

Functional Endoscopic Sinus Surgery

Surgical Information



ENT Bowling Green

Functional Endoscopic Sinus Surgery

Functional endoscopic sinus surgery is a minimally invasive technique used to restore sinus ventilation and normal function. The most suitable candidates for this procedure have recurrent acute or chronic infective sinusitis, and an improvement in symptoms of up to 90 percent may be expected following the procedure. Fiberoptic telescopes are used for diagnosis and during the procedure, and computed tomography is used to assess the anatomy and identify diseased areas. Functional endoscopic sinus surgery should be reserved for use in patients in whom medical treatment has failed. The procedure can be performed under general or local anesthesia on an outpatient basis, and patients usually experience minimal discomfort. The complication rate for this procedure is lower than that for conventional sinus surgery.

Candidates for Sinus Surgery

FESS (like any sinus surgery) is most successful in patients who have recurrent acute or chronic infective sinusitis. Patients in whom the predominant symptoms are facial pain and nasal blockage usually respond well. The sense of smell often improves after this type of surgery.

A CT scan before FESS is mandatory to identify the patient's ethmoid anatomy and its relationship to the skull base and orbit. CT scanning also allows the extent of the disease to be defined, as well as any underlying anatomic abnormalities that may predispose a patient to sinusitis.

Patient selection therefore involves a thorough history and physical examination, a trial with medical treatment and, finally, CT scanning. The result is a highly selected group of patients who can expect an improvement of up to 90 percent in their symptoms.

In patients with nasal polyposis that is not controlled with topical corticosteroids, FESS permits the accurate removal of polyps using suction cutters.⁵ It is not known whether the disease-free interval is extended for patients having endoscopic ethmoidectomies for polyposis compared with conventional polyp surgery, but the postoperative discomfort is minimal.

PREOPERATIVE DISCUSSION FOR SINUS SURGERY

Endoscopic Sinus Surgery

Obstructions in the ethmoid sinus region can also affect the maxillary, frontal, and sphenoid sinuses. When an otolaryngologist (ENT specialist) performs surgery in the ethmoid sinus region, the goal is usually to remove obstructions that block natural drainage and create an increased risk of infection, as well as to remove inflamed tissue and bone. Endoscopic sinus surgery offers a way to clear blockage while disturbing as little healthy tissue as possible. Because it is less invasive than other surgical methods, it increases the chance of rapid recovery. The doctor may also recommend endoscopic surgery to remove polyps or to straighten the septum.

Endoscopic surgery is typically performed either as an outpatient procedure or with an overnight hospital stay. The surgery usually lasts from one to three or more hours, and the patient may receive general anesthesia or, less commonly, sedation through local anesthesia. After surgery, the sinus is packed with temporary sponges or sterile packing at the surgical site, but the nose itself may be completely packed. Unless other medical conditions complicate recovery, you can expect to go home the same day as your surgery – or by the next morning at the latest.

If your doctor recommends sinus surgery, the severity and extent of your sinus problem will be carefully considered. For instance, you may require only a limited procedure, such as clearing the middle meatus area, or your doctor may recommend clearing other sinuses as well. If you receive general anesthesia, you will be asleep during surgery. If your anesthetic is local, you will be sedated and comfortable - but you may hear some "crunching" sounds and the doctor talking during your procedure.

Since the middle meatus is at the intersection of the sinuses, clearing just this area may in some cases be sufficient to alleviate problems in other sinuses, too. This is especially true if you don't suffer from widespread disease and severe chronic problems. Clearing the middle meatus involves opening up the front of the ethmoid sinus. The doctor may also remove small **polyps** growing in the middle meatus and may widen the entrance to the maxillary sinus. If the ethmoid sinus is badly blocked and inflamed, a more extensive procedure could be required. In this case, your doctor will explore farther into the ethmoid sinus, opening additional bony partitions that block drainage or harbor inflammation, and/or removing larger polyps.

Pain after surgery is usually mild. You can anticipate an early return to work, although you may feel tired and should restrict activity somewhat for a week or two. Full recovery takes several weeks, and severe inflammation may take months to settle down completely. That is why continued medical therapy following surgery is essential. Expect dried blood, mucus and crusting to occur inside the nose. Your doctor may recommend nasal irrigation or salt-water sprays and antibiotic lubricants to facilitate normal sinus activity. Since tap water has the potential to introduce infection into the nose, particularly during the immediate postoperative period, special irrigation techniques may be recommended to reduce this potential. Your doctor may also ask that you avoid swimming, at least in chlorinated pools, for a number of weeks after surgery. Medical therapy may include antibiotics, topical nasal steroid sprays, antihistamines, decongestants, and a tapering course of oral steroids. The degree and type of medical therapy will depend on your particular problem and post-surgical response.

Endoscopy provides a good monitoring tool after surgery. Using a nasal optical tube, your doctor can monitor the healing process, remove scar tissue when necessary, and adjust medical therapy if indicated. Do not neglect expert post-operative care. It is essential to prevent scar formation and promote normal healing.

Complications that may Occur Following Endoscopic Sinus Surgery

Infection

Infection and inflammation can follow any surgical procedure, including sinus surgery. If you experience continued obstruction, pressure, pain and an unpleasant discharge, there may be a more serious problem. If this happens, your doctor may take a culture and recommend a change in your antibiotic therapy or other medical treatment. Keep in mind that in cases of long-term chronic sinusitis, it usually takes some time for inflammation to completely subside.

Bleeding

During recovery from endoscopic sinus surgery, the region of the surgery will be somewhat raw for a time. A bloody nasal discharge is normal. This discharge may mix with secretions and pool in the sinuses, causing dripping from the nose when you lean forwards during the first few days post-surgery. Occasionally, heavier bleeding may require packing or cauterization.

Recurrence or Persistence of Disease

Although there is an excellent chance that endoscopic sinus surgery will improve symptoms of chronic sinusitis, it is not a guarantee. Inflammation and infection may persist and require further intervention, maybe even additional surgery. There are multiple underlying causes for chronic sinusitis, including hereditary tendencies, environmental factors, and smoking. That is why it is so important that you manage your condition appropriately after surgery, whether that means allergy-proofing your home, lifestyle changes, undergoing immunotherapy or using the medications your doctor prescribes. Smoking in the postoperative period carries a high risk of further sinus problems.

Voice Change

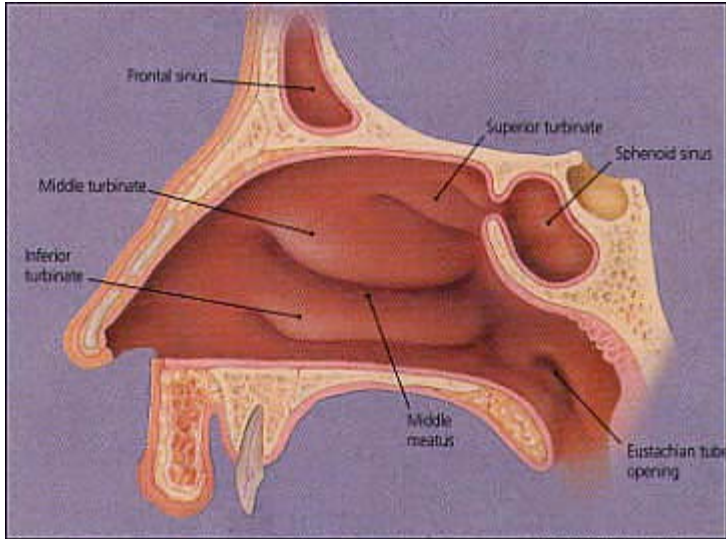
Voice resonance is developed partially within the sinuses. Altering the structures of the sinus through surgery can affect resonance. Therefore, singers, public speakers, actors and others who value their distinctive voice resonance should understand the possibility of some change in their voice before they decide to undergo endoscopic or other sinus surgery.

Injury to the Eye

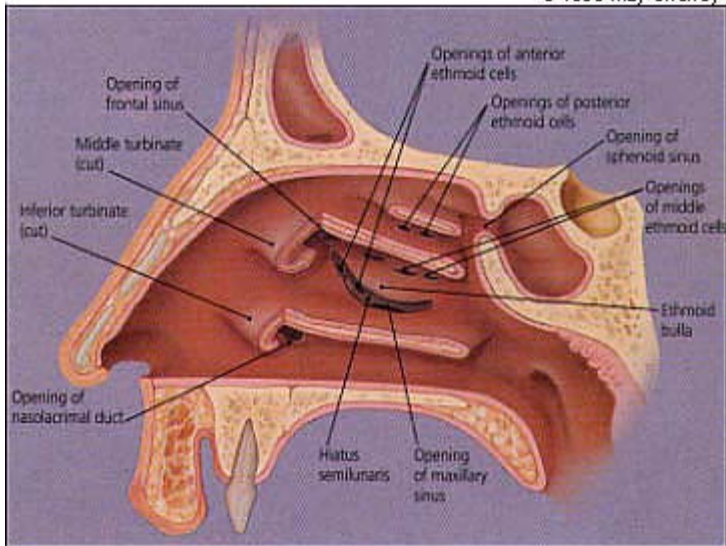
Eye complications after endoscopic sinus surgery are rare. Occasionally, double vision develops in the aftermath of swelling or bleeding in the orbital cavity around the eye. Most of the time, this problem disappears on its own. In a minority of cases, there is scarring. If the muscles that move the eye are directly injured, double vision can be permanent, but this complication is very uncommon. Visual loss in an eye, the most catastrophic of all eye complications, is extremely rare. It can, however, occur when there is excessive bleeding in the orbital cavity or in the case of direct damage to the optic nerve. While eye injuries can lead to very serious complications, they occur in only a very small number of cases.

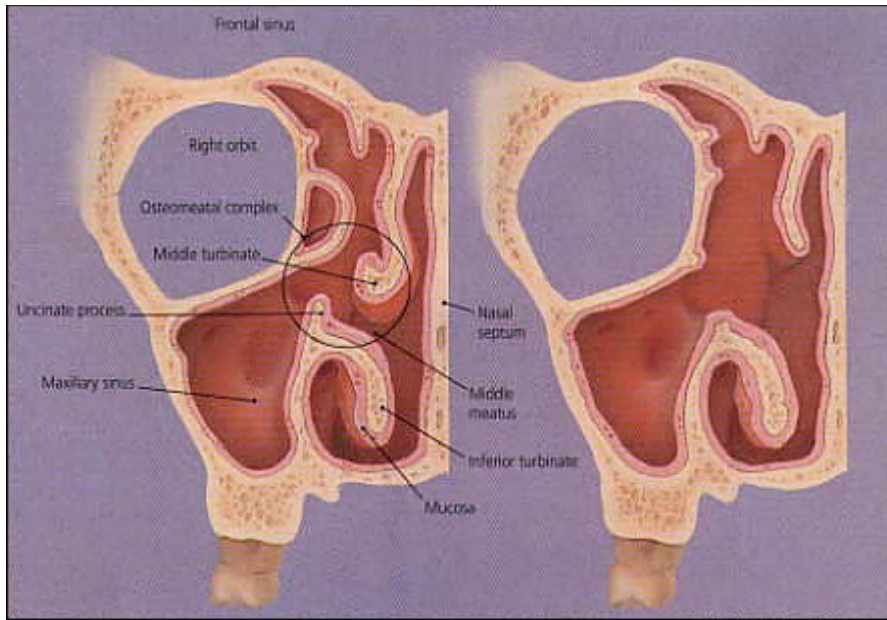
Injury to the Brain

The incidence of brain complications following sinus surgery is very low. However, leakage of the fluid surrounding the brain, known as cerebrospinal fluid or CSF, is a remote possibility. If the surgeon spots a leak or opening during surgery, he or she may be able to close it immediately. In this situation, the only repercussion may be a slightly longer hospital stay and/or extended recuperation period, but if the leak is not discovered during surgery, or if there was some direct damage to the brain, it could lead to serious complications. If you experience a clear watery discharge running out of your nose when you lean forward after surgery, bring it to the attention of your physician **immediately**. A CSF leak creates a potential pathway for the spread of infection and in some cases could result in meningitis or intracranial (brain) infection. Please note that these are worst-case scenarios that are very unlikely to occur.

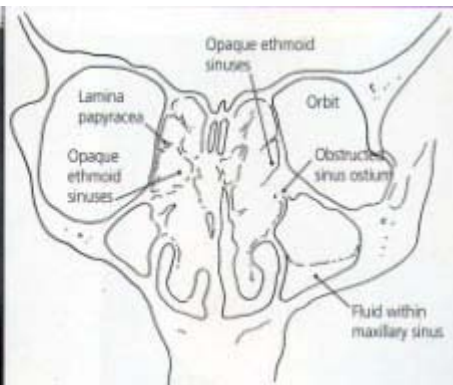
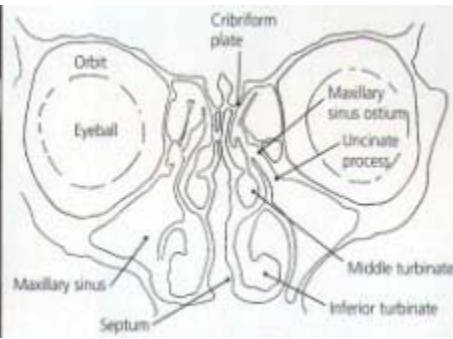
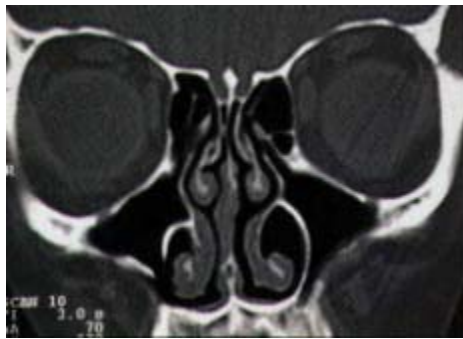


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Sinus Surgery

Prepared for: _____

Date: _____

Any surgery will require a healing period, which varied with the type of the operation performed and from patient to patient. The more you are informed about what to expect after surgery, the easier it will be for you or your child during this time.

I will be happy to answer any questions you might have. During the weekday call my office @ 270-782-7768. After hours you may call the office and will be directed to the on call physician. If there is an emergency and you cannot reach us at these numbers, call the emergency room at Greenview Regional Hospital 270-793-1000 or The Medical Center 270-745-1000.

SYMPTOM

RECOMMENDATION

- | | |
|---------------------------------|---|
| 1. Pain & Headache..... | Use pain medication as prescribed. It may be felt in the top and back of your head or in the teeth as well as the face. If any sinus sponges are placed, expect a dramatic improvement when they are removed. |
| 2. Vision..... | If you have any problem with your vision, call the office. |
| 3. Nasal Congestion..... | Expect the nose to be congested after surgery. Salt-water nasal spray, humidifier and vaporizer along with gentle nose blowing with both sides open will help. |
| 4. Bleeding..... | Your nose will likely bleed for several days. If large amounts of blood are seen, contact the office. Blow your nose very gently. |
| 5. Humidification..... | Use a vaporizer and salt-water nasal spray to keep your nose moist. The nasal spray can be used every hour with 2-3 sprays in each side followed by gentle blowing to clear it. |
| 6. Activity..... | Do not do any heavy lifting or straining. |
| 7. Sinus Sponges or Stents..... | You may need to have a soft sponge placed in the sinus to prevent bleeding. It will not stop you from breathing. It will usually be removed in the office a few days after surgery. |
| 8. Medications..... | Resume any medications you have been on unless they are "blood thinners" or there are other specific instructions. |

POSTOPERATIVE INSTRUCTIONS FOR NASAL AND SINUS SURGERY

(Septoplasty, SMR, Septoplasty and turbinectomy, endoscopic sinus surgery)

Diet

Patients who have received general anesthesia may experience some nausea and occasionally, vomiting. It is therefore preferable to eat a bland light meal or a liquid diet on the first day after the surgery. Regular diet may be resumed the next day.

Wound care and other information

1. Elevate the head at all times. Sit in a recliner or use two or three pillows when sleeping. Head elevation reduces bleeding and swelling.
2. Take pain medicine with some food or a piece of toast. This reduces nausea.
3. You may take a shower with lukewarm (not hot) water. Make sure you have someone with you in the house in case you feel drowsy or faint from taking pain medicine.
4. Do not remove packing or splints if present. You may have to breathe from your mouth if the splints get occluded with mucous or clots. This may cause a dry mouth. It is therefore very important to drink a lot and maintain adequate hydration.
5. Bleeding is expected for two to three days after surgery. Just change the drip pad as needed and keep the nostril clean. Clean the dried blood and secretions from the nostrils with hydrogen peroxide 3% and Q-tips.

Care after removal of packs or splints

1. Do not blow your nose for at least one week from the day of surgery. Avoid heavy lifting or straining. These activities will increase the likelihood of nasal bleeding.
2. If you have to sneeze, please do it with your mouth open. This prevents excessive pressure build-up and bleeding from the nose.
3. Do not take Aspirin or products containing acetyl salicylic acid. Aspirin prevents clotting and increases the bleeding.
4. For five days after the removal of the nasal splints or packs, use over-the-counter Afrin 0.05% (or generic Oxymetazoline 0.05%), two to three times daily, in both nostrils. After five days, use saline spray (Ocean Spray, Ayr, NaSal, Sea Mist, generic normal saline) 6 to 8 times daily to keep the mucosa moist and to help loosen the crusts.
5. If excessive bleeding occurs, try spraying the nose with Afrin spray to constrict the vessels.

Medications

An antibiotic is usually prescribed for seven to ten days following the surgery. You may also receive a prescription for painkillers in the form of codeine or hydrocodone. These products cause somnolence, drowsiness and constipation. Occasionally, Phenergan suppositories may be necessary for nausea or vomiting.

Follow-up

An appointment will be set up for you at the time of discharge for either 1-2 days or 1 week.

PHONE: (270) 782-7768

NASAL IRRIGATIONS

Normally, the nose and sinus cavities clear mucus naturally through 'mucociliary transport'. This self-cleaning is slowed or prevented during inflammation, infection, or irritation. In these cases, nasal irrigations can help clear secretions, remove crusts after surgery, and improve your symptoms from nasal and sinus problems.

Solutions: Boil tap water for 15 to 20 minutes. Place in clean, one quart (one liter) container. Alternatively, you may use sterile or purified water. Add one teaspoon of table salt. Some people prefer to use pickling or kosher salt to avoid iodine and other preservatives. For stuffy noses, you can add ¼ teaspoon of baking soda.

The solution is to be used at body temperature or slightly warmer, but not hot to avoid injury. Make a fresh batch of solution every day.

We may give you a prescription if adding an antibiotic to the solution is indicated.

Equipment for flushing: A small rubber bulb ('blue bulb', 'baby') syringe can be obtained at your local drugstore. You can also use a 'turkey baster' syringe. To begin your nasal washings, please purchase new bulbs or basters to avoid contamination.

Irrigating the nose: Fill the bulb syringe or baster and place the tip at the opening of the nostril. Gently irrigate the nose. If the force seems too weak, you may trim back the tip to widen the opening. Perform the irrigations while leaning forward over a sink so that the solution runs out. Irrigate with ¼ to ½ cup of solution. You may use more as needed to achieve the return of clear solutions. Begin with one side, then switch.

- Do breathe through your mouth or hold your breath while flushing
- Do stop irrigating if you have to sneeze or cough
- Do not speak or swallow while irrigating. This could change the pressure in your nose/ears and cause infectious mucus to be drawn into the sinuses or middle ear.

If you experience bleeding while performing irrigations, stop, stand up, stay calm and breath gently through your nose. During your next session, be sure to place the tip of the apparatus just at the nostril and point it away from your nasal septum, the divider between the sides of your nose. If you experience severe pain, or bleeding that is continuous, call you physician.

Be sure to ask your physician how frequently you should be performing the irrigations.

Keeping the equipment clean: Clean the irrigation device and solution container daily with soap and water. Drain water from the device and allow to air dry before next use. Perform sterilization once a week using a weak solution of Betadine (available in pharmacies as a douche) or by using a dilute solution of bleach and water (1 part bleach to 100 parts water). Every few months, throw away the irrigation device (bulb syringe, turkey baster) and purchase a new one. This will help avoid reintroduction of contaminants during irrigations.

At first, you may have an aversion to doing the nasal washings. With patience, this will subside and you will appreciate the benefits of nasal irrigations.