Disclaimer

This movie is an educational resource only and should not be used to manage your health. All decisions about the management of Nasal Polyps must be made in conjunction with your Physician or a licensed healthcare provider.
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INTRODUCTION

Nasal polyps are non-cancerous growths arising from the nasal or sinus mucosa, the soft moist tissues lining the nasal cavity and sinuses. It occurs in all races and is more common in males. It usually manifests in patients older than 20 years and is rare in children younger than 10 years old.

In order to learn more about nasal polyps, it helps to understand the normal anatomy of the nose.
Normal Nose Anatomy

The nose is the most prominent structure of the face. It not only adds beauty to the face it also plays an important role in breathing and smell. The nasal passages serve as an entrance to the respiratory tract and contain the olfactory organs of smell. Our nose acts as an air conditioner of the body responsible for warming and saturating inspired air, removing bacteria, particles and debris, as well as conserving heat and moisture from expired air.

(Refer fig.1)

Nasal Bones:

These are paired rectangular structures attached to the skull bone above and nasal cartilages below. The distal part of the bones is thinner and wider making it more prone for fractures after an injury.

(Refer fig.2)

Lateral Nasal Cartilages:

There are two pairs of nasal cartilages, the upper lateral and lower lateral cartilages. The nasal bones and the lateral nasal cartilages together form the External Nasal Pyramid or Vault.

(Refer fig.3)
Normal Nose Anatomy - Internal Nose

Nasal Septum

This is a vertical wall inside the nose that consists of cartilage in the front and bones in the back. The nasal septum divides the interior of the nose into two principal nasal cavities. It is seldom straight. In the anteroinferior part of the nasal septum is a rich union of blood vessels called the little’s area. The nasal septum also forms an important support to the external nasal framework.

(Refer fig.4)

Superior Concha

This is a scroll or shelf like projection from the sidewall of the nasal cavity. It is the smallest of all conchae and is located high up in the nasal cavity. It overhangs a space or channel called the meatus. The posterior ethmoidal sinuses open into the superior meatus. There is a shallow depression behind the superior meatus called Sphenoethmoidal recess into which the Sphenoidal sinus opens.

(Refer fig.5)

Middle Concha

The middle choncha is the most important of all conchae. The space it encloses is called the middle meatus. The frontal, maxillary and the anterior ethmoidal sinuses open into the middle meatus.

(Refer fig.6)
Inferior Concha

This is the largest of all concha and is a separate bone. Similar to the other concha, the space it envelops is called the inferior meatus. The nasolacrimal duct, which conveys tears to the nose from the eyes, opens in the inferior meatus.

(Refer fig.7)

Ethmoidal Sinuses

These are paired sinuses located in between the eyes and nasal cavity. Each sinus consists of 4 – 18 air containing cavities – the ethmoidal air cells. These sinuses are present at birth and continue to grow until adolescence. The anterior air cells open into the middle meatus and the posterior group open into the superior meatus.

(Refer fig.8)

Maxillary Sinus

It is the largest of all sinuses with a volume of about 15 ml. These are paired cavities located inside the face around the area of the cheeks. This sinus is also present at birth and continues to grow afterwards. The sinus opens into the middle meatus.

(Refer fig.9)
Frontal Sinus
This is the last of the sinuses to develop. These are paired cavities located inside the face around the area of the forehead. The sinuses open into the middle meatus.

(Refer fig.10)

Sphenoid Sinus
These are also paired cavities located deep in the face behind the nose. Each sinus has a volume of about 7.5 ml. They open into a small recess behind the superior meatus.

(Refer fig.11)

Nasolacrimal Duct
This is a duct that conveys tears from the eyes into the nose. It opens into the inferior meatus. Obstruction of this duct could lead to flooding of eyes with tears and watering of eyes.

(Refer fig.12)
What are Nasal Polyps?

Nasal polyps are non-cancerous growths which occur in the nasal or sinus mucosa, the soft moist tissue lining the nose and sinuses that secrete mucus. Nasal polyps occur in all races and are more common in males.

They usually manifest in patients older than 20 years of age and are rare in children younger than 10 years old. Nasal Polyps may be tiny and not cause any problems; however, some polyps grow to be quite large or grow in clusters and can cause issues with a patient’s quality of life.

Symptoms of Nasal Polyps

Very small polyps often do not cause any symptoms. Symptoms that can occur with larger polyps or polyposis, several polyps, include the following:

- Partial or total nasal obstruction which may be unilateral or bilateral
- Partial or total loss of sense of smell
- Headache due to associated sinusitis
- Sneezing and watery nasal discharge due to associated allergy
- Snoring due to obstruction
- Obstructive sleep apnea, a condition where the patient stops and then starts breathing again after a period of time while sleeping
- In severe cases, a mass may be seen protruding from the nostril.

Causes and Risk Factors

Nasal polyps develop in the mucus lining of the nose or in one or more sinuses. They occur most frequently in adults but children with cystic fibrosis are at high risk of developing nasal polyps as well. Nasal Polyps are the end products of ongoing (chronic) inflammation and the body’s response to the inflammation.

The following conditions are associated with the development of Nasal Polyps:

- Asthma
- Cystic Fibrosis
- Hay fever (allergic rhinitis)
- Chronic sinus infections
- An immune system response to fungus
- Aspirin sensitivity
Diagnosis

Your family physician may refer you to an ENT, a specialist in ear, nose and throat conditions, for further evaluation and treatment if they suspect you have nasal polyps.

The following will be performed by your doctor:

Medical History:

Your doctor will ask you questions about past diagnoses, symptoms you are experiencing, and current medications.

Physical Examination:

Your doctor will use a nasal speculum to spread the nostrils to view the inside passages of your nose. This is referred to as rhinoscopy.

Nasal Polyps can often be diagnosed based on history and exam, however, your doctor may order diagnostic tests to aid in diagnosis and to rule out other conditions:

CT Scan:

This test creates 3D images from multiple x-rays enabling your doctor to look in greater detail for other abnormalities.

Sweat Test:

If the patient is a child, your doctor may order a test to rule out Cystic Fibrosis, a genetic condition affecting the mucus and sweat glands. The test is noninvasive and measures the amount of salt in the perspiration.

Skin Prick Test:

In this test for allergies, a standardized allergen extract is introduced into the skin of the forearm with a tiny needle and observed for reaction after 15 minutes. Reactions greater than 3 mm are regarded positive. Patients should not take any antihistamines 2 days prior to the skin prick test.

Skin prick tests are simple, cheap and safe. Systemic reactions are very rare and multiple allergens can be tested in the same sitting.
Nasal Endoscopy:

This is a common diagnostic tool performed by physicians specialized in ear, nose and throat problems in their offices and involves passing a very thin telescope through the nasal passages enabling a detailed view of the nasal cavity and sinuses.

Conservative Treatment

The goal of treatment for nasal polyps is to remove or reduce the size of the polyps and to treat the associated chronic inflammation. Depending on the severity of your symptoms, your doctor may opt for conservative treatment measures instead of surgery.

Conservative treatment measures may include the following:

Topical Steroids:

Topical steroid sprays are an effective treatment for polyps and inflammation. Regular use is necessary as the onset of action is slow and maximum effect occurs after several days. Nasal steroids can shrink or even eliminate nasal polyps. They also reduce nasal inflammation, eye symptoms and improve the sense of smell. Side effects can include nasal bleeding and minor irritation.

Systemic Corticosteroids:

For severe symptoms, oral steroid tablets may be ordered by your physician. Regular use is associated with significant systemic side effects so these are usually only ordered for a short period of time and are often combined with topical steroids.

Antihistamines:

Antihistamines help prevent symptoms caused by allergies, colds and influenza by blocking histamine, one of the chemicals released in an allergic reaction. The first type of antihistamines developed caused excessive drowsiness, but there are newer antihistamines that have been developed that do not make you sleepy.

Antibiotics:

Medications to treat bacterial infections related to sinusitis may be ordered.

Antifungal Medication:

These medications may be ordered if a fungal infection is diagnosed.

Salt Water Nasal Rinse:

Your doctor may suggest trying salt water lavage to clean out your nasal passages, improve mucus flow, and decrease inflammation.
Surgical Introduction

If conservative treatment measures are unsuccessful in reducing nasal polyps and improving your symptoms, your physician may recommend Nasal Polypectomy surgery to remove the nasal polyps. Surgery is not a cure for nasal polyps but is performed to open nasal airways in order to improve symptoms and to administer medications to prevent polyps from returning. There are two types of polypectomy surgery depending on the location of the polyps. Both are performed through the nasal passageways without any outside incisions.

Intranasal Polypectomy:

This surgery is performed when the polyps are easily visible inside the nose. This may be performed under sterile conditions in an appropriate office setting with local anesthesia as outpatient day surgery.

Endoscopic Nasal Polypectomy:

This surgery is performed with an endoscope, a small telescope with channels for surgical instruments, and is done when polyps are deeper in the nasal cavity or in the sinuses or the patient requires additional treatment such as sinus surgery. Polypectomy is performed under sterile conditions in the operating room with the patient under general anesthesia or local anesthesia with sedation. This operation is performed as outpatient surgery enabling the patient to go home the same day.

Surgical Treatment

Intranasal Polypectomy

Your surgeon will perform the surgery through the nasal passages with no external incision. The nasal cavity is topically decongested and anesthetized. Your surgeon will advance an instrument called a “snare” encircling the base of the polyp. The snare is then closed around the base cutting off the polyp from the mucus membranes.

(Refer fig.13)
The snare is removed with the polyp in its grasp. Nasal packing is inserted to minimize bleeding and a small dressing is taped under the nose to catch any drainage.

(Refer fig.14)

Endoscopic Nasal Polypectomy

Your surgeon will perform the surgery through the nasal passages with no external incision. The nasal cavity is topically decongested and anesthetized. An endoscope, a tiny, soft flexible tube with a light and lens on the end is advanced into the nasal passageway and the image magnified on a television screen.

(Refer fig.15)

Your surgeon then advances various instruments inside the endoscope to remove the polyps and any other obstructions present. Once the polyps are removed, the endoscope is withdrawn. Packing is placed inside the nose to minimize postoperative bleeding and a small gauze dressing is taped under the nose.

(Refer fig.16)
Post Operative Guidelines

Your surgeon will give you guidelines to follow depending on the type of surgery performed and the surgeon’s preference. Most patients are able to return to work the next day. Common Post-operative guidelines include:

- You will need someone to drive you home after surgery due to the drowsy effects of the anesthesia.
- Your nostrils will be packed with sterile cotton gauze and will usually be removed before being discharged to home or at your follow up appointment the next day. The gauze dressing under the nose will need to be changed when wet and may be kept in place for a few days.
- You will be given pain medications to manage your pain. Do not use aspirin or ibuprofen products as these can cause bleeding to occur.
- Take all medications given to you as prescribed. These may include antibiotics, decongestants, or steroids. It is important to take your nasal sprays as prescribed to help prevent polyps from growing back.
- Do not drink alcohol while taking antibiotics and pain medications.
- Get plenty of rest. You should avoid strenuous activity as well as bending and lifting for 1-2 weeks after surgery as this may cause bleeding.
- Sleep with your head elevated on extra pillows.
- Sneeze with your mouth open so as not to dislodge the nasal packing.
- Do not smoke as smoking delays healing and increases your risk of developing complications.

Risks and Complications

As with any major surgery there are potential risks involved. The decision to proceed with the surgery is made because the advantages of surgery outweigh the potential disadvantages. It is important that you are informed of these risks before the surgery takes place.

Complications can be medical (general) or specific to nasal surgery. Medical complications include those of the anesthetic and your general well being. Almost any medical condition can occur so this list is not complete. Complications include:

- Allergic reactions to medications
- Blood loss requiring transfusion with its low risk of disease transmission
- Heart attacks, strokes, kidney failure, pneumonia, bladder infections
- Complications from nerve blocks such as infection or nerve damage
- Serious medical problems can lead to ongoing health concerns, prolonged hospitalization, or rarely death.

Complications are rare after polypectomy surgery, but unexpected events can follow any operation. Your surgeon feels that you should be aware of complications that may take place so that your decision to proceed with this operation is taken with all relevant information available to you.

Possible complications following polypectomy can include the following:
Bleeding:
Significant bleeding is uncommon. Report any abnormal bleeding to your surgeon.

Infection:
Report fever of 38.5°C or 101.0°F or higher. Report foul smelling, greenish-yellow nasal drainage as well as increasing pain or unresolved vomiting to your surgeon. Antibiotics will be prescribed to treat the infection.

Numbness:
Numbness to the nose tip and upper teeth usually resolves in a few months but very rarely can persist.

Risk factors that can negatively affect adequate healing after surgery include:

(Fig. 17)
Summary

A good knowledge of this procedure will make the stress of undertaking the procedure easier for you to bear. The decision to proceed with the procedure is made because the advantages of the procedure outweigh the potential disadvantages. It is important that you are informed of these risks before the procedure.
YOUR SURGERY DATE

READ YOUR BOOK AND MATERIAL

VIEW YOUR VIDEO / CD / DVD / WEBSITE

PRE - HABILITATION

ARRANGE FOR BLOOD

MEDICAL CHECK UP

ADVANCE MEDICAL DIRECTIVE

PRE - ADMISSION TESTING

FAMILY SUPPORT REVIEW

Physician's Name: ____________

Patient's Name: ____________

Physician's Signature: ____________

Patient’s Signature: ____________

Date: ____________

Date: ____________