

# SEPTOPLASTY & TURBINATE SURGERY

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## INTRODUCTION

Nasal obstruction is a fairly common problem. Patients with nasal obstruction have trouble breathing through their nose. This can force them to breathe through their mouth, leading to a sensation of a dry mouth. In many patients, these symptoms get worse at night when they are lying flat. This can cause them to have less restful sleep.

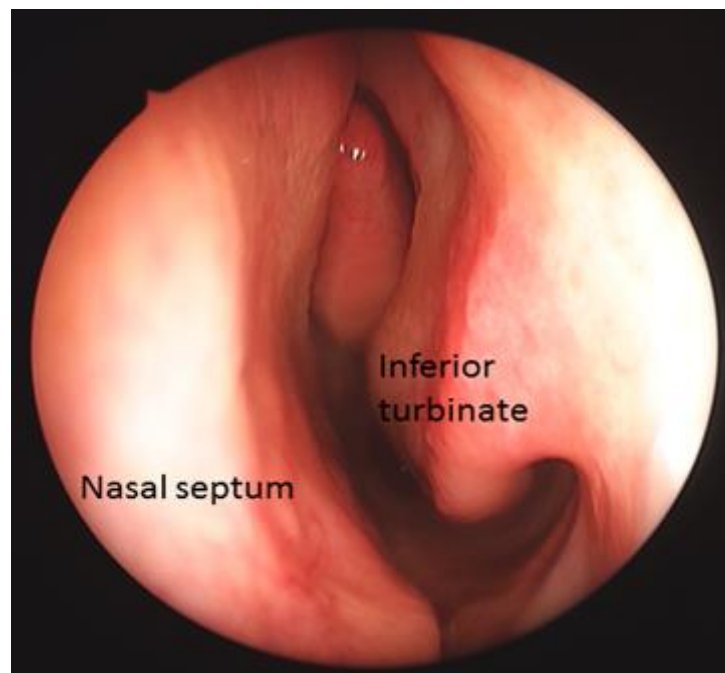
## NASAL OBSTRUCTION

Nasal obstruction can be caused by a number of problems. For example, things like allergies can cause nasal obstruction. Another very common cause of nasal obstruction is narrow nasal passages. Often, narrow nasal passages are the result of problems with the nasal septum and turbinates.

The nasal septum and the turbinates are normal parts of the nose. The nasal septum is the structure that divides your nasal passages into the right and left sides. A deviated septum refers to a septum that is crooked.

The turbinates are also inside the nose, near the septum. There is usually space between the septum and turbinates to allow air to pass through the nose. The turbinates can cause nasal obstruction if they are too large. There are several different types of turbinates in the nose. The ones that most commonly affect airflow are called the inferior turbinates.

The picture below shows the nasal septum and the inferior turbinate on the left side of the nose.

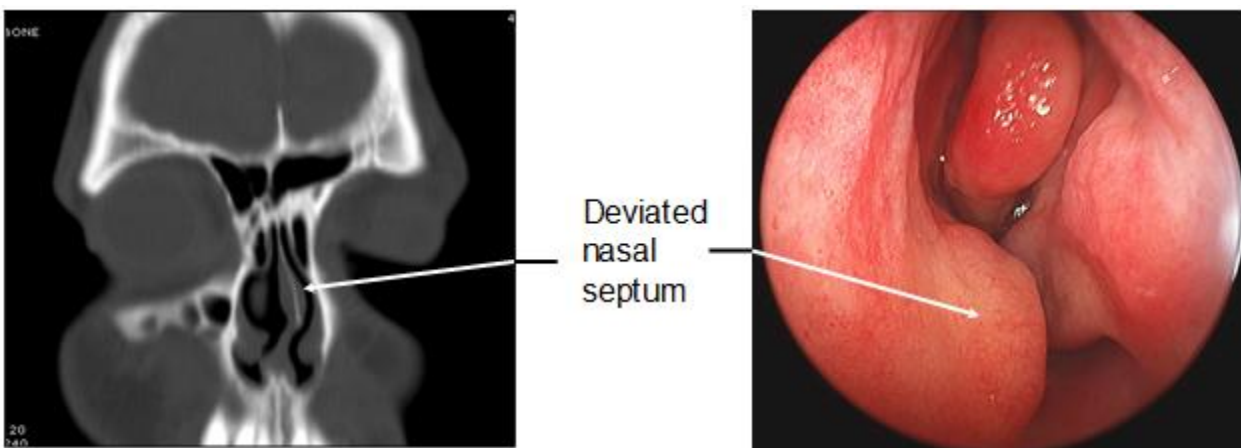


## NASAL SEPTUM

The septum is made of cartilage and bone. The cartilage and bone of the septum are lined by a thin membrane called mucosa. This layer acts like a layer of skin for the inside of the nose. This layer covers and protects the cartilage and bone. It also helps to keep the inside of the nose moist.

When the septum is deviated, one or both sides of the nose can become blocked. In these instances, surgery can help correct the deviation and improve airflow.

The CT scan and picture of the nose shown below demonstrate show examples of a deviated nasal septum. Both of these images point to a deviated nasal septum on the left side of the nose.



## DIAGNOSIS

The diagnosis of a deviated septum can be made by your doctor. Your doctor will perform a thorough evaluation of your symptoms and will examine your nose. You may undergo a procedure in the office called a nasal endoscopy to diagnose the cause of your nasal obstruction. A deviated septum can also be seen on a CT scan, but a scan is often not necessary to diagnose the cause of nasal obstruction.

After making the diagnosis, your doctor can discuss treatment options for you. If you have troublesome symptoms, you may be a candidate for surgery to straighten your septum.

## SURGERY

Surgery to correct a deviated septum is called a septoplasty. Septoplasty is most commonly performed to help relieve nasal obstruction. Sometimes, septoplasty is a necessary part of other surgical procedures like sinus surgery or nasal tumor removal.

During a septoplasty, your surgeon will attempt to straighten the cartilage and bone that have led to the septum being deviated. During the procedure, the lining (the mucosa) is first lifted off the cartilage and bone. The cartilage and bone can then be reshaped. Sometimes, portions of the cartilage and bone need to be removed. The lining is then laid back down.

Because the septal cartilage has 'memory'--it has a tendency to assume its initial shape-- the septal cartilage can sometimes bend after the surgery.

Septoplasty is a procedure that is done in the operating room under anesthesia. The procedure is typically performed under general anesthesia, but your doctor can help you decide if local anesthesia is an option for you. The procedure is typically performed on an outpatient basis. This means that patients come in and go home the same day.

You may have splints or packing inside your nose during the healing process. In some instances, there may be nothing more than dissolving stitches inside your nose. Your surgeon can let you know whether packing or splints will be placed in your nose and how long they will stay in place.

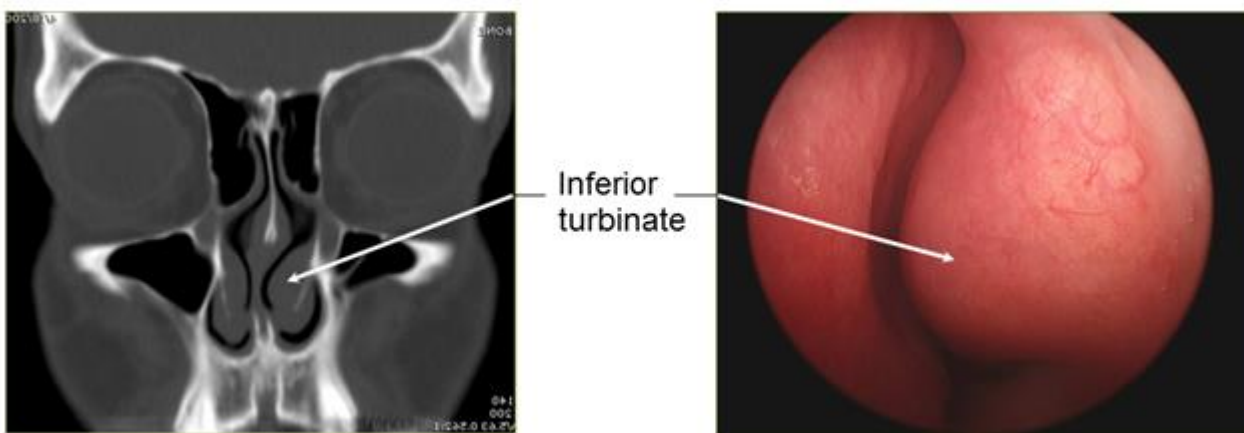
## POST-OPERATIVE CARE

You can expect to have pain, fatigue, nasal stuffiness, and mild nasal drainage after your surgery. Pain is generally mild with this type of surgery and is typically well controlled with oral pain medications. The stuffiness typically results from swelling after the procedure, and typically generally starts to improve after the first week. You may have drainage of some mucus and blood from your nose after surgery. This is a normal part of the healing process.

You may be asked to use saline sprays or irrigations after your surgery. Please check with your surgeon about any post-operative care you will need to perform to allow your nose to heal properly.

## TURBINATES

The turbinates are structures on the side wall of the inside of the nose. They project into the nasal passages as ridges of tissue. The turbinates help warm and moisturize air as it flows through the nose. The inferior turbinates can block nasal airflow when they are enlarged. The pictures below demonstrate how the inferior turbinates can block airflow when they are enlarged and touch the nasal septum.



The turbinates are made of bone and soft tissue. Either the bone or the soft tissue can become enlarged. In most patients, enlargement of the soft tissue part of the turbinate is the major problem when the turbinates become swollen. When the turbinates are large, they are called hypertrophic turbinates.

## DIAGNOSIS

The diagnosis of enlarged inferior turbinates can be made by your doctor with a thorough evaluation of your symptoms and nasal examination. Your doctor may perform a procedure in the office called a nasal endoscopy to diagnose the cause of your nasal obstruction.

After making the diagnosis, your doctor can discuss treatment options for you. If the turbinates are swollen, your doctor may recommend medications for you. For many patients, medications can help reduce the size of the turbinates and can help improve their nasal obstruction. If you have troublesome symptoms even after using medications, you may be a candidate for surgery to shrink the size of your turbinates.

## SURGERY

There are many ways to shrink the size of the turbinates. Surgery is typically called turbinate reduction or turbinate resection. Surgery can be performed either in the office or in the operating room. In many instances, turbinate surgery and septoplasty are performed at the same time.

It is important that the turbinate not be removed completely because that can affect the function of the turbinates. Complete turbinate removal can result in a very dry and crusty nose. Occasionally, turbinate tissue will re-grow after turbinate surgery and the procedure may need to be repeated. This is preferable to the situation of totally removing the turbinate.

You may hear of many different terms being used when it comes to surgery for the turbinates. Examples of these terms

are cauterization, coblation, radiofrequency reduction, microdebrider resection, and partial resection. These all refer to different methods of reducing the size of the turbinates.

Some of these methods shrink the turbinates without removing the turbinate bone or tissue. These methods include cauterization, coblation, and radiofrequency reduction. In each of these methods, a portion of the turbinate is heated up with a special device. Over time, scar tissue forms in the heated portion of turbinate, causing the turbinate to shrink in size.

With some of the other procedures, a portion of the turbinate is removed. It is important that enough of the turbinate be left intact so that the turbinate can warm and humidify the air that is flowing through the nose. A procedure called submucosal resection is a common technique used to treat enlarged turbinates. With this procedure, the lining of the turbinate is left intact, but the “stuffing” from the inside of the turbinate is removed. As the turbinate heals, it will be much smaller than before surgery. Sometimes, this resection can be performed with a device called a microdebrider. This device allows the surgeon to remove the “stuffing” through a small opening in the turbinate. In some instances, more of the turbinate is removed.

In some instances, packing may be placed in your nose during the healing process.

## POST-OPERATIVE CARE

You can expect to have pain, fatigue, nasal stuffiness, and mild nasal drainage after your surgery. Pain is generally mild with this type of surgery and is typically well controlled with pain medications by mouth. The stuffiness typically results from swelling after the procedure, and typically starts to improve after the first week. You may have drainage of some mucus and blood from your nose after surgery. This is a normal part of the healing process.

You may be asked to use saline sprays or irrigations after your surgery. Please check with your surgeon about any post-operative care you will need to perform to allow your nose to heal properly.



## RISKS OF SEPTAL AND TURBINATE SURGERY

As with any surgical procedure, septal and turbinate procedures have associated risks. Although the chance of a complication occurring is very small, it is important that you understand the potential complications and ask your surgeon about any concerns you may have.

- **Bleeding:** Most nasal surgery involves some degree of bleeding, which is generally well tolerated. In very rare situations, significant bleeding may require termination of the procedure. Blood transfusion is rarely necessary and is given only in an emergency. You should stop use of blood thinners such as aspirin, ibuprofen, omega 3 and vitamin E at least a week before surgery. If you require prescription blood thinners, please make sure you discuss this with your surgeon. Your surgeon will provide guidelines on when these medications can be stopped and re-started.
- **Persistent symptoms:** The goal of surgery is to improve the structural problems that are leading to your nasal blockage. A large majority of patients (over 90%) have significant improvement in their nasal obstruction symptoms after surgery. However, many different factors can impact the final outcome, and some patients may have persistent nasal obstruction after surgery. In very rare instances, patients may notice no improvement or worsening of their obstruction symptoms.
- **Infection:** The nose is not a sterile environment, and infection can occur after septal and turbinate surgery. Fortunately, infections after septal and turbinate surgery are rare.
- **Toxic Shock Syndrome:** A very rare infection called “Toxic Shock Syndrome” can also occur, usually when packing is placed, but sometimes when no packing is used. This is a life threatening infection and requires immediate treatment. If you note a change in your blood pressure, heart rate, fever and unusual symptoms of

skin discoloration, please notify your surgeon immediately. The incidence of toxic shock syndrome is thought to be less than one case in one hundred thousand septoplasty procedures.

- **Tooth and nose numbness:** The nerves that go to the gums and front teeth of the upper jaw come through the nose. Surgery on the septum can lead to stretching or injury to these nerves. This can lead to some numbness of the incisors of the upper jaw. In most instances, the numbness is temporary. Similarly, the tip of the nose may be numb after septoplasty. Sometimes, sensation can take weeks or even months to return. Temporary numbness or pain in these teeth postoperatively is common, but it almost always resolves within several months. Rarely, some patients can have persistent numbness of this area.
- **Septal perforation:** A septal perforation is a hole in the nasal septum. This can develop during or after surgery, especially if there is an infection. Sometimes, a perforation can lead to crusting and obstruction. Great care is taken during your procedure to prevent such a complication, but there is still a small risk this may occur. If the perforation does not cause any symptoms such as bleeding or crusting, then nothing further need be done. For symptomatic perforations, surgical closure or placement of a synthetic septal button can be performed.
- **Spinal fluid leak:** Because the top of the nasal septum is located below the skull, there is a rare chance of creating a leak of cerebrospinal fluid (the fluid that surrounds and cushions the brain) or injuring the brain. Should the rare complication of a spinal fluid leak occur, it may create a potential pathway for infection, which could result in meningitis. If a spinal fluid leak were to occur, additional surgery and hospitalization may be necessary. This is an extremely rare problem after septoplasty.
- **Other risks:** Other uncommon risks of surgery include alteration of sense of smell or taste; persistence and/or worsening of facial pain; change in the resonance or quality of the voice; and swelling or bruising of the area around the eye. There is a very small risk of a subtle change in the external appearance of the nose after a septoplasty.

## COMMON QUESTIONS

1. **How can I find out what is causing my nose blockage?** A deviated nasal septum and large turbinates are two of the most common causes of nasal obstruction. However, there are other problems that can cause these same symptoms of stuffiness and difficulty breathing through the nose. For example, problems like polyps can cause nasal blockage. The best way to diagnose the problems that are contributing to your nasal obstruction is to undergo a nasal endoscopy. This is a painless procedure that is performed in our office. A small endoscope is used to visualize the inside of the nasal passages, and this allows your doctor to determine why airflow may be reduced or completely blocked.
2. **What treatments are available for nasal obstruction?** The treatment depends on the cause of the obstruction. For patients who have swollen turbinates, prescription medications like steroid nasal sprays can help to decrease the swelling and improve airflow. Over-the-counter decongestant pills (like Sudafed®) can also help, but using these types of medications over the long term is generally not recommended because the medications can raise your blood pressure. For other patients, things like Breathe Right® nasal strips or Sinus Cones™ can provide temporary relief of nasal obstruction. Some patients may continue to have blockage despite the use of medications and other measures, and these patients may benefit from surgery to correct the problems that are causing the nasal obstruction.
3. **Will my nose be broken during a septoplasty?** When patients undergo septal and turbinate procedures, the surgery is performed on the inside of the nose. Unless you are having a rhinoplasty procedure at the same time, the surgery will not involve the external parts of the nose. So, your nose will not be broken, and any external bruising is very unlikely.

