

A New Twist in Nasal Tip Surgery

An Alternative to the Goldman Tip for the Wide or Bulbous Lobule

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• When the cartilaginous framework in the tip of the nose fails to provide adequate support and definition, the rhinoplastic surgeon must create strength and refinement. To achieve these results, we advocate a new twist of an old concept that can be used to create a stronger, more triangular lobule in the wide, bulbous, or bifid tip. Morselizing, incising, and suturing alar cartilages have long been recognized as adjunctive procedures in tip rhinoplasty; however, the specific method described herein can provide results comparable to the classic Goldman tip while guarding against the possibility of cartilage displacement and mucous membrane entrapment.

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Surgical correction of the nasal tip is often considered to be the most difficult component of rhinoplasty.¹ The wide, boxy, bifid, or bulbous tip poses a special problem in that total reconstruction of the alar domes is often necessary. Achieving the desired appearance while maintaining functional support can often be difficult and requires careful preoperative analysis and design. Due to the artistic nature of rhinoplastic surgery, the surgeon must be able to conceptualize

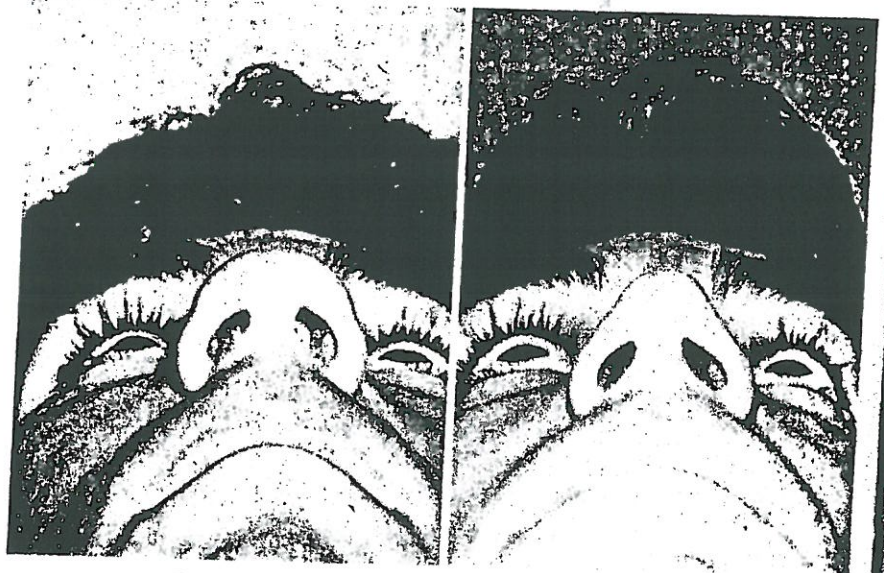


Fig 1.—Preoperative (left) and postoperative (right) views.

the aesthetic character of an "ideal nasal tip" and as part of the surgical armamentarium be prepared to use one of several techniques to obtain the desired cosmetic result.² The "ideal" aesthetic dimensions have been carefully documented in the literature and should represent the basic analytical considerations in choosing the most appropriate surgical design.³

The principles of trimming, incising, morselizing, and suturing alar cartilages are not new; therefore, no claim of uniqueness is made for that concept. To our knowledge, the specific technique described herein and how

these principles are used to reconstruct the alar domes have not previously been published. The surgical creation of the "double-dome unit" we describe herein could replace some of the more "classic" procedures that have been previously used in an attempt to obtain maximum tip projection and definition. It will be useful for the surgeon who wishes to defer complete vertical interruption of the alar cartilages or to omit the use of cartilaginous grafts, battons, or struts sometimes needed to help maintain tip support.

The technique that follows not only

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Fig 2.—Left, Preoperative view. Right, Cartilages delivered and complete strip performed (horizontal excision of cephalic portion of lateral crura).



Fig 3.—Morselization is carried out in a specific manner so as to create new dome. Note only alar and lateral components are morselized. Apex of dome is not morselized.

ieves and maintains tip support also provides increased projection and lobule refinement. It has been performed numerous times by one of (E.G.M.) and has proved to be effective in providing predictable operative results. This method employs sound surgical principles and is an excellent addition to any surgeon's armamentarium. The best

results have been obtained in the wide, boxy, bifid, or bulbous tip in which conventional or more conservative maneuvers fail to provide the desired improvement (Fig 1). On the other hand, if the tip has a nice triangular appearance preoperatively, the most conservative surgical techniques should be employed. The philosophy "If it ain't broke, don't fix it" also

applies in plastic surgery. It is wise not to disturb the aesthetically pleasing features and to concentrate the reconstructive techniques on the features that fall out of the realm of normalcy.

When the cartilaginous framework of a tip fails to provide adequate support and definition, the rhinoplastic surgeon must create strength and refinement. Goldman⁴ accomplished this with bilateral vertical division of the domes, and interruption of the vestibular skin, suturing the two vertically divided medial crural components to each other and securing them to the caudal end of the septum, generally discarding the effect of the lateral crura on tip support. Brown⁵ and others advocated excision of the existing cartilaginous dome and creation of a new one at the point where the newly transected ends of the medial and lateral crura came into apposition, but without suture fixation.

Although we occasionally perform these aforementioned operative techniques, in most cases we choose to defer complete transection of the dome until after the double-dome unit procedure has been attempted. If unsatisfactory, it may be necessary to proceed with complete vertical interruption of the dome of the alar cartilage, creating a more acute angle. The medial and lateral crural components are sutured together; the two domes are then sutured to each other.

TECHNIQUE

Through a cartilage delivery (or an external approach), an intact or complete strip maneuver is performed by a horizontal division and excision of the cephalic portion of the lateral crural component of each lower lateral cartilage. The exposure from either of these techniques is excellent and allows careful assessment and accurate identification of the domes, which is essential in performing the technique we advocate (Fig 2). Once the lateral crural alterations are made, the alar cartilages are replaced to their previous intranasal, nondelivered position. Then nasal tip symmetry, definition, and projection are reassessed. If the results are satisfactory, the incisions are closed; if not, as is usually the case in the wide or bulbous tip, the cartilages are redelivered and a decision is made regarding additional modifications. If tip asymmetry exists, trimming the

excessive portions may sometimes suffice. If either excessive tip fullness or insufficient support exists, then additional dome refinement measures are usually indicated. Although the more conservative approach to tip refinement is advocated as the initial step, in the bulbous tip, additional measures are usually necessary. The surgeon may then proceed to alternative domal reconstructive techniques, with or without fixation sutures.

Should a new dome contour be desired, this can be accomplished by reducing cartilage "memory" with gentle morselization of the medial and lateral components of the dome of the alar cartilages and suturing them together to form a new double dome unit. The specific technique of morselization is all important; if performed incorrectly, further widening of the domes and a loss of tip support and projection occurs, resulting in additional postoperative widening of the lower one third of the nose.

The instrument must be held in a horizontal position so that the dome cartilage can be "tented-up" between the two grids (Fig 3). It is not necessary to use the guard, because the vestibular skin is "sandwiched" between cartilage, which affords adequate protection. The cartilage is crushed, or morselized, only enough to ensure adequate "loss of memory" and to provide a more acute angle between the medial and lateral crura, thereby creating a new physiologic dome. Finesse is essential in this step to avoid "breaking" the cartilage at the point of the new dome with the morselizer, or destroying the integrity and strength of the cartilage with overzealous morselization. The more acute angulation of two newly sculptured domes and their relationship to each other can be maintained with through-and-through mattress sutures (5-0 Dexon or Vicryl) (Fig 4). If necessary, complete vertical interruption followed by mattress sutures can produce even more tip definition. Accurate placement of the sutures is essential to prevent asymmetries. Rather than simply securing one dome to the other with sutures placed through the medial crural component, this suture must be passed in a horizontal mattress fashion through both medial and lateral crura just below the dome to provide additional narrowing and support. By incorporating the lateral crura into the "unit," the more acute angulation of each dome is ensured, resulting in a more triangular and projected lobule while lending more strength to the tip. This technique therefore converts the medial and lateral crura components of both alar cartilages to a single double-dome unit when sutured together.

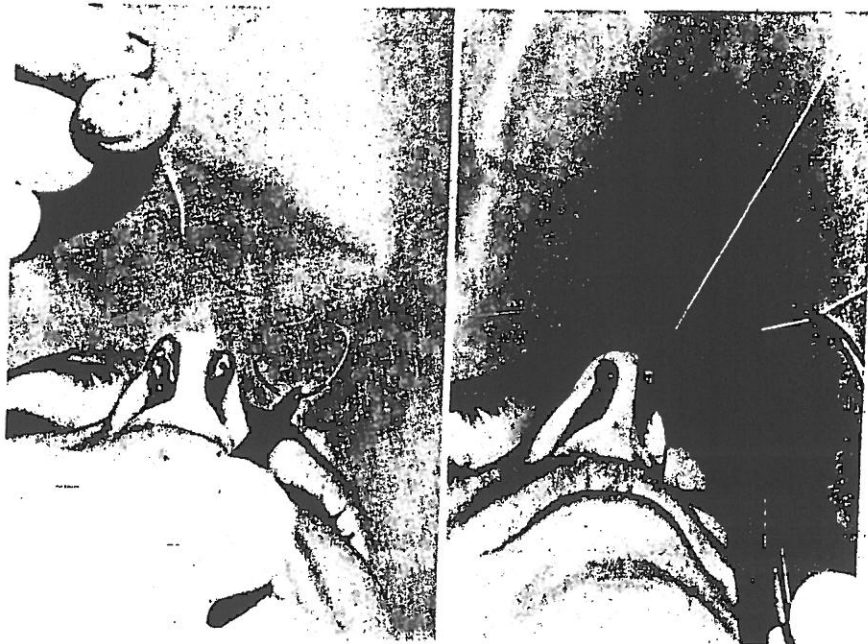


Fig 4.—Proper placement of suture is essential.



Fig 5.—Left, Preoperative lateral view. Right, Intraoperative view. Note tip projection. Rotation was obtained by septal shortening and by repositioning of lateral crura.

The amount of tension on the intradomal suture can be altered depending on the amount of lobule narrowing desired (Figs 5 and 6). The act of morselization or total division and the subsequent development of the fibrous adhesions that form between the domes as a result of the cartilage delivery technique will also help to maintain the position of the newly con-

structed domes after the sutures have dissolved, usually within six weeks. The surgical principle of passing sutures through alar domes in various fashions has been used for many years by us and others. The specific technique of suture placement described herein, however, has provided increased narrowing, projection, and support, which was previously offered only by

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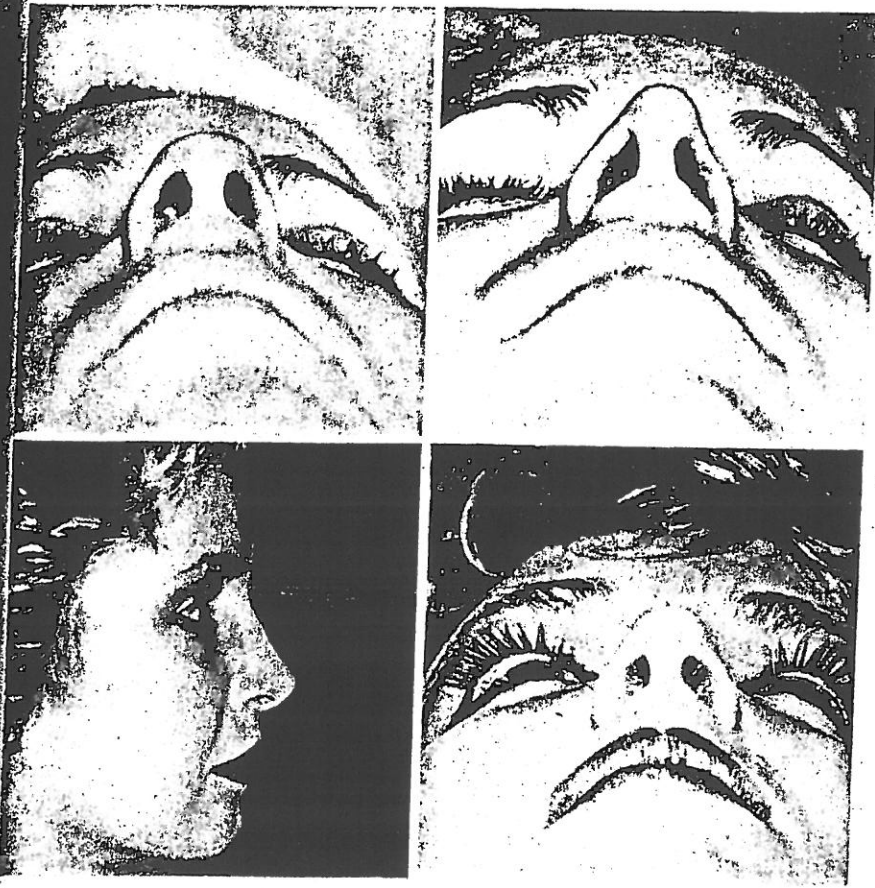


Fig 6.—Top left, Preoperative view. Top right, Intraoperative view following construction of new "double dome unit." Bottom left and right, One-year postoperative views.

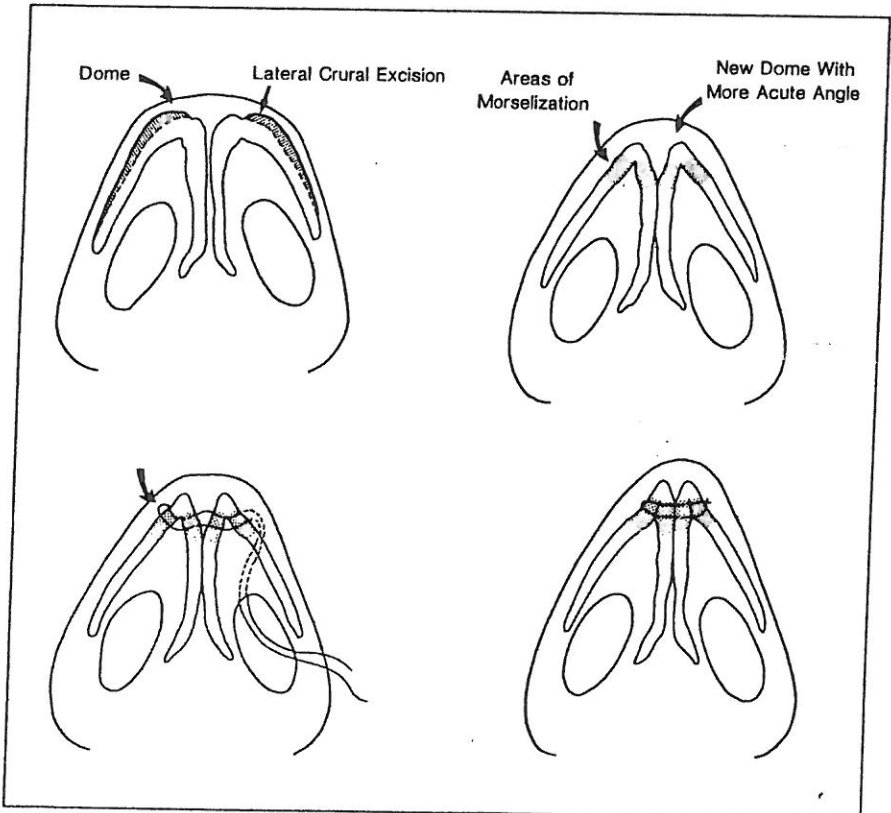


Fig 7.—Top left, Wide and bulbous tip with flat lobule and increased intradomal space. Top right, Some improvement in narrowing and projection with creation of new domes. (Medial and lateral crura of each alar cartilage must be morselized simultaneously.) Bottom left, Placement of suture is essential for symmetry and strength. Bottom right, All components function as stronger "double-dome unit," providing support, increased projection, and lobule narrowing. Incorporating lateral crura into "unit" provides additional lobule definition.

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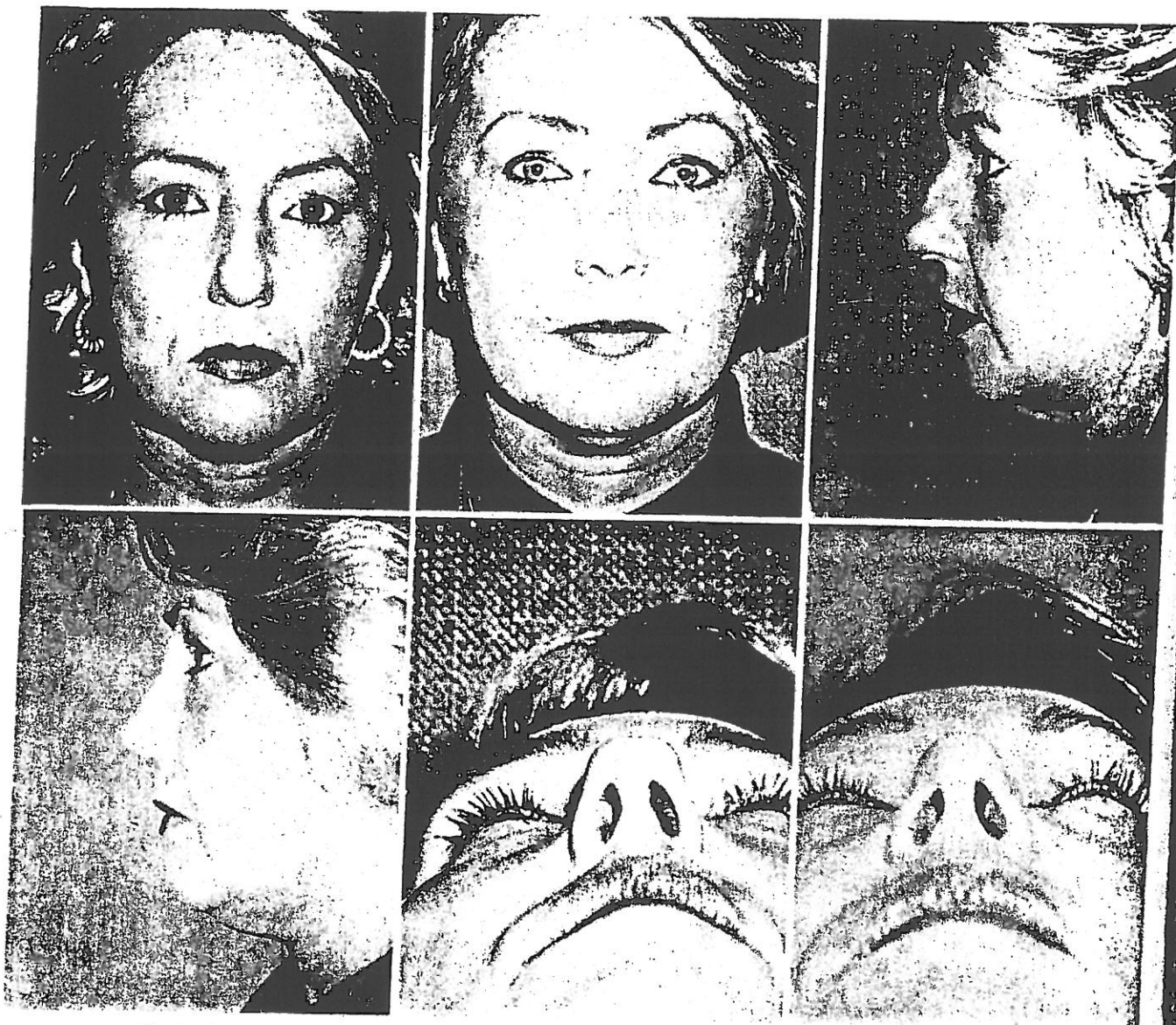


Fig 8.—Top left, Preoperative view. Top center, 12-month postoperative view. Top right, Preoperative view. Bottom left, 12-month postoperative view. Bottom center, Preoperative view. Bottom right, 12-month postoperative view. Correction of boxy or bifid tip was accomplished with technique described herein.

the classic Goldman technique while eliminating some of its potential problems, particularly in the patient with thin skin who has a bifid tip.

Once the suture is tied, both alar cartilages are carefully positioned in the midline, now as a single unit, beneath the skin of the nasal tip. If additional correction of the lobule is desired after morselization, further surgical measures may be appropriate, ie, total interruption, excision of portions of one or both domes superior to the sutures, or placement of additional sutures. The technique used in producing the new double-dome unit is summarized by the drawings in Fig 7.

For the wide, bulbous, or bifid tip this

more conservative approach employing progressive surgical intervention allows the surgeon to stop short of total vertical transection of the alar cartilages if that maneuver is not absolutely necessary to achieve the desired result. Providing the surgeon has the skills and experience, when cartilage interruption is necessary (as is often the case in the grossly asymmetrical tip), he or she should not hesitate to do whatever is needed to accomplish the optimum result; however, knowing when to stop is as important as knowing what to do and how to do it. Once the desired appearance of the nasal tip is achieved (Fig 5, right), attention is directed to the septum, then to the hump removal, and finally to

narrowing the bony pyramid with osteotomies. Care should be taken not to unduly distort the nasal tip during retraction for exposure of other areas, lest the dome sutures be disturbed. After all sutures are placed, a final assessment is made. If necessary, additional adjunctive procedures can be performed (alar sill resections, plumping, or filler cartilaginous grafts, and so on). If creation of the double-dome unit has produced too much projection of the tip, extending a complete bilateral transfixion incision inferiorly toward the nasal spine and freeing the intervening soft-tissue will allow the tip tripod to drop, or retrodisplace back closer to the face, resulting in a reduction in projection.¹

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Fig 9.—Top left, Preoperative view. Top center, 6-month postoperative view. Top right, Preoperative view. Bottom center, 6-month postoperative view. Bottom center, Preoperative view. Bottom right, 6-month postoperative view. Amorphous tip was improved by creation of new "double-dome unit."

Proper application of the nasal dressing is a crucial step in obtaining the maximum aesthetic result. Finesse and caution are especially important for the tip to avoid displacement, pinching, or improper alignment of the newly sculptured tissues. As a part of the internal nasal dressings, a small rolled piece of oxidized regenerated cellulose (Surgicel) is carefully placed inside the nose within the vestibule of each newly constructed dome to add stability during the initial healing phase. Finally, the tip is taped in its desired position and a splint placed over the nasal dorsum. These dressings remain in place for one week. Figures 8 and 9 demonstrate the practical application of this surgical technique.

COMMENT

The procedure described herein is an effort to provide another useful surgical technique in correction of the bulbous, wide, or bifid nasal tip. The surgical principles are sound, and when combined with an approach of progressive surgical intervention, the results can be rewarding. If the surgeon cannot obtain the desired result with simple horizontal excision of cephalic portions of the lateral alar cartilages, then appropriate gentle morselization and/or vertical division with suturing of the newly recon-

structed alar domes to each other, creating the double-dome unit, may provide the desired tip sculpturing.

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