



## Sinus & Nasal Institute of Florida, P.A. Endoscopic Sinus Surgery

### WHAT IS FUNCTIONAL ENDOSCOPIC SINUS SURGERY (FESS)?

One way functional endoscopic sinus surgery differs from conventional sinus surgery is that an endoscope is used in the nose to view the nasal cavity and sinuses. This generally eliminates the need for an external incision. The endoscope allows for better visualization of diseased or problem areas. This endoscopic view, along with detailed x-ray studies, may reveal a problem that was not evident before.

Another difference is that functional endoscopic sinus surgery focuses on treating the underlying cause of the problem. The ethmoid areas are usually opened, which allows for visualization of the maxillary, frontal, and sphenoid sinuses. The sinuses can then be viewed directly, and diseased or obstructive tissue removed if necessary. There is often less removal of normal tissue, and the surgery can frequently be performed on an outpatient basis.

### WHEN IS ENDOSCOPIC SINUS SURGERY INDICATED?

Endoscopic sinus surgery is generally intended for people with chronic sinus problems that do not respond to medical therapy. The diagnosis of chronic rhinosinusitis must be based on an assessment by your doctor, as other problems can cause symptoms similar to those found with sinus disease. The majority of people with sinusitis do not require surgery. Their sinus symptoms can usually be successfully treated medically with an antibiotic, and other medicines used to reduce inflammation. The type of medical therapy used is based on your doctor's assessment of the possible cause(s). Maximal medical therapy is typically initiated to see how you respond to treatment before deciding on a surgical procedure. If it is felt that you would benefit from endoscopic sinus surgery, your consent will be obtained and a date will be arranged for the procedure.

In some people surgical intervention is required. This may be because an infected or inflamed area does not clear with antibiotic therapy or other medications, or because the symptoms keep returning when antibiotics are stopped. You should discuss the need for sinus surgery with your doctor. The primary goal of the sinus surgery is to restore drainage of the sinuses and

to facilitate the return of normal functioning of the lining of the sinuses (mucociliary clearance). Additionally, open sinus passages can help better define possible causes of recalcitrant or chronic sinus disease. The tissue is sent to the pathologists and secretions are often sent for culture to identify if bacteria or molds (fungi) are present. Post-operatively surgical openings improve access of the sinuses to irrigation which can help keep the sinuses clean and improve their functioning.

Endoscopic surgery techniques are used to treat many other disorders besides rhinosinusitis. These include: septal deviation, turbinate hypertrophy, Graves disease affecting the eyes, abnormal tearing, cerebrospinal fluid leakage, encephaloceles, mucocoeles, inverted papilloma, pituitary tumors, juvenile angioblastoma and other benign and selected malignant tumors of the nasal passages and sinuses.

### HOW DO I PREPARE FOR SURGERY?

Prior to surgery, you will need to have some blood work and possibly some other studies performed. To be current, blood work should be done within one month of surgery. Other studies include an EKG and chest x-ray, which are ordered if your age or medical history indicates a need. This testing can be done in the Carillon Outpatient Center, or closer to home. If done locally, results need to be forwarded to us at least two weeks prior to the scheduled surgery date so they can be reviewed.

Typically, you will have a visit for re-examination just prior to surgery. For convenience, pre-operative studies can be arranged at the Carillon Outpatient Center or St. Anthony's Medical Center in downtown St. Petersburg. If you have a CT scan from outside this institution, bring it with you to this visit. *Surgery will not be performed without your CT scan films. Occasionally when computer guided surgery is planned your CT scan should be performed within the Baycare Health System.*

Often times oral steroids (or increasing the dose if you are already on them) and/or antibiotic therapy are started in the pre-surgical period to reduce swelling and operative bleeding. Take these medications as directed by us. If you have a significant increase in your sinus infection in the



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week(s) prior to surgery, notify us. Your surgery may need to be postponed.

**DO NOT** take aspirin or salicylate containing analgesics for at least ten days prior to surgery. Aspirin, even in small quantities, can significantly increase bleeding during surgery and post-operatively.

**DO NOT** take non-steroidal anti-inflammatory drugs (Ibuprofen, Advil, Motrin, Aleve) for at least five days prior to surgery. These drugs will also increase bleeding, although the effects on the blood are shorter. Any other medications which thin the blood will need to be stopped with ample time prior to scheduled surgery.

**DO NOT** smoke for at least three weeks prior to surgery. Not only does smoking worsen sinus symptoms, smoking in the weeks before or after surgery will result in excessive scarring, and may result in failure of the operation.

**DO NOT** eat or drink anything beginning at midnight the night before surgery unless otherwise instructed by our colleagues in anesthesia. If you are taking medications, ask during your pre-surgical evaluation if these can be taken on the morning of surgery.

**YOU SHOULD** obtain some Afrin nasal spray from your pharmacy, and spray both sides of your nose 1-2 hours prior to the operation.

**NOTIFY US** if you have a prosthesis or heart valve disorder that requires antibiotics at the time of surgery and if you have had prior difficulty with general anesthesia.

### **WHAT WILL HAPPEN DURING SURGERY?**

The surgery is typically not uncomfortable and should not be an unpleasant experience. The operation can be performed under general or local anesthesia, with an anesthesiologist providing monitored sedation. Your surgeon typically advise general anesthesia unless there are unusual circumstances. Although there are potentially serious risks from surgery in this area, the incidence of these risks is very low (see RISKS OF ENDOSCOPIC SINUS SURGERY).

Regardless of anesthetic method an intravenous line will be started to administer fluid and medicines to help you relax. If you local anesthesia is chosen, you will be given medication to make you sleepy and relaxed, and will be

provided with some headphone music. You may bring your own CD/cassette if you like. You will usually hear some crunching sounds as bone is removed which may sound loud to you. You may also feel some mucus or blood in the back of your throat that you should swallow. You will be able to talk to us during the surgery, so let us know if anything bothers you. Should you experience significant discomfort during the procedure, we will provide monitored sedation.

Under general anesthesia, a temporary tube is inserted into your mouth/throat to maintain your breathing. If the planned surgery is for more than 3 hours duration, a urinary catheter may also be placed while you are asleep. It is usually removed in before you leave the recovery room. After the surgery and the reversal of anesthesia, patient occasionally report a sore throat associated with the breathing tube and nausea.

### **WHAT ARE THE RISKS OF ENDOSCOPIC SINUS SURGERY?**

#### **Bleeding**

Although the risk of bleeding appears to be reduced with this type of sinus surgery, occasionally significant bleeding may require termination of the procedure and the placement of nasal packing. 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 or the transfer of infection.

#### **Cerebral Spinal Fluid (CSF) Leak**

All operations on the ethmoid and sphenoid sinuses carry a rare chance of creating a leak of CSF (the fluid that surrounds the brain). The incidence of this is generally cited between 0.1 % and 1% unless there are extenuating circumstances. Should this rare complication occur, it creates a potential pathway for infection, which could result in meningitis (inflammation of the brain). A CSF leak would extend your hospitalization and may require further surgery for repair.

#### **Visual Problems**



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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.

### Anesthesia Risks

Because endoscopic sinus surgery is typically performed under local anesthesia, adverse reactions are uncommon. If general anesthesia is required, you would be subject to the occasional but possibly serious risks involved. Adverse reactions to general anesthesia may be further discussed with the anesthesiologist.

### Nasal Septum Reconstruction Risks

If nasal septal reconstruction (septoplasty) is done, you could experience numbness of the front teeth, bleeding and infection in the nasal septum, or the creation of a septal perforation. A septal perforation is a hole through the septum, which may cause difficulty breathing through the nose. Since the cartilage in the septum has a "memory", it may shift post-operatively and result in a renewed deviation. There is also a very small risk of a change in shape of the nose, loss of sense of smell, and CSF leak.

### Decreased Sense of Smell

Permanent loss or decrease in the sense of smell can occur following surgery. However, in a number of patients, it is already decreased prior to surgery, and typically improves with surgical intervention.

### Other Risks

Abnormal tearing of the eye (epiphora) can occasionally result from sinus surgery or sinus inflammation and may be persistent. 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 after you are healed from the surgery. This is because your nose is more open and the resonance is improved. Typically patients report they sound less "stuffy" or less "nasal"

Some bloody postnasal discharge may occur for approximately two weeks after this procedure. This is normal and slowly improves. You **SHOULD NOT** blow your nose for at least seven days following surgery. As normal sinus drainage becomes reestablished, you may blow out some thick bloody mucus. This is also normal. Your physical activity is limited. You should not bend, lift, or strain until you are given permission to do so by your surgeon. Failure to follow this instruction could lead to a serious nose bleed. You are advised to cough and sneeze with your mouth open, so as not to bear down when these reflexes occur. Do not try to hold back your cough or sneezes. So bloody discharge from the nose is anticipated after the surgery. Typically nasal packing is not used. Therefore, you may go through more than 1 box of tissues by spotting them with blood during the 1<sup>st</sup> 24 hours after of surgery. Your tissues however should not be soaking wet. If the blood reaches that amount you should call your doctor at **727-573-0074**.

If nasal packing is not used, on the 1<sup>st</sup> post-operative day you should begin spraying your nose with saline spray every hour while you are awake to keep your nose moist and more comfortable. On the third post-operative day you should begin irrigating twice daily with saline via a baby nasal aspirator. One bulb syringe full is used per nostril while bending forward over a sink.

The first follow-up visit usually arranged at approximately one week after surgery to clean crusts from the nose. Further follow-up visits are arranged at 3 weeks and then monthly intervals until the area is healed. Occasionally more frequent appointment may be required. During follow-up visits, any persistent inflammation or scar tissue will be removed under local anesthesia. Although chances of complications from these manipulations are rare, the potential risks are the same as with the surgery itself. Consent to the surgery also includes consent to post-operative care.

Careful post-operative care is *essential* to the success of this surgery. You will be provided with a brochure addressing post-operative care instructions. It is very important that you follow these instructions, as well as any additional instructions given by us, to promote healing and decrease the chance of complications.

### WILL ENDOSCOPIC SINUS SURGERY CURE MY SINUS PROBLEMS?

### WHAT CAN I EXPECT FOLLOWING SURGERY?



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As with all sinus surgery, it is possible that the disease may not be cured by the operation, or that disease may recur at a later time. In fact, chronic rhinosinusitis is rarely cured by this intervention but it is made to be significantly improved. If recurrence should occur, subsequent surgical therapy may be required. It should be realized that some medical therapy is typically continued after surgery, especially if allergy or polyps play a role. This is necessary to minimize or prevent recurrence of disease. When surgery is performed for chronic rhinosinusitis, wound healing and sinus improvements can be gradual and take more than one year before they improve to their best condition.

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