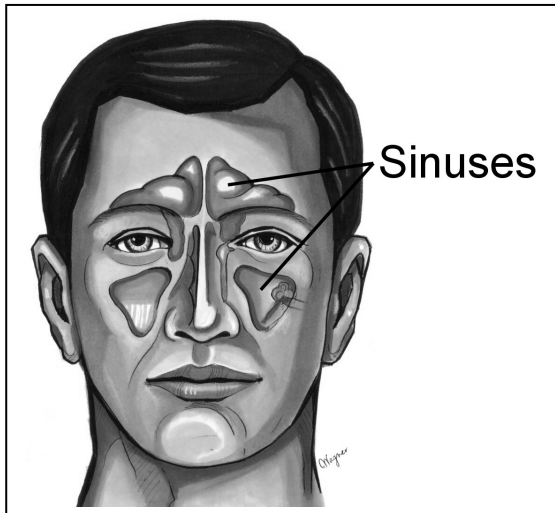


# Endoscopic Sinus Surgery



The *sinuses* are cavities around the nasal passages that normally make mucous and drain into the nose. During *sinusitis* (sinus inflammation and infection), the sinuses do not drain normally causing excessive mucous buildup. Blockage of the sinus openings is most commonly caused by viral infections, irritants eg smoking, allergies (especially common with asthma), polyps or trauma.

Your nose may feel blocked and you may feel swollen with pressure and pain

around your eyes and face. Often this pain is also felt in the ears, throat and teeth. You may experience drainage from your nose, which may lead you to have bad breath and cough at night. Frequently, sinusitis will impair the sense of smell. Sinusitis becomes *chronic* when it lasts more than 2 months.

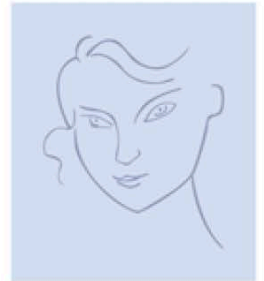
Almost everybody has had a sinus infection and most are caused by viral infections and will improve by themselves. Initial treatment of sinusitis includes control of allergies and inflammation to improve the nasal airflow and drainage of the sinuses. Therapies include:

- saline spray- use saline wash (see below) three times a day
- nasal cortisone spray (eg rhinocort, nasonex) 1-2 sprays each side daily for 6 weeks (Note that these sprays take approx 2 weeks of regular use to work and 6 weeks for maximal effect)
- antibiotics are recommended for infections lasting >7-10 days with high temperatures (>38.5 degrees Celsius) and discoloured (green) drainage
- antihistamines (try fexofenadine 180mg/ day if you prefer wakefulness in the morning or cetirizine 10mg/ day at night if you prefer light sedation) should work immediately and can be used as needed
- decongestants (sprays or tablets) should NOT be used beyond 3 days as they may cause worse nasal swelling and high blood pressure with prolonged use.

Initial evaluation for sinusitis includes nasal endoscopy (to look for polyps or rarely tumors), allergy testing and a CT scan. If infection is seen at endoscopy, a culture will be taken to determine which antibiotics are best. Do not use saline irrigation 24 hours before a CT scan (it may create an appearance similar to a sinus infection).

If medication and allergy treatment is unsuccessful, endoscopic sinus surgery may be an option. A thin endoscope and various instruments are used to remove any blockage and enlarge the natural sinuses openings. There are usually no external incisions and no external bruising or scarring. Occasionally a tiny incision is made in the eyebrow or under the lip to allow access to all sinuses. A *septoplasty and turbinate reduction* is frequently done to allow access to all sinuses and improve the nasal airways. Generally, nasal obstruction is significantly improved but surgery cannot cure allergies or infections.

Commonly, this procedure is done either as a same day surgery, meaning you can go home the day of the operation if there are no problems, or one night in hospital.



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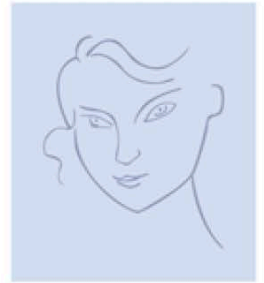
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## RISKS OF THIS PROCEDURE:

Most sinus surgery is uneventful but uncommon side effects include:

- Pain is usually minimal unless you touch the nose. The tip of your nose may remain tender to touch for 2 weeks approximately.
- Bleeding. A small amount is expected on the first or second days but should improve. You may use a decongestant (eg oxymetazoline 2 sprays each side twice a day) for up to 3 days to control this. Rarely, bleeding may require packing or a second surgery. Blood transfusion is extremely rare.
- Numbness of the top lip and / or upper front teeth is temporary (up to 3 months)
- Adhesions or scar tissue forming inside the nose usually can be fixed in the office during your checkup visit. Occasionally additional surgery is required.
- Persistence or recurrence of the original problem. The best procedure can still have a poor result if there are allergies or underlying inflammation. Polyps will always eventually grow back (average 7 years).
- Change of taste or smell (uncommon).
- Dryness of the nose.
- Infection can usually be treated with *antibiotics*.

Rare (0.1%) but serious complications will usually occur before discharge and include:

- *Septal perforation* (a hole in the septum). This often is *asymptomatic* (does not cause problems). It can cause problems such as whistling, crusting or bleeding. Occasionally, another surgery is required to close the hole.
- Septal hematoma or bleeding inside the septum is serious and causes severe pain when the nose is not being touched. If you experience this call Dr Iseli's office or attend an Emergency department. This may have to be drained.
- Tear duct injury resulting in watery eyes. This may require surgery to treat.
- CSF leak: drainage of clear, salty brain fluid usually requires surgical repair but has the potential to cause serious infection (meningitis)
- Eye injuries: double vision, loss of vision or blindness. May require surgery.
- Serious problems from the anesthetic are rare (1:60,000) and include: DVT (Blood clots in the legs), heart attack or a stroke or a reaction to medications.

## PREPARING FOR SURGERY

- Stop smoking (ideally 2 weeks before surgery)
- Stop decongestants 2 weeks before surgery (try diluting the bottle with boiled water each time it becomes half full until it no longer has any effect)
- Do not eat or drink anything after midnight before surgery (you may have a light breakfast before 6am if your surgery is in the afternoon)
- Avoid aspirin, ibuprofen or naproxen (panadol is okay) for 2 weeks before surgery.
- Take antibiotics and prednisolone as directed prior to surgery

## DESCRIPTION OF PROCEDURE

Before surgery you are given medications to help you relax. An intravenous tube is started to give medications. A specialist helps you go to sleep for the procedure. Surgery is performed through the inside of the nose and takes approximately 2-3 hours. After surgery, you will be taken to the recovery area where a nurse will watch you and check your progress. Once you're awake, stable, and taking fluids well, you'll be allowed to go home. Packs are often left in the nose for 1 week.

## HOME CARE INSTRUCTIONS AFTER SINUS SURGERY

- After the operation, it is normal to feel like you have a sinus infection with mild headaches, a stuffy nose or bloody discharge from the nose for 4-6 weeks. There may be sneezing and a blocked or full sensation in the ears.
- Often, packs are used that will be removed after one week if they don't dissolve on their own. Also, small dissolvable packs are used that may fall out like a clot. This is normal and not a cause to worry.
- Take prescribed medication (antibiotics, prednisolone) as directed. Finish all antibiotics if given. Do not use ibuprofen, naproxen or aspirin or any products containing these medications for the first two weeks following surgery. This can increase the possibility of bleeding. Paracetamol (Panadol® or painadeine) may be taken for discomfort. You will be given stronger narcotic medications for use if paracetamol does not control your pain well enough (panadeine forte).
- Cleaning should be performed using saline irrigation, however, over-the-counter nasal saline spray is a second choice. This will help clear the crusts and blood clots in your nose.
- You may gently blow your nose without blocking your nostrils on the 2<sup>nd</sup> day after surgery. Do not strongly blow your nose for 2 weeks after surgery.
- Avoid strenuous activity such as heavy lifting (more than 5kg), running or sports for 2 weeks. This can cause nosebleeds.
- Elevate your head on a couple pillows when sleeping or lying down.
- Eat a well balanced diet with plenty of fiber to keep your stools soft. This avoids straining which can cause a nosebleed. You may take one tablespoon of Metamucil twice a day in a full glass of water or can take a tablespoon of mineral oil twice a day to help keep your stools soft.

## SALINE IRRIGATIONS.

Saline irrigations should ideally be performed on both sides 3x/day for 6 weeks after surgery. Purchase a Sinus Rinse (Neilmed®) starter pack or similar irrigating bottle that may be easily refilled from the chemist. Saline may be purchased or made at home using the following formula:

- 1 teaspoon non-iodized salt (sea salt or cooking salt)
- 1 teaspoon baking soda
- 360mL water (boiled then allowed to cool)

Heat in microwave for 20-30 seconds (until comfortable to drip on hand).

Lean over sink or basin and gently place tip of bottle 1 cm into nostril.

While panting and tilting head over sink, instill ½ bottle into each nostril.

Gently blow nose without blocking nostrils.

Repeat if nose still feels crusted.

Wash bottle after each use with warm soapy water. Store in clean cup with tip down.

Once a week wash bottle with vinegar to prevent bacterial growth.

You may notice some dripping during the day when you tilt your head down.

Do not use saline 24 hours before a CT scan (it may cause an appearance like a sinus infection).

## SEEK MEDICAL CARE IF YOU DEVELOP:

- Redness, swelling, or increasing pain in your nose.
- An unexplained oral temperature above 38.5 degrees celsius develops.
- Any visual changes or marked swelling of the eyes.
- A severe headache or neck stiffness.
- Vigorous or rapid bleeding from your nose.



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