Endoscopic Skull Base Surgery

Information Leaflet

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Before the surgery

We understand that removal of sinonasal mass can cause concerns for patients and relatives. Intention of this booklet is to explain the surgical aspects of your treatment and put your mind at ease. If you still have unanswered questions, your team will be happy to explain any further queries.

What is a Tumour?

Tumour is Latin for swelling but not all swellings are cancer.

Benign tumours grow slowly and do not invade into the local structures. These are the most common variety in the sinonasal cavity.

Malignant tumours are most commonly called cancer. These tumours invade the local tissues and can also spread to distant parts of the body.

Sinonasal tumours are rare and make up only 10% of all head and neck tumours with about 10 people in one million being affected every year. They can arise from any structures in the nose (the lining, blood vessels, nerves and even bone or cartilage).

What are the treatment options?

The choice of treatment will be dependent on a number factors including your tumour type, tumour size, severity of symptoms, your age, general well-being and your preferences.

Your surgical team will discuss the advantages and disadvantages of each option and help decide the best treatment plan in your case.

A decision to have surgery

Treatment options for sinonasal tumours include surgery, medications and/or radiotherapy. Specialist healthcare professionals including neurosurgeons, ear/nose/throat surgeons, endocrinologists, neuro-ophthalmologists, neuro-pathologists, neuro-oncologists and neuro-radiologists get together weekly in what's known as a multidisciplinary meeting to agree the best course of treatment for you.

If the recommendation is to have surgery, make sure that you understand the risks, benefits and limitations of surgery. If you do not have surgery, your symptoms and condition may continue to worsen. Only you can decide if surgery is right for you. If you have any questions, ask your surgeon.

Which surgical approach?

There are several different approaches to remove the pituitary tumour. Your surgeon will discuss the advantages and disadvantages of each approach in your case. Most operations on are now performed through the nose in minimally-invasive fashion. This is called trans-sphenoidal surgery meaning that we access the tumour through the cavity at the back of the nose by the endoscopic technique which allows a 'keyhole' and less disruptive approach.

Some tumours may necessitate a second stage operation via an opening in your skull. This is called a craniotomy. If that is the case please discuss in detail with your surgeon the aspects of this.

What does the surgery involve?

Surgery usually takes about two hours and is performed under a general anaesthetic. No skin cuts in your face are needed for your operation. Using the camera, called endoscope, and specially designed surgical tools, your surgeon removes the tumour. In most of the cases, no nasal packing is required.

There is also a possibility of some tumour being left behind, which may require further surgical, medical and/or radiotherapy treatments. Your surgeon will be able to explain the likelihood of this in your case.

Potential risks

As with any other operation there are potential risks but generally, skull base surgery is safe and most patients recover quickly and go home a few days later.

We will do our best to ensure that your operation is undertaken as safely as possible. However, complications can happen and include and are not limited to:

- Infection
- Bleeding
- Persistence / Recurrence of tumour
    - This may necessitate further treatment with surgery and/or radiotherapy.
- Leak of brain fluid (also known as cerebrospinal fluid, CSF)
    - A thin membrane lies over the pituitary gland and if damage occurs, CSF can leak into nasal cavity. If this happens, surgeon usually identifies the leak and repair will be needed.
- Nose related complications:
    - Loss of smell – usually temporary but rarely can be long-term.
    - Septal perforation – Standard part of the pituitary surgery is to create a window on the back part of the septum. However, in cases of larger skull base defect, surgeon has to harvest a lining from the septum in order to close it. This increases the risk of cartilage breakdown and larger septal perforation.
    - If a graft is obtained from the leg or the tummy the would can be sore for a few days and infection can also happen

Rare complications include:

- Meningitis
    - CSF leak can lead to meningitis and must be treated with antibiotics. Early diagnosis is crucial, therefore contact the hospital immediately if you develop some or all of these symptoms: severe headaches, fevers, neck stiffness, vomiting, a dislike of bright lights, drowsiness and lack of energy.
- Injury to the nerves responsible for the vision (optic nerves) which could lead to deterioration or loss of vision

- Injury to one of the major vessels that supply the brain with blood (arteries) which could lead to a stroke, haemorrhage, pseudoaneurysm formation

After the surgery

Following the skull base surgery, most patients regain quite soon a fairly normal level of activity. However, there are certain recommendations that we would like you to keep in mind.

- It is normal to feel tired or fatigued after the surgery. It is important to increase your activity gradually and avoid doing too much because you are feeling good.
- Avoid lifting heavy objects (over 10 pounds) for the first three weeks. Avoid any activity where you hold your breath and push, for example weight lifting, lifting or moving heavy objects, or straining during bowel movements for the first three weeks
- You may shower immediately after surgery. If you have a leg or tummy incision from a fat graft, avoid getting it wet for the first 3 days after surgery by covering it with a waterproof dressing. Ask your nurse before discharge, if there any stitches that need to be removed. If that is the case, then a nurse in your GP practice could remove them.
- There is no need for a special diet, but avoid alcoholic beverages especially while taking pain medication.
- Smoking negatively affects the healing process thus we ask that you refrain from smoking.

Nasal Care

- General rule is not to touch your nose for two weeks to the prevent cerebrospinal fluid (CSF) leak. You might notice a discharge from your nose, which is expected to be yellow or blood-tinged and of a thicker mucus consistency compared to CSF. CSF is watery and clear.
- After two weeks, you will start to regularly flush your nose with saline douches as instructed. It is very important to keep your nose clean to prevent infection and facilitate the healing process.
- You can start to gently blow your nose after 2 weeks.
- Avoid sneezing for three weeks. If you have to sneeze, do so through an open mouth, stay relaxed and let it happen! Though this sounds odd, most patients manage it! This is to reduce the risk of infections going up through the surgical site. Avoid things that make you sneeze

Medication

After the surgery, you can resume your usual medications. Exceptions are any blood-thinning agents, anti-inflammatory agents and aspirin based drugs. We will specify when to resume these medications.

Please contact our team if you notice any of the following signs or symptoms:

- Excessive bleeding from the nose that does not stop.
- A clear, thin, watery nasal drip. Such nasal drainage may be cerebrospinal fluid (CSF).
- Persistent headache not relieved by medication and rest.
- Confusion, fainting, blacking out, extreme fatigue, memory loss, or difficulty speaking.
- Double, or blurred vision. Loss of vision, either partial or total.
- Stiff neck and/or fever with a temperature greater than 38 C.
- Onset of excessive urination or thirst.
- New neurologic symptoms including numbness, tingling, or weakness in your extremities or face.
- Swollen, painful calf with or without fever.
- Significant redness, swelling or drainage from the incision site.

NOTE: If you are unable to reach our team and have noticed any of the above conditions, please report to the nearest A&E for prompt medical attention