

# Surgical Management of Turbinate Hypertrophy

Regan W. Bergmark, MD, Stacey T. Gray, MD\*

## KEYWORDS

• Turbinate hypertrophy • Turbinates • Nasal obstruction • Turbinate reduction

## KEY POINTS

- Inferior turbinate reduction can be accomplished through a variety of techniques, such as submucosal resection, radiofrequency ablation, laser reduction surgery, and partial or complete turbinectomy approaches.
- Inferior turbinate reduction shows positive results in improving nasal obstruction symptoms postoperatively, but efficacy may decrease over time.
- Bleeding and crusting are the most common complications of turbinate surgery.
- Empty nose syndrome is a rare but morbid complication that is generally associated with significant removal of the inferior turbinate.
- High-quality clinical trials comparing techniques and assessing long-term outcomes are largely lacking; more research is needed.

## OVERVIEW AND HISTORICAL PERSPECTIVE

Turbinate surgery for nasal obstruction generally involves reducing the size of the inferior turbinate. Turbinate surgery has been a common otolaryngologic procedure since the late 1800s.<sup>1</sup> Initially, total inferior turbinectomy was advocated. This typically involved medializing the inferior turbinate and using a scissors or blade to fully resect the turbinate. Due to complications, such as bleeding, significant crusting, and atrophic rhinitis, and concerns about nonphysiologic air turbulence, total turbinectomy was largely abandoned. More recently, turbinate reduction procedures have been advocated and a variety of surgical options have been developed.<sup>1</sup>

---

Disclosure Statement: The authors did not receive financial support specifically for this project, but all authors have academic research grant funding for their other work. Dr R.W. Bergmark has research grant funding from the American Board of Medical Specialties Visiting Scholars Program and the Gliklich Healthcare Innovation Scholars Program. Dr S.T. Gray has no disclosures.

Department of Otolaryngology–Head and Neck Surgery, Massachusetts Eye and Ear, 243 Charles Street, Boston, MA 02114, USA

\* Corresponding author.

E-mail address: [Stacey\\_Gray@MEEI.Harvard.edu](mailto:Stacey_Gray@MEEI.Harvard.edu)

Otolaryngol Clin N Am ■ (2018) ■–■  
<https://doi.org/10.1016/j.otc.2018.05.008>

0030-6665/18/© 2018 Elsevier Inc. All rights reserved.

[oto.theclinics.com](http://oto.theclinics.com)

The inferior turbinate is composed of the bony turbinate, the submucosal tissue and the overlying mucosa. Surgical procedures involve resecting, ablating or crushing part, or all, of the turbinate to increase the size of the nasal airway. The appropriate choice of procedure may depend on a patient's anatomy and other concurrent procedures performed (such as septoplasty or septorhinoplasty) as well as the presence or absence of other comorbidities such as allergic rhinitis. A clinical consensus statement from the American Academy of Otolaryngology–Head and Neck Surgery on septoplasty with or without inferior turbinate reduction states that (1) “inferior turbinate hypertrophy can be an independent cause of nasal obstruction in the septoplasty patient” and (2) “inferior turbinoplasty is an effective adjunctive procedure to septoplasty for patients with inferior turbinate hypertrophy.”<sup>2</sup> In regard to patients with inferior turbinate hypertrophy and allergic rhinitis, the American Academy of Otolaryngology Head and Neck Surgery clinical practice guidelines on allergic rhinitis state that “clinicians may offer inferior turbinate reduction in patients with [allergic rhinitis] with nasal airway obstruction and enlarged inferior turbinates who have failed medical management.”<sup>3</sup>

### **EFFICACY AND OUTCOMES MEASUREMENT OF INFERIOR TURBINATE REDUCTION SURGERY**

Efficacy is best evaluated through patient reported outcomes measures. The Nasal Obstruction Symptom Evaluation instrument and visual analog scales are frequently used. Quantitative measures of nasal airflow, resistance, or volume do not necessarily correlate well with patient perception of effectiveness. Importantly, long-term follow-up after turbinate surgery is needed to further quantify surgical effectiveness; unfortunately, long-term outcomes are frequently lacking in the published literature (see Emily Spataro and Sam P. Most's article, “[Measuring Nasal Obstruction Outcomes](#),” in this issue, for more information on measurement of outcomes of turbinate surgery and other nasal obstruction treatment).

### **COMPLICATIONS OF TURBINATE REDUCTION SURGERY**

Major complications of inferior turbinate surgery are rare. Failure of the procedure to resolve nasal obstruction, either in the near term or long term, is the most common issue. Bleeding and crusting are the most frequently described complications. These complications have been reported more frequently with more aggressive techniques that include greater resection of the turbinate or surgery in the more posterior aspect of the turbinate, given the origin of the blood supply posteriorly. Bone necrosis, synechiae, anosmia, and atrophic rhinitis have been described but are rare and generally associated with more aggressive procedures.<sup>1</sup> Empty nose syndrome is a rare complication associated with turbinate surgery and is discussed more thoroughly later.

### **LIMITED RANDOMIZED CONTROLLED TRIALS COMPARING TECHNIQUES**

Randomized clinical trials with robust study design are largely lacking for inferior turbinate surgery despite the use of this technique for more than 120 years. Therefore, the authors are largely unable to draw comparative conclusions about the benefits and drawbacks of specific techniques and thus offer an overview of the different procedures available with some common advantages and drawbacks for each technique. A Cochrane review in 2010 did not find any studies that met inclusion criteria of randomized controlled trials comparing inferior turbinate surgical techniques or comparing inferior turbinate surgery to medical management of turbinate hypertrophy.<sup>4</sup> The

Download English Version:

<https://daneshyari.com/en/article/10221947>

Download Persian Version:

<https://daneshyari.com/article/10221947>

[Daneshyari.com](https://daneshyari.com)