

18. Other Primary Two-Stage Columella Lengthening Procedures

THE LATERAL FLAP MODIFICATIONS

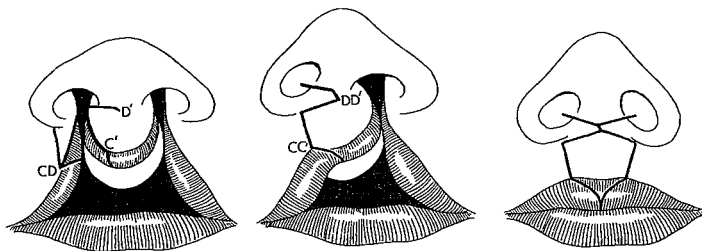
Trauner

THE principle of transposing a flap taken along the vertical axis of the cleft edge of the lateral lip element into a straight transverse releasing incision at the base of the columella was described as a secondary procedure for unilateral cleft deformities by Richard Trauner of Graz, Austria. He first presented this in Stockholm in 1955 at the same International Congress at which the rotation-advancement principle was proposed.

Then in 1967 at the International Congress in Rome, Richard Trauner with his son Martin adapted his unilateral plan to bilateral lip closure in two stages. This approach was a combination of the method of Veau in the lower portion and what the Trauners termed a Z-plasty in the upper portion. Actually they utilized two vertical flaps from the sides of the lateral elements based on the alar bases. These flaps were transposed tip to tip into a releasing incision across the base of the columella and did succeed in rotating and medially advancing the alar bases.

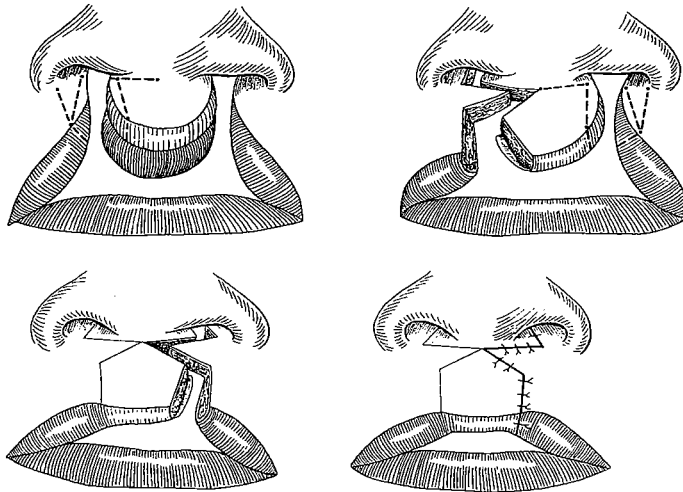


Richard Trauner



Wynn

In 1960 Sidney Wynn of Milwaukee Children's Hospital adopted a procedure which is a cross between the Trauner flap and the pure rotation-advancement. Actually he modified the advancement part of the rotation-advancement principle by cutting a vertical flap off the edge of the lateral element with its base above, as Trauner did, and transposing it into a high rotation release. Wynn applied this approach to bilateral clefts.



For Converse's 1964 book Cronin chose a case from Wynn's original 1960 publication and accompanied it with this comment:

Example of lip repaired by Wynn. Note that the prolabium vermillion is a little thin compared with the lateral vermillion. The columella will require lengthening for optimum appearance.

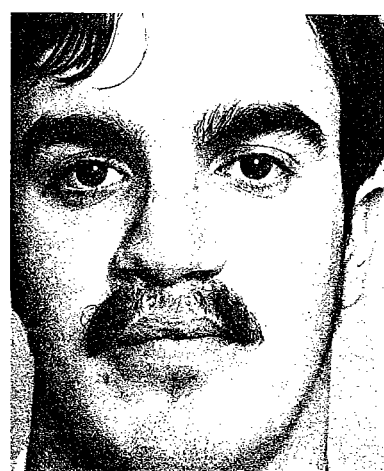
In 1974 Wynn forwarded this series of photos as his example



1 month



5 years



20 years

of one of his bilateral flap technique cases. The scars, however, appear to interdigitate far too low to represent what is generally considered a Wynn-type closure.

The irregularity of the preserved prolabium vermillion confirms a point constantly being made, and the slight central whistling deformity is consistent with Cronin's observation. The columella, which seemed somewhat lengthened at five years, reveals less adequacy at 20 years with snubbing of the nasal tip. The sparse hair growth on the prolabium as compared to the lateral lip elements is of interest. This is, however, quite a good result considering the severity of the original deformity.

Wynn's method has been mentioned in this section in spite of its lack of truly effective columella lengthening because it is basically similar to other designs transposing vertical flaps horizontally somewhere beneath the columella base.

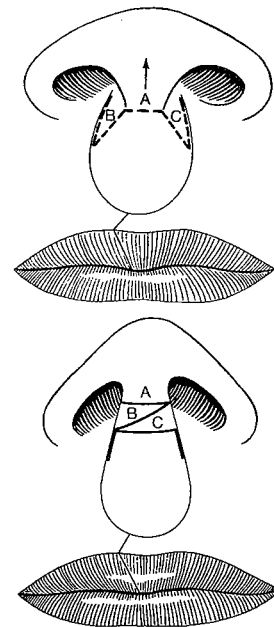
THE MEDIAL FLAP MODIFICATIONS

Marcks

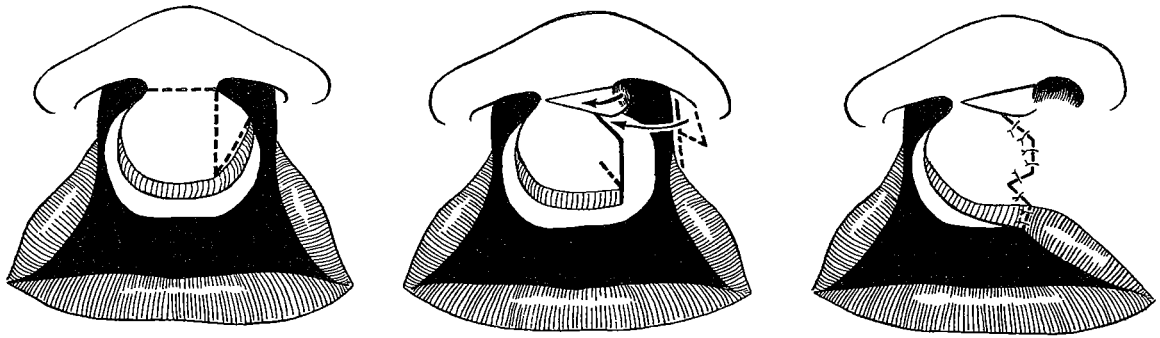
In 1957 Kerwin Marcks, with Trevaskis and Payne of Pennsylvania, designed a secondary procedure taking two vertical flaps from the prolabium based superiorly on the sides of the columella. These flaps were transposed zigzag on top of each other into an incision transecting the columella from its join with the lip. Only a moderate lengthening was possible.

Skoog

In 1965 Tord Skoog of Uppsala carefully incorporated a variety of methods into a *bilateral Swedish smorgasbord*. He had already combined the high incision of the rotation-advancement with the "lowly" incision of Tennison in his unilateral cases. Now he added a vertical prolabial flap to be taken from a position similar to that of the early forked flap, but he transposed it into a transverse columella base incision identical to that described by



Marcks. Skoog proposed that all this be done for one side at three months.



Three months later the identical maneuvers are repeated on the opposite side.



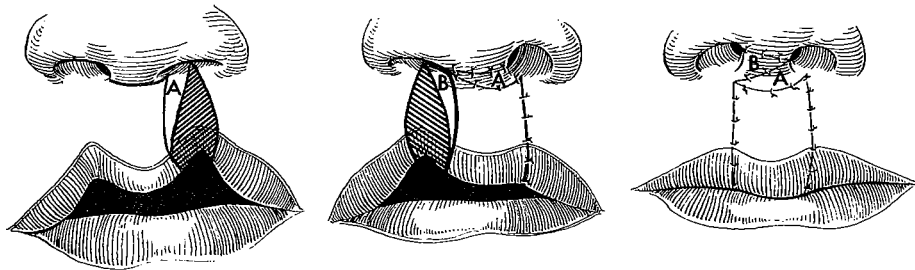
It seems that in spite of Skoog's masterful precision there are several disadvantages in principle to this general plan. First, the design is too complicated for the dividends gained. Second, the lengthening of the prolabium with double interdigitation is more than likely to produce an upper lip that is too long in the vertical dimension of its sides but relatively shorter in the center with even a possible whistling deformity. Third, the amount of possible columella lengthening is limited, for two reasons: because the greatest release can be only slightly more than the width of the prolabial flap, which, in itself, is limited; and because elevation of only half of the columella at a time strictly curtails the amount of total effective release. Fourth, flaps crisscrossing transversely at the base of the columella are not set in natural lines, and any lumpiness in these "trapdoors" could be quite eye-catching. Fifth, preservation of the prolabial vermilion in a visible position has additional disadvantages.

Onizuka

In recent years the Japanese surgeons, facing vast numbers of clefts, have been extremely productive in this field, appearing in the world literature more and more. One of the most energetic of these surgeons is Takuya Onizuka of Tokyo. In fact, a Japanese rendition of the simultaneous correction of the lip and nose was proposed by Onizuka in 1968. He advocated the rotation-advancement in bilateral clefts but indicated preference for the Skoog prolabium transposition. The combination is carried out one side at a time, and the amount of columella lengthening is limited again to the sum of one width and one tip of the two crisscrossing flaps. This, however, may be sufficient lengthening in the Oriental nose.



Takuya Onizuka



Only partial effectiveness

When the columella deficiency is definite, adequate lengthening can be achieved only if *enough* tissue is added *directly* to the columella area. The farther away from the columella the new tissue is placed, the less effect its placement accomplishes. As Gillies used to say:

When in love with the daughter, do not kiss the mother, kiss the daughter!

Thus, five modifications have been developed with only modest columella lengthening. Trauner and Wynn transpose a lateral lip flap into the columella base whereas Marcks, Skoog and Onizuka used a medial prolabium flap for the same purpose. Similar general criticisms are binding for all, in that effective columella lengthening is vague when introduced only at the base and is limited in actual amount when it can be little more than the width of one narrow flap.

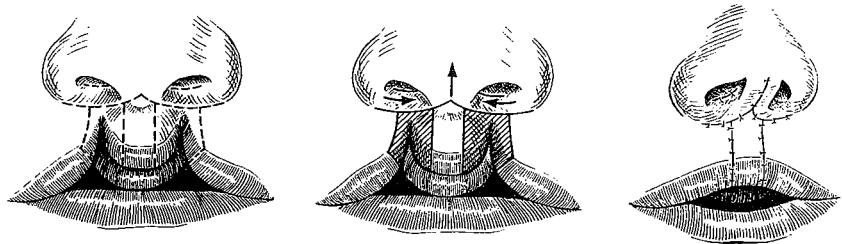
PRIMARY SHIFTING OF NASAL FLOORS AND ALAE

In 1974 in Seattle, Randall, with D. J. Lynch, advocated for incomplete bilateral clefts with a short columella a membranous septal incision extending bilaterally into the intercartilaginous spaces and a modified Carter-Cronin bilateral alar base advancement utilizing rather than excising the wide nasal floors. The lip clefts were treated by the rotation-advancement method. This is part of their description:

Parallel incisions are used . . . but unlike Cronin, we feel there is no need to go beyond the insertion of the alar rim into the upper part of the lip. Rather, the external incision is extended laterally just beyond the incision for the primary lip repair to allow a satisfactory flap from the medial side to be shifted into place as in the rotation advancement technique. The incisions are carried medially up into the columella, preserving a "V"-shaped piece of skin at the base of the columella along with its underlying fibrous attachment to the nasal spine. This is extremely important if one is to preserve the mobilized lip elements from prolapsing down over the premaxilla.

I doubt if this will prevent it

Tremendous discard of tissue and no union of muscles behind the prolabium



I have not found this to be a great problem in incomplete clefts but it can happen. What is more likely to happen, even though the columella in incomplete clefts is usually less deficient, is inadequate columella lengthening by this approach. As stated by Randall and Lynch:

Occasionally, the amount of columella reconstruction has been insufficient to place the nasal tip at a level that would appear to be completely normal. In these patients further columellar advancement has been necessary at a later date.