

References

1. Yanez, Carlos. New technique for turbinate reduction in chronic hypertrophic rhinitis, intraturbinate stroma removal using the microdebrider. Operative Techniques in Otolaryngology - Head and Neck Surgery 1998; 9:135-7.
2. Friedman M, Tanyeri H, Lim J, Landsberg R, Caldarelli D, A Safe, alternative technique for inferior turbinate reduction. Laryngoscope 1999; 109: 1834-1837



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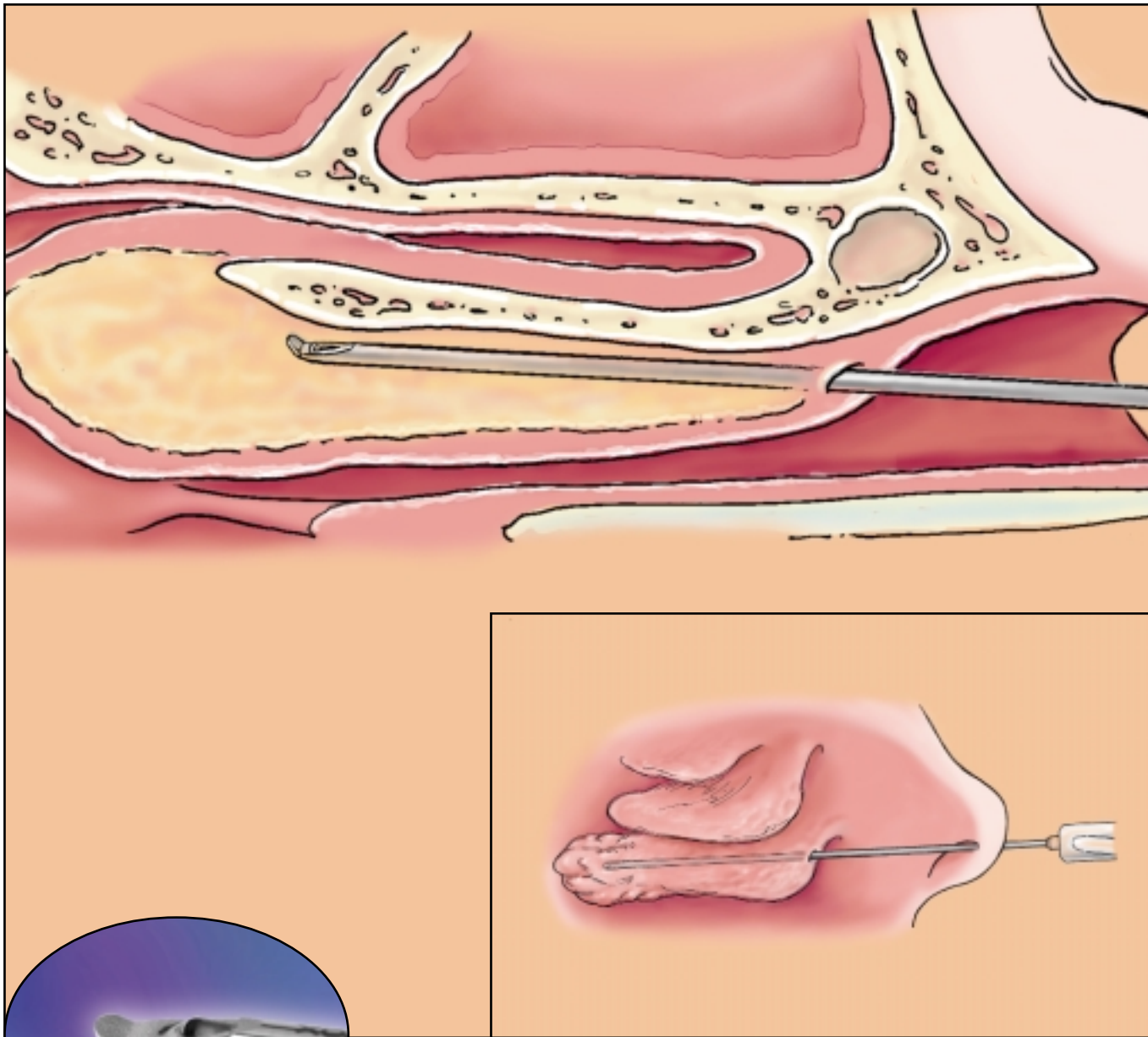


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SURGICAL TECHNIQUE

Inferior Turbinoplasty



*A minimally invasive treatment for inferior turbinate hypertrophy
Presented by Laurence R. O'Halloran, MD FACS*

Surgical technique presented by
Laurence R. O'Halloran, MD FACS

Figure 1

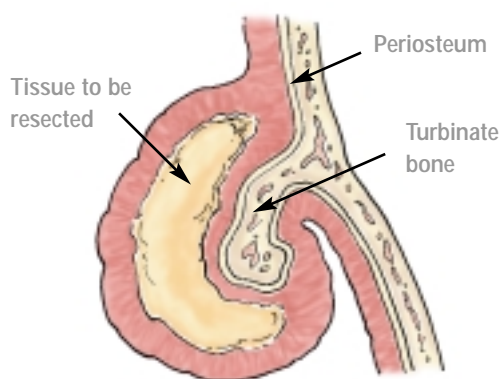
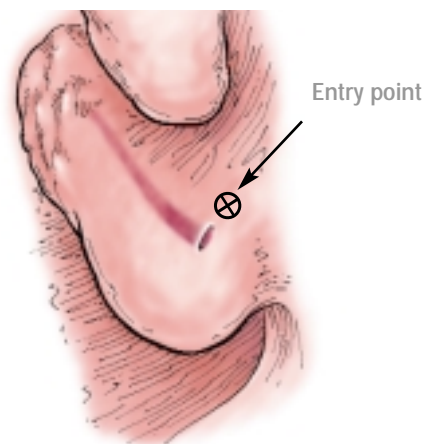


Figure 2



Philosophy

Inferior turbinate hypertrophy is a common cause of chronic nasal obstruction and remains a challenging problem to treat. Disadvantages of traditional techniques such as cautery, radio-frequency ablation (Somnoplasty[®]), partial or total turbinate resection, cryotherapy and laser treatment include bleeding, crusting, synechiae formation, and atrophic rhinitis. In cases where mucosal resection has been over-aggressive, bone exposure and osteitis may develop. Inadequate volume reduction of the target tissue is another problem that relates to the unpredictability of tissue destruction with traditional methods. A primary goal of ideal turbinate surgery is volumetric reduction of the sub-mucosal vascular stromal tissue with preservation of the overlying respiratory epithelium (Figure 1). This respiratory mucosa is essential to the proper physiologic functions of the turbinate such as warming and humidification of inspired air and mucociliary clearance. Yanez¹ and Friedman² have both published reports on powered reduction of the inferior turbinates using the XPS[®] Powered ENT System. The following technique elaborates on the previously published techniques with a new instrument. This technique describes an elevator incorporated into a very small microdebrider blade (2.0 and 2.9mm). It provides a method for achieving the goals of volumetric reduction with mucosal preservation with minimal risk of complications.

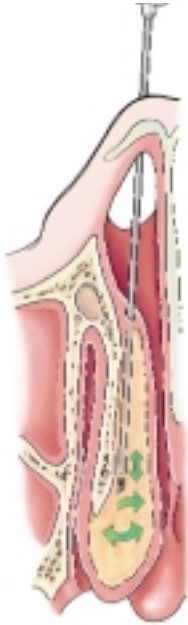
As a "cold" technique, it avoids unpredictable collateral thermal damage to surrounding tissue. The volume of reduction is immediately apparent as there is no delay for scar contracture as with other techniques. As with other techniques, it is repeatable for recurrent hypertrophy. The length of the blade is adequate to reach the posterior aspect of the turbinate. This allows easy debridement of the degenerated polypoid mucosa of the "Mulberry-Tip" which can be a major cause of symptomatic congestion especially in the supine position. Risk of bleeding is minimal as a single anterior 2 mm self-sealing entry point is created in the anterior face of the turbinate. An integrated Cottle-style elevator tip allows easy elevation of mucosa from the underlying periosteum.

Technique

The patient is prepped for a standard endonasal procedure and anesthesia is accomplished with 4% cocaine-soaked cotton pledgets followed by injection of 1 % Lidocaine with 1: 100,000 Epinephrine into the anterior aspect of the inferior turbinate.

Nota Bene: The technique description herein and the use of instructions for the related procedures are made available by Medtronic Xomed, Inc. to the health care professional to illustrate the author's suggested treatment for the uncomplicated patient. In the final analysis, the preferred treatment is that which, in the health care professional's judgment, addresses the needs of the individual patient.

Figure 3

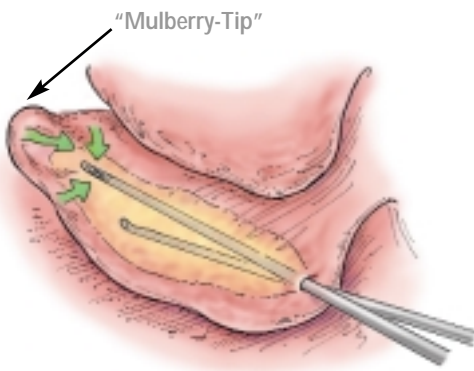


The turbinate blade is inserted into the anterior face of the inferior turbinate just medial to the muco-cutaneous junction under direct visualization with a headlight (Figure 2). Endoscopic visualization is possible, but can be somewhat cumbersome. The blade is firmly pushed towards the turbinate bone until it pierces the mucosa. No power need be applied at this point.

Next, a sub-mucosal pocket is dissected by tunneling the elevator tip in an anterior to posterior and superior to inferior sweeping motion (Figure 3). The correct plane of dissection is sub-mucosal and not sub-periosteal. Although this is not a true anatomic plane, it does elevate quite easily.

Once an adequate pocket has been created, resection of stromal tissue is begun with the XPS® set at 3,000 RPM using suction irrigation. The blade is positioned with its cutting edge facing laterally and is moved back and forth in a sweeping fashion in a manner analogous to liposuction. The intact mucosal layer is seen collapsing toward the blade and the process is continued until adequate volume reduction has been achieved. More aggressive resection may be accomplished by turning the cutting edge towards the mucosal surface but care must be taken to minimize perforation of the mucosa. The length of the blade is adequate to reach the posterior aspect of the turbinate in order to treat the "Mulberry-Tip" (Figure 4). Alternatively, a second, more posterior entry point may be created to better access the posterior area. In areas where the mucosa is more tightly adherent to the bone, injectable saline may be infiltrated to hydro-dissect or "plump-up" the turbinate tissue. Once turbino-plasty has been completed, the turbinate is routinely outfractured using standard techniques.

Figure 4



No suture or packing is necessary although, optionally, a 1cm square block of Gelfoam® or MeroGel® may be placed over the entry point.

Ordering Information

18-82040	Inferior Turbinate Blade, 2.0mm*	5/box
18-82940	Inferior Turbinate Blade, 2.9mm*	5/box

* Packaged with irrigation tubing

