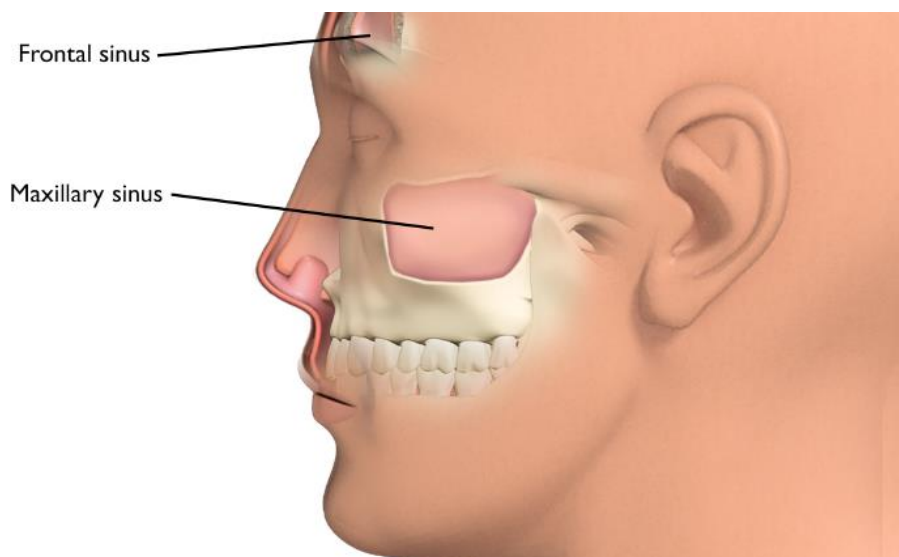


MAXILLECTOMY

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 MAXILLECTOMY

- The upper jawbone is known as the maxilla, it is the bone that makes up the roof of the mouth (palate), supports the upper teeth and the bone under the eye (see diagram below).
- A maxillectomy is the removal of all or part of the maxilla.
- There are **two main types** of maxillectomy:
 - A **partial maxillectomy** involves removal of only part of the upper jaw bone.
 - A **total maxillectomy** involves the removal of the whole upper jawbone, including the roof of the mouth and bone under the eye.



- Reconstructive surgery may also be done in the same operation to replace the part of the upper jawbone and roof of the mouth that has been removed. Reconstruction may involve bone and skin flaps to rebuild the upper jawbone and roof of the mouth. You may want to download further information about [bone](#) and [skin flap](#), and [skin grafts](#), which is available on the [Beyond Five website](#).
 - If the maxilla is not reconstructed, a special denture will need to be made called an **obturator**. The dentist who makes special dentures is called a prosthodontist.
- Sometimes the lymph nodes in the neck may also need to be removed; this is called a [neck dissection](#). If there is swelling after the surgery you may also need a temporary breathing tube in the neck, called a [tracheostomy](#). You may want to download further information about neck dissection and tracheostomy, which is available on the [Beyond Five website](#).

WHY IS A MAXILLECTOMY NEEDED

- A maxillectomy is recommended as a treatment for cancer in the roof of the mouth, nose or sinuses and for other cancers that have spread to the upper jawbone.
- The cancer together with an area of normal-appearing tissue is removed, to reduce the chance of any cancer cells being left behind.
- **Bone and tissue** removed from the **maxillectomy** 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 [Beyond Five 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 maxillectomy 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.
- Depending on the extent of the maxillectomy and the plans for reconstruction, you may need to visit a specialist dentist before the operation to have a mould made of the roof of your mouth.
- Discuss the option of a special denture (obturator) or facial prosthesis to help with function and appearance after the operation
- Talk to your surgeon and [cancer care team](#) about any likely side effects you can expect following the operation. Ask about any concerns with swallowing and speech and reconstructive surgery planned. 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?
 - What kinds of food should I eat after the operation?
 - Will I need a feeding tube?
 - Will I need any teeth removed?
 - What will replace the teeth and roof of my mouth?
 - Will the surgery affect my eye? When can I wear my glasses?
 - Will I be able to wear a denture, what will hold the denture in (remaining teeth or implants) and how long will that take?
- Additional questions are listed at the end of this factsheet.

Visit the [Beyond Five website](#) for further information on the health professionals who may be part of your [cancer care team](#)

WHAT TO EXPECT DURING THE OPERATION

- The type of surgery you have depends on the size of the cancer and if it has spread.
- The approach and the type of cut used by your surgeon will depend on the type of maxillectomy you are having. There are three common approaches:
 - A cut next to the nose, through the upper lip and under the eye – this is used for large cancers
 - Through the nose with an endoscope and no cut on the face – this is used for small cancers in the nose, similar to sinus surgery
 - Through the mouth with no cut on the face – this is used for small cancers in the roof of the mouth
- The bone will be removed with a saw including the teeth that are held in place by the bone. After the bone is removed there will usually be a hole in the roof of the mouth. There are two ways to fill the hole:
 - **Reconstruction** (see below). These operations often take many hours.
 - **A dental plate** that will be removed after a few weeks and replaced with a special denture (obturator)
- If the bone that supports the eye is removed a new support will need to be placed -your surgeon may use a plate or a piece of bone
- Sometimes lymph nodes (glands) in your neck may need removal (a neck dissection) to remove any glands affected by the cancer or with potential to do so. You may want to download further information about neck dissection, which is available on the [Beyond Five website](#)
- You may also have reconstructive surgery to improve your appearance and help you regain speech and your ability to chew. Maxillectomy operations leave a space in the roof of your mouth. Reconstruction may involve bone and skin flaps and skin grafts to rebuild the upper jawbone and roof of your mouth. You may want to download further information about bone and skin flap, and skin grafts, which is available on the [Beyond Five website](#).
- During the operation, you may have a tube inserted into your windpipe (tracheostomy) and feeding tube inserted. You may want to download further information about tracheostomy, which is available on the [Beyond Five website](#).

- **Feeding tube:** Used to deliver nutrition to patients after surgery. In most cases, a feeding tube is only required for a short time until they can eat again. You may want to download information about [feeding tubes](#), which is available on the [Beyond Five website](#).

WHAT TO EXPECT AFTER THE OPERATION

- After the operation, once you are fully awake, you will be moved to a bed in the hospital or intensive care unit and will be closely monitored during your recovery.
- You may have some surgical drains coming from the area of the operation 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.
- Your anaesthetist and surgical team will give you medicine to help control any pain and nausea after the operation. Stitches and dressings will be checked and changed or removed. You may want to download further information about [pain management](#), which is available on the [Beyond Five website](#).
- If the bone under the eye is removed:
 - The nerve that gives feeling to the skin under the eye is usually removed with the bone and so the area may be numb after the operation.
 - There may be difficulty opening the eye for a few days
 - You may have double vision for a few weeks
 - Your eye may water because the tears cannot drain away easily
 - There may be swelling for several days or weeks after the operation, especially if the maxillectomy was done together with reconstructive surgery. Breathing through the nose may be difficult until the swelling goes down.
- If the roof of the mouth has been removed, it will feel very strange for some time after the operation and your voice will sound different in character.
- A tracheostomy in the windpipe will be in place until swelling subsides and breathing is safe. You may want to download further information about tracheostomy, which is available on the [Beyond Five website](#).

- You may have a drip in your arm to give you fluid until you are able to drink and a feeding tube to keep your body healthy and promote healing until you are able to eat and drink by mouth. If you have had reconstructive surgery, a feeding tube may be required for about one week.
- A urinary catheter may be in place to allow urine to drain freely from the bladder for collection.
- **For reconstructive surgery**, there will be frequent monitoring to check that the blood supply is good. This is usually done every hour for the first couple of days. You will need to sleep with your head upright to reduce swelling and not on your side to avoid pressure on the reconstruction. If there are signs of a blockage in the blood supply, you will need to return to the operating rooms to attempt to un-block the blood vessels. Sometimes this is not possible and the flap will need to be replaced.
- The length of recovery and the time you spend in hospital will depend on the extent of the operation.

POSSIBLE RISKS OF MAXILLECTOMY

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. Most people will not experience any serious complications from their surgery and you should discuss these with your surgeon.

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

- stopping smoking before the operation
- 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.

Risks specific to maxillectomy include:

- **Bleeding:** Bleeding after maxillectomy is uncommon. There is a small chance of major bleeding that might need an urgent return for surgery to stop the bleeding and even a blood transfusion.
- **Flap failure:** If a flap repair is performed, the blood supply to the flap needs to be monitored closely. If there are signs of a blockage in the blood supply, you will need to return to the operating rooms to un-block the blood vessels. Sometimes this is not possible and the flap will need to be replaced.
- **Eye problems:** permanent injury to the eye, visual impairment or double vision is rare but can occur. Other problems include drooping of the lower eyelid, leading to a red watery eye and difficulty with drainage of tear due to removal of the tear duct.
- **Infection:** Bacteria can cause an infection in the face or neck wounds after the surgery. Antibiotics are given during surgery but infections can still happen. This might require opening part of the wound to allow any pus to drain out. Infection of plates and screws and bone placed for reconstruction may require long-term antibiotic therapy or removal of the plates.

For information about the side effects of the rest of the surgery you are having for your particular cancer and questions to ask your doctor refer to the [Beyond Five website](#).

SIDE EFFECTS AND THEIR MANAGEMENT

As with all operations, there is a chance maxillectomy 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 maxillectomy may include:

- **Nausea:** General anaesthetic may cause nausea. This will settle down soon after the operation and can be treated with medications.
- **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 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 [Beyond Five website](#).
- **Changes in eating and speaking:** Maxillectomy will affect how clearly you look, speak, chew and swallow depending on the extent of the operation. Breathing and feeding tubes may be used to help breathing and receiving nutrition, especially soon after the operation. It may be useful to have a tablet/portable device or pen and paper to write down what you want to say. Other allied health professions may be able to provide assistance needed to help with your eating and speaking during recovery.
 - Speech pathologist will assess any difficulties with your speech and eating and help you to manage these.
 - Dietitian can help to adjust diet so that the right amount of nutrition can still be taken, even with trouble swallowing
 - Psychologist may help with dealing with appearance and social issues related to speaking and eating
- **Difficulty wearing a denture:** After removing the upper jaw bone it may be difficult to wear a denture. Often a specialist dentist, called a prosthodontist will need to spend time discussing the options available to you. This may be a long and complex process.

- **Watery eye:** During the operation, the tear duct may be removed leading to watering of the eye. This may be permanent or can be corrected with a small stent placed in the tear duct or a special operation to redirect the tears.
- **Blocked ear:** The Eustachian tube at the back of the nose equalizes pressure in the middle ear. Surgery often causes the tube to block and symptoms of 'glue ear' may be experienced. This usually resolves with time.
- **Changes in appearance:** Your appearance may change and it may be hard to accept. Seek support from the cancer care team, and family and friends. Contacting other patients may also assist.

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 [Beyond Five 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 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.
- After a maxillectomy, follow-up may also be arranged, as required, with other allied health professionals that may assist you with supportive care, it may include a speech pathologist, dietitian, dentist, radiation specialist (if radiation therapy is needed) and any specialists involved in further reconstruction or a replacement prosthesis for the mouth.
- Your recovery at home may vary and you should allow time for your body to recover and heal. With major surgery, this can be slow and you may feel tired or lack energy. Regular follow-up helps to assess your progress.

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.
- **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. If your wound discharges a clear fluid this may just be saliva.
- **Fever:** If you develop a fever contact your surgeon or your family doctor.
- **Bleeding:** Contact your surgeon or seek emergency medical care if there is bleeding from the site of surgery.

FOLLOW-UP CARE

- After your operation, you will continue to have regular follow-up visits with your specialist doctor and cancer care team.
- You may be referred to a prosthodontist for dental rehabilitation (to make new teeth).
- Ongoing referrals will also be arranged as required with other health professionals, such as speech pathologists and dietitians to assist with managing difficulties with eating and speaking.
- 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 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.

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 are the chances that the surgery will cure the cancer?
- What will happen if I don't have the surgery?
- Do I need a neck dissection?
- Do I need a feeding tube?
- What lifestyle changes (diet, exercise) do you recommend I make?
- What are the possible side effects of treatment? How can they be prevented or managed?
- How long will I be in hospital and how long do I need off driving, work and exercise?
- What effect will the treatment have on my speech and swallowing?
- Will I need extra treatment after surgery?
- When will I get the pathology results?
- What follow-up tests will I need after the operation?
- Will I be able to lead a normal life?
- Am I suitable for any clinical trials?
- How much will the operation cost? Will my health insurance cover it?
- If I wanted to get a second opinion, can you provide all my medical details?

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

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