

Endoscopic Sinus Surgery

— Patient information guide —

THE SINUSES

The sinuses are cavities located in the forehead, cheeks and between the eyes. They have a lining that constantly produces mucus, which is moved out of the sinuses and toward the back of the nose by the action of microscopic hairs (cilia). Dust, allergens, bacteria and fungal spores that are inhaled are trapped in the mucus and usually carried out of the nose by this system, which is very similar to the clearance mechanism of the lungs.

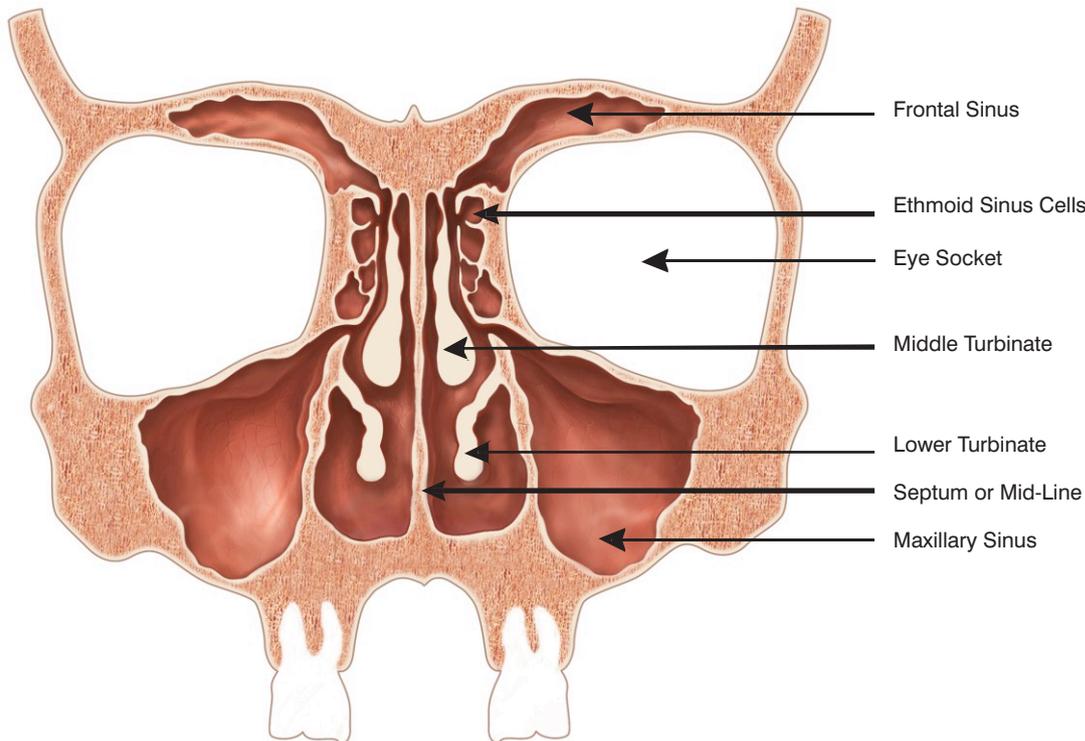


Diagram of the sinus cavities and associated structures

Sinusitis

Sinusitis (properly called Rhinosinusitis) is inflammation of the sinus and nasal lining. It is the result of a combination of impaired mucus clearance, microorganisms (bacteria, fungi, viruses) and inflammation of the sinus lining.

Treatment of Sinusitis

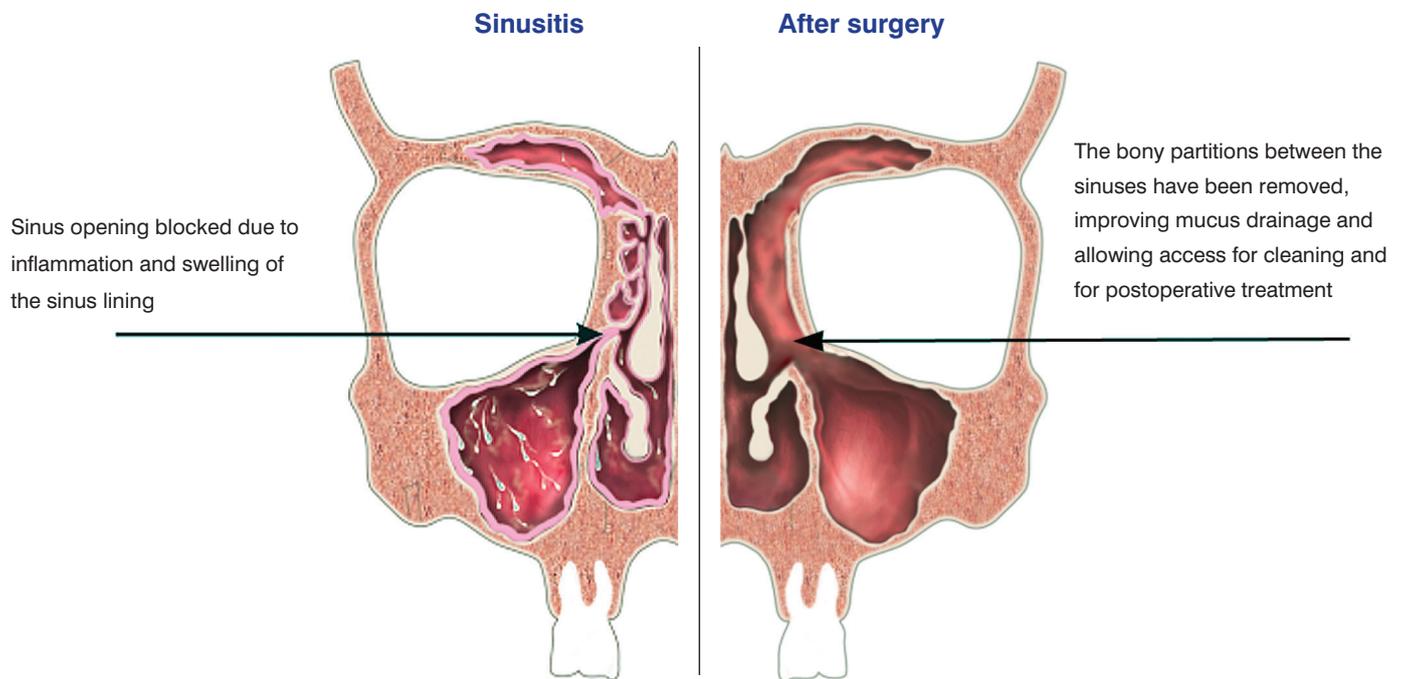
Treatment is aimed at improving mucus clearance, removing microorganisms and reducing inflammation.

Medical treatment is usually attempted first, with tablets, sprays and / or nasal washes.

If this is unsuccessful, surgery may be recommended.

Surgery is performed to:

- Remove obstructions to mucus clearance
- Remove thick, infected mucus and other material from the sinuses
- Open the sinuses so that after surgery nasal washes and other nasal medications can get into the sinuses
- Improve the airway



BEFORE AND AFTER SINUS SURGERY

Preparing for surgery

Always tell your ENT specialist and anaesthetist about your medical history and be sure to mention problems such as allergies to medication. Inform your specialists about any medication you might be taking.

This includes any natural medicines such as vitamins and herbal remedies.

If there is a family history of blood clotting problems (increased bleeding tendency, easy bruising or deep vein thrombosis) or problems with anaesthetics be certain to mention this as well.

Things to avoid taking at least three weeks before and one week after your surgery

- Aspirin
- Anti inflammatory medication such as Celebrex or Ibuprofen (Nurofen)
- Vitamin E
- Fish oil
- Garlic, ginger, ginseng and any other herbal remedies (there are more than 40 different herbs which have effects on blood clotting)

These substances can cause excessive bleeding and should be avoided around the time of surgery. Excess bleeding during the surgery makes surgery more difficult and can result in the procedure being stopped before it is completed. Bleeding after surgery can occasionally require treatment with nasal packing or more surgery.

Warfarin, Clopidigrel (Plavix) or aspirin taken for heart or stroke problems will also need to be stopped before surgery, however this should be discussed with both your ENT surgeon and your GP or cardiologist. Other short acting medications may be needed.

You should stop smoking as soon as possible. It is advisable to use this opportunity to quit smoking altogether.

Please remember to take your CT scans to the hospital - your surgery will not proceed without them.

Sinus surgery

Sinus surgery is performed using endoscopes placed through the nostril. Your surgeon will explain the procedure that will be performed in order to correct your problem. If frontal mini trephines are used there will be a small incision in the end of each eyebrow.

Endoscopic sinus surgery usually takes from one to three hours depending on the complexity of the operation.

Frontal mini trephines

In some cases, mini trephines are used as an aid to opening the frontal sinuses. A small incision is made in the corner of the eyebrow and the trephine is a small tube which is passed through a hole drilled in the bone into the frontal sinus.

Saline solution is flushed through the mini trephine which helps with identification of the frontal sinus opening and with clearing thick mucus out of the sinus.

SEPTAL AND TURBINATE SURGERY

Septoplasty (straightening the nasal septum) is often performed as part of sinus surgery to improve access to the sinuses and improve the nasal airway. Inferior turbinate reduction is often combined with sinus surgery to treat nasal blockage. Sometimes we combine this with RHINOPLASTY surgery, a procedure that improves the function and external cosmetic appearance of the nose. The procedure is usually done internally, but occasionally an “open” approach is required. This involves the use of a 5mm incision on the undersurface of the nose.

After surgery

Your surgeon will let you know if you can be discharged on the same day after surgery or whether you will need to remain in hospital overnight. In either event you will need to ensure you have someone to pick you up from the hospital.

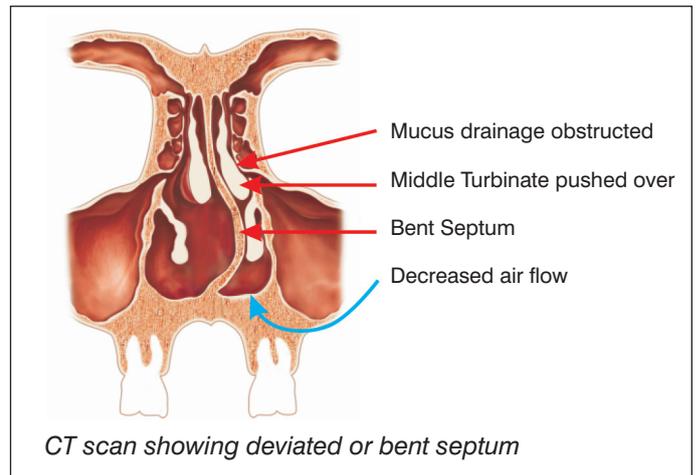
- Your nose will feel blocked and stuffy after surgery, as if you have a cold or a flu.
- You will get some blood and mucus from the nose, particularly over the first few days. Tape a piece of gauze under the nose with tape (paper tape such as Micropore is best) if needed rather than constantly wiping the nose
- Your ears may pop or bubble when you swallow You may have splints and / or spacers in the nose, which are soft silicone dressings and are removed in the rooms after approximately a week
- You may be prescribed antibiotics, prednisone and / or nasal medications depending on the nature and severity of the sinus disease. Cold and Flu tablets may also be recommended.
- Take pain relief as required. Your surgeon will advise you on which pain medication to take.
- Avoid aspirin and non-steroidal anti-inflammatory medicines such as Nurofen as they can make bleeding worse.

Nasal care

You will be provided with a FLO Sinus Care or FLO Post Operative kit to douche the nose. Nasal and sinus douching is essential after surgery to clear blood clot and mucus from the sinuses and nose. If a blood clot is left in the sinus cavity, it can promote scarring, which can cause a poor surgical result.

The wash will start the day after surgery, and will be used at least 4 times daily until review which takes place 1 week after surgery.

Nasal douching is usually continued for a minimum of 6-8 weeks after the operation as it can take this long for the normal mucus clearance mechanisms to start functioning properly. In some cases, especially with nasal polyps, medications may be added to the douche, and this may need to continue long term.



Precautions

Anything that makes you go red in the face will increase blood flow to the nose as well. Therefore Mr Pudel recommends that for the first 2 weeks after surgery



- You elevate the head of your bed to 30 degrees
- Avoid hot and spicy foods/drink
- Avoid hot showers/baths
- Avoid bending over
- Sneeze only with the mouth open
- Avoid vigorous blowing of the nose – this should be done very gently
- Avoid exercise other than gentle walking

Complications of surgery

As with any anaesthetic or surgical procedure there are always risks of complications. Whilst the incidence of serious complications is very rare, it is important you are aware of them so you can discuss them with your surgeon before your operation.

Failure of the surgery

Depending on the nature of the disease which causes the problem in the first place, the underlying disease process may continue resulting in recurrence of symptoms. Usually this can be managed with medications but at times further surgery is necessary.

Overall, 85% of people having this surgery are satisfied with the outcomes.

Bleeding

Excessive bleeding may occur during the procedure. This obscures the view through the endoscope and on rare occasions can result in the surgery being stopped before it is completed. Very rarely, blood transfusion can be necessary.

Some bleeding is normal postoperatively but occasionally heavy bleeding may require treatment with packing in the nose or returning to the operating theatre.

Avoid aspirin and other blood thinners including anti-inflammatories, vitamin E, fish oil or herbal supplements for two weeks after surgery.

Sense of smell

The sense of smell is often poor while the nose is blocked during the first weeks after surgery but then recovers. However on very rare occasions the sense of smell can become permanently distorted or lost.

Infection / septal haematoma

Should this occur, treatment with appropriate antibiotics will be given. If there is increasing pain and/or nasal blockage you must contact your surgeon immediately. Infection can occur in the sinuses, the tissues of the nose, or rarely a collection of blood can accumulate in the septum requiring drainage.

Septal perforation

If septoplasty is performed as part of the procedure, occasionally a hole may develop through the septum. This often doesn't cause any symptoms, but if it does, surgical repair may occasionally be necessary.

Postoperative scar formation or adhesions

In some cases scar formation or adhesions can form in the sinus cavity and cause recurrent symptoms. Occasionally this will require revision surgery to correct.

Complications to the structures surrounding the brain

Some sinus surgery takes place very close to the lining of the skull vault called the dura. This dura can sometimes be pierced resulting in leakage of cerebrospinal fluid into the nasal cavity. This complication rate is about 1 in 1000.

Should the leak be seen at the time of operation the surgeon will repair it immediately, however it may only be noticed after the operation when it will appear as clear fluid dripping from the nose. In the event this is noted after the operation, further urgent surgery will be required to close the hole and so prevent the possibility of serious infection such as meningitis.

Eye complications

Swelling and / or bruising of the eyelids is uncommon, and will usually resolve within 7-10 days. Since endoscopic sinus surgery takes place very close to the eye socket it is possible to encounter the following complications:

Damage to the tear duct.

On rare occasions this can result in a watery eye. This may improve over time, however in some cases it may require an operation to repair. The risk of this complication is less than 1 in 100.

Bleeding into the eye socket.

An artery can bleed into the eye socket requiring emergency surgery to correct. The incidence is less than 1 in 1000.

Damage to the eye muscles.

This is an extremely rare complication which can result in double vision, which can be permanent.

Damage to the optic nerve resulting in blindness.

This is also extremely rare. There has, to date, never been a recorded case of total blindness or severe brain injury in either Australia or New Zealand despite thousands of operations being done.

Numbness or altered sensation

Numbness behind the front teeth is fairly common, but usually resolves over several months. Occasionally this can be permanent however.

Numbness of the scalp or part of the forehead is an uncommon complication of mini trephines. This may be temporary or permanent.

Deep Vein Thrombosis

This may occur in either one or both legs. These clots can be life threatening if they reach the lungs. This complication can occur after any surgical procedure.

Inform your surgeon immediately if you have any of the following symptoms after your operation or if you have any concerns with your post-operative progress.

- Fevers or chills with temperature above 38°C
- Severe headache or stiff neck
- Swelling of the eyes
- Nausea or vomiting
- Persistent watery clear discharge from the nose
- Any impairment of vision
- Heavy bleeding