Disclaimer

This movie is an educational resource only and should not be used to manage deviated nasal septum. All decisions about the management of deviated nasal septum must be made in conjunction with your Physician or a licensed healthcare provider.
# Multimedia Health Education Manual

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INTRODUCTION

The nasal septum is the cartilage which divides the nose into two breathing channels. It is the wall separating the nostrils. Deviated nasal septum is a common physical disorder of the nose involving displacement of the nasal septum. To learn more about deviated nasal septum, it helps to understand the normal anatomy of the nose.
Normal Nose Anatomy

External Nose:
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 is Deviated Nasal Septum?

In the majority of individuals the nasal septum is not straight, causing one nasal passage to be smaller than the other. Often the individual is unaware of the deviation as no symptoms are experienced. The nasal septum is considered deviated from its central position when the shift is substantial and causing the individual problems.

Deviated Nasal Septum can be classified as:

Simple:
This is a mild deviation of the nasal septum that does not cause any symptoms in patients.

Obstructed:
This is a severe deflection of the septum which may touch the lateral wall of the nasal cavity causing symptoms in patients.

Impacted:
This represents marked angulation of the nasal septum with a bone spur causing severe symptoms in patients.

Symptoms

Simple deviations cause no symptoms and may remain undetected in many people. When marked deviation is present it can cause the following symptoms:

Nasal Obstruction:
Nasal obstruction causing difficulty breathing. This may be unilateral or bilateral due to swollen mucosa or hypertrophied turbinate in the opposite nasal cavity.

(Refer fig. 13)
Frequent Sinus Infections:
(Refer fig. 14)

Headache:
Headache due to sinusitis or due to irritation of the nerves on the lateral wall of the nasal cavity caused by impacted deviation
(Refer fig. 15)

Frequent Nose Bleeds:
(Refer fig. 16)

Dryness:
Dryness of the mucosa in the nose causing crust formation
(Refer fig. 17)
External Deformity:
External deformity of the nose
(Refer fig. 18)

Noisy Breathing:
Noisy breathing and snoring causing disturbed sleep
(Refer fig. 19)

Altered Smell:
(Refer fig. 20)

Causes and Risk Factors of Deviated Nasal Septum
Trauma to the nose is the most common cause of a deviated nasal septum. Other causes and risk factors include the following:

- Prolonged mouth breathing
- High arched palate
- Neoplasms, abnormal growth of tissue, in the nose
- Abnormalities during development of the nose
- Birth molding during delivery
- Prolonged second stage of labor
- Forceps delivery
- Malpresentation (abnormal position of fetus at birth)
- Face presentation of fetus during delivery
Diagnosis

Deviated Septum should be evaluated by an ENT physician for proper diagnosis and treatment.

Your doctor will perform the following:

Medical History:
Your doctor will ask you about any trauma to the nose and any symptoms such as nosebleeds and congestion.

Physical Examination:
Your doctor will use a nasal speculum to spread the nostril to view the inside passages of your nose.

Conservative Treatment Options

Depending on the severity of your symptoms, your doctor may opt for conservative treatment measures instead of surgery. Surgery is usually not performed on patients under 18 because the nasal septum continues to grow until then.

Conservative treatment measures involve medications to treat the symptoms associated with the condition. These can include the following:

Decongestants:
These relieve nasal congestion allowing easier breathing.

Antihistamines:
These medications block histamine which is released in the body with allergies or infections causing congestion, sneezing, watery eyes, and itching.

Nasal Cortisone Sprays:
These medications are sprayed into the nasal passages to reduce swelling and inflammation.

It is important to understand that medications will not fix a deviated septum. They can however provide relief of the symptoms associated with a deviated nasal septum.
Surgical Treatment Introduction

Surgery is the only option for repairing symptomatic deviated nasal septum. Before surgery, your physician may order routine blood tests. X-rays of the paranasal sinuses and nasal endoscopy may also be done to rule out sinusitis.

Septoplasty is the corrective surgery to repair deviated nasal septum and is done either under local or general anesthesia. It involves reconstruction of the nasal septum by repositioning the septal cartilage and removing bony deflections, thus relieving nasal obstruction. This procedure is performed through the nostril and without any external incision therefore bruising will not occur post operatively to the face.

In case of external deformity of the nose, Rhinoplasty surgery, plastic surgery to reshape the nose, is combined with Septoplasty and is called septorhinoplasty. In this surgery you would have bruising and swelling to the face post operatively. Septoplasty may also be combined with sinus surgery depending on the patient’s needs.

Surgery

Septoplasty 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.

Your surgeon will perform the surgery through the nasal passages with no external incision. An incision is made to the nasal septum inside the nose through one of the nostrils. The mucous membrane is lifted away from the septum.

Your surgeon will then remove any obstructions such as polyps, tumors, or bone spurs.

The nasal septum is then reshaped into proper position straightening the septum. Occasionally severely deviated portions of the septum are completely removed or repaired and replaced inside the nose.

Mucous membranes are then returned to their normal position covering the nasal septum.

Dissolvable sutures, splints and/or packing are placed inside the nose to minimize postoperative bleeding.

(Refer fig. 21)
Post Operative Guidelines

Your surgeon will give you guidelines to follow depending on the type of repair performed and the surgeon’s preference. 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 24-36 hrs after surgery at your follow up appointment.
- 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.
- 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 two weeks after surgery as this may cause increased 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 nose 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 in septoplasty 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 septoplasty can include the following:

- Septal Hematoma
- Septal Perforation
- Numbness
- Bleeding
- Infection
- Loss of smell
- Problem Unresolved

**Septal Hematoma:**
Caused by bleeding under the skin flaps of the septum. Drainage of the hematoma is performed to prevent further problems.

**Septal Perforation:**
This is a hole in the nasal septum and can cause whistling sound when breathing as well as crusting and bleeding. Surgical repair is indicated.

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

**Bleeding:**
Significant bleeding is uncommon. Report any abnormal bleeding to your surgeon.

**Infection:**
Report fever or foul odor of the nasal packing to your surgeon right away as a serious condition called Toxic Shock Syndrome can occur from infected packing in the nose. Packing will be removed or changed and antibiotics administered to treat the infection.

**Loss of smell:**
Although rare, loss of smell can occur following septoplasty.

**Problem Unresolved:**
Although rare there have been occasions where septoplasty did not correct the deviated nasal septum and further surgery is indicated.
Risk factors that can negatively affect adequate healing after surgery include:

- Poor nutrition
- Smoking
- Alcoholism
- Chronic Illness
- Steroid Use
- Age (over 60)
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.
Deviated Nasal Septum
Multimedia Health Education

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:  
Physician's Signature:  
Date:  

Patient’s Name:  
Patient’s Signature:  
Date:  

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