UT SOUTHWESTERN MEDICAL CENTER

PATIENT INFORMATION

Functional Endoscopic Sinus Surgery

What is functional endoscopic sinus surgery (FESS)?

Developed in the 1950s, the nasal telescope has greatly changed the evaluation and treatment of sinus disease. This instrument, which provides a view of the structures in the nose and sinuses, is used both in the office and the operating room.

During initial office visits, the otorhinolaryngologist (ENT doctor) will use the telescope for accurate diagnosis. The telescope allows for better visualization within the nose and sinuses, and together with sinus CT scans, often reveals problems that may otherwise not be evident.

The nasal telescope also gives a view for 'opening' the natural drainage passages during sinus surgery. These procedures are performed without any external incisions—since both the telescope and other instruments can be passed through the nostrils. Before nasal telescopes, sinus surgery was often destructive and focused on the removal of so-called "diseased" tissue; however, today's endoscopic procedures are performed with much more finesse.

Another important feature is that functional endoscopic sinus surgery focuses on treating the underlying cause of the problem. The ethmoid areas are usually opened; this then allows for visualization of the maxillary, frontal, and sphenoid sinuses. The sinuses can be viewed directly, and diseased or obstructive tissue removed as necessary. There is often less removal of normal tissue, and thus healing is quicker and outcomes are better.

Recovery after the surgery is often faster than anticipated. The surgery is most commonly performed on an outpatient basis (or with a 23-hour hospital stay); patients may return to near normal activity in 1–2 weeks.

When is functional endoscopic sinus surgery indicated?

Functional endoscopic sinus surgery is generally reserved for those patients with chronic rhinosinusitis (inflammation of the mucosal tissues of the nose and sinuses) that persists despite aggressive medical treatment (typically antibiotics, oral steroids, topical nasal sprays, and/or anti-allergy treatments).

It should be remembered that many conditions can cause nasal and sinus symptoms; therefore, the diagnosis of chronic rhinosinusitis must be confirmed through a detailed evaluation, including nasal endoscopy and CT scans. Most patients with chronic rhinosinusitis will not require sinus surgery since antibiotics and other medications will often provide the needed symptom relief.

Because bacterial infection is felt to be one of the important factors in chronic rhinosinusitis, initial treatment may include long courses of oral antibiotics. Other medications that reduce inflammation (mostly steroids) and reduce mucus viscosity are also used. When these treatments do not provide meaningful improvement, or the symptoms return after treatment is stopped, then sinus surgery is considered.

On occasion, functional endoscopic sinus surgery may be required for the drainage of mucocele (a blocked sinus that is filled with mucus and slowly expanding). Mucoceles typically produce no symptoms until they are quite large and compressing the eye or brain. Thus, early drainage is required to prevent serious complications.

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How am I evaluated for functional endoscopic sinus surgery?

The decision to proceed with sinus surgery is a complex one that requires careful consideration of many factors. This process begins with a careful initial evaluation, including a detailed history and physical examination, as well as nasal endoscopy. Previous CT scans (if available) are helpful, and previous treatment records are also reviewed.

The initial step for chronic rhinosinusitis treatment is medical therapy. If previous treatment has been inadequate, then comprehensive medical treatment will be started so that the need for surgery may be eliminated.

If medical treatment is unsuccessful, then it may be appropriate to consider sinus surgery. Your physician will discuss this procedure in detail with you. After your consent is obtained, preoperative testing will be completed, and the surgery will be scheduled.

How do I prepare for surgery?

All patients need to have a relatively recent CT scan before surgery. In some instances, CT scans performed at other institutions may need to be repeated at UT Southwestern Medical Center.

Depending on your overall health, routine preoperative testing may include blood work, EKG, and CXR. Additional testing may also be necessary. If testing is performed at another institution, results will need to be sent for inclusion in your medical record.

Typically, you will have a preoperative visit before your planned surgery. Preoperative studies may be scheduled for this day.

In many cases, your physician will prescribe medications (antibiotics and steroids) for you to take before your surgery. Please start these treatments as directed.

If you have asthma, please continue to take all of your asthma medications, even if your asthma seems under good control.

Of course, please continue to take all of your other medications, unless you are directed not to do so

Also remember:

- Do not take aspirin or salicylate containing pain medications for at least 10–14 days prior to surgery. (Aspirin increases bleeding.)
- Do not take non-steroidal anti-inflammatory drugs (ibuprofen, naproxen, Advil, Motrin, Aleve, and others) prior to surgery. (These will also increase bleeding.) Ask your surgeon how long to refrain from these medications.
- Stop vitamin E supplements, as well as other herbal remedies, since these may be associated with an increased risk of bleeding.
- Do not smoke for at least three weeks prior to surgery. (Smoking increases the risks of anesthesia and risk of failure of the sinus surgery.)
- Do not eat or drink anything after midnight before surgery. If you are taking medications, ask during your presurgical evaluation if these can be taken on the morning of surgery.

Finally, it is important to keep your postoperative visits after surgery. These visits are an important component to the success of sinus surgery.

What will happen during surgery?

The surgery is typically not uncomfortable and should not be an unpleasant experience. Most sinus surgery procedures are performed under general anesthesia. (If local anesthesia with intravenous sedation is an option, your surgeon will discuss this with you.)

The surgery will begin after the anesthesiologist administers the anesthetic drugs and you are asleep. Your surgeon will proceed as discussed in

the office. Intraoperative findings may require adjustments to the surgical plan so that the procedure may be completed to give you the best possible result.

At the end of the surgery, it is rarely necessary to place traditional nasal packing. In some instances, dissolvable material, which helps control bleeding and acts as a dressing, may be placed in the sinus cavities, and in other instances, no material whatsoever is placed in the sinuses.

In some cases, it may be necessary to repair the nasal septum at the time of sinus surgery. Similarly, surgical reduction of the inferior turbinates may also be performed. Septal surgery and turbinate reduction will be reviewed with you before surgery if your surgeon feels that these may be necessary.

What are the risks of functional endoscopic sinus surgery?

Bleeding

Although the risk of bleeding appears to be reduced with this type of sinus surgery, significant bleeding may occasionally occur that requires premature termination of the procedure. Bleeding following surgery could require placement of nasal packing and hospital admission. A blood transfusion is very rarely necessary.

Blood Transfusion

In the rare instance that a blood transfusion is necessary, there is a risk of adverse reaction and the transfer of infection.

Infection

Any surgical procedure carries the risk of postoperative infection. If an infection develops after surgery, antibiotics may be started.

Visual Problems

Although extremely rare, there are occasional reports of visual loss after sinus surgery. Usually, the loss of vision only involves one side, and the chance for recovery is not good. Temporary or prolonged double vision has also been reported after sinus surgery.

Cerebral Spinal Fluid (CSF) Leak

All sinus operations carry a small chance of cerebrospinal fluid (CSF) leak. CSF is the fluid that surrounds the brain, and if the barrier that separates the sinuses from the brain space is disrupted (due to disease or due to surgical manipulation), CSF may leak into the nose. If this rare complication occurs, it creates a potential pathway for infection to spread from the nose and sinuses to the brain. Today, most sinonasal CSF leaks are repaired using the nasal telescopes. If a CSF leak were to occur, additional hospitalization and possibly surgery may be required.

Decreased Sense of Smell

Permanent loss or decrease in the sense of smell can occur rarely following nasal and sinus surgery. However, in some patients who report decreased sense of smell before surgery, the sense of smell may improve.

Anesthesia Risks

General anesthesia is associated with occasional, but possibly serious, risks. Adverse reactions to general anesthesia should be further discussed with the anesthesiologist.

Other Risks

Tearing of the eye can occasionally result from sinus surgery or sinus inflammation. If persistent, this may require additional surgery. You may experience numbness or discomfort in the upper front teeth for a period of time. Swelling, bruising,

or temporary numbness of the lip may occur, as well as swelling or bruising around the eye. Subtle changes in the sound of your voice are common.

Septoplasty Risks

If septoplasty (surgical correction of a deviated septum) is performed, you could experience numbness of the front teeth, bleeding, infection, and/or septal perforation. A septal perforation, which is simply a hole through the septum, may cause nasal obstruction, crusting, and bleeding; in some instances, surgical repair of a septal perforation will be necessary. Since the cartilage in the septum has a "memory," it may shift post-operatively and result in a renewed deviation. There is also a small risk of a change in the shape of the nose, loss of sense of smell, and spinal fluid leak.

What can I expect after sinus surgery?

Some bloody discharge is common for approximately two weeks after this procedure. This is normal and slowly improves. You **should not blow your nose** for at least two weeks following surgery. As normal sinus drainage becomes reestablished, you may blow out some thick bloody mucus. This is also normal.

After surgery, you will receive detailed instructions for your postoperative care. The details may vary, but in most instances, these measures include nasal irrigations, oral antibiotics, oral steroids, and pain medicine.

In addition, routine postoperative office visits are necessary. During these visits, the surgical cavity is cleaned and inspected. Early scar tissue may be removed, and the medical treatment strategy will be adjusted.

Although complications from the manipulations performed during the postoperative visits are very rare, the theoretical risks are the same as the surgery itself. Consent for surgery includes consent for postoperative care, since the surgery and postoperative care are very closely related.

Will functional endoscopic sinus surgery cure my sinus problems?

Many chronic sinus problems are not "curable" with surgery. However, endoscopic sinus surgery is often an important part of the overall management strategy. It is possible that the disease may not be cured by the operation, or that disease may recur at a later time. If this should happen, additional surgery may be required. It should be realized that medical therapy is usually continued after surgery, especially if allergy or polyps play a role. This medical treatment minimizes the risk of recurrence and the need for further surgery.

Overall, the majority of patients report significant improvement with the combination of surgery and continued medical management. We will certainly work with you to attain this goal after surgery.

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