YALE UNIVERSITY SCHOOL OF MEDICINE: SECTION OF OTOLARYNGOLOGY

PATIENT INFORMATION

FUNCTIONAL ENDOSCOPIC SINUS SURGERY

What is functional endoscopic sinus surgery (FESS)?
Functional endoscopic sinus surgery is a procedure designed to open the natural drainage pathways of the sinuses. In chronic sinusitis, the sinuses are unable to drain adequately. As a result, normal nasal secretions become trapped in the sinuses and become chronically infected.

The goal of the surgery is to carefully remove the thin bone and mucous membranes blocking the drainage pathways of the sinuses. The term “endoscopic” refers to the use of small nasal telescopes that allow all of the surgery to be performed through the nostrils, without the need for any incisions on the face.

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), and 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 should only be made after careful evaluation by your doctor. Most patients with chronic rhinosinusitis will not require sinus surgery since antibiotics and other medications will often provide the needed symptom relief.

Most patients with sinusitis can be successfully treated with medications. For a small percentage of patients, however, medications alone are not adequate to completely clear their infections. In these patients, infections recur soon after completing even long courses of medication. Such patients often require surgery as a part of their treatment for sinusitis. After reviewing your medical history and radiologic imaging, your ear, nose and throat specialist can help you determine if you are a surgical candidate.

While surgery is a part of the treatment of chronic sinusitis, it is important to remember that it is one piece of the puzzle. After surgery, medical therapy remains a very important part of treatment of this chronic disease.

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.

**What can I expect before surgery?**

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.

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.

Depending on your overall health, routine preoperative testing may include blood work, EKG and CXR. Additional testing may also be necessary.

It is important that you inform your primary care physician that you are planning to have sinus surgery. Your primary care physician can be of great assistance in helping to make sure you are medically cleared for surgery. We will make every effort to keep your primary care physician informed regarding your medical status both before and after surgery.

There are a variety of medications, which can interfere with anesthesia medications or can thin the blood and create excessive bleeding both during and after surgery. **Therefore, you should avoid taking the following medications for at least 14 days prior to surgery:**

- Aspirin
- Ibuprofen (Motrin/Advil)
- Naproxen (Aleve)
- Other non-steroidal anti-inflammatories (NSAIDS)
- Vitamin E (Multivitamin is okay)
- Gingko Biloba
- Garlic (tablets)
• Ginseng
• St. John’s Wort

If you smoke, it is imperative that you stop smoking for at least three weeks prior to surgery, and at least four weeks after surgery. Smoking during this critical time can seriously affect the success of your operation, causing increased scarring and failure of the operation. Your primary care physician can help direct you to resources to assist with smoking cessation.

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. Intra-operative 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. In other instances, no material whatsoever is placed in the sinuses.

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 postop care. The details may vary, but in most instances, these measures include nasal irrigations, oral antibiotics, oral steroids, and pain medicine.

Most patients return for a post-operative visit one week after surgery. During this visit, the surgical cavity is cleaned and inspected. Early scar tissue may be removed, and the medical treatment strategy will be adjusted. After that, your visit schedule will be determined by your doctor and will usually consist of 3-4 visits over the first 6 weeks. Thereafter, your visits will be spaced a few months apart, depending on how well you are healing. After 3-4 months, most patients’ sinuses have healed completely, and visits for maintenance care are then made a few times per year.

Keeping your post-operative appointments is an important part of the healing process, as the lack of post-operative care can make the difference between a successful and unsuccessful outcome.
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, occasionally significant bleeding may require 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.

**Recurrence of Disease**
Although endoscopic sinus surgery provides significant symptomatic benefits, surgery is not a cure for sinusitis. Therefore, you can expect to keep up with your sinus medications after sinus surgery, although in general your requirements for such medications should be lessened. In some instances, additional surgery may be needed to optimize your surgical outcome.

**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.

**Cerebrospinal 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 further surgery may be required.

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

**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.

**Some patients have a deviation of their nasal septum that needs to be corrected at the time of surgery through a procedure called a septoplasty.** If a septoplasty 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 postoperatively and result in a renewed deviation. There is also a small risk of a change in shape of the nose, loss of sense of smell, and spinal fluid leak.

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.

**What will my activity restrictions be during the post-operative recovery period?**

For the first two weeks after surgery you should not blow your nose. In addition, you should not perform exercise or any other exertional activity for at least two weeks following surgery. This includes bending, lifting (nothing heavier than a gallon of milk) or straining. Your surgeon will be able to advise you when it is safe to exercise again.

**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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