

Chapter 28 . Alar Base Modification

- **Indications:** The alar base includes the alar rims as they begin medially at the tip and columella and curve laterally to end at the attachments to the cheek. Ideally, the alar base of the nose should approximate an equilateral triangle with a slight degree of convexity at the alar cheek junction (Figure 28-1). It should provide adequate support to prevent collapse of the external nasal valve and demonstrate minimal scarring. Each has a cutaneous outer portion and an inner vestibular portion with a greater or lesser amount of intervening soft tissue. Preoperatively, the frontal view should identify the width of the alar base (Figure 28-2). Each side should be carefully examined in tandem, as well as separate from one another. In general, the alar bases are slightly wider than the distance between the medial and lateral canthi and should not extend past a vertical line dropped from the medial canthus. Excessive flaring or convexity of the alar bases should be documented if present. The lateral view will identify the cranial-caudal position of the alar base. It will also highlight the position of the alar rim and the columella separately and as they relate to one another (this will be examined separately in the following section). Finally, the basal view will identify the size of the nostril openings and the degree of flaring on each side. The long axis of the nostril should be at a 50-degree to 60-degree angle off a vertical line through the columella, and the nostril to tip proportion should be about 60:40 to 55:45. With careful inspection and palpation, the examiner should judge the quality of the skin and underlying soft tissue. The outer cutaneous surface should be considered separate from the inner vestibular surface. Any external or internal scarring of the skin and/or mucosa should be noted. In some patients, the nostril size and shape are adequate, but the overall inter-alar width is excessive on account of an excessively thick alar rim. In these patients, resection of a greater width of the cutaneous surface versus the vestibular surface might be indicated. Antero-posterior, oblique, lateral, and most importantly, worm's eye views on preoperative photographs are critical to highlight the characteristics of the alar complex.
- **Markings:** The preoperative markings are important to ensure the appropriate amount of tissue is resected. In patients with more malleable skin and soft tissue, the alar base can be gently grasped and advanced towards the cheek to give the surgeon a rough idea of the amount of resection that is both needed and tolerable without undue tension. Calipers should be used to carefully measure the amount of tissue to be excised (Figure 28-3). Certainly, in instances where there is an unequal nostril size, differing amounts of tissue can be resected. Two curvilinear lines are marked on the cutaneous surface perpendicular to the alar rim. The lines will converge over the surface of the nose before advancing onto the nasal sidewall. They should not extend superior to the alar crease to avoid injury to the lateral nasal vessels.¹ The incision should be made 1 mm above the alar-cheek junction to preserve the curvature of the rim and avoid having the scar fall within the alar crease. Variable amounts of lining skin and mucosa can be removed.
- **Technique:** Several alar rim deformities can be encountered. Their characteristics and treatment are discussed below.
 - The ala may appear unnaturally concave when it bends medially and can have several etiologies, including interruption of the lower lateral cartilage, improper placement of a tip graft that extends lateral to the dome, or resection of the lower lateral cartilage. The concavity is best treated with the insertion of an alar rim graft. The graft can be placed through a small incision into a subcutaneous pocket. The pocket can be dissected with iris scissors and advanced along the alar rim.
 - The ala may also appear convex as a result of either an excessively convex lower lateral cartilage or thick alar tissue. When the problem is related to convex lower lateral cartilage, it may be treated with either intradomal sutures or lateral crural spanning sutures depending on where the convexity is located. If the convexity is due to excessive thickness of alar tissue, a small elliptical incision can be made as close to the medial nostril rim as possible. This allows removal of skin and subcutaneous tissue to thin the ala.²

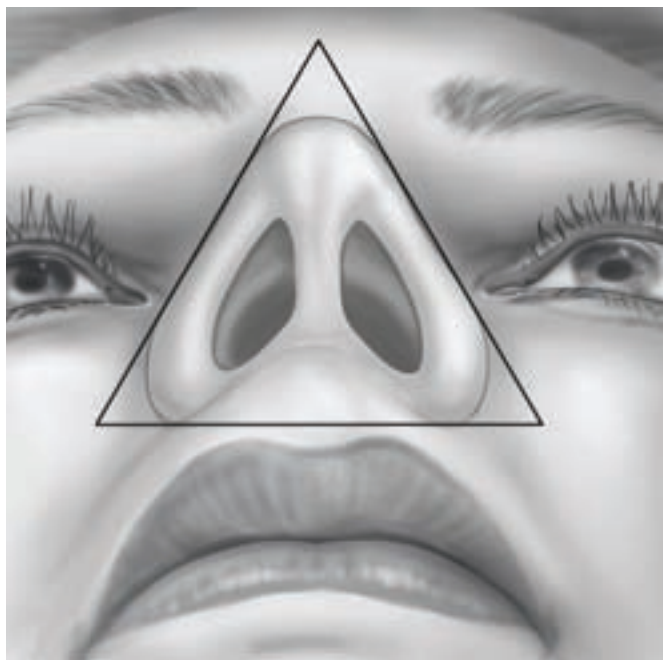


Figure 28-1. Worm's eye view demonstrating the roughly equilateral triangle of the alar base.

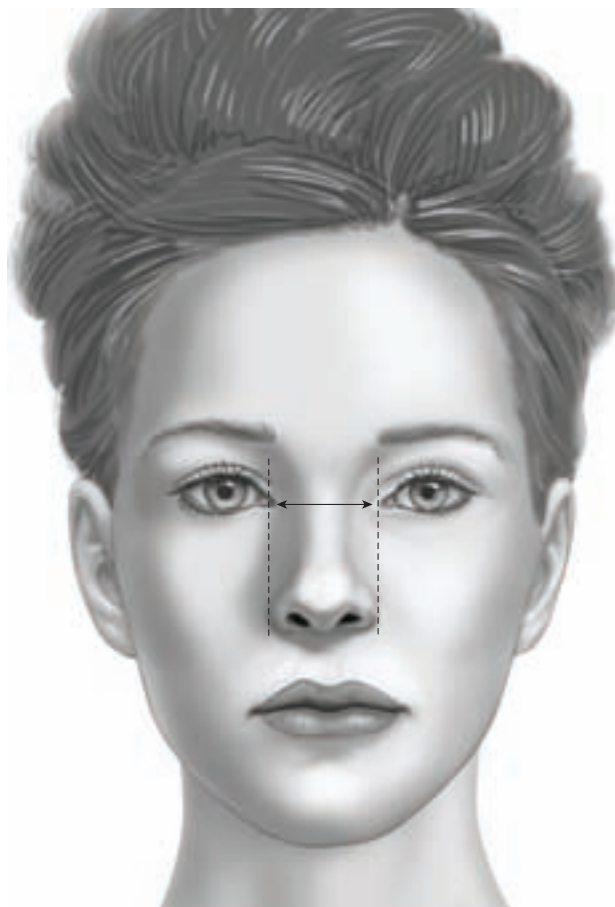


Figure 28-2. The alar width should approximate the distance between the medial canthi.

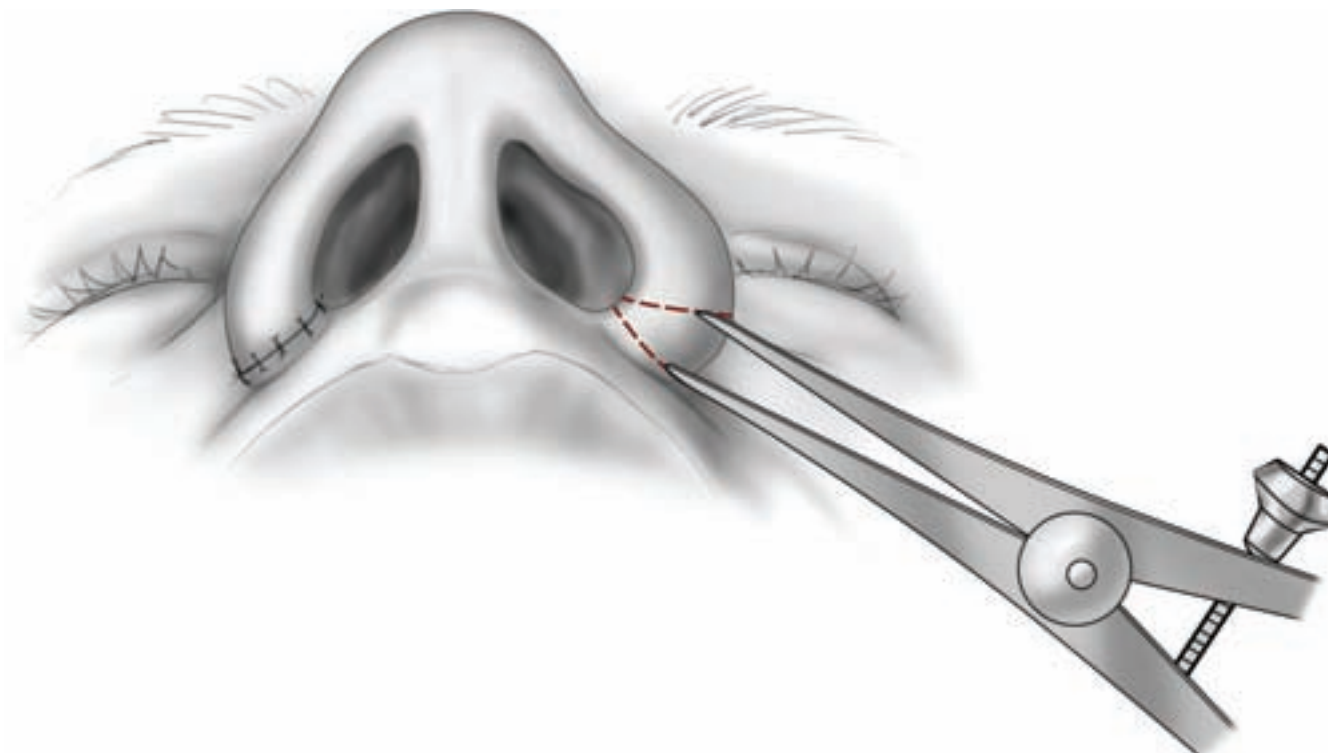


Figure 28-3. Measuring the contralateral alar rim so that symmetrical amounts of skin and soft tissue are removed.

- When resecting part of the alar base, two surfaces are potentially involved: the cutaneous and vestibular surfaces. Excision of the cutaneous surface will only affect the contour of the alar lobule but not nostril circumference. In contrast, excision of the vestibular skin will reduce the aperture of the nostril. The surgeon must assess the degree to which each should be altered independently. In a patient with a large alar lobule and normal nostril area, the lobule should be reduced without the vestibular skin. In a patient that exhibits both a large lobule and nostril, a wedge that includes both cutaneous and vestibular skin may be removed. To start, nearly parallel curvilinear incisions are made at the most lateral margin of the alar rim with a #11 scalpel blade as previously marked. The alar lobule may be steadied with the opposite hand by pinching the rim more medially. The opposite index finger can palpate the vestibular surface so that the knife approaches this inner surface but does not pass through it if the vestibular skin is to remain intact. As noted, a 1-mm edge of lateral alar rim should be spared to preserve the curvature of the rim and improve the appearance of the scar. If a full-thickness resection is required, the incision into the vestibule should cross the nostril edge at a right angle rather than an acute, oblique angle. This leaves a small triangular flap medially, which serves to minimize unnatural notching in the corner of the nostril.³ The incisions are deepened to the level of the mucosa (or through the mucosa) so that a wedge of skin and subcutaneous tissue (and mucosa) is excised (Figure 28-4). Careful hemostasis is obtained and the edges approximated in layers. One or two deep absorbable sutures should be placed to reduce tension on the repair and 6-0 nylon sutures should be placed to approximate the skin edges and removed early to minimize suture marks on the skin edges (Figure 28-5). If mucosa was included in the resection, it is best reapproximated first with absorbable sutures, such as 4-0 or 5-0 chromic gut, followed by subcutaneous tissue and finally skin. Following resection on a single side, the worm's eye view will highlight the desired change in nostril size and shape.
- If the alar base is cranially displaced and medial translocation alone is not shown to drop its position sufficiently, an elliptical wedge of skin at the alar base–upper lip junction may be resected. After freeing the underlying soft tissue attachments of the alar base, the inferior margin is sutured to the new superior aspect of the upper lip with both deep absorbable sutures as well as cutaneous sutures. Similarly, if the alar base is caudally displaced, an elliptical resection of mucosa may be performed within the vestibular lining just above the alar rim to raise the base as the edges are reapproximated.
- If the alar base is laterally displaced, release of the base and addition of a cinch suture may be indicated to narrow the alar complex. This may be done via a gingivobuccal sulcus incision to allow access to the piriform aperture and release of the deep soft tissue attachments with a periosteal elevator. To provide closer approximation of the alar bases, deep bites into the tissue of each ala are taken with 3-0 PDS suture. Two of these sutures are used and are tied so that each ala has a deep knot at its side. The suture should be initially cinched into the desired position with little if any overcorrection.⁴
- In rare instances, the alar complex is wide due solely to a thick alar lobule and the nostril size is deficient. A rim incision is made close to the apex of the nostril internally, and an ellipse of tissue is excised followed by a coring out of thick fibrous tissue. The results of this operation are subtle and it takes time for the edema to resolve.⁵
- *Postoperative management:* Antibiotic ointment can be applied to the suture line in the immediate postoperative period since a dressing in this specific area may occlude the nostril and be difficult to keep in place. Non-dissolvable sutures should be removed within a week to avoid undesirable scarring.
- *Pitfalls:*
 - Excessive resection of tissue at the alar base can lead to obliteration of the normal curvature of the alar rim. Inspection of the nose from a worm's eye view would reveal an unnatural straightening of the alar margin and too acute an angle at the nostril sill.
 - Scarring in the region of the alar base is more noticeable than in other areas of the nose and can be a telltale sign of surgery.
- *Tips:*
 - Care should be taken in designing the appropriate incisions. They should leave a small cuff of skin on the lateral cheek and not extend superiorly past the alar crease. Fine caliber absorbable sutures or permanent sutures that are removed early should also be used.
 - Caution dictates that the more internal lining is removed, the more unnatural postoperative straightening of the alar rim will occur. Therefore, care should be taken in not designing the internal resection margins too widely.
 - Err on conservatism. This is a procedure that can be revised in the office under local anesthesia if more resection is required.

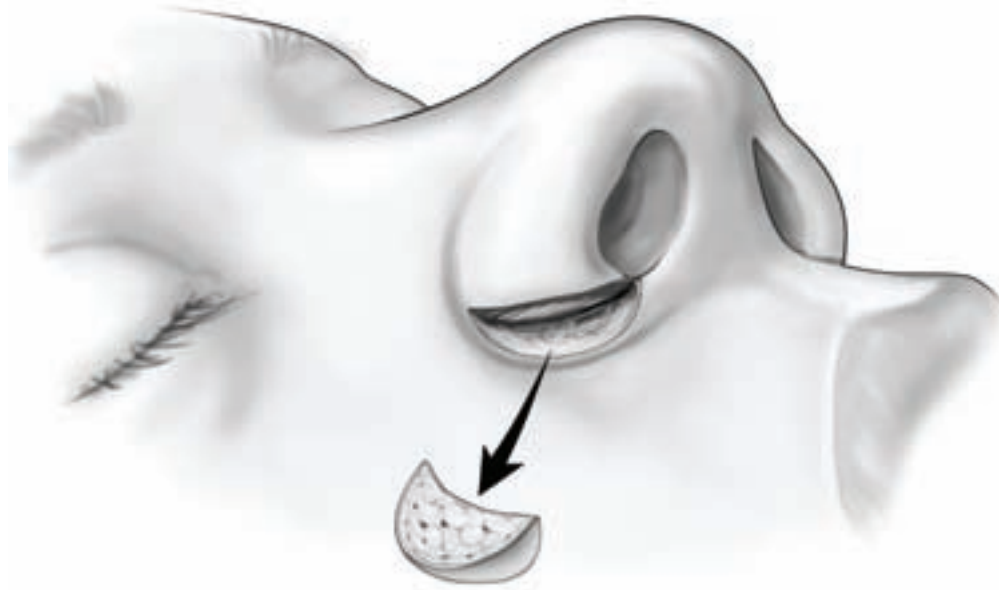


Figure 28-4. Removal of skin and soft tissue without mucosa.



Figure 28-5. Worm's eye photograph following resection of the right alar base and before the left to highlight the change in the appearance of the nose.

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