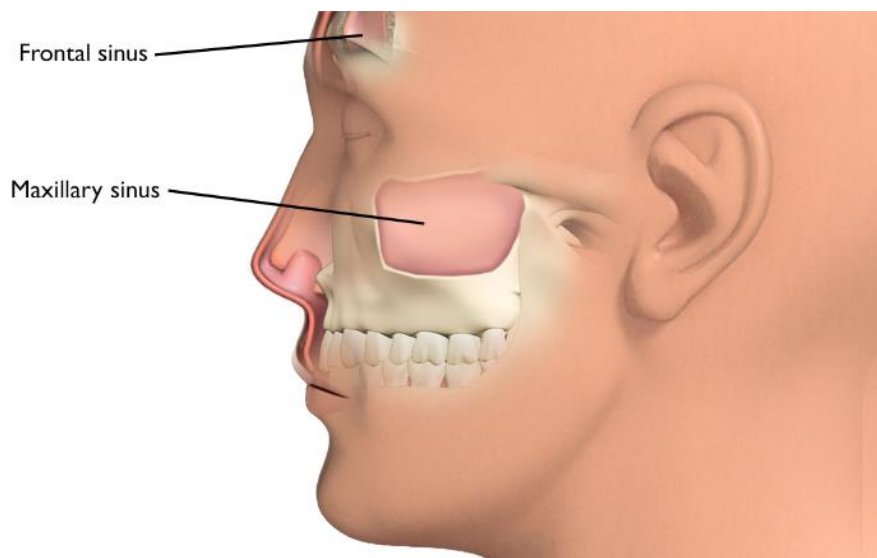


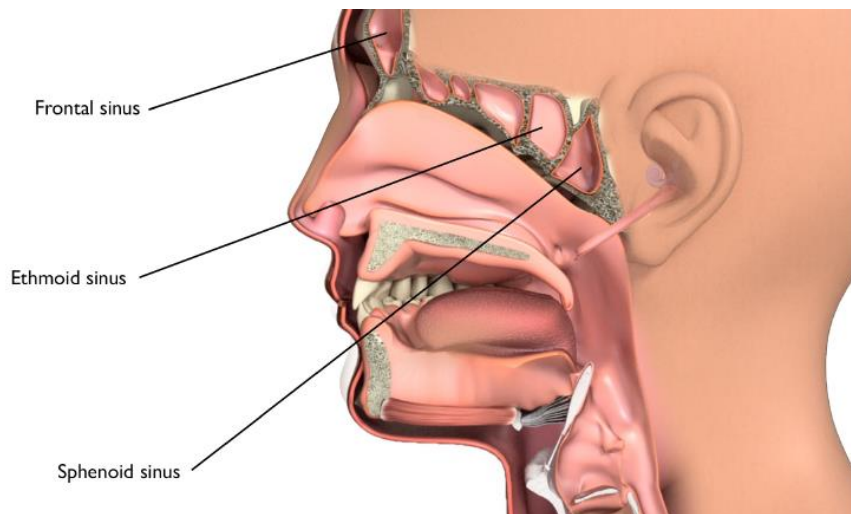
## ENDOSCOPIC SINUS SURGERY FOR TUMOURS

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 ENDOSCOPIC SINUS SURGERY FOR TUMOURS

- The sinuses are small, air filled spaces within the bones of the face (see pictures below). Specifically, the sinuses are above, between, beneath and behind the eyes (called the frontal, ethmoid, sphenoid and maxillary sinuses).
- Cancer may develop in any of these sinuses and may involve more than one sinus.
- Endoscopic sinus surgery is a type of surgery that is suitable for some people to remove polyps and tumours such as sinus cancer.
- During surgery a tube called an endoscope is used, which is a thin, flexible illuminated tube attached to a camera. The endoscope is placed through the nose and reaches the sinuses to see and/or remove the cancer.





## WHY IS ENDOSCOPIC SINUS SURGERY NEEDED

- Endoscopic sinus surgery can be used to remove benign tumours and cancer from the sinus, most commonly if the cancer is small. This depends on whether the surgeon thinks the cancer is suitable for removal using endoscopic sinus surgery, and whether it is available at your hospital.
- Endoscopic surgery is less invasive and enables the operation to be done through the nose rather than having 'open surgery' through a cut in the face or mouth. This means there is less damage to the surrounding healthy tissues.
- The cancer together with an area of normal-appearing tissue is removed, to reduce the chance of any cancer cells being left behind.
- Tissue removed from the operation will be examined in detail by a specialist pathologist, under a microscope to look for cancer cells. 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 the endoscopic sinus surgery is performed under a general anaesthetic (you will be asleep and will not remember what happens during the operation).
- Your surgeon may request a specialised [computed tomography](#) (CT) scan or [magnetic resonance imaging](#) (MRI) scan to identify the precise location of the cancer and to identify important organs and nerves around the cancer.
- 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 smoke, your recovery will be easier if you stop smoking for at least a few weeks before the surgery.
  - 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 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 and what sort of food? Will I need a feeding tube?
- Will I have packing in my nose and for how long?
- What will happen to my sense of smell?
- Will my nose be blocked after the surgery?

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 endoscope will be inserted through the nose for the operation. The image from the camera attached to the endoscope is displayed on a computer screen and the cancer will be removed with small instruments that are also inserted through the nose that can be seen with the endoscope.
- The length of the operation will depend on the size and location of the cancer and how complex the operation is.
- Sometimes the lymph nodes in the neck may also need to be removed and this is called a [neck dissection](#). You may want to download further information about neck dissection, which is available on the [Beyond Five website](#).
- After the cancer is removed, some reconstructive surgery may also be done to repair any areas where fluid can leak from around the brain (cerebrospinal fluid – CSF). You may want to download further information about reconstructive surgery 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.
- Some nasal packing may have been used during the operation. Packing is used to prevent scarring, improve healing and, occasionally, to prevent bleeding. The packs will be taken out before you go home or 1–2 weeks after the operation in the clinic under local anaesthetic.
- Your anaesthetist and surgical team will give you medicine to help control any pain and nausea after the operation. They may also prescribe antibiotics for a period after the operation.
- You may be asked to use saline flushes or sprays to help your nose to heal and to reduce scab formation in the nose.
- It is likely that the nose will feel blocked after the operation depending on the type of surgery and the type of packing used.
- Your surgeon will discuss whether you can blow your nose or not after the operation.

- You may also be asked to avoid straining for a period after the operation, this includes avoiding heavy lifting, exercise and straining on the toilet.
- When you need to sneeze, you will be encouraged not to try to stop the sneeze and let the sneeze come out through your mouth, not your nose.
- For people with sleep apnoea who use a continuous positive airway pressure (CPAP) mask, it may not be possible to use the mask for up to 6 weeks after the operation. Discuss any concerns with your doctor. For those who are able to use their CPAP mask after the operation, bring it to the hospital for admission before the operation.
- Your ears (one of both) may feel blocked after the surgery due to swelling inside the nose and any packing that may be used.
- The recovery period will vary depending on the operation that you had.

## POSSIBLE RISKS OF ENDOSCOPIC SINUS SURGERY

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 smoking** at least 2 weeks before the operation
- **starting saline irrigations** before the operation to help familiarise yourself before you use them after 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 endoscopic sinus surgery that you should know about:

- **Damage to the eye or surrounding tissue:** Since the eye is very close to some of the sinuses, there can be effects such as bleeding into the eye or excess tears, but these are rare. Very rarely, there may be damage to vision, such as double vision or blindness.
- **Changes to the voice:** Since the sinuses affect the character of the voice, there may be some changes in the voice after sinus surgery.
- **Changes to smell and taste:** Sometimes the nerves that control the sensations of smell and taste are located very close to the area being operated, if these nerves are damaged or removed during the operation, the sense of smell may be affected. Sometimes, the decreased sense of taste and smell may be due to the swelling or nose packs after the operation; this is usually temporary. However, it may take some time for the sense of smell to return. In other cases, the sense of smell may be permanently reduced if the cancer involves, or is near, the nerves of smell. This will be discussed with you before your surgery.

- **Cerebrospinal fluid leak:** Sometime leakage of clear or straw-coloured fluid from the nose may occur. This is the fluid that normally sits around the brain and spinal cord. This is usually treated with antibiotics to prevent infection (meningitis) and sometimes additional surgery may be needed.

## **SIDE EFFECTS AND THEIR MANAGEMENT**

As with all operations, there is a chance that endoscopic sinus surgery 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 endoscopic sinus surgery may include:

- **Nausea:** General anaesthetic may cause nausea. This will settle down soon after the operation and can be treated with medications.
- **Swelling:** The inside of your nose will be swollen causing it to feel blocked.
- **Infection:** After the operation, the wound inside the nose may be exposed to bacteria. Antibiotics may be given to reduce the risk of infection.
- **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](#).

## **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 radiation therapy after the operation, and sometimes, may also require chemotherapy.
- 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.
- Your doctor will advise you about any particular symptoms you should look out for such as swelling that is very noticeable, difficulty in breathing or swallowing, or a fever, and what you should do.
- 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 [Beyond Five website](#).
- 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.
- Follow-up may also be arranged with any other allied health professionals that may 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.

## FOLLOW-UP CARE

- After your operation, you will continue to have regular follow-up visits with your specialist doctor and cancer care team.
- 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 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 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?
- How long will I be in hospital?
- When can I return to exercise?
- When can I return to work?
- What are the possible side effects of treatment? How can they be prevented or managed?
- What will happen to my sense of smell?
- Will my nose be blocked after the surgery?
- What vitamins should I stop before the surgery and when?
- Will I need extra treatment after surgery?
- When will I start radiation therapy/chemotherapy?
- How often will I see my doctors in the weeks and months after the operation?
- Will I have a scar?
- Will I be able to lead a normal life?
- What follow-up tests will I need?
- 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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