

ENDOSCOPIC SINUS SURGERY

Marc Dubin, MD
Jivianne Lee, MD
Troy D Woodard, MD
Sarah K Wise, MD

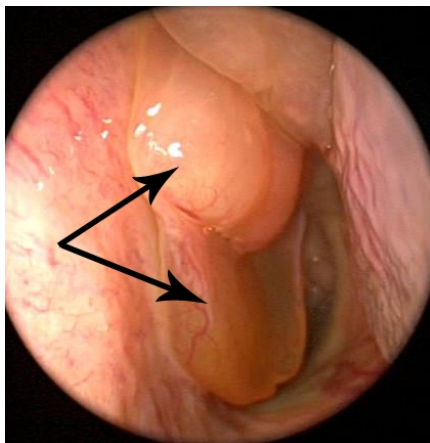
INTRODUCTION

Sinus surgery has truly evolved in the last several years. This procedure was once performed through external incisions (incisions on the face and in the mouth), required extensive nasal packing, caused significant patient discomfort, and was often followed by a lengthy recovery. With recent advances in technology, including the nasal endoscope, this procedure is now commonly performed without incisions and entirely through the nose. The nasal endoscope is a small lighted metal telescope placed into the nostril, which allows the surgeon to visualize the nose and sinuses. In current practice, endoscopic sinus surgery usually requires minimal nasal packing and is associated with relatively mild pain and short recovery times.



WHAT ARE THE INDICATIONS FOR SINUS SURGERY?

The most common indication for endoscopic sinus surgery is “chronic rhinosinusitis”. Chronic rhinosinusitis is a term applied to various nasal processes which involve inflammation of the nose and sinuses that do not adequately improve with medical management.



Less common indications include (but are not limited to): recurrent infections (rather than chronic inflammation), complications of sinus infections, nasal polyps (See Figure, black arrows), mucocoeles, chronic sinus headaches, impaired sense of smell, tumors of the nasal and sinus cavities, cerebrospinal fluid leaks, nasolacrimal duct obstruction, choanal atresia, and the need to decompress the orbit. Additionally, recent advances in endoscopic techniques allow your sinus surgeon to provide access to areas of the brain and pituitary gland for neurosurgeons, or to the orbits (eye sockets) for certain ophthalmology procedures.

WHAT THERAPIES SHOULD BE ATTEMPTED PRIOR TO SINUS SURGERY?

Prior to undergoing endoscopic sinus surgery, patients should talk with their physicians to make sure that all reasonable medical options have been exhausted.

This list of medications that have been recommended for the treatment of sinusitis is quite long. They include both prescription and hundreds of over the counter treatments located at your local pharmacy. For acute sinusitis (an infection that typically occurs after a cold and lasts less than four weeks), antibiotics are the main treatment. In addition, nasal saline irrigations or spray are another treatment with little risk and may be added to an antibiotic regimen. While nasal decongestant sprays (pseudophedrine or oxymetazoline) can be used to improve nasal stuffiness, they should not be used longer than three days, as there is a risk of developing dependence and experiencing rebound stuffiness. In addition, people that have high blood pressure, glaucoma, urinary retention, heart disease, and heart beat irregularities should consult their doctor

before using medicines because they can exacerbate these illnesses.

As an infection progresses beyond four weeks to become a more chronic illness, treatments may change. Antibiotics that cover more types of bacteria may be utilized for longer than the typical 10-14 days. Steroid sprays to decrease inflammation and oral steroids (i.e. prednisone) may also be used. If sinus infections progress longer than four weeks, your physician may order a CT (cat) scan of your sinuses and obtain a culture of nasal mucus to help choose the appropriate antibiotic.

Allergy medications (antihistamines, nasal steroids, nasal antihistamine sprays, allergy shots) have a role in treating allergy, which is one of the major causes of nasal swelling. If someone does not have allergies, these treatments are of little benefit (with the possible exception of nasal steroids).

WHAT ARE THE BENEFITS OF ENDOSCOPIC SINUS SURGERY?

If medical options have been unsuccessful in managing your symptoms, endoscopic sinus surgery may have tangible benefits. The overall goal of sinus surgery is to improve the drainage pathway of the sinuses. By opening the natural drainage pathway of the diseased sinus, the frequency, duration and severity of infections should be reduced.

Although there are patients who have mechanical obstruction due to their particular anatomy, many patients have an intrinsic problem with the lining (mucous membrane) of their nose and sinuses. While the patients with mechanical obstruction, will receive the maximal benefit from surgery (i.e. fixing the plumbing problem), the benefit for patients with mucous membrane disease is also tangible because the larger opening created during surgery will allow better drainage and more medication and rinses to get into the sinuses and help treat the diseased lining.

One of the most important benefits of surgery is the ability to deliver medications (e.g. sprays, rinses, nebulized drugs) to the lining of your sinuses after they have been opened. Therefore, surgery is an adjunct to, not a replacement for, proper medical management.

It is important to note, however, that if you are one of the patients who have diseased mucous membranes or form nasal polyps, no amount of surgery can change this fact. So although surgery plays a role in managing the disease, it may not cure sinus disease with polyps or other types of chronic inflammation. Therefore, It should be emphasized that surgery is not a cure for sinusitis but is one of the multiple steps in managing your disease.

DOES ANYTHING NEED TO BE DONE IN PREPARATION FOR MY SINUS SURGERY?

It is generally recommended that patients avoid any medications that may exacerbate bleeding, such as aspirin and ibuprofen products. In addition, certain vitamins, herbal remedies, and spices including vitamin E, garlic, ginger, ginkgo, and ginseng may increase your bleeding risk. Some patients may be asked to take antibiotics and/or steroids (i.e. prednisone) to decrease some of the swelling. This will vary greatly from patient to patient and surgeon to surgeon, so if you have any questions about which medications you should or should not take, you must ask your surgeon.

HOW IS ENDOSCOPIC SINUS SURGERY PERFORMED?

Endoscopic sinus surgery may be performed under local or general anesthesia. The procedure involves the use of a small telescope (nasal endoscope) that is inserted into the nasal cavity through the nostril to visualize your nose and sinuses. The goal of the surgery is to identify the narrow channels that connect the paranasal sinuses to the nasal cavity, enlarge these areas and improve the drainage from the sinuses into the nose.

Most people have four sinuses on each side of their face, for a total of eight sinuses. These are the maxillary, ethmoid, sphenoid and frontal sinuses. The maxillary sinuses are in your cheek, the ethmoids are between your eyes, the sphenoid sinuses are almost exactly in the center of your head, and the frontal sinuses are in your forehead. It is possible that you may not have all of these sinuses due to developmental differences from



person to person, or they may have already been opened by previous procedures.

Sinusitis may affect some or all of your sinuses. Your symptoms, endoscopic exam, and CT scan will determine which sinuses need to be opened.

Sometimes sinus surgery may require simultaneous repair of the nasal septum, which divides the two sides of the nose, or the turbinates, which filter and humidify air inside of the nose. Additional information about surgery of the nasal septum and turbinates is provided in other sections of this website.

WHAT IS THE RECOVERY AFTER ENDOSCOPIC SINUS SURGERY?

The use of nasal packing will depend on the extent of surgery and the preference of your surgeon. The recovery period will also vary depending on the extent of surgery but postoperative discomfort, congestion, and drainage should significantly improve after the first few postoperative days, with mild symptoms sometimes lingering several weeks after the surgery.

HOW ARE THE RESULTS OF ENDOSCOPIC SINUS SURGERY?

Endoscopic sinus surgery generally yields excellent results, and significant symptomatic improvement is achieved in the vast majority of patients.

WHAT IS "SINUPLASTY" (OR BALLOON SINUPLASTY)?

"Sinuplasty" refers to a procedure, or specifically a surgical device that was developed by a specific device manufacturer. This device is similar to balloon angioplasty, the technology that expands the vessels in someone's heart. These balloons are advanced into the opening of a patient's sinuses and are expanded to open the narrowed channels. Sinuplasty may also be used in conjunction with more traditional endoscopic sinus surgery techniques.

Like all medical advances, the information in the popular press may not reflect reality. Although useful, this new technology is not for everyone, and in many cases is not a substitute for standard techniques. However, in some people it is a technique that may decrease recovery time. Only with a thorough examination, in conjunction with a CT scan, can this be determined by your surgeon.

WHAT ARE THE POTENTIAL COMPLICATIONS OF SINUS SURGERY?

Adverse events are rare but may include postoperative bleeding, orbital (visual or eye) complications, complications from the general anesthetic, cerebrospinal fluid leaks and intracranial complications such as meningitis. However, it is important to realize that chronic sinus infections are located directly beneath the skull base and adjacent to the eye and the failure to treat this problem without surgery may lead to dire consequences, such as involvement of the eye or brain.

See [Complications of Nasal & Sinus Surgery](#).

WHAT ARE THE ALTERNATIVES?

Continuing medical therapy alone and avoiding surgery is always an alternative. Medical therapy is chiefly antibiotics and/or steroids along with other medications. As with any surgery, you should feel more than comfortable seeking a second opinion from another surgeon.

WHAT IS ENDOSCOPIC SKULL BASE SURGERY?

Over the course of the last five to ten years, lesions that involve the areas of the skull base and brain that are adjacent to the nose and sinuses have been removed via the nostril, without facial incisions. Using cameras and video equipment similar to that utilized for sinus surgery, these tumors can be removed without facial incisions. Because this technique may be significantly less painful, requires less traction on the brain and necessitates a shorter hospital stay it is an attractive option for some patients and tumors. It must be emphasized that this technique is not for all patients or tumors, however.



Revised 4/2012
©American Rhinologic Society

© 2011 American Rhinologic Society
All Rights Reserved