# THE WIDE NOSE

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## Introduction

The nose is an organ prominently placed in the center of the face and as such has played an important part in the life of man down through the ages. Anthropologists have measured the characteristics of the different races by the width, length, and projection of the nose. The white race has a narrow, long, high nose; the colored race has a wide, flat nose; the red and yellow races have intermediate measurements.

Unfortunately, due to the position and prominence of the nose, it has been subject to frequent and varied types of injuries. Trauma to the nose will cause a variety of deformities. However, in this paper, we are interested in the type of deformity in the white race which, through injury and subsequent growth changes, the nose assumes a flat, wide shape, both in appearance and measurements. It is recognized as a flattening of all or any part of that structure.

The wide nose has never been defined in the light of its pathology — it only has been spoken of as a "saddle nose". The loss of projection and widening of the nasal pyramid is commonly considered a cosmetic problem rather than one of disturbed function. Evidence to show that the deformity causes severe functional disturbances will be presented.

My interest in the wide nose as a distinct clinical entity was stimulated at the seminars in "Fundamentals of Reconstructive Surgery of the Nasal Septum and External Nasal Pyramid". Dr. M. H. Cottle [1] of Chicago presented the wide nose as a definite syndrome, suggested methods of correction, and emphasized the need for further study. The desire to explore, understand and restore disturbed nasal function is the basis of this study.

A study of hundreds of peoples — the preparation of many cadaver dissections and observations of many nose operations form the basis of the following objectives:

1. To establish a norm in different races and ages, including the normal wide nose.
2. To define the abnormal wide nose.
3. To present methods of determining the normal from the abnormal.
4. To study and analyze the causes of the disturbances to the normal anatomy.

5. To present corrective surgical procedures that will restore these anatomical relationships for improvement of function.

**Review of the Literature**

From the time of Roe [2] in 1887 and Weir [3] in 1892, a review of the literature [4] has failed to reveal any relationship of deformity with disturbed function. The paramount question in these articles was not to restore function, but what material to implant that would improve appearance. Cohen [5], in 1938, stated "The saddle nose correction meant more than the simple insertion of some substance of proper shape and consistency to fill the depression. Today, however, this simple procedure, in many cases is insufficient. These patients not only need the depression filled and the dorsum leveled off, but they also need re-arrangement of the main nasal structures, narrowing of the nose at the bridge or changing the shape of the tip." Later, Cottle [6], in 1952, presented the fact that certain symptoms were found consistently with the wide nose, which he called the "wide-nose syndrome".

There has been no exact definition of the wide nose. The term "wide nose" and "saddle nose" appears interchangeably. Foman [7] describes the "saddle nose" as one with the concave dorsum, with a simulated upward tilt of the nasal tip. The depression may involve either the osseous or cartilaginous vault, and may be congenital or acquired. If acquired, the depression is the backward dislocation of the nasal structures with loss of substance from absorption. Occasionally, it is due to faulty septal resection or the result of septal abscess with scar tissue pulling the cartilaginous vault backwards.

One of the more important structural changes created by the displacement of the nasal structures is the wide open nostril. Changes in veloctiy of air currents, circulation, and nerve supply predispose to changes in the mucosa and submucosal structures. These changes cause varying degrees of nasal atrophy and atrophic rhinitis. There are many articles describing atropic rhinitis and ozena, mentioning the probable causes as well as the medical and surgical aspects of its correction. Proud [9] stimulated renewed interest with his acrylic implants. Ogura [8] and Saunders [10] have reported cases in which bone grafts were used to decrease the internal measurements of the nasal cavity. Ersner and Alexander [11] reported a series of cases of atrophic rhinitis and ozena treated by a modified one stage procedure. The significant fact that Ersner [11] mentioned was "in atrophic rhinitis and ozena, it is an established fact that the upper lateral cartilages diverge from the septal cartilages and that the valve action is lost." Cottle [12] has clearly presented his observations on the present status of nasal atrophy, atrophic rhinitis, and ozena. In addition, he illustrates the nose narrowing by rhinoplastic procedures and by decreasing the interior of the nose by implanting of cartilage and bone. He also states that these procedures should be augmented by the newer antibiotics, corticosteriods, endocrine preparations and vasodilators. He emphasizes the need of repeat operations at intervals of ten to twenty months for obtaining adequate results in the more severe cases.

As shown by the many articles written on the wide nose, the authors are aware of the problem but have been unable to present a uniform scientific approach to it. However, we feel that there must be some way to present the

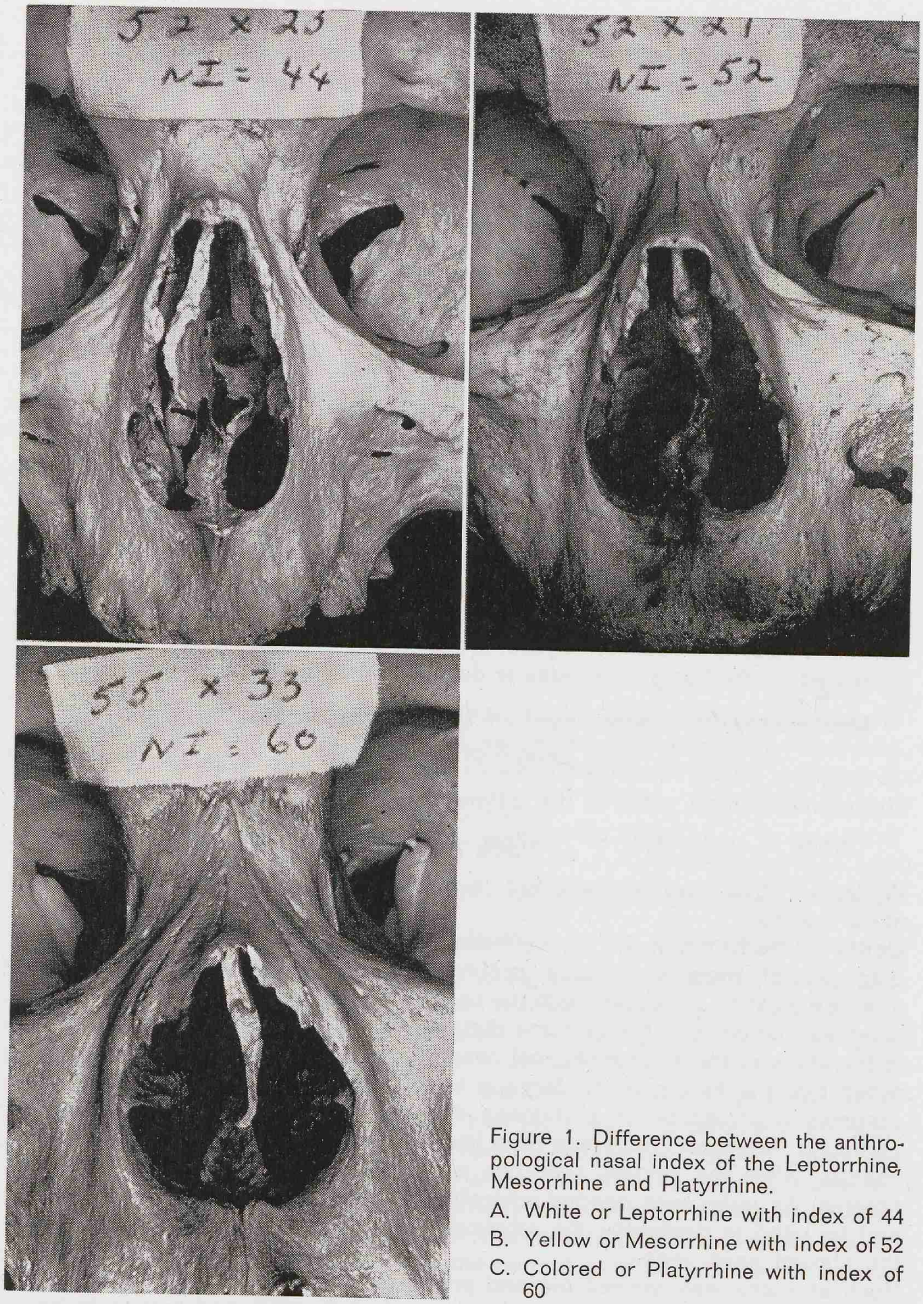



Figure 1. Difference between the anthropological nasal index of the Leptorrhine, Mesorrhine and Platyrrhine.

A. White or Leptorrhine with index of 44
B. Yellow or Mesorrhine with index of 52
C. Colored or Platyrrhine with index of 60

definition and etiology of the abnormal wide nose. The presentation should consider the anatomy of the normal nose including the common racial

characteristics; the effect of injury and subsequent growth resulting in a flattening of any or all of the nasal structures, and present a way of evaluating the syndrome of symptoms associated with this type of deformity.

**Methods of Determination of the Wide Nose**

Before it is possible to determine the wide nose, it is well to review the methods of evaluating the normal nose. The nasal indices have been used by anthropologists for the precise purpose of distinguishing the various races of mankind. Topinard [13] in 1878 described the "anthropological nasal index" as determined by measurement of the length of the nose on the skull as the widest distance between the two pyriform crests. The anthropological index is determined in the following way:

$$\frac{\text{Nasal width} \times 100}{\text{Nasal height (length)}}$$

The findings indicate that skull measurements by the use of this index can be divided into three basic types. The negro race shows the nasal aperture to be wider and shorter than in the white race.

Although there are many articles on anthropological nasal indices showing racial differences, there is no indication that this index could be applied clinically. In 1954, Cottle [14] suggested a "clinical nasal index" and showed its value in rhinologic problems. The clinical nasal index is the ratio of the maximum width between the pyriform crests and the total length of the nose measured on the living. The index is determined by the following formula:

$$\frac{\text{Maximum width between pyriform crests (measured on the skin)} \times 100}{\text{Length of the nose}}$$

The normal clinical index in the different races is:

White — under 61 Yellow — 61-65 Colored — 65-80 or above

Williams [15] has given an excellent review of the practical application of the nasal indices.

Cottle [16] stresses that the clinical nasal index is an aid in the evaluation and diagnosis of some rhinological problems. Not only the width of the nasal aperture must be consistent with the race of the individual, but the soft tissues must also conform to the patterns dictated by the underlying bone.

In the study of the anthropological nasal index and clinical nasal index, it was noted that the lobule, in conforming to the contour of the underlying bone, assumes a projection or a flatness depending on the ethnic origin of the particular individual. The white race has a projecting tip with vertical elliptical nostrils, while the colored race has a flat, broad lobule with round or oval nostrils. An index was needed whereby the tip or lobule could be measured and be used to determine the ethnic origin of the individual in keeping with the clinical nasal index.

Such an index was worked out and presented by Cottle [16] which was called the "tip index". It had been actively demonstrated, used, and proven to be of great value in combination with the clinical nasal index. It is computed by the use of two non-osseous points. The first measurement is taken of the alae at

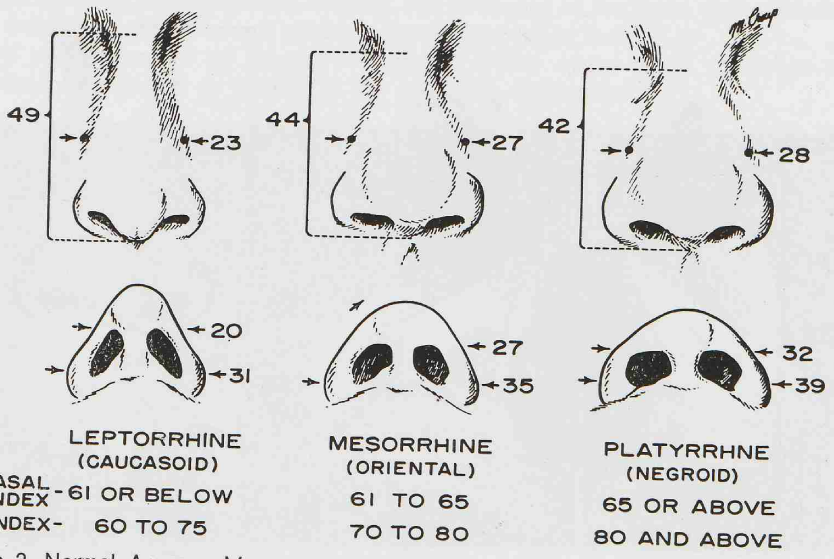



Figure 2. Normal Average Measurements of the Three Races.
A. White or Leptorrhine.
B. Yellow or Mesorrhine.
C. Colored or Platyrrhine.

the level of the apex of each nostril. The second is taken at the widest lateral expansion of the alae. It is computed as shown in Figure 3 C. The configuration of the nasal tips of the three races are indicated as T.I. in Figure 2.

$$\frac{\text{Width at level of apex of nostril} \times 100}{\text{Width at widest expansion of the alae}} = \text{Tip Index}$$

The measurements, as determined in normal cases in the different races:

White 60-75 Yellow 75-80 Colored 50 or above

Schultz [17] in a study of 320 fetuses (254 white and 58 colored) found that the clinical nasal index was different between the two races even in fetal life. He also found that the nasal index decreases in both races after birth and consistently shows the same difference. These differences remain about the same until around the age of five or six. Thereafter, in the normal white child, the nostrils have a tendency to narrow and increase in anteroposterior projection with a decrease in the clinical nasal index. In the colored child, the nose becomes wider and more flattened and the nostrils become oval with an increase in the clinical nasal index. It is before the age of five that the white child's nose has a higher nasal index with the contour of the nose of a colored child. At this time, it can be stated that the normal wide nose occurs in young children.

**Definition of the Wide Nose — Normal and Abnormal**

An injury to the nose of a white child either during fetal life, delivery, or later

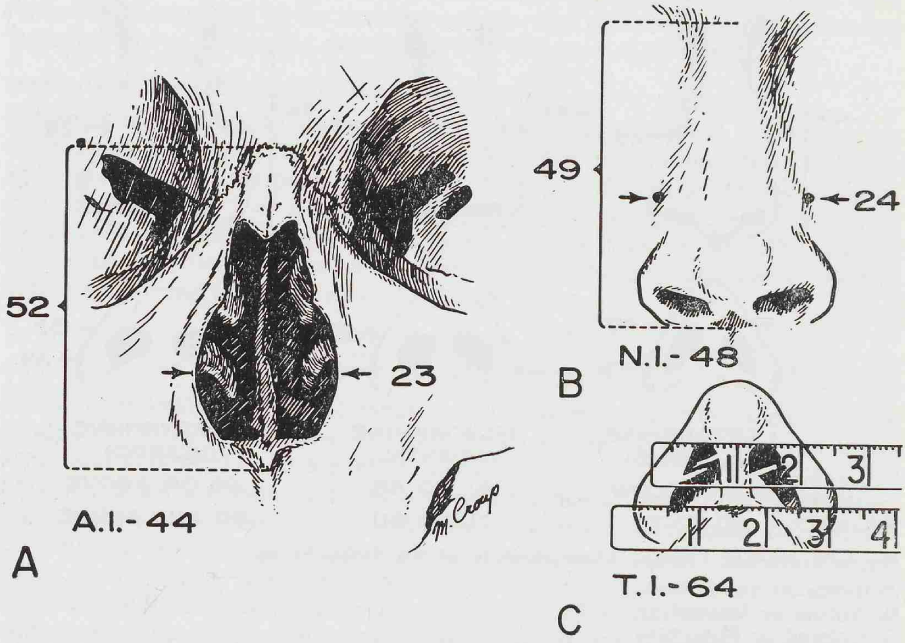



Figure 3. The method and measurements of an individual of the same race.
A. the anthropological nasal index of a white man
B. the clinical nasal index of a normal white man
C. the measurement of the tip index of white man

will interfere with the normal growth pattern of the bones of the nasal aperture. The distance between the pyriform crests remain wide, and the soft tissues including the lobule will follow the pattern of the altered growth of the bone. Thus, the injured nose of a white child assumes the appearance of a normal colored child's nose. The clinical nasal index then continues to be high even as the child grows into adulthood. It has been stated by a number of authors [18], that from their observations, early nasal injury influences the growth and development of the nasal and facial structures. Their opinion is that the most pronounced types of saddle nose invariably have their origin in early childhood before full size of the nose is attained. Due to early injury and its characteristic deformity, it has for a long time been classified as "congenital saddle nose".

Injury to the adolescent or adult cartilaginous or bony pyramid is also a common occurence. These injuries are as much a problem as those acquired in childhood, but are not so important from the growth standpoint. As a result of injury, the nose in the white man may have the loss of projection and may become widened, shortened or flattened. When loss of projection occurs in a white person's nose as a result of injury, the nasal septum becomes fractured with a decrease in anteroposterior projection. Most important is the flaring out or ballooning of the upper lateral cartilages away from the septum. The lobule

is also involved with flattening, flaring, and widening of the base of the lobule, and the shape of the nostril changes from elliptical to ovoid.
There are a number of structural changes which occur when the nose is flattened by injuries as shown in the following illustration:

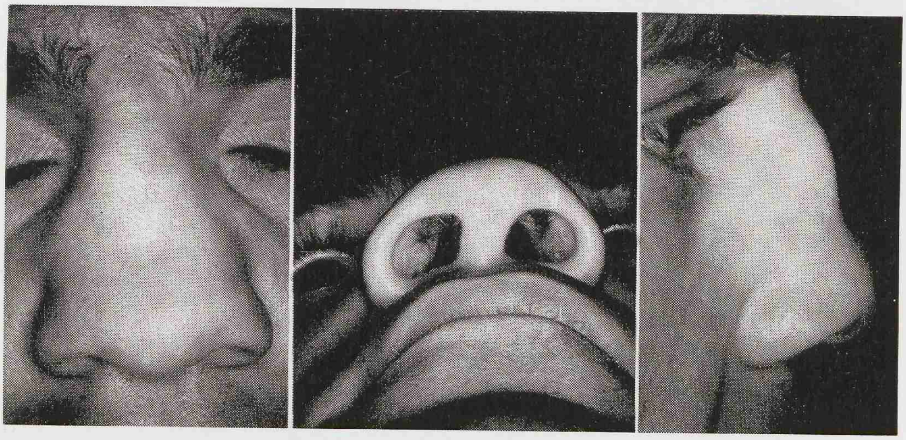


Figure 4. Views of a Typical Wide Nose in the White Race.
A. Front View — wide nasal pyramid with high nasal index. Saddling of the cartilaginous vault.
B. Base View — Broad flat dependent nasal tip with short columella and round or oval nostrils.
C. Side View — Loss of projection of the tip. Saddling of cartilaginous vault and severly retracted columella and lengthening of the upper lip.

From these findings, we can formulate the definition of the abnormal wide nose.

1. The wide nose has a greater width between the pyriform crests in proportion to the height than is normal for the race.
2. The wide nose is one in which the internal nasal measurements show that the distance between the nasal septum and the lateral walls is greater than the average individual of the specific ethnic group. This may be unilateral or bilateral. The clinical nasal- and tip index may be normal.
3. The wide nose is one in which the anteroposterior diameter is less than that found in the average individual of the specific ethnic group. This loss of projection gives ballooning of the upper lateral and lobular cartilages, ovoid or flat nostrils with widening of the base of the lobule.

**Etiology of the Abnormal Wide Nose**

The abnormal wide nose is the injured nose, the result of trauma and infections, with the resultant scar tissue pull and distortion of contour. The following causes contribute to the formation of this deformity:

1. Nasal injuries before the age of three or four years may influence the growth and shape of the nose. Trauma may occur during fetal life, during delivery, or any time thereafter.

2. Infections in early childhood, acute ethmoiditis, septal abscess, and acute osteomyelitis of the nasal bones with scar tissue replacement.
3. Severe trauma with comminution and backward displacement of the nasal structures. Injury may be the result of one severe blow or many repeated traumata.
4. Excessive removal of septal components during surgery without replacement.

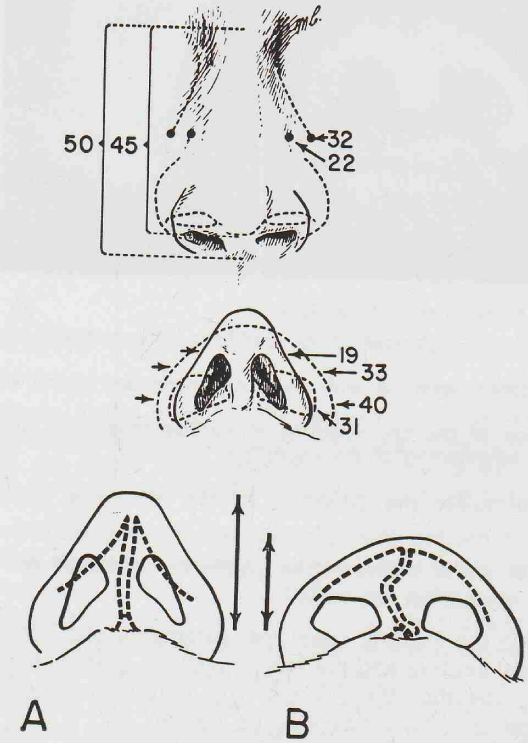



Figure 5. This illustration represents changes that take place as the result of an injury in a white person showing altered measurements as influenced by injury and growth factors.

A. Normal relation of upper lateral cartilage to septum.
B. Loss of height with ballooning or marked divergence of upper lateral cartilages from the septum.

**The Surgical Anatomy of the Wide Nose**

Basically, the structures of the different races are the same except for the racial variations and their relationships to each other. We are interested in the injured nose whereby our knowledge of the changed contour can be applied to surgical correction for the relief of symptoms.

Anatomically, the nasal pyramid is divided into three portions each of which are divided into three parts. They can be remembered by the number 3. The normal relationship of all 9 parts to each other is the key to normal or disturbed anatomy.

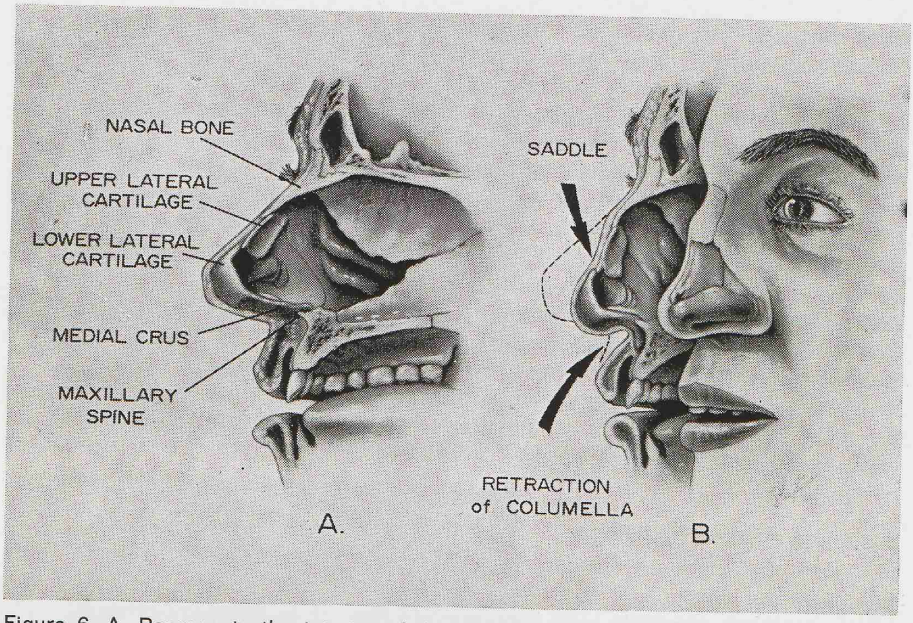



Figure 6. A. Represents the interior of the normal nose.
B. Represents the injury, the flattening and the downward pull of the fibers from healing plus growth factors.

1. **The bony pyramid** comprises (a) nasal bones (b) frontal spine and (c) frontal processes of the maxilla. These are not affected to any degree except by considerable trauma.
2. **The cartilaginous vault** is made up of (a) the attachment area extended to beneath the caudal edge of the nasal bone for 2 to 10 mm. It is affected by downward displacement in fractures of the nasal bones (b) upper lateral or roof cartilage, fused to anterior margin of the septal cartilage, makes up the greatest part of the mid-portion of the nose — is carried out of alignment by face which in turn affects the position and integrity of the septal cartilage (3) the terminal end of the upper lateral cartilage is free and movable, attached only by fibrous union and acts as the movable part of the valve. The fixed part of the valve is the septum. Normally the upper lateral cartilages is convex and forms about a 10° to 15° angle from the septum. This relationship controls the velocity, resistence and direction of the air currents. Loss of height of the nose will cause divergence, flaring out or ballooning of the upper lateral cartilage. (Figure 5B.)
3. **The lobular cartilages** is made up of (a) the medial crura (b) the lateral crura, and connected by (c) the dome cartilage. The cartilages are horse-shoe shaped, flexible and gives configuration to the nostrils and its relationship to the terminal end of the upper lateral cartilage, acts as an accessory part of the valve. Loss of height of the bony and cartilaginous vaults will affect the height and shape of the lobule through its fibrous attachments.

Each cartilage that makes up the cartilaginous pyramid is encased in its own fibrous envelope. These fibers then decussate to make a fibrous band or aponeurosis which acts as a flexible membrane to allow freedom of movement between the neighboring cartilages — the most distinctive of these being (1) the terminal end of the upper lateral cartilage, (2) the fibers between the caudal margin of the upper lateral and the cephalic margin of the lower laterals, and (3) the fibers of the membraneous septum. The importance of these cartilaginous envelopes and their attachments to each other by this fibrous aponeurosis allows a flexibility that is of utmost importance. Preservation of the mucosa with these fibrous bands between the cartilages is necessary for normal function. Excision of excess mucosa with the aponeurosis in reshaping the cartilaginous and bony structures as in the conventional rhinoplasty will freeze the normal movements of these cartilages. Scar tissue is already present in excess, but preservation of all normal membranes will preserve this function to a great degree. Unnecessary excision of tissue increases scarring with decreased control over the inspiratory and expiratory air currents.

**Pathology of the Wide Nose**

Injury to the bony or cartilaginous portions of the nose at any age may influence the contour of the nasal pyramid and will often result in a nose which in many respects will simulate a nose of a different ethnic origin. Trauma, surgical or otherwise, pre-natally or post-natally, and its effect on subsequent growth may cause a white person's nose to assume the characteristics and measurements simulating that of a negro. In other words, injury to the Caucasian nose to the extent of disturbing the totality of the septum, will produce a widening and flattening in direct relationship to the severity of the trauma.

When loss of projection occurs in white persons as a result of injuries, the nasal septum will have been fractured or otherwise dislocated with loss of height. This tip becomes flattened, the base of the lobule widens, and there will be an associated tendency of the alae to flare and the nostrils to become round or oval. This widening of the base of the lobule changes the size and shape of the nasal vestibule and its normal relationship to the valve and turbinates.

The flattening of the tip associated with the loss of height of the bone and cartilage, the fibrous sheaths that connect the cartilagenous envelopes serve to cause a downward pull creating a characteristic deformity of the upper and lower lateral cartilages known as ballooning (Fig. 7A). The excessive width in the dome area of the lobular cartilages not only affect the relationship of the vestibule, but also serves to increase the downward pull on the upper laterals. When this loss of anteroposterior height of the nose occurs with decrease in height of the septum by loss of totality, the upper lateral cartilages will assume a concave relationship toward the nasal septum. This ballooning causes widening of the vestibule, an increase in width of the vestibule and pyriform aperture with loss of valve action.

In addition to flattening of the nose from injury followed by ballooning, this saddling and widening of the cartilaginous vault causes decreased projection

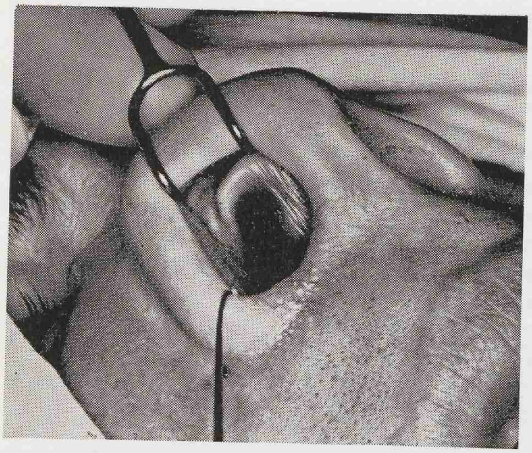
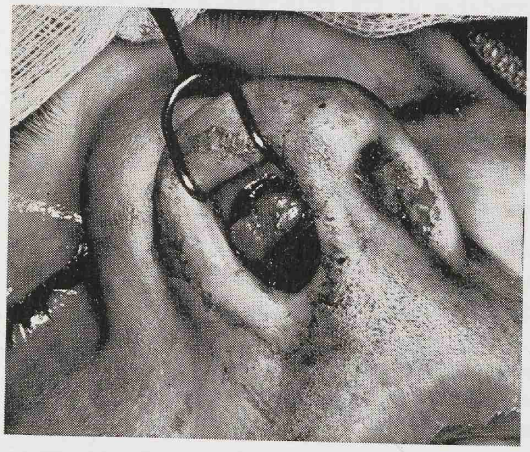
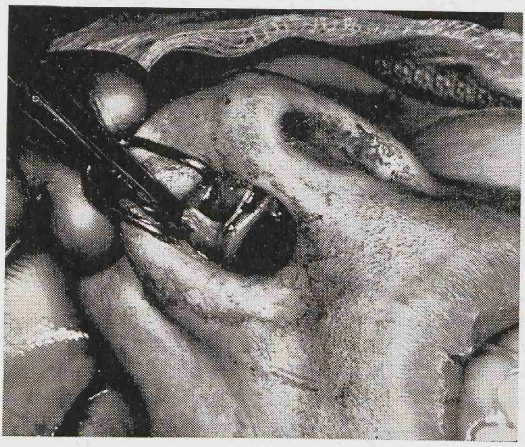


Figure 7. A. Photograph of actual returning combined with ballooning.



B. Surgical exposure of caudal end of upper lateral cartilage, showing complete returning.



C. Same — showing partial excision to demonstrate the degree and extent of this returning. Returning involves only the attached to the septum by fibrous tissue.

of the lobule. The deformity affects the terminal end of the upper lateral cartilage causing it to roll back on itself. There are varying degrees of deformity from the slight to complete rolling back of the cartilage on itself (Fig. 7C). This results in a stiffness with loss of valve action.

**Clinical Findings in the Wide Nose**

The patient with a wide nose has many symptoms, often not recognized as associated with the structural imbalance found in the wide nose. This imbalance may be indicated by the use of the clinical nasal and tip indices. These indices (Fig. 2) are of definite value when applied in disturbances of function of the nose. They are used to measure the relative proportions between the internal and external nose. The internal nose is that part that is medial to a line created when the nose is that part that is medial to a line created when the nose is removed flush from the face. This exposes the nasal chambers and its structures, and this opening is the "nasal aperture" which is measured by the clinical nasal index.

Williams [15] in his work in the positions of the turbinates in the white and colored race showed a consistent difference of the structures between the two races. The lower turbinate in the white averaged 23 mm above the floor of the nose while the colored showed an average of 27 mm.

The tip index measures the size and shape of the lobular structures and the difference between the races. Whenever these indices do not prevail in their appropriate ethnic group, severe nasal disharmonies occur. These disproportions exist in the wide nose and are:

Type 1. A high nasal index in a white individual with a high tip index showing a low, wide, flattened nasal pyramid. This is the basic external characteristics of a negro, but with the internal nasal chanbers of a white man. (Figure 4)

Type 2. A normal nasal index in a white person but with a tip index of that of a different race. This indicates a normal bony pyramid and the internal nasal structures of a white man but with the lobule of a negro.

The clinical application of this nasal index and the tip index is of special interest in cases as indicated under Type 2. The use of these indices will indicate that a disproportion occurs more frequently than is realized and accounts for frequent unexplained nasal symptoms or general physical complaints not usually associated with a nasal dysfunction. It is true that there are many indefinite complaints where a wide nose is present that are never associated with the nasal deformity.

Tabulation of my records show that the following symptoms occur most frequently in the wide nose syndrome:

1. Crusting and occasional bleeding: definite dry nose.
2. Stuffiness of the nose even in presence of wide osteum and internal nose.
3. Changes in ability to smell and taste.
4. Indefinite facial pains with or without sinusitis.
5. Headaches — low frontal or deep between the eyes.

6. Post nasal discharge — thick tenacious.
7. Chronic sore throat.
8. Recurrent stuffy ears, and/or chronic discharging ear.
9. Chronic persistent cough.
10. Chronic tracheobronchitis.
11. Chronic fatigue — decreased work capacity.
12. Interference with sleep and rest.

**Methods of Evaluation for Treatment**

Although the patient has many symptoms of disturbed function, he does not associate his symptoms with the deformity. He is usually aware of the changed contour and desires surgery for cosmetic purposes. A detailed examination will reveal that the patient has complaints that he does not connect with his disturbed nasal physiology.

A thorough history and examination of the patient is necessary preoperatively. After complete evaluation, the taking of photographs, the making of masks as well as a study of the general medical condition. Keep in mind any emotional instability and possible need for psychatric examination. However, the most important thing is: what does the patient want? He may ignore his symptoms and ask for an improvement in appearance. But here is where we must truely evaluate the patient. What do we want to do? What does the patient need? Listen to his story — this takes time, but invariably indefinite symptoms he does not associate with his deformity, will be found. This is especially true with the wide nose.

Conservative treatment is not successful in the pathologic wide nose. In evaluation of the patient for surgery, an excellent test is the use of the "cotton in the nose" test. Cotton, lambs' wool, Kleenex or ointments may be used in the cul-de-sac of each nostril. Relief of symptoms within 48 hours suggests that a narrowing operation will give improvement to the patient's complaints.

There are many variations of the normal anatomy that do not interfere with function. However, when the normal control of inspiration and expiration through either nostril is abnormal, then these variations become pathological. The objectives of surgery of the wide nose are: the use of every procedure that will aid in the narrowing of any or all parts. This includes the narrowing of the bony and cartilaginous vaults, the re-shaping and narrowing and projection of the lobule. This will correct the widened vestibule and valve area which will correct the ballooning and returning. The procedures whould be aimed at complete preservation of all the tissues, which along with the narrowing of the nasal pyramid will correct or improve nasal atrophy and atrophic rhinitis.

Narrowing of the nose has changed since the time of Weir [3]. There is a better understanding of the pathology and techniques devised to restore function. No one procedure will contribute to the end result, but by gaining one or two millimeters with each procedure, a combination of steps will give a well proportioned nasal pyramid and tip. In such a procedure, all membranes are

preserved. There is a release of tension of the membranes with improvement of the nerve and blood supply, the correction of nasal atrophy, and restoration of good valve action.

The most difficult part of corrective surgery of the wide nose is the handling of the wide base of the lobule and the retracted columella. It has been common practice to insert a strut or batten of cartilage in the columella between the medial crura to correct or prevent further retraction. However, it has been my experience that the insertion of a piece of cartilage in a pocket between the medial crura subjects it to constant pull and pressure. This is not the normal habitat for cartilage, and within a few months absorption occurs with further increase in retraction, increased widening of the base of the lobule and drooping of the tip.

All text books on surgical anatomy of the nose shows the medial crura terminating at about the junction of the lower and middle third of the columella. In my findings in a number of complete dissections, the medial crura does not end at this point. There is a protuberance, acting as a baffle, leading one to believe this to be the terminal end. It continues downwards to the maxillary spine at which point it separates and continues lateralward for several millimeters along the floor of the nostril.

To my knowledge, the length and position of the terminal end of the medial crura has not been described in the literature. Since this fact occured consistently, I have found that these medial crura could be dissected free, completely mobilized and used surgically to aid in the correction of the retracted columella. The need for insertion of grafts or battens is completely eliminated. The medical crura can be utilized to provide stiffening and rigidity. They are always present, but being distorted, it is necessary to undermine free and move them into normal position. A mattress bunching suture through the base of the columella will place these structures forward and be held there by the projection of the maxillary spine. This aids in projection of the retracted columella and tip. Success of this procedure depends on complete freedom of the surrounding tissues and structures.

The immediate postoperative dressing of the nose is as important as any surgical step of this operation. The nostrils are packed with one-half inch strips of dry packing moistened with cod liver oil. These strips are telescoped into each nostril, firmly but not tight. This should not be thought of as a pack, but as an internal splint used to provide a rounded mass over which the freely mobilized nasal structures fit and drape. The external dressing of adhesive tape serves the purpose of holding the nasal structures in firm apposition and preventing any swelling or collection of blood in any of the planes that would cause postorperative scarring with a poor postoperative result. In addition to the regular tape dressing, one-half inch adhesive strips are used to go down one side of the nose around the base and across to be placed firmly on the cheek. A second strip is placed on the other side of the nose and crossed to the opposite cheek. Several of these criss-cross strips are applied. They firmly press the alae together, providing firmess to prevent hematomata and sturdiness to prevent movement that would disturb healing. This criss-cross tape splint is supplemented by a dental stent mold which also prevents edema and ecchymosis. A pressure dressing of foam rubber is

placed over the eyes and held snugly by Kerlex or Kling for twenty-four hours. This prevents extensive swelling and ecchymosis with a minimum of postoperative swelling.

## SUMMARY


1. The nose, due to its position and prominence is subject to frequent injuries. Trauma to the nose, plus growth factors, will cause a variety of deformities. In this paper, the broad flat nose, the deformity known as the "saddle" or wide nose is discussed.
2. The normal wide nose is found in the negro and young children of all races. The abnormal wide nose is found in the white adult, where the deformity presents the appearance and measurements of that of the negro.
3. All types of pathology are found in the wide nose: atrophy, hypertrophy, mucosal tensions, and cartilaginous deformities. The wide flaring nostrills alters the intra nasal pressures with loss of normal resistence and velocity to the air stream.
4. The patient presents a symptom complex consistent with the pathology of the abnormal air space and may be referred to as the "wide nose syndrome". These symptoms are usually not associated with this nasal deformity.
5. Conservation treatment is not successful in the well established case.
6. The rationale of surgery of the wide nose is to narrow the nasal structures enough to re-create normal nasal pressures and the normal air stream requirements.


## LE NEZ CAMUS


1. Du fait de sa position proéminente, le nez est sujet à de fréquents accidents. Un traumatisme, ajouté aux facteurs de croissance, peut causer toute sorte de déformations. Nous discuterons ici du nez camus, déformation connue sous le nom de „nez ensellé", ou nez affaissé.
2. Il est normal de trouver le nez camus chez le Noir ou l'enfant très jeune de toute race quelle qu'elle soit. Il est anormal de le trouver chez le blanc adulte, où la déformation présente l'aspect et la taille du nez chez le Noir.
3. On trouve toute sorte de types pathologiques dans le cas du nez camus, atrophie, hypertrophie, tension des muqueuses et déformation du cartilage. Les narines largement dilatées modifient la pression intra nasale, causant une perte de la résistance et de la vitesse normales du flux d'air.
4. Le patient présente un symptome complexe en rapport avec la pathologie d'un espace anormal, symptome que l'on peut appeler „syndrome du nez plat". Généralement ces symptomes ne sont pas liés à la déformation nasale.
5. Dans les cas bien établis, le traitement habituel ne réussit pas.
6. Le but de la chirurgie du nez camus consiste à rétrécir les structures nasales suffisemment pour recréer une pression normale et le flux normal d'air requis.

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