34. *Berkeley Joins Forces*

OVER the years, Bill Berkeley and I have maintained a friendly but heated battle over clefts which was constantly flaring up in the literature, during open discussion on the floor at meetings and once in the john. One letter from "Wild Bill" Berkeley challenged me to "scalpels at dawn" in a duel with each of us operating on a cleft lip and then comparing the results. In July 1970, before this confrontation could take place, Berkeley in his typical explosive honesty wrote again:

I want to extend a belated apology for my failure to appreciate fully the excellence of *your* lip repair. I now believe, as you do, that it will give a superior lip and I also feel that in combining my nasal reconstruction with your procedure that the two complement each other in a way in which none of the other lip and nose procedures do.

This gold star marks a special moment for R-A because of my personal affection and respect for Bill.

He later explained that his section for Grabb et al., which was to be published later in 1971, had been written before his "change of heart" and accounted for his old refrain,

The Millard Technique, a more free-hand method . . . requiring a more artistic touch, produces a superb lip . . . but I find this the most difficult of the four techniques to master.

DUEL IN THE SUN

So, in January 1971, a special operating workshop was scheduled for Bill Berkeley in Miami. The cases were chosen to enable Bill

and me to heal old wounds and open new ones! One of the cases was a unilateral cleft in which the rotation-advancement method was demonstrated. Berkeley was pleased with the lip but expressed a slight disappointment that the columella lengthening had not been followed with more radical nasal correction including an external skin incision. He asked if I would accept a midline columella incision, and I admitted that I would. He then demonstrated the hemi-rotation of Joseph using an external nasal incision extending well over the nasal tip in a secondary cleft lip nose. The conformity correction was impressive, and only the scar posed a potential problem.

I waited one full year for the scars of our duel to have time to soften and then in January 1972 called Berkeley by phone one night and asked him to sketch and *sign* or initial his design for what he considers the ideal primary correction of a complete cleft lip with a marked nasal deformity. This is what he sketched and initialed. He marked rotation flap A, advancement flap B and little flap c much as I have described previously. His specific description for the nasal correction is pertinent:

A

B

With a double prong hook placed in the roof of the cleft nostril, the roof is elevated so that one can definitely define the mid line between the two medial crura making up the columella. Mark in the mid line of the columella and extend the line well up into the dome of the nose. In severe deformities of the nose, this line may continue upward in Joseph fashion curving laterally above the upper margin of the lower lateral cartilage. The position of the mark is thus between the upper and lower lateral cartilages similar to the plan for the creation of a Joseph lift of the ala.

C

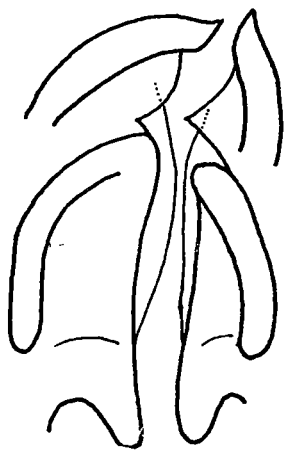
The arrows indicate the general flow of four participating elements in the combined correction of the lip and nose. The rotation flap or flap A has been created by making the full-thickness cut through the lip salvaging as much mucous membrane as possible on the interior of the lip. The incision through the lateral element develops the advancement flap and partially frees the base of the ala. Neither flap is actually ready for rotation at this point in the dissection.

The mid line columella incision is made between the medial crura of the two ala cartilages exposing the cartilaginous septum. Careful dissection is required at this point to prevent trauma to the cartilaginous septum. The dissection should be performed as in a submucous resection, beneath perichondrium. This dissection will later communicate with the dissection

D

for the development of the vomer flap in Figure E. When the dissection is complete the defect side of the columella rides free and contains the medial crus of the defective cartilage as well as the c flap. Posterior to this the vomerian flap rides free so that the medial crus can rotate upwards to assume its normal position. The c flap should be thought of as that important element necessary for the formation of the foot of the columella on the defect side.

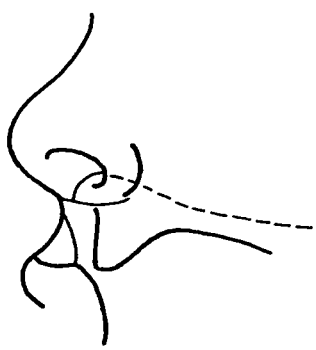
With a mouth gag in place, the palate is exposed. An incision is made at the posterior margin of the hard palate at the junction between nasal mucous membrane and the oral mucous membrane on the medial side of the cleft margin. This incision is continued forward around the base of the pre-maxilla. It then continues forward to the peak of Cupid's bow. This completes the lateral circumscription of flap c. Using a Freer elevator, the vomerian flap is fully developed by elevating the nasal mucous membrane from the septum throughout its entirety. This is also known as the Veau flap. A similar incision which is somewhat harder to develop is made at the junction point of the nasal mucous membrane and the oral mucosa on the lateral cleft element beginning at the posterior extent of the hard palate. Using a combination of the small Cronin elevator and a Freer elevator, this flap can be developed up to the base of the inferior turbinate. Anteriorly this incision continues around the maxillary component to join the incision at the base of the ala. When this dissection is completed, the base of the ala is totally freed so that it can then rotate medially to that extent which is necessary. The freeing of the two nasal mucous membrane flaps is not considered complete until they can be sutured from posterior to anterior without tension from the oral side.



E

When viewed from the oral side, the degree of freeing along the buccal sulcus can be seen. One frees along the buccal sulcus line to whatever degree is necessary to completely mobilize flap B so that it can interdigitate with the apex of the incision created by the development of the rotation flap on the medial lip element. The mucous membrane closure of the advancement flap is not made until the floor of the nose has been closed sufficiently forward so that the remainder of the floor of the nose can be closed through the nostril anteriorly.

The dotted line represents the closure of the floor of the nose using nasal mucous membrane (Veau flaps) and this closure is continuous into the floor of the nose and out onto the lip.



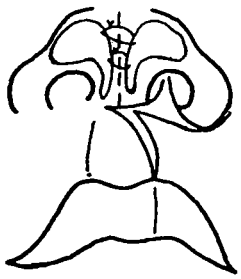
F

The bowstring in the cleft nostril runs along the upper margin of the lateral crus of the lower lateral cartilage from the apex of the nasal cavity down to the margin of the pyriform sinus. This is a constant finding in the cleft lip-nose deformity and we have chosen to correct it with a z-plasty as depicted in Figure G. If one attempts to develop the z-flaps in the

G

opposite direction, the result is a reverse z which defeats the purpose of gaining added length.

The medial crus as well as the dome of the defective cartilage is freed up subcutaneously so that one can define the angle and the normal anatomical dome. In severe deformities, the Joseph incision is continued upward so that the entire lateral segment of the lower lateral cartilage is defined. Through this incision the upper margin of the lower lateral cartilage can be sutured to the lower medial aspect of the upper lateral cartilage on the opposite side as described by Horton and Reynolds. This gives greater assurance for obtaining nostril symmetry in difficult cleft lip-nose deformities than the simple advancement sutures between the two medial crura of the lower lateral cartilages. In the lesser defects, the simple advancement sutures between the medial crura are sufficient to insure nostril symmetry without overhanging on the defect side.



H

I

The floor of the nose is closed anteriorly through the nostril thus completing the reconstruction of the floor of the nose from the posterior margin of the hard palate to the base of the ala. The base of the ala and the foot of the columella must then be carefully closed using the marriage suture of Marcks. This suture must be deeply placed in order to accentuate the lateral nasolabial angle on the defect side.

The final closure of the lip includes the all important muscle closure followed by the skin closure. . . . The mid line columella incision is closed with a 6-0 atraumatic suture and leaves little or no perceptible scar.

In spite of the recent "improvement" in his plan with the incorporation of rotation and advancement, it was imperative to present at least one of his cases. Berkeley sent two examples with the following labels.

1.

a. Born 2-10-72. *b.* Repair of lip (Millard), nose (Berkeley) and anterior palate (Veau); local with sedation (Straith) on 3-24-72. *c.* Final photograph one week postoperative on 4-1-72.

a

b

c

2.

a. Born 2-8-71. Lip and nose design marked. *b.* Repair of lip (Millard), nose (Berkeley), floor of nose (Veau); local with sedation (Straith) on 4-26-71.

a

b

c. 4-30-71, four days after surgery. *d.* 7-15-71, $2\frac{1}{2}$ months after surgery.

c

d

As Berkeley's changeover to rotation-advancement has been relatively recent, he does not have long enough follow-up to show his promising results to their best advantage. In his typical honesty, he concluded:

> Nothing seems to come up to my standard when I examine them closely but I hope that the basic plan as we now are performing it is on the right track.

As for local anesthesia in the intubation era, I do not know whether to question Berkeley or pin a medal on him. Personally, if I tried to work under these conditions I long ago would have been talking to myself and answering.