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PARTIAL LARYNGECTOMY

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PARTIAL LARYNGECTOMY

This information aims to help you understand the operation, what is involved and the common complications. It may help answer some of your questions and help you think of questions to ask, but is not meant to replace discussion between you and your surgeon and cancer care team.

WHAT IS PARTIAL LARYNGECTOMY?

- Partial laryngectomy is removal of part of your larynx. The larynx is the medical name for the voice box.
- The larynx is in your neck, above your windpipe (trachea) and food pipe (oesophagus). It is made up of cartilage (a firm tissue), muscles and ligaments which move to make different sounds and protect the lungs when swallowing (see diagram below).
- The cartilage in the front of the larynx is sometimes called the Adam's apple.
- The larynx has three parts which doctors may refer to when describing where a cancer is located within the larynx:
    - upper (supraglottis): the area from the epiglottis down to the vocal cords at the top of the larynx. The epiglottis is responsible for protecting the lungs when swallowing foods and liquids.
    - middle (glottis): this area contains the vocal cords which open when breathing, and close when talking and swallowing.
    - lower (subglottis): the area below the vocal cords where the larynx joins the trachea (or windpipe). The trachea links the larynx to the lungs.
- Most people who have a partial laryngectomy will have a temporary tracheostomy tube in the neck that they breathe through. This helps the voice box to heal after surgery. Further information on tracheostomy is available on the Head and Neck Cancer Australia website.

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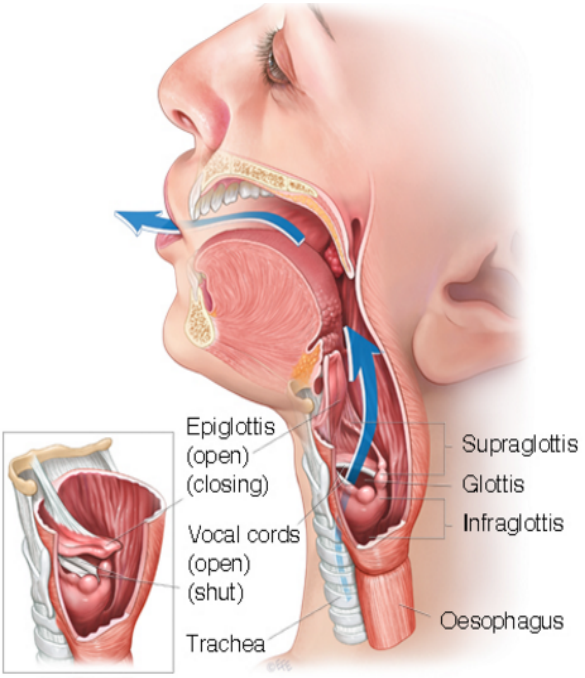

- Some reconstructive surgery may also be done in the same operation, or later. Visit the Head and Neck Cancer Australia website to download information on different reconstructive surgeries.

WHY DO I NEED IT?

- A **laryngectomy** is the removal of all (total laryngectomy) or part of the larynx (partial laryngectomy).
- Partial laryngectomy is the term used to describe removal of part of the voice box using a cut on the neck, but your surgeon may also consider removing the cancer with a laser or robot through the mouth without any external cuts (transoral surgery). Further information about Trans-oral robotic surgery or Trans-oral laser surgery is available on the Head and Neck Cancer Australia website.
- Total laryngectomy is used for larger cancers that cannot be treated with a smaller operation. This involves removing the whole voice box. Further information on total laryngectomy is available on the Head and Neck Cancer Australia website.
- The cancer together with an area of normal-appearing tissue is removed to reduce the chance of any cancer cells being left behind.

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- Tissue removed during partial laryngectomy will be examined in detail by a specialist pathologist, under a microscope to look for cancer cells and to assess whether additional treatment is 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 CAN I PREPARE FOR THE SURGERY?

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 and cancer care team about any likely side effects to expect following the operation. You will not be able to speak in the normal way after removal of

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

- How will the surgery affect my speech?
- Will I need a tracheostomy?
- How long will it take before I can eat again?
- What kinds of food should I eat after the operation?
- What will I look like after the surgery?
- Will I need any reconstructive surgery?

Additional questions are listed at the end of this factsheet.

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your voice box, so you should discuss with your cancer care team how you will speak and swallow, and adjust.

- A dietitian may also be useful to discuss issues about eating.
- Be sure to stay well nourished; if you are having trouble swallowing it may be helpful to take some high-calorie supplements. This is best done with the advice of the speech pathologist and dietitian.
- A partial laryngectomy may significantly alter your speech and breathing. It is important to talk to a speech pathologist about what to expect after operation and how you might be helped to speak and swallow afterwards.
    - You will be usually able to speak after a partial laryngectomy but your voice may be quite hoarse or weak. It may be useful to discuss the likely effects on your voice with a speech pathologist before the operation.
    - Spend time planning how to help you communicate with people after your surgery. It may be useful to use a pen and paper, an iPad/tablet or a mini white board in hospital. Check what the hospital has available or if you should take one of these with you. If you have trouble writing in English, try to work out in advance how to let your nurses know your needs.
- You should also talk to your surgeon and cancer care team about what side effects to expect following your surgery. You may find it useful to talk to a dietitian and speech pathologist about supportive care issues.

WHAT CAN I EXPECT AFTER SURGERY?

- After the surgery, you will be closely monitored in hospital during your recovery. You could be sent to intensive care for a while before being moved to a hospital bed.
- Your anaesthetist and cancer care team will assist with pain-killers to help control pain after surgery.
- You may have surgical drains to clear any excess fluid and blood from the site of your surgery and prevent swelling. These will be removed before you go home. You may have questions such as:
    - **Will I be able to talk?**

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- You should be able to talk again when the tracheostomy tube is removed, or if the tube has a special hole called a fenestration. Your surgeon will advise when this is likely to occur.
- In hospital straight after surgery, you may need to write down what you want to say, so it may be useful to use a pen and paper, an iPad/tablet or a mini white board, and it helps to be brief.

o **Will I be able to eat?**

- You will still be able to eat after partial laryngectomy since the connection between your mouth and stomach is not affected.
- In hospital after surgery, however, you probably won't be able to eat for a while to allow time for your throat to heal and to reduce risk of infection.
- You will likely have a feeding tube inserted to help you receive nutrition after surgery. Further information on feeding tubes is available on the website.
- Once the feeding tube is removed, you may have some difficulty swallowing and a speech pathologist can assist with this.

o **How do I breathe?**

- After partial laryngectomy, you will breathe through the tracheostomy tube until it is removed. When the tube is gone, you will be able breathe normally through your mouth and nose.

- The time you spend in hospital will depend on the extent of your surgery and on your recovery. You may stay in hospital for around 1-2 weeks.

WHAT ARE THE RISKS?

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 surgeon and anaesthetist.

Many of these risks can be reduced by means such as:

- Stopping aspirin and other blood thinners before surgery to reduce the risk of bleeding.
- Antibiotics to reduce the risk of wound infection.

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- Blood thinners (called heparin) injected before and after surgery to reduce the risk of blood clots.
- Early mobilisation to reduce the risk of blood clots and chest infection.
- Calf compressors and special stockings to reduce the risk of blood clots

Risks specific to laryngeal surgery vary depending on the type of surgery and general health. In addition to the general risks of surgery mentioned above, these are possible risks:

- **Aspiration:** Food, drink or saliva in the lungs (aspiration). If food, drink or saliva falls into your lungs it can cause pneumonia, so care must be taken to avoid aspiration.
- **Bleeding:** some people may experience excessive bleeding, which may be life-threatening. If this happens, another operation may be needed to stop bleeding or your surgeon may suggest blood transfusion.
- **Abnormal opening or fistula:** if the seal separating the throat and neck breaks down, saliva may leak causing an infection. This can be a very serious complication and might require opening a wound to allow it to drain or another operation to fix the seal.
- **Infection:** bacteria may cause an infection in the neck wound after the surgery. The surgeon will prescribe antibiotics to prevent this occurring, but if an infection still occurs, it might require opening part of the wound to allow any pus to drain out.
- **Airway obstruction:** Blocking of the airway can happen from crusting of the stoma. You will be given careful instructions in hospital on how to look after your stoma before you go home.
- **Leakage of lymphatic fluid (chyle leak):** Lymphatic fluid leaks from lymph channels (near where lymph nodes were removed) and may cause swelling under the skin. This can be treated using a special diet.
- **Low blood calcium**: The parathyroid glands (responsible for controlling the body's calcium levels) are located near the larynx and may be damaged or removed during the laryngectomy. This may cause blood calcium levels to fall below normal, leading to muscles spasms and can be treated with calcium tablets.
- **Nerve damage:** a number of nerves run close to the lymph nodes. Occasionally, some of these nerves are injured or need to be removed during the operation. If the nerves have

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been injured or bruised during the operation, the side effects usually go away after a few months, but, if a nerve is removed during the operation, the weakness may be permanent. Depending on the nerve involved, this may lead to:

  - shoulder weakness, stiffness and discomfort in your shoulder, including difficulty raising your arm above the head
  - uneven smile due to weakness of the lower lip
  - difficulty with speech and swallowing
  - arm and breathing muscle weakness.

- **Flap failure:** if a flap reconstruction is needed, then microsurgery is done to join blood vessels together to keep the flap alive. If the blood supply blocks, another operation will be needed to fix the problem. Sometimes the problem cannot be fixed and a new flap is needed.

WHAT ARE THE SIDE-EFFECTS AND HOW CAN I MANAGE THESE?

Common side effects include:

- **Nausea:** General anaesthetic may cause nausea. This will settle down soon after surgery and can be treated with medications.
- **Swollen throat:** Your mouth and throat may be swollen.
- **Infection:** Antibiotics will be used to reduce the risk of infection.
- **Pain:** Pain is a common side effect of surgery. Your anaesthetist will give you pain medicine during surgery to keep you comfortable when you wake up, and you may continue on pain medicines to ensure pain is under control. Visit the Head and Neck Cancer Australia website to download information on pain management.
- **Changes in breathing, speaking and eating**: There will be changes in how you breathe, speak and eat after your partial laryngectomy, however after the tracheostomy tube is removed, you will be able to breathe and eat normally. You will be usually able to speak after a partial laryngectomy but your voice may be quite hoarse or weak. The speech

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pathologist and dietitian will assist you. Give yourself time to recover and adjust to any changes.

- **Hypothyroidism**: If all or some of the thyroid gland is removed during the laryngectomy and not enough thyroid hormone is made, some people may feel tired and sluggish. This is very common if you have already had radiotherapy. Blood tests are used to measure the levels of thyroid hormones about two months after surgery. You may need to remind your surgeon or family doctor to check this.

BEFORE I GO HOME?

- If you have to go home with the breathing tube (tracheostomy), it is very important that you know how to look after it. You will be given information and careful instructions in hospital.
    - It is very important to keep the breathing tube clean. It can be very dangerous if the airway becomes blocked.
    - The air going in to the tracheostomy will need to be moistened. Normally the air we breathe is moistened by the nose and this stops dry air irritating the windpipe and lungs. The air going into the tracheostomy can be moistened using a humidifier.
    - Ask as many questions as you need to while you are still in hospital. To get more confident yourself, practice looking after the tube as much as you can. It can feel daunting but is quite simple. Don't worry and be sure to ask any questions you have.
    - It helps if someone else you live with or see regularly, also learns what you have to do.
- If you have a feeding tube, you will be taught how to look after it. Further information about feeding tubes is available on the Head and Neck Cancer Australia website.
- 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.

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- Your doctor will advise you about any particular symptoms you should look out for such as swelling that is very noticeable, difficulty breathing or swallowing, fever or discharge from the wound, and what you should do.
- You will be assessed by the team involved in your care before you go home and follow up arranged with your surgeon and GP.
- Follow up will also be arranged with a speech pathologist and dietitian, any with other allied health professionals to assist you with supportive care.
- Your recovery at home may vary and you should allow time for your body to recover and heal. Regular follow up helps to assess your progress.

WILL I NEED ANY OTHER TREATMENT?

- Head and neck cancers often require treatment with more than one form of therapy to reduce the risk of cancer recurring. Many patients need radiation therapy after surgery, and sometimes also require chemotherapy.
- Your treating doctors will be able to discuss the likelihood of needing further treatment before your surgery. This will depend on the nature and extent of your cancer.

FOLLOW-UP CARE

- After your surgery, you will continue to have regular follow-up visits with your specialist doctor.
- You will have follow-up with the speech pathologist to help you with speaking. A dietitian may also assist with swallowing or eating difficulties.
- Other referrals will be arranged as needed with other health professionals to assist you with any other difficulties or supportive care.
- Any additional reconstruction, cosmetic procedures or treatments that you may need are planned after discharge. This enables time for you to recover from the initial

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surgery, to get results of the pathology that examined the tissue removed at surgery, and to make the arrangements for any additional treatment or next steps.

SPECIAL CONSIDERATIONS

- You should discuss with your cancer care team the likely effects of removing part of your voice box on your speech and swallowing.
- Straight after the partial laryngectomy surgery you may need to adjust to some changes in eating, drinking and breathing.
- You will need to adjust to changes in speaking during your recovery. You will be usually able to speak after a partial laryngectomy but your voice may be quite hoarse or weak.

For further information about surgery for cancer and what to expect, you can also refer to Understanding Surgery A guide for people with cancer, their families and friends

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QUESTIONS TO ASK YOUR CANCER CARE TEAM

- What type of cancer do I have? Where is it located?
- What are the risk factors?
- What are the chances that the surgery will cure the cancer?
- What will happen if I don't have the surgery?
- What are the possible side effects of treatment? How can they be prevented or managed?
- How long will it take before I can eat again and what sort of food? Will I need a feeding tube?
- How long will I need the feeding tube for?
- Will I need follow-up treatment?
- What are the chances that the cancer will return?
- Will I have a scar?
- Will I be able to lead a normal life?
- What lifestyle changes (diet, exercise) do you recommend I make?
- How much will the operation cost? Will my health insurance cover it?
- What follow up tests will I need?
- Am I suitable for any clinical trials?

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

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