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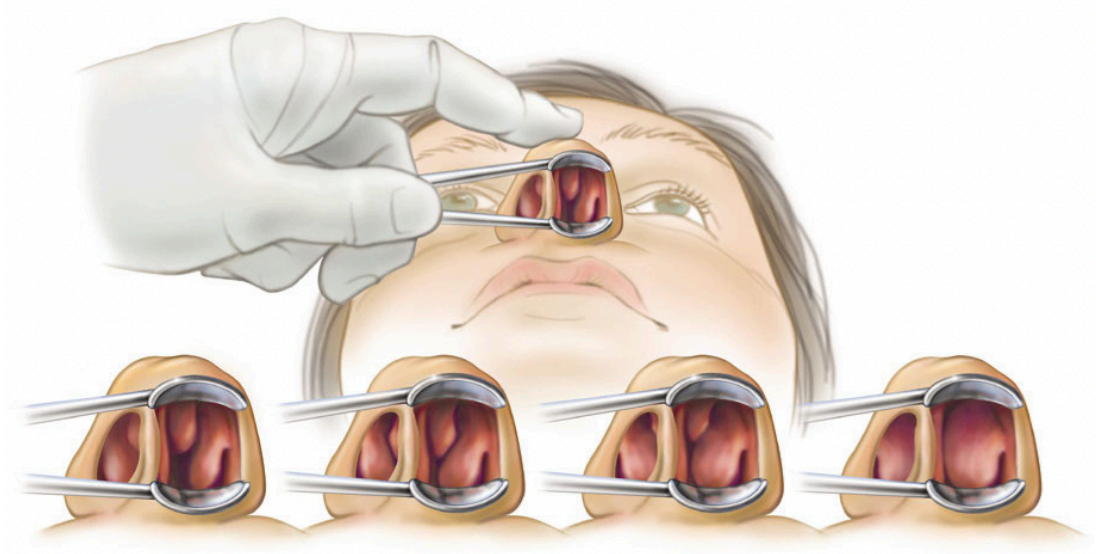
TURBINATE REDUCTION

What are Turbinates?
Nasal breathing is very important and has many health benefits. We all have air filters built into our noses called turbinates on each side of our nasal passages, which are responsible for filtering, humidifying, warming, and directing the air that we breathe in through our nose. The inferior turbinate is a long scroll like structure that fills the lower portion of the nasal airway. Its size will temporarily change dependent on many factors including temperature, humidity and irritants. These structures do us a great service, unless they become so enlarged as to block the air that they should be filtering. When patients constantly feel as if they are congested and stuffy, they may be in need of turbinate reduction to open these nasal airways once again to re-establish normal breathing.

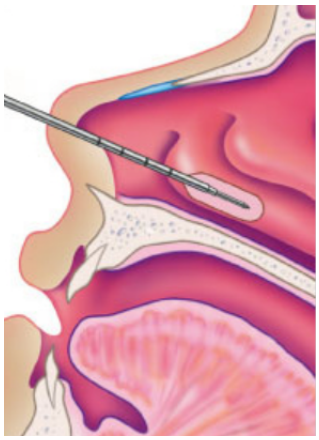
Nasal Turbinate Enlargement
Inferior turbinates may become permanently enlarged and thickened often by chronic inhalant allergic stimulation or a deviated septum. Exposure to infections, nasal decongestant sprays, or irritants like smoke, smog, or chemical fumes could also be to blame. This results in **chronic nasal congestion** and **alternating nasal obstruction** that is refractory to our best treatment with anti-inflammatory topical nasal steroid sprays. Antihistamines and antibiotics are unable to reverse this permanent turbinate thickening and hypertrophy. Even after the underlying problem is addressed, such as adenoid removal, chronic infection, inhalant allergy, or septal deviation correction, often the turbinate enlargement remains. Chronic nasal airway obstruction can be uncomfortable and annoying. Blocked nasal airway passages force one to breathe through the mouth, making simple everyday activities such as eating, speaking, and sleeping more difficult. For children, this can have facial growth and orthodontic consequences. For patients who do not respond to medical treatment with topical nasal steroids, or find compliance with the medical therapy difficult, surgical intervention is indicated.

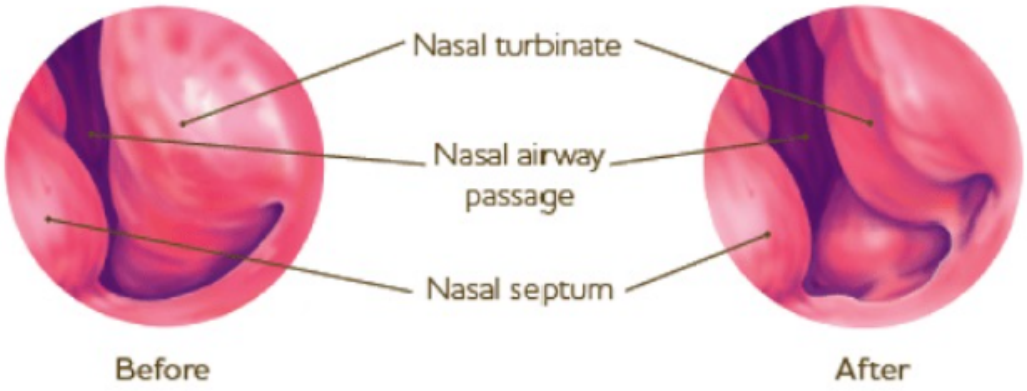


Normal anatomy ——————► Nasal obstruction

Surgical Options for Turbinate Reduction
There are a variety of methods used to reduce the size the inferior turbinates. A **minimally invasive** technique using either radiofrequency or a microdebrider for turbinate volume reduction is the primary method used in our practice. This procedure is performed in the operating room under general anesthesia and will take approximately 5-10 minutes. It does not require any incisions to be made to the nose, and can be performed through the nostrils, using endoscopes. There is no change to the

outward appearance or shape of the nose, only the shape of the turbinates inside. The turbinate is reduced to normal size by placement of a surgical probe within the nasal turbinate through a small poke hole. The thickened, swollen tissue beneath the mucous membrane surface is then vaporized with radiofrequency or removed with the microdebrider. This allows the mucosal layer of the turbinate to be preserved allowing for continued nasal humidification and filtration of the air that passes through the nose. In some cases, depending upon the causes of the blockage, it may be necessary to combine turbinate reduction surgery with other surgical procedures, such as adenoidectomy, tonsillectomy, sinus surgery or septoplasty. If the primary underlying issue is not permanently corrected, after many years the turbinate tissue could enlarge again and need to be repeated.





Risks of Turbinate Reduction

- No surgical procedure is completely risk-free, but the risks associated with turbinate surgery are minimal.
- There is a small risk of a complication occurring due to the general anesthesia or nasal bleeding which would require management using nasal packing.
- If the patient develops any concerning symptoms after surgery, including pauses in breathing, color change of the skin (particularly if the lips, face, or hands are turning blue), appearing lethargic or tired, severe bleeding or any other sudden change from his/ her normal behavior, please seek immediate medical attention.

After the Procedure

- There are no dietary limitations following the surgery. The patient may eat or drink what they want unless other simultaneous procedures require dietary restrictions. Nevertheless, risks of nausea or vomiting after anesthesia may necessitate clear liquids initially.
- Mild discomfort is expected for generally 1-2 days. *Acetaminophen (Tylenol)* or *ibuprofen (Motrin)* is typically appropriate for pain control. Sometimes stronger pain medications may be prescribed for additional pain control. Most patients are feeling back to themselves within one or two days following the surgery if it is an isolated procedure.
- The afternoon and night after the procedure, oozing of blood from the nose is intermittently expected and is usually controlled with over the counter *oxymetazoline (Afrin) nasal spray* use to constrict the blood vessels. When bleeding stops the evening of the procedure or the following day, this spray should be discontinued, and nasal saline spray started to keep the nasal membranes moist while healing. If bleeding does not readily stop or is more than expected, discontinue *ibuprofen (Motrin)*.
- As healing progresses, nasal crusting will slowly diminish until it subsides within 8 weeks of the procedure. Performing nasal saline irrigations will reduce crusting, improve symptoms and speed the healing process.
- Most patients will return to work and children return to school within a day or two following the procedure.
- Limitations in activity is recommended for 1-2 weeks in order to reduce a chance of a nosebleed.
- As the inferior turbinates remodel and the overlying nasal crusting subside over time, the ability to breathe will improve. The maximal benefit is achieved 8 weeks after the procedure, but significant improvement is noticed with weeks.
- Postoperative follow up can usually be performed at the next routine allergy appointment.