individual cancer.
    - Monitoring may include regular blood tests, ultrasound and specialist visits (for example, surgeon and/or endocrinologist). The specialist may check the lymph nodes in the neck using ultrasound (either at the surgery or having one done prior the appointment).
- Thyroid cancer may be tested by a marker in the blood called thyroglobulin. If this marker is low, it suggests there is no recurrence of cancer; but if thyroglobulin increases, further tests may be needed.
- Some patients need repeat whole body scans or treatments with radioactive iodine based on these results.

For further information about the operation for cancer and what to expect, you can also refer to Understanding Surgery: a guide for people with cancer, their families and friends.

QUESTIONS TO ASK YOUR DOCTOR

- What type of cancer do I have? Where is it located?
- What lifestyle changes (diet, exercise) do you recommend I make?
- What are the chances that the surgery will cure the cancer?
- What will happen if I don't have the surgery?
- Will I need thyroid hormone replacement therapy?
- When will I be able to get back to work?
- What are the possible side effects of treatment? How can they be prevented or managed?
- Will I have a scar?
- How long will I have to stay in hospital for?
- How much will the operation cost? Will my health insurance cover it?
- Will I be able to lead a normal life?
- When will I get the pathology results?
- What follow-up tests will I need after the operation?
- Am I suitable for any clinical trials?
- If I wanted to get a second opinion, can you provide all my medical details?

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You may want to write specific questions here to ask your doctor or cancer care team

About Head and Neck Cancer Australia

Head and Neck Cancer Australia (formerly Beyond Five) is Australia's only charity dedicated to providing information and support to people living with head and neck cancer, caregivers, family and healthcare professionals.

Head and Neck Cancer Australia's mission is to improve the quality of life of everyone affected by head and neck cancer through education and access to support and to raise awareness of head and neck cancer nationally.

Head and Neck Cancer Australia supports people through their cancer journey, from diagnosis to treatment and life after cancer by providing comprehensive, easy to understand and easy to access information. We have the only Directory of Head and Neck Cancer services and support groups available in Australia and New Zealand helping people to find the right services and support when they need it most.

Phone: 1300 424 848
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