



# Nosing Around:

## Dealing with Nasal Polyps

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**N**asal polyps are edematous, tear-shaped, grape-like masses in the nose. Their label is somewhat of a misnomer since they usually arise from the ethmoid sinuses. They project into the middle meati regions of the nose.

Polyps are the most common masses found in the nose. They are totally different in terms of origin, as well as clinical significance, relative to “maxillary sinus polyps,” which really should be called mucous retention cysts. Nasal polyps carry an extremely low profile, but severely affect patients’ quality-of-life. Not only do they block the nose in terms of breathing, they can severely decrease the sense of smell and taste. This could make eating food extremely unenjoyable. Nasal polyps invariably lead to chronic sinusitis.

### INCIDENCE

Nasal polyps are much more common than you think. Many of the “bad sinus” patients with recurrent acute or chronic sinusitis most likely have

underlying nasal polyps as the root of their problem. Polyps are mainly an adult disease. In fact, if they are present in a child less than 10 years of age, one would be obliged to rule out cystic fibrosis.

### ETIOLOGY

The exact etiology is unknown but nasal polyps are associated with several entities:

- 1) Allergy
- 2) Chronic sinusitis
- 3) Cystic fibrosis
- 4) Acetylsalicylic acid (ASA) sensitivity triad.

The ASA sensitivity triad itself is surprisingly common. Patients typically have adult onset asthma with nasal polyps and chronic sinusitis. Many of these patients are sensitive to ASA or nonsteroid anti-inflammatory drugs (NSAIDs) but do not know it. Exposure to ASA or other NSAIDs can lead to exacerbation of asthma or even anaphylaxis.

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## PATHOPHYSIOLOGY

Again, the pathophysiology of nasal polyps is poorly understood. Nothing has been as fruitless as research directed to the pathophysiology and causes of nasal polyps.

It would appear that there are three different types of nasal polyps in clinical practice. A small minority of patients are fortunate enough to have a very large polyp originating from the medial wall of the maxillary sinus extending into the nose, the choana and even into the throat. These polyps, called antrochoanal polyps, are often unilateral and completely isolated since there is usually only one. The cure rate with proper surgical removal by the endoscopic approach is almost 100%, compared to the surgical cure rate of the run-of-the-mill, multiple bilateral nasal polyps.

Multiple bilateral nasal polyps occur in patients as groups of 10 to 20 small polyps in each nasal cavity, measuring anywhere from 3 to 20 mm.

The final group of almost incurable nasal polyposis disease is associated with severe hyperplastic chronic sinusitis. In these cases, the nasal polyps are accompanied by severe edema of all the sinonasal mucosal lining, making it difficult to tell which swelling is a polyp and which is edematous mucosa. These are the polyps typical of the ASA sensitivity triad and cystic fibrosis.

The only sure thing we know about nasal polyps is that they almost always lead to chronic inflammatory, and often bacterial, sinusitis.

## CLINICAL FINDINGS

The primary symptoms of nasal polyps are nasal obstruction, decreased sense of smell and taste, and anterior watery rhinorrhea. On physical exam,

the nasal polyps are sometimes clearly visible as edematous, tear-shaped grape-like masses in the nose. They are much less vascular than nasal turbinates, but instead more watery. They are anesthetic to manipulation and do not bleed nearly as much as turbinates when instrumented. A nasal polyp patient has a very typical hyponasal vibrating voice. This type of voice often results in family and friends stating that the patient always sounds like he or she has a cold. The patient will present with symptoms and signs of chronic sinusitis since this is almost inevitable in the long term.

An antrochoanal polyp will present as severe nasal obstruction and one can often see the polyp on nasopharyngeal exam hanging into the choana. These polyps are almost always unilateral.

## DIAGNOSIS

The diagnosis is best obtained by a detailed history. Decreased and or lack of smell sense is the cardinal symptom of nasal polyps, especially if accompanied by a stuffy nose. The physical exam would involve a nasal speculum and some source of light source or an otoscope. A head light is most desirable for a family physician since the head mirror is difficult to manoeuvre. The indirect nasopharyngoscopy mirror exam is extremely valuable if it can be performed. Biopsy is required to rule out cancer, especially if the nasal polyps are unilateral or the polyp looks less edematous than the usual polyp.

Sinonasal endoscopy has almost doubled the "incidence" of nasal polyps since we were previously unable to see them with the traditional office technique of looking through the front of the nose with the naked eye, albeit with a head mirror or head light. Sinus endoscopy can be directed at the

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middle meatus where small polyps are often hidden from nasal speculum examination. Sinonasal endoscopy also enables us to biopsy polyps in the office or ambulatory-care department without taking the patient to the operating room. Since the polyps are anesthetic, minimal discomfort is experienced while the actual polyp is being removed for diagnosis and treatment. Imaging is vital with plain sinus x-rays and most often a computed tomography (CT) scan, especially if surgery is contemplated. In fact, the new generation CT scanners have helped originate some of our thoughts on the pathophysiology of nasal polyps and chronic sinusitis and certainly help direct further management, including endoscopic sinus surgery.



## TREATMENT

Treatment starts with symptomatic measures of nasal steaming, and nasal saline spray and, or rinses. Patients have found numerous ways to introduce moisture into the nose and to perform mechanical rinsing of the nasal cavities which is useful to remove chronic sinusitis debris.

Topical nasal steroid sprays are the mainstay of treatment for nasal polyps. There is no doubt that topical nasal steroid sprays shrink most polyps, thereby relieving symptoms. Oral prednisone will make nasal polyps disappear almost magically and the patient will think they have had a miracle cure. However, long-term use of oral steroids is associated with so many side effects that their use in this chronic dis-



ease is extremely limited to few instances throughout the year.

If chronic sinusitis is present, longer courses, *i.e.*, three weeks of second-line antibiotics can be utilized. Chronic sinusitis bacteria to be targeted would include staphylococcus aureus, gram negative bacteria, and anaerobic bacteria. Antibiotics are indicated if the patient experiences more headache, facial pain, increased

purulent postnasal discharge and increased sinonasal symptoms in general. This would indicate increased bacterial presence in the sinuses. Topical nasal steroid sprays can be continued during the chronic sinusitis exacerbations, since there is a significant amount of inflammation and not just infection.

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Endoscopic sinus surgery is a fairly new technique which can encompass removal of the nasal polyps. The nasal polyps are removed with an endoscope often under television monitor guidance. The endoscope enables the surgeon to have distal magnification and illumination. This allows the surgeon to remove the roots of the polyps directly within the paranasal sinuses themselves which may contribute to less recurrences of polyps. The surgery is most often done in a daycare setting and can use local or general anesthesia. Surgery provides for pathologic diagnosis, and is generally offered to the patient after medical management has failed for at least one year. In some practices, patients have undergone maximal medical management for five years prior to undergoing endoscopic sinus surgery.

The role of allergy investigation and treatment in the presence of nasal polyps is yet to be perfectly outlined. However, all patients would probably benefit from visiting an allergist as part of their maximal medical management before pondering surgery.

## COMPLICATIONS

The complications of nasal polyps would definitely include chronic sinusitis and its various complications. This would include extension of infection and the various areas of decreased qualities of life associated with nasal polyps and chronic sinusitis. The most distressing complication, which is really a severe symptom of nasal polyposis, is permanent loss of smell sense. This decreases the enjoyment of eating. One would have to stop and think what it would be like not to look forward to eating any meals throughout the day.

It is not known whether nasal polyps actually convert into an inverting papilloma tumor. An inverting papilloma is a benign, but locally aggressive, tumor which almost looks like a nasal polyp,

except it is more papillomatous in appearance. Nasal polyps can certainly be associated with inverting papilloma and only a pathologic determination from biopsy can clearly separate the two.

Complications from medical therapy are rather important to mention. Although oral prednisone can miraculously shrink and almost make nasal polyps disappear, the complications of chronic oral prednisone administration need not be overstated as undesirable. However, topical nasal steroid sprays used for even long periods of time in the absence of oral steroid inhalers or oral prednisone are extremely safe in the adult population.

The complications of endoscopic sinus surgery are mainly the inability to completely eradicate the symptoms in at least 20 % of cases. Epistaxis is a common, but rarely dangerous, complication. The rare, albeit possible, complications of endoscopic sinus surgery while performing extensive nasal polyp removal would include catastrophic carotid artery hemorrhage, orbital injury including blindness, and cerebral spinal fluid leakage.

## PROGNOSIS

Nasal polyps are like weeds. They are almost impossible to eradicate completely. Therefore, the aim of management is control of symptoms. If patients are minimally symptomatic, treatment can be minimal. If patients are more severely symptomatic, the treatment offered would be more extensive. Both medical and surgical treatment do not guarantee preventing the polyps from coming back, but rather is performed to improve the quality of the patient's life. [CME](#)