

Chapter 29 . Alar-Columellar Relationship Modification

- *Indications:* In order to evaluate the alar-columellar relationship, the surgeon must understand the ideal aesthetic norm for this anatomic relationship. From the lateral view, the ideal amount of columellar show has been described as about 2 mm to 3 mm.¹ A line drawn from the apex of the nostril to its nadir should divide the nostril in equal halves. A retracted ala is present when the alar rim is greater than 2 mm from this line (Figure 29-1) and a hanging ala occurs when the ala is within 1.5 mm of this line (Figure 29-2). Likewise a hanging columella occurs when the columella is greater than 2 mm from the long axis of the nostril (Figure 29-3), and a retracted columella occurs when the columella is within 1.5 mm of the long axis of the nostril² (Figure 29-4). It is important to remember that there may be a combination of both alar and columellar abnormalities that contribute to the deformity. Proper treatment begins with identifying the etiology and specifically addressing the cause.
- *Markings:* There are no specific markings on the patient that need to be made for planning. However, the precise relationship between the alar rim and the columella is best evaluated on a standard lateral photograph, and a clear acetate overlay allows measurements to be made that aid in diagnosis.

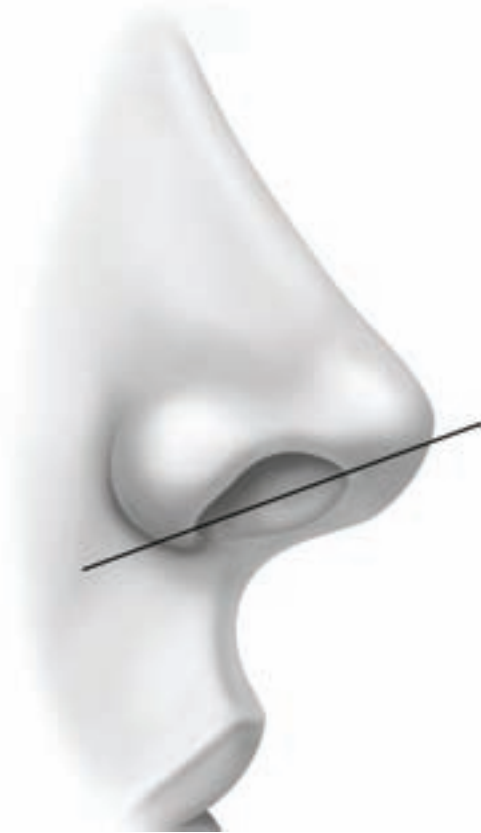


Figure 29-1. Retracted alar rim—Alar margin >2 mm from line.

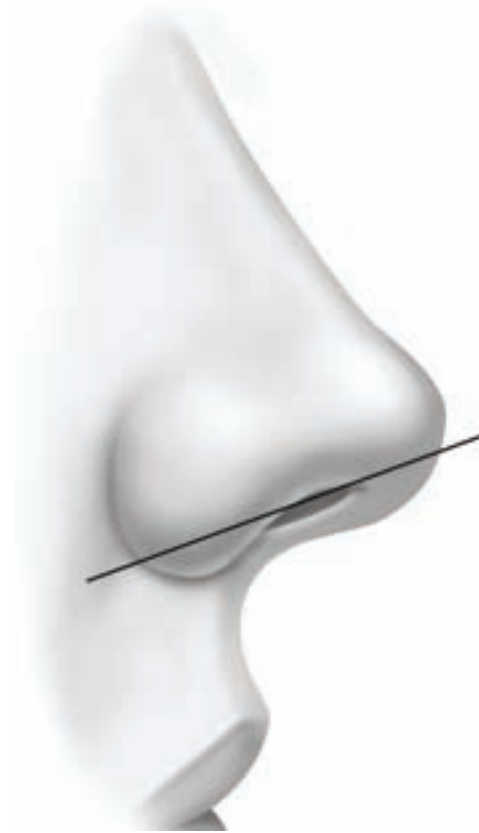


Figure 29-2. Hanging alar rim—Alar margin within 1.5 mm of line.

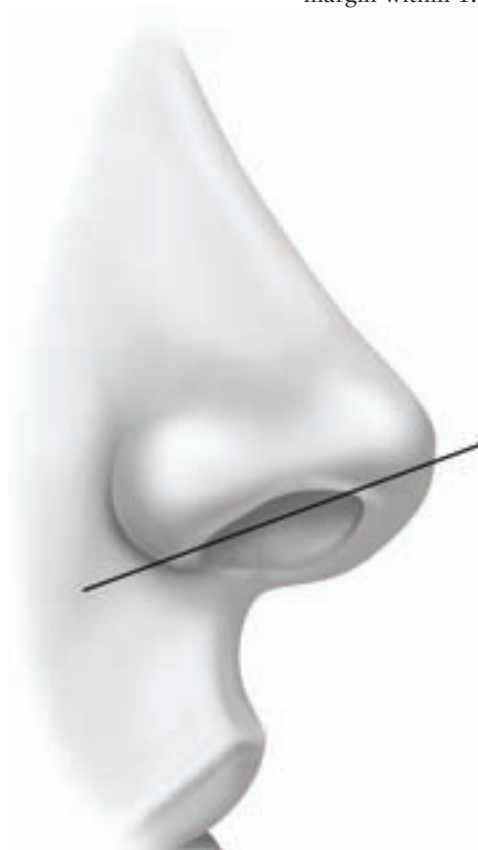


Figure 29-3. Overhanging columella—Columella >2 mm from line.

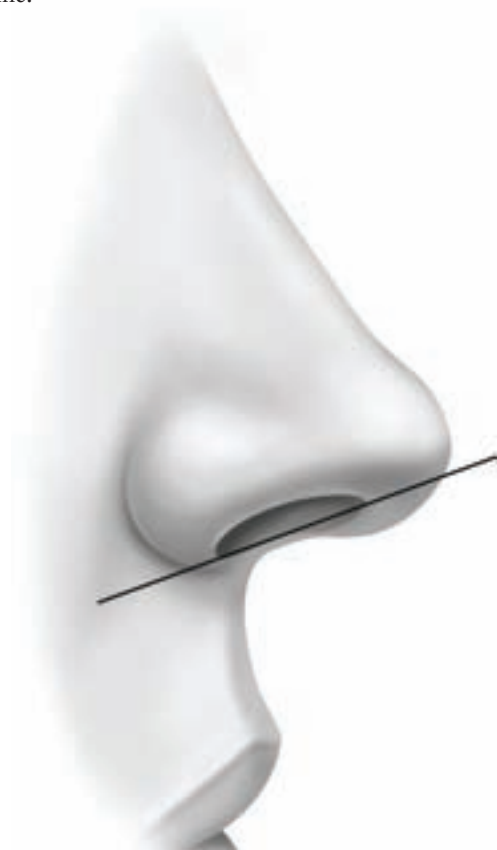


Figure 29-4. Retracted columella—Columella within 1.5 mm of line.

- **Technique:**
 - Several treatment options have been described for patients with excess columellar show due to a retracted alar rim and a normally positioned columella. An alar batten graft may help for minor retractions less than 1.5 mm. Alar batten grafts work better in primary rhinoplasties than in secondary rhinoplasties and may require additional support from a lateral crural strut graft in the scarred secondary rhinoplasty patient.³ For larger degrees of alar retraction, a composite graft may be indicated. The internal surface of the rim is incised along the inferior aspect of the lower lateral cartilages similar to a standard rim incision. With gentle spreading of the soft tissues, the alar rim should rotate inferiorly to diminish the amount of lateral columellar exposure. The resultant opening is then filled with a graft of relatively stiff tissue, such as palatal mucosa, a combination of septal cartilage and mucosa, or a composite graft of conchal cartilage and skin. The graft is sutured to the periphery of the wound with 5-0 chromic sutures. A third option has been described by Guyuron.⁴ A V-Y flap is designed with its apex at the superior internal nostril mucosa directly above the retraction. This incision needs to be incorporated into an open rhinoplasty incision so the V-Y flap's blood supply is not interrupted. A large inverted "V" flap is dissected internally above the retracted ala. It is raised so that the wide part of the "V" is the alar border, and the flap is freely dissected to the alar margin. This maneuver should release the alar retraction and the advanced "V" tissue is now set into its new location. A cartilage graft can be placed under this flap to maintain integrity of the alar rim. The resulting superior interior defect is closed in a V-Y fashion.
 - For patients with excess show due to a hanging columella and a normally positioned alar rim, resection of the medial footplates of the columella, the caudal septum, or both should correct the problem. For defects due to a combination of retracted alar rim and overhanging columella, both deformities should be individually addressed.⁵
 - Conversely, if columellar exposure is diminished and noted to be due to a low hanging alar rim, an incision may be made inside the alar rim and an ellipse of vestibular skin removed. This will elevate the alar rim and improve the amount of columellar show.
- If the etiology is a retracted columella in the presence of normal alar rim position, augmentation of the caudal septum can be performed. A cartilage graft positioned at the inferior edge of the caudal septum between the medial crura of the lower lateral cartilages will push the columella inferiorly and normalize the degree of show. Again, for defects due to a combination of a low alar rim and a retracted columella, each problem should be addressed separately.
- **Postoperative management:** A small packing of petroleum gauze should be left in the vestibule for a day or two, and a tape dressing should be placed across the columella for initial support. If not absorbable, the pack is removed in 24 to 48 hours to minimize the risk of infection.
- **Pitfalls:**
 - The most obvious complications include either under- or overcorrection of the alar rim position. If unilateral, the normal side should be used for comparison. If bilateral, correction should achieve roughly 2 mm of columellar show on lateral view.
- **Tips:**
 - The exact cause of the alar deformity should be carefully determined prior to surgery so that the appropriate intervention is employed.
 - If a graft is required to improve the alar-columellar relationship, slight overcorrection may be advised to combat normal postoperative graft contraction.
 - All attempts should be made to minimize the causes of graft loss, including shear, hematoma, and/or seroma formation in the postoperative period.

REFERENCES

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