

Functional Endoscopic Sinus Surgery (FESS): Instructions

What is functional endoscopic sinus surgery?

Functional endoscopic sinus surgery (FESS) is a procedure that opens the sinuses, allows them to drain, and lets medication into them.

In the procedure, your surgeon uses an **endoscope** (a thin camera with a light at the end) to see into the sinuses. This is the same camera we use during your pre-operative appointment. The camera makes a large image of the sinuses with lots of detail during the procedure so that your surgeon can open the sinus pathways and leave the surrounding tissues alone.

Most people have four sets of sinuses on each side: **maxillary** (under the eyes), **ethmoid** (between the eyes), **frontal** (above the eyes), and **sphenoid** (behind the nose). Sinus swelling and sinus infections can affect some or all these sinuses.

Based on your symptoms, pre-operative exam, and CT scan, your surgeon will determine which sinuses to open during surgery. Occasionally during the procedure, more swelling or infection is discovered, and your surgeon will decide to open more sinuses.

What are the benefits of having functional endoscopic sinus surgery?

Sinus surgery aims to improve the ability of rinses and sprays to get into your sinuses. By doing this, sinus surgery can decrease:

- How often you get sinus symptoms and infections
- How bad your symptoms and infections are
- How long your symptoms and infections last

Sinus surgery is **not** a cure for **sinusitis** (inflammation or swelling of the tissue lining the sinuses). Usually, some swelling remains after surgery. However, after surgery, medications like nasal steroid sprays and steroid rinses can get into the sinuses more effectively, and your sinuses will drain better. These sprays and rinses **should** be continued after surgery. By opening the sinuses through surgery, we make more room for these surface medications to get in and calm the swelling. The surgery acts with your medication(s) to keep your sinuses healthy.

How should I prepare for surgery?

- Review all your current medications with your surgeon before surgery, including:
 - Prescription medications
 - Over-the-counter medications
 - Herbal medications
- Find a family member or friend to drive you to and from surgery and stay with you over night after surgery.

What medications should I stop taking before surgery?

Stop taking aspirin at least 7 days before surgery. Medications containing aspirin include:

Alka-Seltzer	Anacin	Aspirin	Fiorinal
Ascriptin	Bayer	Bufferin	Lortab ASA
Darvon	Ecotrin	Excedrin	Percodan
Midol	Pepto-Bismol	Talwin	

If you have gone through aspirin desensitization and take aspirin daily, **do not** stop your aspirin regimen before consulting your surgeon.

Stop taking anti-inflammatory medications like ibuprofen (Motrin, Advil, etc.) at least 7 days before surgery. Examples of **non-steroidal anti-inflammatory drugs** (NSAIDS) to stop taking include:

Advil (ibuprofen)	Aleve (naproxen)	Anaprox (naproxen)
Arthrotec (diclofenac)	Cataflam (diclofenac)	Clinoril (sulindac)
Daypro (oxaprozin)	Disalcidv (salsalate)	Feldene (piroxicam)
Haltran (ibuprofen)	Lodine (etodolac)	Medipren (ibuprofen)
Midol (ibuprofen)	Motrin (ibuprofen)	Nalfon (fenoprofen)
Naprelan (naproxen)	Naprosyn (naproxen)	Nuprin (ibuprofen)
Orudis (ketoprofen)	Relafen (nabumetone)	Tolectin (tolmetin)
Trilisate (salicylate)	Voltaren (diclofenac)	

If you have questions about other medications, please talk to your surgeon.

What should I expect after surgery?

Rest and time off work

Rest for the first few days after surgery. Most patients take a week off work or school. You may need more or less time off, depending on your healing process and how extensive your surgery was. Most patients return to normal activities within a week. You can travel on an airplane 1-2 days after surgery. We will give you a complete list of activity instructions following your surgery.

Nasal symptoms and nausea

- Expect some nasal stuffiness for the first 3-4 days after surgery.
- You may also have occasional bloody mucus drainage from your nose.
- It may take many weeks for your nose to work well after surgery - even longer if you've had lots of swelling and infections over a long period of time.
- You may experience nausea and even vomiting after anesthesia. The nausea usually gets better after 12-24 hours. Try to sip liquids so you

don't get dehydrated. If the nausea is severe and you can't keep liquids down, please call us.

Bleeding

Bleeding from the nose is common for 24-48 hours after surgery. It can occur for 12-24 hours after each post-operative clinic visit too.

Place an old pillowcase or towel on your pillow and sleep with your head raised on an extra pillow to decrease the oozing.

After a couple of days, the drainage from your nose may turn dark red/purple or dark brown. This is normal. It does not mean that the nose or sinuses are infected.

Sometimes you can have more regular bleeding from the nose. If this happens, use Oxymetazoline (Afrin) nasal spray. Spray 2-3 squirts in the nose after rinsing your nose. You can use this for up to 72 hours, if needed, **but not longer**.

It may also help for you to sit up straight and breathe through your nose for 5-10 minutes to decrease bleeding.

If your bleeding continues longer than expected or is very heavy, please call us.

Activities to avoid

- Do not blow your nose for at least five days after surgery. You can start blowing it **lightly** after five days. Sniff if you feel the need to clear your nose. Blowing it too early in the healing process can be dangerous.

- Do not bend, lift, or strain for one week after surgery. These activities can increase your risk of bleeding. Avoid:
 - Putting your head below your waist, like you would to tie your shoes
 - Lifting anything over 10 pounds (including children)
 - Straining or bearing down
- If you have sleep apnea and use a continuous positive airway pressure (CPAP) machine, stop using your CPAP for 48 hours after surgery.
- Do not smoke.

How will I manage my pain at home after surgery?

Most patients' pain can be controlled by rotating extra strength acetaminophen (such as Tylenol) and ibuprofen (such as Motrin) and using a low dose opioid for pain that is not controlled by the acetaminophen and ibuprofen. We will prescribe sufficient pain medication for you after your surgery.

In some cases, we may also prescribe antibiotics or steroids. **Please take all your prescribed medications as directed.** Medications may be adjusted over time. Some medications may be continued, some may be stopped, and other new ones may be started.

Tylenol and Motrin instructions and sample dosing schedule

Take ibuprofen (such as Motrin) 400 mg every six hours **and** acetaminophen (such as Tylenol) 500 mg every six hours on a scheduled basis for the first 48-72 hours after surgery.

Alternate the doses so you are taking one of these medications **every three hours**. See the table below for a sample dosing schedule.

Sample Medication Dosing Schedule	
	Time
Acetaminophen (Tylenol)	12 p.m.
Ibuprofen (Motrin)	3 p.m.
Acetaminophen (Tylenol)	6 p.m.
Ibuprofen (Motrin)	9 p.m.
...etc.	Midnight

If you are allergic to one of these medications, please do not take it. Talk to your surgeon about different medications you can use in its place.

How do I care for my nose after surgery?

Saline irrigation

Blood crust and mucus can slow your healing process. Use **saline** (salt water) to rinse the nose to keep it moist and prevent crusting after surgery. The bottle



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system known as the "sinus rinse" system thoroughly cleans the nose after surgery. You can buy the NeilMed "Sinus Rinse" bottle system at most pharmacies. There are several different ways you can obtain a saline sinus rinse to be used with the bottle system:

- The U-M Pharmacy sells the "Sinus Rinse" system **with** 50 packets of salt-baking soda mixture. Buying the kit may be the easiest way to make sure you have what you need. The U-M Pharmacy sells the kit with the salt-baking soda packets included for just over \$10.
- Make your own salt-baking soda mixture using these ingredients:
 - 1/4 teaspoon of non-iodized salt (or kosher salt, sea salt, pickling salt)
 - 1/4 teaspoon of baking soda
 - 1 cup of distilled or boiled water cooled to room temperature
 - Mix the salt and baking soda into the water just before you use it.

When and how to use the saline rinse

- Use the saline rinse **at least** twice per day following surgery.
- Using the bottle, bend forward and breathe through your mouth. This will close off your nose, so you don't swallow the salt water.
- Place the bottle up to one nostril and squeeze the bottle to fill up the nose until the salt water comes out the other nostril.
- Repeat this on the other side.

Nasal dryness

You may find dry air to be uncomfortable after surgery. You may use a saline-based gel like Ayr Gel, NasoGel or Aquaphor to help with moisture in the nose if needed. Apply the gel at the front of the nostrils.

What follow-up appointments will I have after surgery?

You will have multiple follow-up appointments with your surgeon in the first 4-6 weeks following your surgery. These visits will help us make sure your surgery is successful.

During these appointments, we will examine your nose and sinuses to make sure they are healing well and to make sure that scarring is not becoming a problem. Some scar tissue forms after any surgery, but if there is too much, it can block the newly opened sinuses. Sometimes, we must remove a small amount of scar tissue during these office visits.

What are the risks of functional endoscopic sinus surgery?

All surgeries, including sinus surgery, carry with them certain risks. We will work with you to minimize your risks in all areas to help you experience the best surgical outcome possible.

Bleeding, infection, and pain

Bleeding, infection, and pain are the most common risks with any surgery, including sinus surgery. The risk of bleeding is higher when you are taking certain medications. Be sure to review **all** your medications (prescription, over-the-counter, and herbal) with your doctor before surgery.

In rare cases, a lot of bleeding can occur, and we may need to place **nasal packing**, which expands to place pressure on the area of bleeding, or we may need to stop the surgery. In very rare cases, a blood transfusion may be required. If a transfusion is needed, risks include a blood reaction and the potential for diseases carried in the blood.

Anesthesia risks

Functional endoscopic sinus surgery is performed under general anesthesia. Our anesthesiologist will talk to you about the risks and benefits of anesthesia before your surgery.

Swelling and bruising

You may experience temporary swelling or bruising around the eye(s) after surgery. Tears may run from the eye(s) for a few days as well. This is usually temporary but in rare cases may continue. If the condition continues, we can usually correct it with a minor surgery.

Risks to the eyes, brain, and your sense of smell

Because the sinuses are close to the eyes and brain, sinus operations also include risks to these structures, but the risk is very low and injury to these structures is **extremely rare**. These risks include double vision or loss of vision as well as brain injury or leakage of spinal fluid from around the brain, which can lead to a brain infection called **meningitis**. If you were to experience spinal

fluid leakage, you would have an additional hospital stay, and you would likely need another operation to close the leak.

Sinus surgery, in rare cases, can also cause loss of smell.

Septoplasty risks

In some cases, we need to straighten the nasal septum to access the sinuses or to improve breathing through the nose. This procedure, called a **septoplasty**, carries with it the risk of a **septal perforation** (a permanent hole in the septum). In rare cases, septoplasty can change how the nose looks or cause permanent numbness of the top front teeth.

Lack of improvement

With all surgery, there is a risk that you will not see improvement in your condition, or that you may experience a worsening of your underlying condition and will need a repeat surgery.

When should I call the doctor?

Call your doctor right away if you develop any of the following symptoms:

- Severe headache with nausea, vomiting, or unusual change in behavior
- Visual sensitivity to light
- Fever higher than 100.6 degrees Fahrenheit
- Diarrhea
- Clear, watery discharge from your nose
- Any change in vision, including blurring or double vision
- Swelling or bruising around the eyes
- Stiff neck with fever
- New rashes

What is the contact information?

- Monday - Friday, 8:00 a.m. - 5:00 p.m.:
 - Call us at (734) 936-8051.
- After hours, on weekends, or on holidays:
 - Call (734) 936-6267 and ask for the Otolaryngology (ENT) resident on call for your surgeon.

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