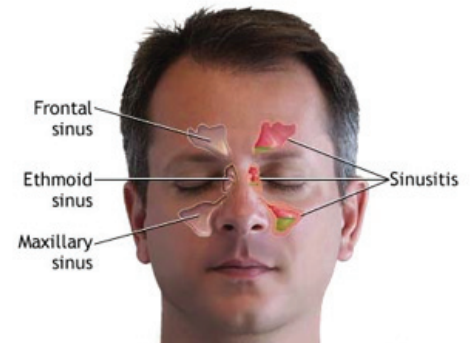




Sinusitis (Sinus Surgery)

The paranasal sinuses are a series of chambers or caverns that surround the nose. Each sinus communicates to the nose through a narrow passage or series of passages. The sinuses and the nose share a similar lining called mucosa. This pink membrane covers the entire system and consists of structural cells, mucous producing cells, and hair cells called cilia.

The cilia beat back and forth in a consistent pattern which moves the mucous from the sinus to the nose and down the back of the throat where it is swallowed. The purpose of this “mucous blanket” is to humidify, clean, and warm the air that we breathe. Healthy sinuses depend on unobstructed flow of this mucous.



WHAT CAN GO WRONG?

Sinus trouble starts with blockage of one or several of the crucial passageways connecting the sinus to the nasal chamber. Such obstruction can be caused by any condition that causes stuffy nose: common colds, allergies, or other nasal irritations. Structural abnormalities can predispose the sinuses to the obstruction. The first symptom can be pain and pressure associated with a stuffy nose. Clear nasal discharge is a sign that a bacterial infection has not yet taken place. Prolonged obstruction blocks the flow of the secretions. The protein-rich fluid incubated in the closed sinus invites the growth of bacteria. In addition to the pain and nasal stuffiness, the patient may now begin to notice fever and other signs of illness. The nasal secretions turn thick and yellow or green as bacteria and pus now fill the sinuses. The infection leads to further swelling which encourages the spread to other sinuses.

SYMPTOMS

The classic sinus infection starts with a cold or allergy attack which follows a normal course for a few days. Around the fourth or fifth day, the cold may be improving, but suddenly the secretions turn thick and yellow; the patient begins to feel worse and a fever may appear. There are many variations to this picture. Sometimes sinus disease develops slowly and never reaches the phase of acute illness. Patients may be bothered by thick post nasal drip or bad breath from the flow of pus down the back of the throat. Long term allergy can lead to polyp formation within the nose or sinuses and the polyps can swell to cause obstruction.

COMPLICATIONS

Most sinus infections are self limiting and may clear spontaneously. Thick drainage beyond a few days usually requires an antibiotic. The position of the sinuses, in close proximity to the eye and related structures, and the brain and spinal fluid account for the rare complications that make treatment of infections necessary.

CONSERVATIVE MANAGEMENT

The prime goal of treating sinus infections is to restore the normal drainage patterns to allow the sinus to clean itself.

MEDICATIONS

Often include antibiotics to kill the germs. These drugs can break the cycle of swelling leading to infection which leads to more swelling. In many cases, the antibiotic alone is enough to allow nature to restore the natural drainage.

Decongestant medications, in sprays or pill form, help to reduce swelling. Antihistamines, or allergy medications, usually are not much use in an acute sinus infections and may sometimes prolong the infection because of the drying effect they have on secretions.

HOME CARE

The goal is to thin and humidify nasal mucous. Drinking a lot of fluids keeps secretions from becoming too thick. Inhaling steam or humidified air reduces swelling and thins mucous. Saline solution, made by mixing a quarter teaspoon of salt in a cup of warm water, makes an excellent nose drop or rinsing solution that can be sniffed or instilled into the nose. You can buy saline in a nasal spray under brand names of Ocean or Ayr, among others. The use of an over-the-counter decongestant (like Sudafed® or generic pseudoephedrine) and saline rinses at the first sign of a cold is a good way to prevent the progression to sinusitis.

OFFICE DRAINAGE

Depending on which and how many sinuses are infected, we will often use drainage procedures in the office to speed the resolution of difficult cases. Flushing or special drainage procedures are ways of clearing the obstruction from infected sinuses and also offer a guideline of whether antibiotics are necessary.



SURGERY

When the above measures are not sufficient to clear the problem, the possibility of an obstruction requiring surgical therapy should be considered. The first step in assessment is a careful history, looking for some of the signs and symptoms described above. The next step is a careful ear, nose, and throat exam, looking for signs of blockage or abnormal drainage from the sinuses. This may include an exam with an endoscope, a small telescope that allows a detailed exam of nasal structures.

If there is reason to suspect a problem, the prime diagnostic tool is an x-ray called a CT scan. This computerized x-ray produces a series of cross section views that detail the crucial areas of sinus drainage. If obstruction is found in a patient in whom conservative therapy has been ineffective, consideration is given to endoscopic sinus surgery.

WHAT IS ENDOSCOPIC SINUS SURGERY?

The endoscope is a surgical tool that allows access to body cavities without the need for large incisions. The natural openings between the nose and sinuses are concealed under protective hoods, called turbinates. An endoscope passed through the nostril is used to approach and correct blockages in these narrow passages.

THE PROCEDURE

On the day prior to the operation, a visit is scheduled at the office. Here a physical exam will be performed and all final questions will be answered. Routine laboratory tests and registration at the hospital also take place at that time. Some conditions may require the use of antibiotics or other medications as preparation for surgery.

The surgery takes place in an outpatient hospital setting, usually under a general anesthetic. A series of endoscopes are used along with precision instruments to remove diseased tissue and bone to enlarge natural sinus drainage channels. Associated conditions, such as a deviated nasal septum or nasal polyps can be treated at the same time. Extensive polyps in the nose and sinuses might require special imaging systems in the operating room. Depending on the extent of the disease, the operation lasts between one and two hours. After surgery, packing is placed to stop the bleeding. Patients are taken to a recovery room and when fully awake can be taken home.

CARE AFTER SURGERY

The patient needs to be driven home from the outpatient surgery center. There will be a small gauze pad taped under the nose to catch bloody drainage. Expect to change the pad when it saturates which can be several times overnight. Pain pills will be prescribed and minor headaches can be managed with Tylenol®. There are no restrictions on diet and it is best to rest with the head elevated on a couple of pillows. Swelling around the eyes happens rarely and will respond well to ice packs. An appointment will be made a day or so after surgery to remove the packing.

HOME CARE

After packs have been removed, the main goal of home care is to keep the nose well humidified. Dried blood and other secretions contribute to nasal discomfort and slow the healing process. The saline solution described above can be sprayed, sniffed, or dropped into the nose several times a day, and a Vaseline based antibiotic ointment should be used at least three times a day. A bulb syringe, available at drugstores, can be used with the saline solution to gently rinse the nose.

OFFICE DRAINAGE

After the packs have been removed, appointments will be made for periodic endoscopic office exams and cleaning of the nose and sinuses. This will be done under sprayed anesthetic and are only mildly uncomfortable. Good home care, as detailed above, minimizes the need for extensive cleaning in the office. Care continues until all tissues are healed, usually a few weeks after surgery.

COMPLICATIONS

Any nasal surgery carries the risk of bleeding and this occurs in a small percentage of endoscopic surgeries. To reduce this risk, the patient should avoid the use of aspirin or products containing aspirin. Any history of bleeding problems in the patient or the family should be brought to our attention before surgery. After surgery, a week of recuperation, usually off work, should be planned. No exercise, lifting or bending, or other activities that could raise blood pressure are allowed.

Because of the location of the sinuses, injury to the eye or injury to the structures surrounding the brain is possible. Spread of infection or bleeding into these structures could lead to further problems. Fortunately the precision that the endoscopes provide makes such complications rare.

LONG TERM RESULTS

Improving the drainage system of the sinuses cannot guarantee that further infections will not occur but successful surgery will reduce the risk of such infections. Within a few weeks of the operation, the sinuses should drain better. The improvement in the shape of the drain sites should be permanent, though the need to control such conditions as allergy and polyps will continue.