

Endonasal Endoscopic Approach to Anterior Skull Base/Pituitary

What is an Endonasal Endoscopic Approach to the Anterior Skull Base/Pituitary?

The nasal telescope has greatly changed the evaluation and treatment of pituitary and anterior skull base tumors. This instrument, which provides a view of the structures in the nose and sinuses, is used both in the operating room and in the office.

The nasal telescope also us to open the sinus cavities in order to reach the interface between the nose/sinuses and the brain. These procedures are performed without facial incisions. Sophisticated instruments permit us to perform endoscopic procedures that can reach certain areas of the brain or the skull base for tumor removal or to repair defects in these regions. Because these approaches are minimally invasive, there is often less removal of normal tissue, healing is quicker, and outcomes are better.

Recovery after surgery is often faster than anticipated. Your surgery likely will require you to stay in the hospital for a few days and your otolaryngologist (ENT) or your neurosurgeon will discuss this with you.

How do I prepare for surgery?

All patients need to have a relatively recent CT and/or MRI scan before surgery. In some instances, CT scans performed at other institutions may need to be repeated because we might need more detail on the images.

Depending on your overall health, routine preoperative testing may include blood work, EKG and CXR. Additional testing may be necessary. If testing is performed at another institution, we will need the results here for inclusion in your medical record.

Typically, you will have a preoperative visit shortly before your planned surgery. Pre-operative studies may be scheduled for this day.

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.

Also remember:

- If you are on aspirin, warfarin (Coumadin), anti-platelet drugs (clopidogrel, or Plavix, plus many others) and/or any other blood thinner, be sure to discuss this with your surgeon, who will coordinate with your other physicians to make sure it is safe for you to stop these medications before surgery.
- Stop vitamin E supplements as well as herbal remedies 1 week prior to surgery, since these are associated with an increased risk of bleeding.
- If possible, do not smoke for at least 2-3 weeks prior to surgery. Smoking increases the risks of anesthesia, and it may increase the risk of failure of the sinus surgery.

- Do not eat or drink anything after midnight before surgery. If you are taking medications, ask if these can be taken on the morning of surgery. Finally, it is important to schedule your post-operative visits before surgery. These visits are an important part of the surgical plan.

What will happen during surgery?

Most skull base surgery is performed under general anesthesia.

The surgery will only begin after the anesthesiologist administers the anesthetic drugs. Your surgeon will proceed as discussed in the office. Of course, 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 many instances, resorbable material, which helps control bleeding and acts as dressing, may be placed in the sinuses.

In some cases, it may be necessary to repair the nasal septum at the time of sinus surgery. Similarly, surgical reduction of the inferior turbinates may also be performed. Septal surgery and turbinate reduction will be reviewed with you before surgery if your surgeon feels that these may be necessary.

What can I expect after skull base surgery?

Some bloody 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 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 saline sprays, oral antibiotics, and pain medicine.

In addition, routine post-operative office visits are necessary. During these visits, the surgical cavity is cleaned and inspected. Residual debris and packing is evacuated and early scar tissue may be removed.

Although complications from the manipulations performed during the post-operative visits are very rare, the theoretical risks are the same as the surgery itself.

Consent for surgery includes consent for post-operative care, since the surgery and post-operative care are so closely related.

What are the risks of endoscopic skull base surgery?

Bleeding. 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.

Department of Otolaryngology –
Head and Neck Surgery

Division of Rhinology

Kentucky Clinic
Third Floor, Wing C
740 S. Limestone
Lexington, KY 40536
P (859) 257-5405
F (859) 257-4644

Brett Comer, MD
Associate Professor
Residency Program Director

Alok Saini, MD
Assistant Professor

Infection. Any surgical procedure carries the risk of post-operative infection. If an infection develops after surgery, antibiotics will be initiated based upon cultures.

Visual Problems. Although extremely rare, there are occasional reports of visual loss after endoscopic endonasal 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. However, more typically, patients with pituitary tumors may have vision loss, and we hope to halt the progression of vision loss and perhaps improve vision.

Cerebrospinal Fluid (CSF) Leak. All operations on the skull carry a chance of developing a 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 complication occurs, it will need to be repaired. Your otolaryngologist or neurosurgeon will discuss the reconstructive techniques with you which may include using dural substitutes, tissue from your nose, tissue from your leg, or tissue from your belly to repair the defect.

Decreased Sense of Smell. Permanent loss or decrease in the sense of smell can occur following any nasal, sinus, or skull base surgery.

Anesthesia Risks. General anesthesia is associated with occasional but possibly serious risks. Adverse reactions to general anesthesia should be further discussed with the anesthesiologist.

Other Risks. Tearing of the eye 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 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.

Septoplasty Risks. If septoplasty (surgical correction of a deviated septum) 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 post-operatively 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 CSF leak.