

WHEN YOUR NOSE DOESN'T “FIT”

EVERYTHING YOU NEED TO KNOW
ABOUT RHINOPLASTY

MICHAEL J. SULLIVAN, MD

Copyright © 2017 Michael Sullivan, M.D.

All rights reserved. No portion of this book may be reproduced in any manner whatsoever - mechanically, electronically, or by any other means, including photocopying - without written permission of the author, except in the case of brief quotations embodied in articles and reviews.

Michael Sullivan, M.D.
7706 Olentangy River Rd
Columbus, OH. 43235

www.sullivancentre.com

Illustrations By:
Anthony S. Baker, CMI
Board Certified Medical Illustrator
The Ohio State University

Printed by Wheelhouse Creative, LLC | Knepper Press

SECTION II

COMMON CONCERNS

CHAPTER 11: A BUMP ON THE NOSE

By far and away, the typical patient seeking rhinoplasty in North America has a bump on the bridge and a round bulbous nasal tip consistent with a European heritage. Correction requires work on the nasal bones and the cartilages. An 18-year-old young lady of Puerto Rican heritage, presented with a bump and broad nasal tip (Figure 11). She was in transition between high school and college, which is an ideal time to consider rhinoplasty surgery. Nose reshaping can boost a person's self-esteem, which can be quite helpful in a transition like this.

An isolated bump at the upper one-third of the nose is either congenital or a result of trauma. Often times that trauma may occur at a very young age and go unrecognized. In either case, the nasal bones and the nasal septal cartilage overgrow outward. This exaggerated growth can give a “crooked nose” appearance on the profile view. Surgical correction necessitates precise shaving of the bone and cartilage down to the desired profile slope. When too little of the bump is removed, a small bump remains. If too much is removed, the result may be an undesirable scoop. As a surgeon, I think it's always better to err on the side of leaving a little bump, knowing it will likely settle with time. If it doesn't, it's always easier to go back and shave off a little more nasal bone or to lower the septal cartilage, than it is to fill in a “scooped-out” area.

If you look at the base of the nose, it has the appearance of a pyramid. Think of the oblique side walls of a pyramid, like the roof of your house. In the case of a nasal bump, the roof has to be reduced in height. When the roof is shaved off, the pyramid then has a flat roof, or what is commonly referred to as an open roof. Normally, a nose wouldn't be left with a flat, wide bridge. This introduces another common question

WHEN YOUR NOSE DOESN'T "FIT"...

patients have for the rhinoplasty surgeon: "Do you have to break my nose?"

In order for the wide, flat roof to close after the bump is removed, the remaining nasal bones have to be tilted slightly inward. This requires a small cut in the nasal bone closest to the cheek (this is called an osteotomy) and a slight fracture in the bone where it connects to the forehead. Admittedly, there is more sensation in this area of the nose, and bruising after surgery can be a consequence of this maneuver. However, bruising is not only technique-dependent and surgeon-dependent, but also varies from patient to patient. If bruising occurs, it will resolve fairly quickly after surgery, as will any discomfort. If my patients have bruising, it's generally minor, and gone by the time I see them one week post-operatively.

Because the nasal bones are repositioned, they do remain fragile for six to eight weeks following the procedure. Patients should be cautious about any activity where something might hit the nose during this time. Much like a leg or arm fracture, the nasal bones need time to heal, but no one wants to walk around with a protective mask for six to eight weeks after a cosmetic rhinoplasty. Therefore, I instruct my patients to stay away from any balls or bats that can inadvertently contact the nose. Invariably however, things do happen. I have had plenty of patients get hit in the nose after surgery. In most cases, the force is minimal, without consequences, but a forceful blow can move the nasal bones out of position and necessitate immediate correction. Otherwise, the nose might heal crooked. Your surgeon should be notified immediately, and a cell phone picture can be worth a thousand words.

It's not unusual that a bump on the nose is associated with recession of the chin. In the case of a normal projecting chin, the profile view is generally in balance, even if the nose is over-projecting. A line drawn from the forehead to the chin is perpendicular, or very close to it. It's not unusual that a bump on the nose is associated with recession of the chin. In the case of a recessed chin, this line is more curvilinear,

A BUMP ON THE NOSE

demonstrating an imbalance. Chin augmentation surgery, which is covered in Chapter 21, is often helpful in restoring the profile balance. A 23-year-old woman presented with concerns about her nasal bump and weak chin. She'd had no prior nasal surgery (Figure 12). A rhinoplasty with chin augmentation corrected the situation.

CHAPTER 12: THE CROOKED NOSE

Most often, a crooked nose is the direct result of trauma, although the nose simply may have grown crooked from birth, in which case the nasal septum may be the culprit. The nasal septum is the middle divider that separates the right side of the nose from the left. It's a wall of cartilage. When the septum is crooked, the external appearance of the nose generally follows. Conversely, if the septum isn't straightened with the rhinoplasty procedure, the nose will more than likely remain crooked after surgery. A 39-year-old woman who had no previous nasal trauma or surgery presented with an external deviation of her nose due to a deviation of the nasal septum. She also complained of a bump on her nose (Figure 13).

The goal in straightening a crooked nose is always an aesthetically pleasing narrow bridge with a gentle sweeping radix line on the front view, gently curving from the inner aspect of the brow to the nasal tip. In addition, the reconstructed nose should have the appropriate profile projection. On occasion, this is only made possible with an implant to camouflage the deformity. Cartilage from the nasal septum, the ear or rib are common donor sites. When these sources aren't readily available, there are synthetic implants, which can be sized to fit the defect. A synthetic implant does, however, run the risk of becoming infected. Although the chance of infection is low, if this should occur, the infected implant might need to be removed and eventually replaced once the infection clears. A 38-year-old woman presented with an over-projecting twisted nasal tip and a bump. She had a concavity of the left tip cartilage, which required a septal cartilage graft to camouflage the result (Figure 14).

As mentioned previously, it's not uncommon for an external nasal deformity to be associated with a deviated nasal

WHEN YOUR NOSE DOESN'T "FIT"...

septum. A large percentage of our population has at least a slight septal deviation. Because the majority of them lack symptoms, they don't appreciate the fact that it's deviated. However, for those who experience breathing problems or headaches, surgical correction can be helpful. In these cases, correction of the deviation is functional as well as cosmetic, and may be covered by your health insurance. Functional nasal surgery is beyond the intent of this book. For my patients who have a combination of nasal septal and cosmetic concerns, I straighten the septum as part of the rhinoplasty, at no additional cost. I don't accept insurance, and by doing things this way, the functional problem gets resolved and neither my patient nor I have to deal with insurance, which is a relief.

CHAPTER 13: NASAL TIP

Two cartilages that gently twist into an upside-down “C shape” create the tip of the nose. These are called the lower lateral cartilages, and the appearance of the nasal tip is often dependent on their size, shape and alignment. A bulbous nasal tip results from large lower lateral cartilages, as seen in Figure 15. This is a 37-year-old woman whose primary concern was the size of her nasal tip. Careful removal of a portion of these cartilages, along with cartilage sutures, will help to refine the tip appearance.

The thickness of the nasal skin is also a factor that affects nasal tip size. Thick skin over the lower lateral cartilages will distort the detail of the underlying cartilages. Thin skin becomes closely adherent to the underlying cartilages, revealing any asymmetry or irregularity after nasal reshaping. Open rhinoplasty and direct visualization can be highly beneficial under these circumstances. In contrast, thick skin with generous subcutaneous fat drapes like a heavy blanket over the nasal tip cartilages. In some cases, the fatty tissue can be removed, helping to reveal more of the underlying detail. A consequence of working with thick nasal skin is prolonged tip swelling after an open or closed rhinoplasty. Steroid injections may be needed in these cases to speed up the recovery and resolve the swelling. However, the amount of narrowing and eventual tip detail may be limited if the skin is overly thick.

Attention to the size, shape and alignment of the lower lateral cartilages is what determines the ultimate appearance of the nasal tip after surgery. Rhinoplasty surgeons use a number of techniques and maneuvers, each performed for a specific purpose. They are sequentially used, with attention to how one affects the other and how each relates to the final outcome. Sometimes cartilage is carefully shaved to reduce

WHEN YOUR NOSE DOESN'T “FIT”...

fullness, or removed to change the projection or angulation of the nasal tip. All the while, the rhinoplasty surgeon has to be aware of not weakening the tip cartilage too much and compromising nasal tip support.

This is exactly what was done years ago when the teaching was to remove much more nasal tip cartilage in order to create narrowing. The result was often an operated-looking nose with a pinched and drooping nasal tip. A 39-year-old woman presented to me five years after having an aggressive rhinoplasty that resulted in a significant deformity and partial collapse of her nose (Figure 16). Today's teaching is to preserve nasal tip support and realign the cartilages when at all possible, without removing cartilage. When these parameters are followed, the result appears more natural and less operated-looking.

Structural rhinoplasty refers to using cartilage as an architectural strut, as a brace, spacer or on-lay graft. I don't find this necessary with most primary (first-time) rhinoplasty procedures. In fact, I believe these maneuvers can leave a nose looking overly stylized and less natural. Structural grafting, however, is often needed in revision and secondary rhinoplasty cases where too much cartilage was removed at the initial surgery. Revision surgery is discussed in more detail in Chapter 22.

Suturing techniques are also often used to affect the shape of the lower lateral cartilage domes. Sutures can bring the domes closer to each other to narrow the tip but also can affect their angulation. I use a very fine, clear nylon suture which, when placed properly, is rarely a post-operative problem.

CHAPTER 14: TOO LONG

Nasal length is the distance from the nasal starting point to the intersection of the columella and the upper lip, called the subnasale. Ideally, the nose measures one-third of the vertical dimension of the face. The most common reason for the nose to appear long is a bump of the upper one-third of the nose (as discussed earlier). Corrective surgery to remove the bump will automatically make the nose appear less long. In addition, the tip of the nose will rotate up ever so slightly with this procedure, giving the illusion of shortening. A 26-year-old woman presented to me with complaints of her nose being too long and over-projecting for her face. The tip of her nose was also slightly deviated (Figure 17).

Length can result from the lower part of the nasal septum pushing the lower lateral cartilages toward the chin. In this case, trimming the septum will resolve the problem and the nasal tip will rotate upward. Sometimes, weak attachments of the lower lateral cartilages to the inferior septum need to be re-established to achieve tip rotation and shortening.

When the lower lateral cartilages themselves are weak, the tip will droop, lengthening the nose. This is quite common in older individuals with cartilages that are softer due to aging. This situation is responsible for the myth that the nose continues to grow with age. The nose actually reaches its adult size by the late teenage years to the early twenties. Its appearance, however, is influenced over time by changes in the character of the overlying skin and the resiliency of the cartilage structure. A droopy nasal tip may lead to breathing problems, because of the altered air flow pattern (which travels upward before going back), causing obstructive symptoms. Weak nasal cartilages often need structural support for repositioning. This might be a case for a cartilage strut, which is a strong, narrow piece of cartilage

WHEN YOUR NOSE DOESN'T “FIT”...

placed between the lower tip cartilages. By suturing the strut to the lower lateral cartilages, it acts just like a tent pole to push the nostrils up and out. Of course, other rhinoplasty maneuvers may also be used, and together they correct the nasal tip deformity.

CHAPTER 15: THE OVER-PROJECTING NOSE

Projection is how far the nose extends from the cheeks. As previously demonstrated in Figure 9, nasal projection from the alar crease to the tip of the nose is usually 55–60% of the distance from the nasal starting point to the alar crease. Over-projection is often the result of the nasal septum (the central divider that separates the right nasal passage from the left) growing too far outward. The septal cartilage may push the nasal tip cartilages outward, resulting in a “tension tip” deformity. In these patients, the nasal tip skin is on tension when the patient smiles, causing the nasal tip to be pulled downward. The over-projecting septum may also be associated with a nasal bump. Reducing the septum over-projection by shaving it down and removing the bump will solve the over-projection and relieve the tension on the tip. A 39-year-old woman who had no prior nasal surgery complained of the tip of her nose being pulled down when she smiled. She also had a bump and weak chin (Figure 18).

However, it may be the nasal tip cartilages themselves that are pushing too far outward. The lower lateral cartilages are usually very strong in these cases. You can think of the feet of the lower lateral cartilages like the legs of a chair. If the legs of the chair are shortened, the seat of the chair is lowered. The feet of the lower lateral cartilages can also be shortened to reduce the projection of the tip. This maneuver was performed to achieve the result in Figure 18.

CHAPTER 16: TOO SHORT

The short nose is one of the most challenging deformities to correct. My experience with short noses comes both from correcting bad surgical results (where the skin envelope has retracted) and from post-traumatic cases. In many cases, a short nose is accompanied with a deformity, where the middle one-third of the nose appears scooped out on profile view. Short noses invariably result from compromise to the nasal septum, either along the upper ridge or along the portion that pushes the columella down.

Short nose corrective surgery is challenging, because not only is the cartilage support compromised, but the skin has contracted and essentially “shrink-wrapped” to the new structure. Once nasal skin shrinks, it’s very difficult to re-stretch, unless it’s done over a long period of time. A 37-year-old man presented to me with a short nose after having nasal trauma. The trauma resulted in deterioration of his nasal septal support and contraction of his nose (Figure 19).

Correction often requires a good understanding of reconstructive principles. In the easier cases, a cartilage implant (made from the patient’s own nasal septum, ear or rib cartilage) is used to lay along the ridge of the nose, pushing the tip down. The nasal tip may also need support in the way of a cartilage strut. A 16-year-old young lady had nasal trauma as a child. She had lost nasal septal support for the middle aspect of her nose as well as the nasal tip (Figure 20). Correction required a nasal strut for tip support and cartilage augmentation of the mid-aspect of the nose. A ready-made synthetic implant could also be used for augmentation.

Short nose corrective surgery is often a major corrective procedure. Most of the time, the entire structural support mechanism of the nose has to be exposed and reconstructed,

WHEN YOUR NOSE DOESN'T "FIT"...

and, all the while, the new structure is fighting against the smaller, contracted skin envelope. Skin stretching techniques can be performed by placing a balloon under the skin and gradually inflating it over a period of time. The process is time consuming and complicated.

CHAPTER 17: TOO WIDE

Most often, patients with wide noses come by them naturally. The nose may be wide at the upper third (basically the nasal bones), the middle third (primarily cartilage), or the lower third (the nasal tip). A 26-year-old woman presented to me concerned with her nose being too wide top-to-bottom (Figure 21). She had no prior surgery or trauma. Since we covered the lower third (the wide nasal tip) in the nasal tip section, and we'll also discuss it in the wide nasal base section, let's now look at the upper and middle thirds.

Trauma is one way in which the nasal bones in the upper third can become widened. As a result of this trauma, a callus forms. A callus is basically calcium cement, which binds the bones together. Over time, our body will absorb some of this, but the portion which remains is hard and stiff, making it difficult to narrow the nasal bones. Occasionally, several osteotomies are necessary to bring the nasal bones inward.

Special care must be exercised not to bring the nasal bones too close together, however, because when this occurs, the nose appears pinched. Aesthetically, the rhinoplasty surgeon's goal is a smooth, curved radix line from the brow to the nasal tip.

Where the middle third is concerned, think of it like a tent. The nasal septum is the tent pole holding the middle third up while the upper lateral cartilages are the sloping sides of the tent. The juncture where the nasal septum and upper lateral cartilages meet along the dorsum of the nose is where we find the internal nasal valve inside the nose. The angle formed by these two structures is critical to normal nasal breathing. If the angle is too narrow, patients experience breathing difficulty. Many people use nasal strips (like Breathe Right[®]) to pull the upper lateral cartilages out (and essentially open

WHEN YOUR NOSE DOESN'T "FIT"...

the internal nasal valve). The nose looks pinched when there is narrowing of the middle third. Surgical correction can be achieved by placing small strips of cartilage between the upper lateral cartilages and the nasal septum called spreader grafts. An unintended consequence of opening the internal nasal valve area whether it's for improvement of aesthetics or breathing will be widening of the middle third of the nose.

When the angle of the middle third is too wide, the nose appears too wide on the outside. The angle at the internal nasal valve can be surgically trimmed, to narrow the middle third, but this should be done conservatively, so as not to create pinching or breathing difficulties.

A flat or scooped out middle third may also appear wide. This may occur congenitally but more often it results from prior surgery when too much cartilage is removed or from trauma as illustrated in Fig. 22. This 19 year old young man developed a wide middle third and classic saddle deformity on profile after trauma. His breathing was unaffected. Surgical correction involved a simple on-lay cartilage graft over the internal nasal valve area to create the effect of a straight profile and narrow dorsum. His nasal tip appearance was improved by utilizing techniques outlined in Chapter 13.

CHAPTER 18: TOO NARROW

An overly narrow nose is often the result of prior surgery. In many cases like these, too much cartilage support has been removed or destroyed. Correction of the overly narrow nose usually entails putting structural support back into the nose in specific areas. Patients need to understand and accept that this will ultimately make the nose look wider from the outside. After explaining this to patients, their reaction is typically: “Well, I don’t want my nose to look bigger.” This is a reflection of their concern for what their nose will ultimately look like after the procedure. Once I’ve shown them some examples, that fear is generally resolved.

Placement of the newly added cartilage is dictated by the location of the narrowing. Narrowing of the bony vault, the upper one-third of the nose, is difficult to correct. Pushing the nasal bones out doesn’t work, because there is nothing to hold them in that position. They will readily collapse inward again. Therefore, correction in the upper one-third is often performed with some type of on-lay graft, either cartilage or a synthetic implant. The graft is precisely sculpted to sit on top of the patient’s own bone, to camouflage the narrowing. Grafts like this are commonly used in rhinoplasty surgery, and using a patient’s own cartilage is optimal. Provided the graft is surrounded by good, healthy vascular tissue, it will survive and flourish in this new site. When the patient’s own cartilage is not available, cadaver rib cartilage or a synthetic implant are options.

Synthetic implants are composed of varying types of materials. However, they are made of biocompatible compounds and cause very little reaction when placed inside the human body. Synthetic implants are always accompanied by the risk of potential infection, though, either at the time of placement or at a later period. If the implant should become

WHEN YOUR NOSE DOESN'T “FIT”...

infected, it can often be salvaged by using antibiotics. When antibiotics fail to clear the infection, the implant can be easily removed and replaced at a later time. This is why a patient's own cartilage is preferable for reconstruction.

Middle-third narrowing can often be treated with the same maneuvers as mentioned above. If the internal nasal valve region is pinched and the patient has obstructive symptoms, the valve can be opened with a spreader graft. This is a block of cartilage placed between the nasal septum and the upper lateral cartilages. By necessity, the middle third of the nose will widen when spreader grafts are used.

When the nasal tip is overly narrowed, prior surgery, again, is usually the cause. The domes of the lower lateral cartilages are often encased in scar tissue and are very difficult to identify. On-lay cartilage grafts are often the maneuver of choice. The nasal tip skin can be thin and equally difficult to peel off the underlying cartilages. Grafts under the skin must be carefully sculpted to avoid visible external irregularities. These challenging cases almost certainly must be done through an external approach.

CHAPTER 19: WIDE BASE

When viewed from the front, the width of the nasal base (or the distance from one nostril crease to the other) should be approximately one-fifth of the vertical width of the entire face (Figure 3). If a vertical line is drawn straight down from the inside corner of each eye, the nose should ideally fall between these two lines.

The width of the nasal base can be reduced by removing a wedge of skin from the nasal sill (the bottom part of the nostril opening), or by removing a sliver of skin along the nasal alar crease. Both excisions result in a scar, but thankfully it is hidden in natural creases (Figures 23, 24). When nostril flaring exists, the sliver excision at the alar crease is used. By reducing the nasal base width, the circumferential opening of the nostril is made smaller. This is the nasal inlet, and care is required so that patients don't experience nasal obstruction as a result of the reduction.

