

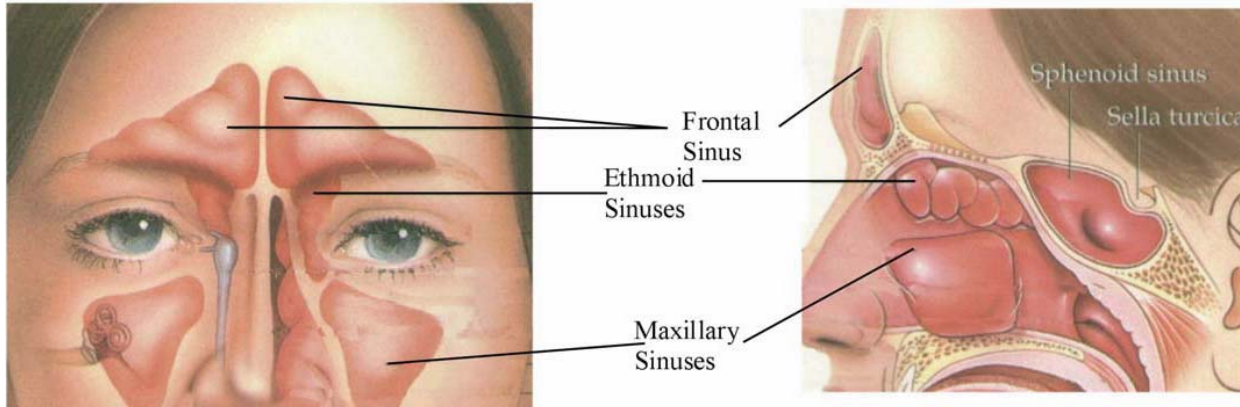
# Arizona Sinus Center

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[www.arizonasinus.com](http://www.arizonasinus.com)

## Post-operative Instructions Following: Endoscopic CSF Leak Repair/ Endoscopic Anterior Skull Base Surgery



### BACKGROUND:

#### Endoscopic Anterior Skull Base Surgery

**Cerebrospinal fluid (CSF) leak:** Extravasation of the fluid normally contained in the ventricles of the brain, the subarachnoid space and the central canal of the spinal cord through a hole in the lining of the brain or spinal cord (meninges). Within the realm of rhinology and endoscopic sinus surgery, CSF leak generally refers to watery, clear nasal drainage coming through a defect of the cranial base and meninges associated with the frontal, ethmoid or sphenoid sinuses. Likewise, a rhinologist-endoscopic sinus surgeon encounters meningoencephaloceles protruding through cranial defects in the frontal, ethmoid and sphenoid sinuses.

**Meningoencephalocele:** Protrusion of the brain and its lining (meninges) through a hole in the cranium.

**Meningocele:** Protrusion of the lining of the brain (meninges) and cerebrospinal fluid through a hole in the cranium.

Two decades ago, cerebrospinal fluid (CSF) leaks, meningoencephaloceles and skull base tumors involving the paranasal sinuses or nasal cavity were managed through external (scalp) incisions and craniotomies (opening the skull by removing bone). The introduction of nasal endoscopes and specialized endoscopic sinus instrumentation allows resection or repair of many anterior skull base lesions through the nose. The endoscopic approach affords decreased patient discomfort, shorter hospitalization and, in many cases, increased visualization for the surgeon during the procedure and during post-operative follow-up or surveillance. Treatment of these lesions via an endoscopic approach requires specialized training of the surgeon and operating room staff with respect to designated instruments and computerized surgical navigation. Treatment often requires a team approach, utilizing the skills of a neurosurgeon and rhinologist-sinus surgeon. Additionally, endoscopic resection of skull base malignancies must be carefully considered by a multidisciplinary team (medical oncologist,

radiation oncologist, head and neck surgeon, endoscopic skull base surgeon, neurosurgeon).

## **WHAT TO EXPECT:**

Endoscopic CSF leak repair and endoscopic removal of an anterior skull base lesion are performed under general anesthesia. On most occasions, cartilage, bone and mucous membrane from within your nose are used to form a multi-layer graft and repair defects between the brain and sinus cavities. Very rarely, fascia (dense connective tissue) or fat may be harvested to assist in the repair. Depending on the type of condition you have, a lumbar drain (catheter placed into the lumbar spine to drain cerebrospinal fluid) may also be placed at the time of surgery. You will be observed in the hospital following your procedure. If lumbar drainage is not required, you may be discharged home the day following surgery. If a lumbar drain has been placed, a few days of hospitalization are often required. Your doctor will see you each day of your hospitalization to ensure you are healing appropriately. The neurosurgery team may also see you to ensure the lumbar drain is functioning properly.

Nasal congestion and very slow oozing of blood from the nose and into the throat are common in the first few post-operative days. Dissolving foam or gel dressings are placed in the sinuses to support the graft and seal the leak of CSF. On rare occasion, nasal sponge packing may be placed to control bleeding or provide more support to the graft. Both the congestion and oozing are minimized by keeping the head elevated at least 30 degrees at all times during the first 3 days following surgery.

## **ACTIVITY PRECAUTIONS:**

Until cleared by your doctor.....

**Do not blow your nose**

**Do not occlude your nose during sneezing (ie. you should try to sneeze with your mouth open)**

**Do not lift any heavy object (heavier than a phone book) or perform strenuous physical exercise**

You should plan for 1 week away from work. If your job requires manual labor, lifting or straining then you should be limited to light duty until the 4 week mark. Walking and other light activities are encouraged after the first 24 hours unless a lumbar drain is in place.

## **Diet:**

You may have liquids by mouth once you have awakened from anesthesia. If you tolerate the liquids without significant nausea or vomiting then you may take solid foods without restrictions. If nausea is persistent, an anti-emetic medication may be prescribed for you. Some patients experience a mild sore throat for 1-2 days following the procedure. This usually does not interfere with swallowing.

## **Pain control:**

Generally, patients report mild-moderate headache and nasal pain a few to several days following endoscopic CSF leak/skull base repair. This is usually well controlled with prescription strength oral pain medications (Vicodin, Tylenol #3, Ultracet). Please take the pain medication prescribed by your surgeon when needed. You should avoid non-steroidal anti-inflammatory drugs (NSAIDS) such as aspirin, ibuprofen, naproxen (Excedrin, Motrin, Naprosyn, Advil) because these drugs are mild blood thinners and will increase your chances of having post-operative bleeding. Please contact our office (602) 258-9859 if your pain is not controlled with your prescription pain medication.

## **Nasal care following the surgery:**

A nasal drip pad may be worn for the first 24 hours following the procedure to prevent blood tinged secretions from running out of the nose. You will be instructed by your nurse on how to apply and change this dressing. Hot steam showers as needed are very helpful in relieving nasal congestion and crusting (if a lumbar drain has been placed, ask your surgeon when you may shower). Sleep with your head elevated for the first 3 post-operative days; this will minimize pain and congestion. You may use pillows to do this or sleep in a reclining chair.

On the fifth post-operative day begin spraying your nose 4 times daily with over-the-counter saline solution (Ocean, Deep Sea, or store brand saline nasal sprays). Apply 3 sprays to each nostril 4 times daily. Your doctor will see you in the office approximately one week after surgery and perform a gentle cleaning to remove some of the dissolving foam and blood clots within the nose and sinuses. This cleaning usually provides patients relief from congestion. You will be further instructed on nasal care at that time. Saline rinses or additional cleaning may be required in the following weeks.

Your surgeon may have you spray your nose with decongestant spray (oxymetazoline or neosynepherine) for persistent nasal congestion and oozing. Soaking a cotton ball with oxymetazoline or neosynepherine spray, stuffing it into the front of the nasal cavity and pinching the nostrils together for 10 minutes is often effective in halting troublesome bleeding during the first few days. Do not use the decongestant spray for longer than 3 days.

## **Follow-up appointment:**

Your follow up appointment in the office will be 5-8 days following your surgery. This visit should be scheduled prior to your surgery (at the time of your pre-operative visit). If you do not have the appointment made, please contact our office when you arrive home from the surgery center.

## **Please call our office immediately if you experience:**

- \*Persistent drainage of watery fluid from the nose in the absence of recent saline application**
- \*Brisk nose bleeding which won't stop with the oxymetazoline soaked cotton ball and 10 minutes of pressure (see Nasal care following surgery)**
- \*Fever greater than 101 degrees Fahrenheit**
- \*Severe headache, neck stiffness, persistent vomiting or intolerance of bright light**

**Office: (602) 258-9859 (on-call Dr. is available at all times)**

**If the Dr. does not return your call in 15 minutes, please proceed to your nearest emergency room. Call 911 for severe bleeding or difficulty breathing.**

**Website for office location, map and more patient information:**

**[www.arizonasinus.com](http://www.arizonasinus.com)**