

## 24. *The Making of a Cupid's Bow and Tubercle*

NATURE shortchanged the prolabium to such an extent that this blob's main asset is its skin. It has no cupid's bow or tubercle, and the vermilion encircling it is certainly inadequate. Gillies and Kilner put it this way:

The mucous membrane of the premaxilla, having failed to unite with that of the advancing lateral processes, forms a pseudovermilion border for the prolabium and this has tempted many a surgeon to utilize it in the construction of the new lip margin to the permanent detriment of the patient.

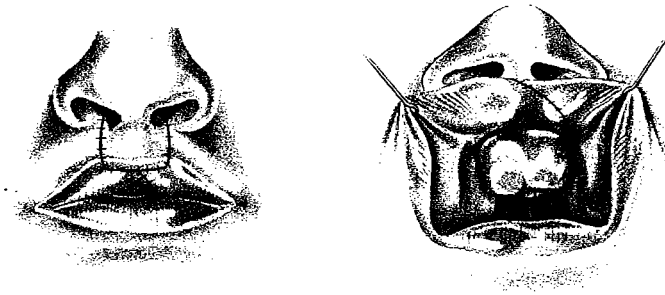
### TO SEE OR NOT TO SEE

The prolabium vermilion serves better behind the scene as it is thin and attenuated, with a color and texture slightly different from those of the lateral lip segments. Often its epithelium has a tendency to scale and peel. Here are three prolabiums, each with its inferior vermilion demonstrating an offensive but common scaliness.



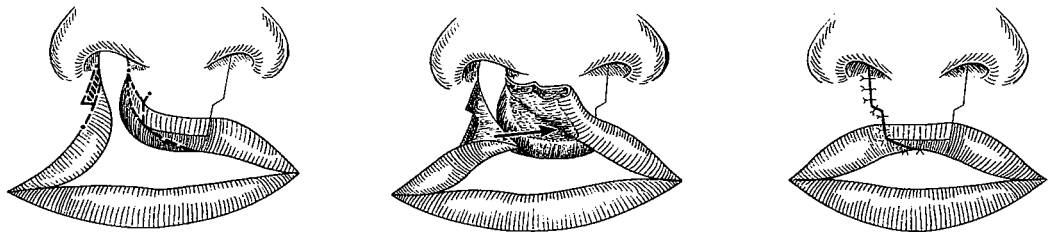
These characteristics render it more appropriate as a liner of the central tubercle than as the mid-anterior cover. I have been advocating the former role since 1954.

As early as 1927 Federspiel of Milwaukee designed lateral vermilion flaps which he interdigitated beneath the prolabium, but most surgeons have chosen to retain the prolabium's inferior vermilion. Victor Veau of Paris retained some or all of the inferior prolabium vermilion. Celesnik of Ljubljana and Perko of Zurich have modified Veau to retain a portion.



Other modern methods meticulously design front billing and bolstering of this miserable mucosa. Some surgeons, like Cronin and Georgiade, use only a small section of it, which often presents a pink peekaboo patch in the center of the lip red.

Bauer, Trusler and Tondra, in similar principle, retain a rather wide vermilion cuff on the prolabium and introduce lateral vermilion behind it in two stages.



They admitted in 1971:

!!  
.. The most noticeable disadvantages to this method of cheilorrhaphy have been concerned with the utilization of the mucous membrane of the prolabium to form the central portion of the vermilion of the lip. This does not seem to be completely normal mucous membrane. It has a tendency to dry out and occasionally to fissure. However, we have noted that as the patient matures, the quality of the mucous membrane tends to improve in

both function and appearance. In most cases there seems to be a rather dramatic improvement in the quality of the mucous membrane at about 10 years of age.

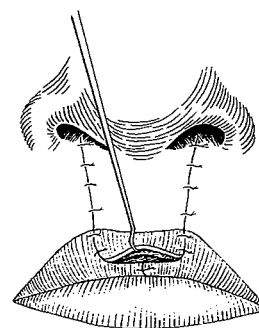
They then mentioned the common problem of notching in this same area, indicating to me that if after all this perseverance with the abnormal mucosa secondary surgery is still required for the whistling deformity, it just was not worth it after all. Quite apart from all the other disadvantages of this type of vermilion approach, there is far too much visible scarring in the mucosa. Although not quite as noticeable as in skin, white scars in the "red" vermilion are not attractive and should be limited to one midline vertical seam of union in the area of the tubercle.

Manchester and Spina, among others, unroll the entire inferior vermilion and bolster it from behind by various lateral flaps. Broadbent, happy with this aspect of the Manchester method, when challenged about its questionable scaliness during the 1973 Cleft Symposium at Duke, defended salvaging this vermilion in a visible position:

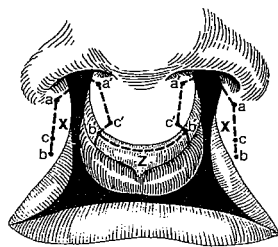
I would far rather have it there than discard it. If necessary, rub a little Vaseline on it if it's dry.

Randall, in late 1973 in Hollywood, Florida, announced his persistent preference to retain this vermilion in a visible position.

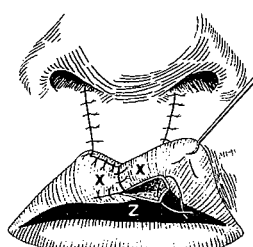
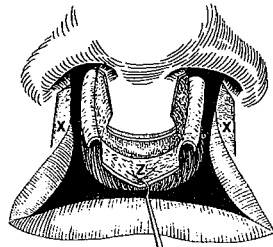
It is encouraging to see that Cronin has gradually shifted the prolabium vermilion out of sight. In 1957 he kept a triangle in front, in 1964 he retained a cuff but by 1971 he left *only* the ridge and turned the rest of the vermilion behind the lateral vermilion flaps. In October 1973 he reconfirmed his decision to hide or discard this prolabium vermilion.



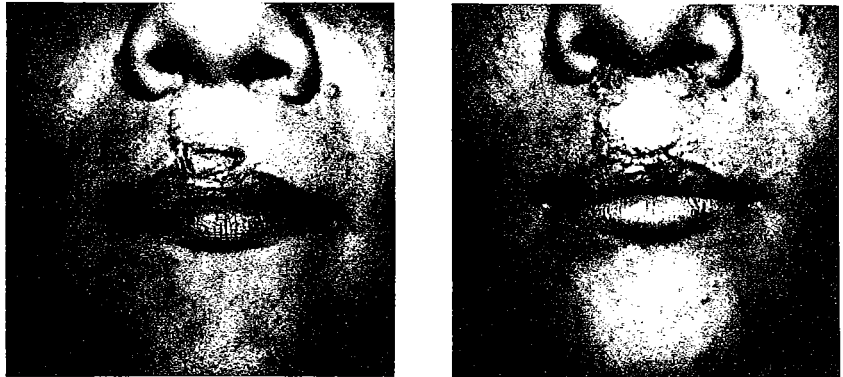
1964



1971



Here is an example of a case by Cresswell using his narrow lateral muscle flaps joined under the prolabium vermillion which achieved a full-bodied central free border. Because of Cronin's earlier influence, Cresswell had retained the prolabium vermillion in a visible position with an unfavorable effect. Its subsequent removal improved the result, but secondary excision is more difficult and tends to produce more scarring of the vermillion.



Too often traditions are passed down from generation to generation parrot fashion. José Barros Saint-Pasteur in a 1964 issue of *Revista Latino-Americana de Cirurgia Plastica* stated flatly:

The vermillion of the prolabium must never be excised.

and gave Axhausen, Veau, Schultz, Trusler, Marcks, Cronin and Spina as his defense. Of those no longer with us or retired, Trusler had second thoughts on this subject before his passing. Cronin and Spina are left, but Cronin prefers to hide this miserable piece himself now.

Since 1954 I have been using the inferior vermillion of the prolabium as a hidden backup lining for the center of the vermillion free border. Overlapping it with equal vermillion flaps from the lateral elements not only partially camouflages the bilateral cleft effect but places the scar of union in the unnoticeable midline, creates a tubercle and remedies "whistling deformity" deficiency.

It was pleasing, therefore, to see Musgrave's 1972 editorial against front billing of the prolabium vermillion in Goldwyn's *Unfavorable Result*:

While it is imperative that the central mucocutaneous ridge be saved, the vermilion of the central prolabium can be very poor building material. As the years pass, this central mucosa frequently becomes dry and parched and may develop superficial keratotic plaques, particularly in cold weather. The knowledgeable surgeon should, therefore, as much as possible, introduce lateral vermilion medially underneath the prolabium in interdigitated fashion and should bring in also adjacent lateral subcutaneous tissues. Nothing should be discarded other than a minimal paring of epithelium. The central prolabium mucosa should be turned as a hinged flap for lining. Like the unattractive chorus, it is essential to the overall production but should not be "front and center."

In 1974 Oneal, Greer and Nobel of the University of Michigan noted:

There is controversy about where to place the original prolabial vermilion. Both Manchester and Duffy use it anteriorly. We suggest that it is better to move it posteriorly, leaving the prolabial white line and bringing the redundant vermilion of the lateral segments to the midline. If even a small remnant of the original prolabium vermilion is left below the prolabium, it is always noticeable; this does not give as normal a vermilion contour, and the resulting groove (so commonly seen) is difficult to correct.

#### A MADE BOW IS BETTER THAN NO BOW

There are also many surgeons who feel that the mucocutaneous junction of the prolabium is sacrosanct. In 1971 Cronin included in his eight established bilateral principles:

The vermilion ridge, or white line of the inferior border of the prolabium, should be preserved.

The prolabium, however, seldom sports a snappy "white roll" ridge at the mucocutaneous junction and never the sensuous double curves of a normal cupid's bow. Rather the mucocutaneous junction encircling three-quarters of the prolabium is vague and runs in a rounded, uninteresting, single curved line and can be discarded without emotion for a better one.

If in a certain case the mucocutaneous ridge were truly prom-



Poor roll



Better roll

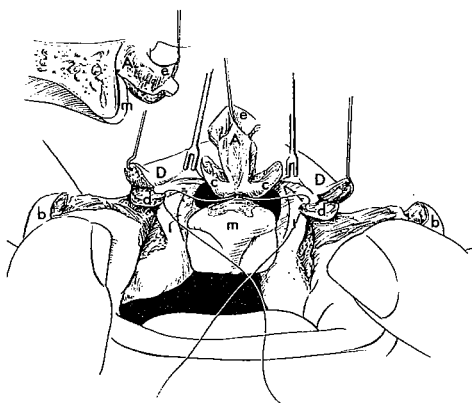
inent, it certainly could be saved with advantage since a scar above the white roll could thus be avoided. Yet it is better to bring in a true ridge from the sides if the prolabium mucocutaneous junction is not literally outstanding.

### VERMILION FLAPPING IN EVERY DIRECTION

The vermilion encircling the border of the prolabium is inadequate and of different color and texture but it can be used to advantage. The vermilion of the cleft edge of the lateral lip element is attenuated in its upper part but soon swells into normal fullness and is ridged with a true white roll. Even the upper attenuated portion in the lateral elements can be of value. Yet to achieve the most efficient and economical use of all tissue, quite a bit of juggling of vermilion flaps is necessary.



The decision to hide the inferior prolabium vermilion is logical; to scrap its mucocutaneous junction depends on the specific ridge. A double curve cupid's bow incision at the prolabium mucocutaneous junction allows the turndown of the inferior vermilion as a flap (e) based on the free border. As much cuff is developed as is considered necessary to back the lateral vermilion flaps to form a full-bodied free border and tubercle. Enough base for viability must also be maintained. Then the remaining posterior inferior mucosa of the prolabium, along with the posterior half of the vermilion border of its sides (m), is cut free from the prolabium as it itself is dissected free from the premaxilla. These portions are left attached to the premaxilla in the vague shape of an inverted M of mucosa which is used to cover as much raw area on the premaxilla as possible to aid in creating one side of an upper labial sulcus.



The attenuated vermilion of the upper cleft edge of the lateral elements is trimmed upward as flaps (l) to be used to fill the vestibular defect after alar base release. The lateral edge paring then continues as full-bodied vermilion flaps carrying a true ridged white roll (b) if required. These flaps are incised and transposed to overlap the prolabium vermilion turndown flap (e).

The incorporation of the white roll in the lateral vermilion flaps also offers a camouflage by interrupting the vertical lip skin scars. The lateral vermilion flaps, when topped with the white roll ridge, continue this line across the vertical bilateral skin scars under the inferior border of the prolabium. Each curves half of the cupid's bow to meet the other in the midline, and any excess vermilion can protrude as tubercle. The chance of a whistling deformity has simply been averted.

