

# Intranasal Device That Offers Novel Airway Protection During Surgery

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## Technology description

### Short Description

A medical device seals off the nasal cavity from the rest of the upper airway, serving as an alternative to intubation and thereby enabling a new range of office-based procedures.

### Background

Over 600,000 nasal and sinus surgeries are performed every year in the U.S. for a variety of different indications. However, over 90% of these procedures are performed at the hospital in the operating room under general anesthesia, in part due to concerns over drainage of blood into the airway. Currently, office-based surgery are only done in circumstances in which bleeding is expected to be minimal. However, transitioning less invasive surgical procedures from the hospital to the office would offer numerous advantages to patients, surgeons and payers that minimize risk, cost and time. While office-based surgeries have doubled in surgical fields, its growth has particularly been stymied in nasal and sinus surgery.

### Abstract

Northwestern physicians have developed a medical device that may enable physicians to safely perform a greater range of nasal and sinus surgery in an office-based setting. They have designed and developed a unique intranasal inflatable balloon occlusion device that seals off the nasal cavity from the rest of the upper airway. It occludes the posterior nasal cavity and prevent drainages of blood into the airway during office-based nasal and sinus surgery. It also has the capability to suction fluid from the nasal cavity and prevent drainage of fluid into the rest of the airway. An initial prototype has been designed to be safely and comfortably placed prior to an office-based nasal or sinus procedure, occlude the posterior nasal cavity for the duration of the procedure, and then be removed at the conclusion of the procedure. It would have a huge impact on patient safety and experience due to eliminating general anesthesia which has higher risk and longer recovery times. In addition, this opportunity to move more surgeries to the office would offer a lower cost alternative compared to the higher price tag of hospital surgeries.

## Application area

Office-based sinus surgery: endoscopic sinus surgery, turbinate reduction, septoplasty, rhinoplasty

## Advantages

Occludes the nasopharynx and seal of the nose from the rest of the upper airway

Maintains patient comfort and evacuates any blood from the nasal cavity

Enables greater range of office-based nasal/sinus procedures to be safely performed

## Institution

[Northwestern University](#)

## Inventors

[John Cramer](#)

Student Resident Physician

[Bruce Kuang-Huay Tan](#)

Associate Professor

MED-Otolaryngology

## 联系我们



叶先生

电话 : 021-65679356

手机 : 13414935137

邮箱 : yeyingsheng@zf-ym.com