

## CRANIOFACIAL RESECTION

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 CRANIOFACIAL RESECTION

- Craniofacial resection is the name given to operations that need two different approaches (at the same time) to remove a tumour located in the nasal cavity, between the eyes. This usually involves a team of surgeons who work together.
  - One approach is through the skull. This is the cranial part and is usually done by a neurosurgeon.
  - The other approach is from the front, through the face. This is the facial part and is usually done by a head and neck surgeon.

### WHY IS A CRANIOFACIAL RESECTION NEEDED

Craniofacial resection is recommended in some cancers of the nasal and sinus cavities that are near the bone that separates the brain from the nasal cavity. This is a difficult area to get to. By approaching the tumour from both sides - above, where the brain is, and from the nose - the tumour can be removed completely and safely.

- The cancer together with an area of normal-appearing tissue is removed, to reduce the chance of any cancer cells being left behind.
- If the tumour is very large, it may be necessary to also remove part of the upper jawbone ([maxillectomy](#)), or the eye ([orbital exenteration](#)). You may want to download information about these operations, which is available on the [Beyond Five website](#).
- Tissue removed from the craniofacial resection 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 six hours before your operation (unless advised differently by your surgeon or anaesthetist) because craniofacial resection 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 the 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 you can 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**

- Where will the cuts be?
- Will the surgery affect my vision or my sense of smell?
- Can I blow my nose after the operation?
- Can the surgery be done endoscopically?
- Will the surgery affect my memory or how I think?
- Will I need a feeding tube?
- Will the operation affect my speaking?
- Will I need a tracheostomy or breathing tube?

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

During a craniofacial resection, usually two incisions are made:

- The first cut is **across the top of the scalp** (from ear to ear) and will hide in the hair.
- The second cut is **along the side of the nose**.
- The skin of the forehead will be flipped down to allow surgeons to access the front of the skull; a piece of the skull will be removed and the brain will be retracted so that surgeons can see the cancer from above.
- The soft tissue in the nose will be separated to access the bone underneath. This bone is removed so that surgeons can see the cancer from below.
  - Some surgeons will use a telescope through the nose to see the tumour from below, similar to [endoscopic sinus surgery](#), this may avoid the need for a cut on the face.
- The cancer will be removed once the surgeons can see the full extent of the cancer. This includes removing the bone that separates the brain from the nasal cavity.
- After the tumour is removed, the hole (defect) where the bone was will be reconstructed. Often this is done using tissue from the deep layer of the scalp, called pericranium. Sometimes tissue is taken from elsewhere in the body to reconstruct the defect. You may want to download information about reconstructive surgery (soft tissue flap), which is available on the [Beyond Five website](#).
- A tube may be inserted into the windpipe (tracheostomy) to help breathing, and a feeding tube for feeding. You may want to download information about [tracheostomy](#) and [feeding tubes](#), which is available on the [Beyond Five website](#).
- If a more extensive operation is done, including removing the eye socket or upper jaw, then a more complicated reconstructive operation to rebuild the area may be required, this involves bone or skin flaps. You may want to download information about reconstructive surgery ([soft tissue](#) and [bone flap](#)), which is available on the [Beyond Five website](#).

## WHAT TO EXPECT AFTER THE OPERATION

- Craniofacial resection is conducted very close to your brain. After the operation, you will be monitored very closely in the intensive care unit so that your treatment team can ensure there has been no damage or infection in the brain region.
- After a few days you will be moved to a normal hospital ward for the remainder of your recovery. You may feel a bit drowsy and find it difficult to concentrate after the surgery while you are in hospital. You may notice some double vision and watering of your eye.
- Your anaesthetist and surgical team will give you medicine to help control any pain and nausea after the operation.
- You will have a few surgical drains in the area of your surgery to allow blood or lymphatic fluid to escape and prevent swelling. You may also have nose packs in place. These will be removed before you go home.
- You may have a drip in your arm to give you fluid until you are able to drink.
- You will also have a feeding tube inserted through your nose into your stomach to help you receive nutrition in the days and weeks following your surgery.
- It is important not to blow your nose for a few weeks after the surgery or air can leak around the brain. This is not possible while the tracheostomy tube is in place. Once this has been removed, if you need to sneeze you should do this with an open mouth to let the air escape.
- If you notice any clear fluid coming from your nose, you should let the nurse or doctor know.
- The drips and tubes will be removed as soon as they are no longer needed and before you go home.

## POSSIBLE RISKS OF CRANIOFACIAL RESECTION

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.**

Craniofacial resection is a major operation. There are some specific risks that you should know about include:

- **Cerebrospinal fluid leak:** Cerebrospinal fluid (CSF) is the fluid that sits around the brain and spinal cord. If the seal between the brain and nasal cavity leaks, then CSF can come out of the nose. This fluid is clear or straw coloured and is usually treated with antibiotics to prevent infection (meningitis). This may cause a bad headache and sometimes additional surgery may be needed to seal the leak.
- **Pressure on the brain or eyes:** This can be due to a number of reasons (listed below) and may lead to difficulty concentrating, drowsiness, blurred or double vision, loss of consciousness or even death. Sometimes more surgery is needed to release the pressure.
  - **Brain swelling:** If the brain is retracted for a long time during the surgery, it may start to swell. It may take several days or longer to improve.
  - **Bleeding:** If there is bleeding in or around the brain it can be dangerous because the blood can put pressure on the brain. If it is minor it can be watched but often needs to be removed.
  - **Infection:** If pus forms around the brain, called an abscess, it will need to be removed.
  - **Problems with vision:** Bruising of the eyes, nerves or the muscles that move the eyes can occur due to retraction during the surgery or bleeding after surgery.

- **Pneumocephalus:** Sometimes air from the nose can build up around the brain. If it is minor it can be watched but often needs to be removed.
- **Water and sodium imbalances:** Operations on the brain can cause hormones to be released that can lead to salt (electrolyte) imbalances in the blood. This will be monitored with blood tests.
- **Tear duct damage:** This may cause tearing (watery eye) for a while after the surgery. If this does not improve, surgery may be needed to open the tear duct.
- **Flap failure.** If reconstructive surgery with a flap is needed, then microsurgery is done to join blood vessels together that keep the flap alive. If the blood supply blocks, you will be taken back to the operating room to fix the problem. Sometimes the problem cannot be fixed and a new flap is needed.

## SIDE EFFECTS AND THEIR MANAGEMENT

As with all operations, there is a chance that craniofacial resection 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 craniofacial resection 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.
- **Infection:** There is a risk of infection with any surgery. However, as this operation is conducted very close to the brain, any infection poses a serious risk. The surgeon will prescribe antibiotics to prevent this occurring.
- **Loss of smell:** The nerves that control the sensation of smell are located very close to the area being operated. These nerves are often removed during the operation and the sense of smell may be affected.
- **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.
- **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 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. You may want to download further information about wound care on the Beyond Five website.
- Your doctor may prescribe pain medications to help relieve the 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 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](#).
- 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 will happen if I don't have the craniofacial resection?
- What are the risks of craniofacial resection?
- How long will the operation take?
- How long will I be in hospital and how long do I need off driving, work or exercise?
- What are the possible side effects of surgery? How can they be prevented or managed?
- Will I need any extra treatment?
- What long-term effects from treatment will I have?
- What lifestyle changes (diet, exercise) do you recommend I make?
- How much will the operation cost? Will my health insurance cover it?
- Will I be able to lead a normal life?
- What follow up tests will I need after the operation?
- If I wanted to get a second opinion, can you provide all my medical details?

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

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