Oblique Advancement Flap for Defects of the Lateral Nasal Supratip

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Background: Reconstruction of nasal alar defects is difficult because of the complex anatomy of the region. A frequent challenge in this area is repair of small cutaneous defects involving the lateral nasal supratip and the superior alar groove.

Observations: An oblique advancement flap that uses laxity from the nasal sidewall is described. Its benefits and limitations are compared with those of alternative closures. Overall, the oblique advancement flap preserves the superior alar groove, while minimizing tissue contortion. It is technically similar to a primary closure but functionally and aesthetically superior.

Conclusions: For selected small lateral nasal supratip defects impinging on the superior alar groove, the oblique advancement flap offers a simple, visually pleasing repair that preserves the alar architecture.

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We describe a specialized repair for a small to moderate-sized cutaneous defect of the lateral nasal tip. Specifically, an oblique advancement flap from the nasal sidewall can be used. This flap is simple to apply and successfully preserves the boundaries of the alar lobule. The flap offers an alternative to the single-lobed and bilobed transposition flaps commonly adapted for such defects.

**OPERATIVE TECHNIQUE**

The location, diameter, and depth of the defect are assessed. Availability of donor skin is measured using traction with a skin hook. The flap is deemed practicable if the tissue can be moved into the defect without inducing displacement of the nasal tip. Usually, a partial-thickness lesion up to 1 cm in width will be amenable to this technique.

Once the decision is made to proceed, "dog-ears" are marked out along, and perpendicular to, the superior alar groove on the nasal sidewall parallel to the long axis of the nose. Each dog-ear should be approximately equal in length to the defect diameter. After the dog-ears are removed, the flap is undermined below the dermis and gently pulled into place with a hook. The direction of motion is diagonal, with the 2 dog-ears serving as the wings of an arrow pointing the way (Figure 1).

Separate dermal/subcutaneous and superficial (epidermal) closure is desirable for strength and eversion of wound edges. Before placement of the last subcutaneous/deep dermal suture at the central apex of the flap, the tip of the flap should be trimmed to fit the defect. Gentle

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**Figure 1.** Reconstruction process showing initial left alar defect (A), with "dog-ears" marked and arrows denoting direction of flap motion (B), with dog-ears removed (C), with flap undermined and reflected back (D), and with flap trimmed and gently tugged into place (E).
stretching will be required to tie the final stitch. Given
the large pedicle of the oblique advancement flap and the
vascularity of the nose, only minimal tension is likely to
cause flap compromise. Trapdoor or pincushion defor-
mity is unusual in the oblique advancement flap be-
cause it is an advancement flap with an uncontorted blood
supply and good lymphatic drainage.

For deep sutures, horizontal rather than vertical
placement may be preferable. Horizontal deep stitches
are technically simple to place in the thick, sebaceous der-
mis and limited subcutis of the distal aspect of the nose.
Also, they facilitate precise height matching of the ap-
posing sides. A superficial cross-stitch combines the con-
venience of a running suture with the added eversion of
the skin edges (Figure 2).

COMMENT

Paradoxically, small cutaneous facial defects may be more
difficult to repair than larger defects. Tissue movement
may be less than with larger defects, but there are 2 ad-
ditional problems. First, while suboptimal cosmesis in a
massive repair may be acceptable to patients because of
the apparent inherent difficulty of the surgery, patients
may expect near perfection in the repair of smaller le-
sions. Second, the dictum to do no harm is particularly
salient in cases involving small defects because granula-
tion by second intent may be minimally disfiguring and
hence a reasonable alternative. These problems are mag-
nified at a site such as the nasal supratip at the superior
alar groove, where multiple cosmetic units and sub-
units intersect.

The oblique advancement flap we describe can be a
useful repair for small cutaneous defects that are lateral
to the nasal tip and above the alar groove. At this site,
the flap allows aesthetically near-perfect repair. Skin color
and texture matching are excellent, and scar lines are
concealed in the alar groove and the lateral sidewall of
the nose. Also, the superior alar groove is preserved. Be-
cause complex tissue movement is not needed, suture
lines are short (Figure 3). Technically, the flap is only
marginally more difficult to perform than a primary
closure.

This flap has some technical limitations. In a very
sebaceous nose with fibrotic skin quality, it may be
difficult to undermine and separate the advancing flap.

Figure 2. Reconstruction complete. Suture line as seen from left side (A) and front (B).

Figure 3. One-month follow-up. Flap site seen from left side (A), front (B), and below (C).
Moreover, even when undermining is easily performed, this process should be limited. Extensive undermining under the lateral nasal supratip can, after closure, result in elevation of the alar rim and flaring. Finally, in an elderly patient with preexisting eyelid laxity and a moderate-sized defect, the diagonal movement of the oblique advancement flap may create an ectropion.

The rhombic and bilobe transposition flaps are alternative repairs for the defects that are amenable to oblique advancement flaps. Two potential problems with the rhombic flap are the rotation pucker and upward displacement that may occur with peripheral wound contracture. Pincushioning is very common with transposition flaps and may require repeated intralesional corticosteroid injections or a surgical revision that entails thinning or trimming of the initial flap. Other alternatives for reconstruction in this area are a full-thickness skin graft, Burows graft, side-to-side horizontal closure, vertical linear closure, or island pedicle flap. Skin grafts are associated with unreliable color and texture match, although this may be less of a problem with a locally derived Burows graft. Side-to-side horizontal closure may inappropriately raise the nasal ala. This problem may be limited by a vertically oriented closure, but if the dog-ear is taken from the ala, unilateral ala shortening and right-left nasal distortion may occur. Island pedicle flaps may leave a noticeable triangular suture line and be technically difficult owing to the restricted tissue mobility of such flaps far down on the nasal sidewall close to the tip.

In summary, we believe that the oblique advancement flap may be a technically feasible and aesthetically superior method of repair for small to medium-size defects of the nasal supratip and the superior alar groove. Evaluation of site and tissue-specific considerations will determine whether a surgeon should select this type of procedure for a given patient.

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REFERENCES