

27. Details of Converting Asymmetrical Clefts into Complete Bilateral Clefts and Banking the Fork

WHEN one side of a bilateral cleft is incomplete, the situation reduces the amount of discrepancy and distortion not only in the lip and nose but in the premaxillary-maxillary relationship. Any case benefited by reduction of distortion because of the incompleteness of the clefting on one side then presents the problem of asymmetry. LeMesurier, in 1962, stressed the importance of achieving symmetry in asymmetrical bilateral clefts:

If the two clefts are originally about the same, it is not difficult to maintain the symmetry, but if they are considerably different the cuts should be made so that the parts of the lip left beyond them, when fitted together, will make the two sides as nearly symmetrical as possible.

Thus it is artistic logic that with one side completely cleft the incomplete side must be rendered complete to facilitate closure for the sake of *symmetry*, preserving any excess tissue for special use.

BASIC RULES

1. The original vertical length of the prolabium will determine the vertical length of the lip.
2. Each lateral lip element must be cut to match the corresponding side of the prolabium.

3. The prolabium is usually wider than a normal philtrum and thus is pared its full vertical length by cutting free one prong of the fork off each side.

4. The lateral lip element is pared a similar length, but there is one limitation. The extension of the lateral paring must not exceed point x on either side, which is set on the mucocutaneous junction line of the lateral element not less than 18 mm. or much more than 23 mm. from the commissure. Of course, both sides must be pared the same.

5. When the lateral lip elements are being pared, a vermilion flap l is turned upward and will go into the vestibule to supply lining. A thicker vermilion flap b, carrying mucocutaneous junction ridge, is turned downward and will overlap the prolabium vermilion along the inferior border. It must be cut slightly longer than half of a cupid's bow width, and the little excess will form the midline tubercle.

MEASURING AND MARKING

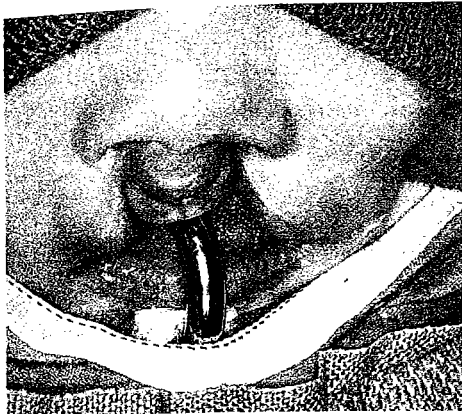
Width

Most prolabiums are far wider than the normal philtrum and, if left wide, will produce a spread central portion of the lip with a broad cupid's bow—if indeed a bow is created at all. The normal cupid's bow along the mucocutaneous junction line, from the lowest skin point in the midline to the highest point of either arch, can be as narrow as 2 mm. or as wide as 5 mm. (preferably 3 mm.) with the entire bow from peak to peak measuring 4 to 10 mm. (preferably 6 mm.).

The bow peaks are marked on the inferior mucocutaneous junction line of the prolabium with methylene blue guided by calipers or preferably a trained eye.

Shape

Shaping the prolabium to philtrum dimensions requires paring the lateral excess of skin and mucosa. Starting at the most

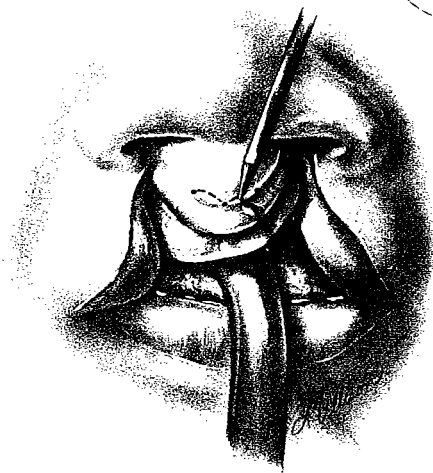
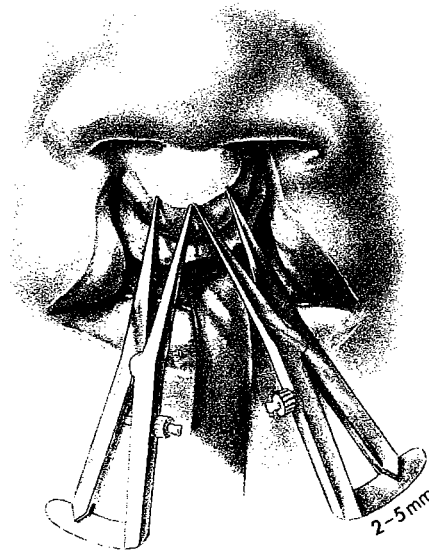


The columella is short. The prolabium wide.

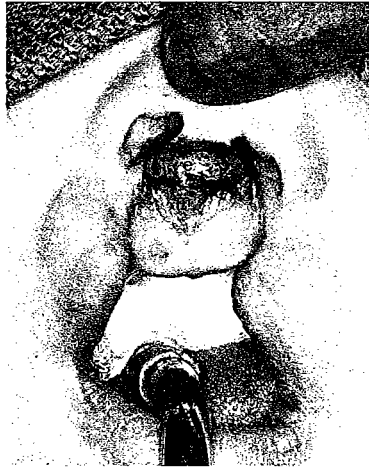


There is no sulcus.

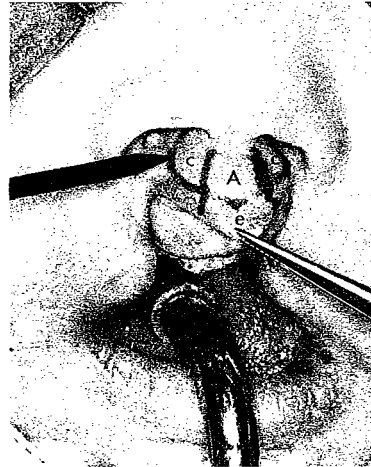
The normal width of the cupid's bow is 4-10 mm. The two halves are measured and marked on the mucocutaneous junction of the inferior edge of the prolabium.



anterior lateral point of the base of the columella, a vertical line is marked with a gentle curve which *breaks in slightly* at the potential point of the cupid's bow peak on the mucocutaneous junction line. If the mucocutaneous junction along the inferior edge of the prolabium has a definite "white roll" ridge, it can be preserved and the bow marked just inferior to it in the upper vermillion. If the ridge is vague, it can be discarded.



Ideal-sized and shield-shaped philtrum marked on prolabium.



Skin lateral to this future philtrum marked as forked flap.



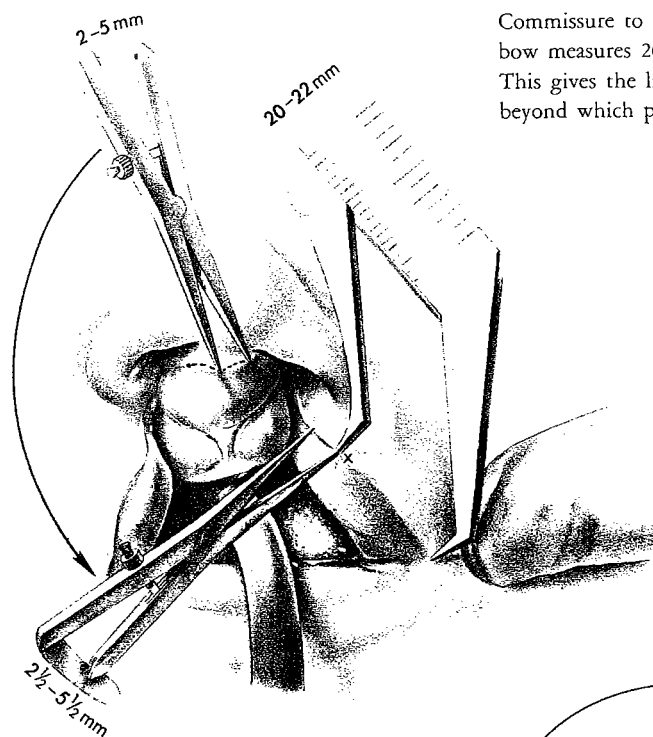
Any excess vermillion maintained to cover raw area of premaxilla.

Vertical length or height of lip

Matching the prolabium to the lateral lip elements is concerned primarily with the vertical length or height of the upper lip.

First precautions must be taken to ensure normal total lip width: The normal distance from commissure to height of bow peak varies from 18 to 23 mm. This is a guide as the cutoff point allowed in lateral paring of the lateral lip element. In other words, a point medial from the commissure along the mucocutaneous junction line at least 18 or 20 mm., and more if possible, must be set as the limit of lateral paring.

The normal vertical length or height of an upper lip as measured from the anterior lateral point of the base of the columella to the corresponding peak of the cupid's bow on the mucocutaneous junction measures from 8 to 13 mm. Measurements within these limits can usually be marked on the prolabium of bilateral clefts.

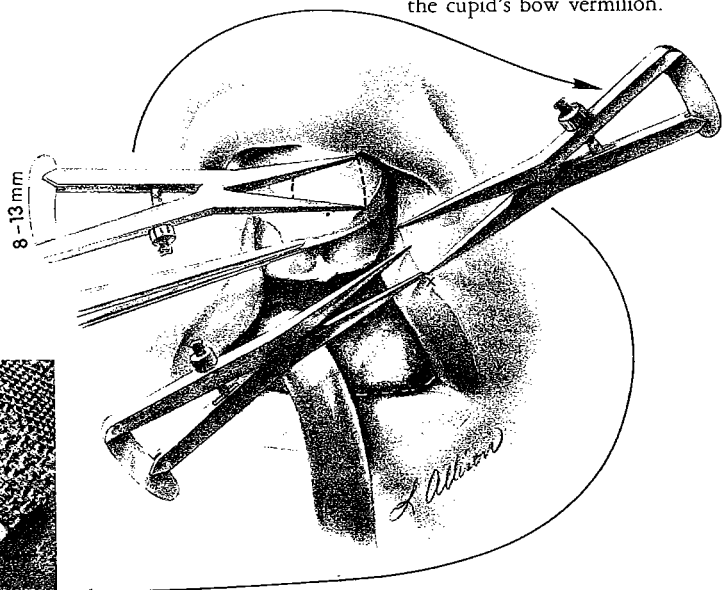


Commissure to potential height of cupid's bow measures 20-22 mm. in the normal. This gives the limit of lateral digression beyond which point x must not extend.

The width of one arch of the cupid's bow is measured on the lateral lip element as high as there is well-defined mucocutaneous ridge and fullbodied vermilion. The most lateral point must be at least 20 mm. from the commissure.

This creates flap b to form one side of the cupid's bow vermilion.

The vertical skin height of the prolabium is measured and this identical measurement is placed along the lateral edge at point x and extending upward.



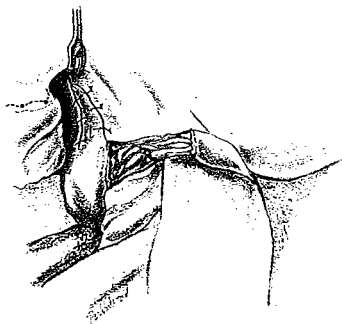
This presents a matching lateral skin edge to fit perfectly with the side of the prolabium.

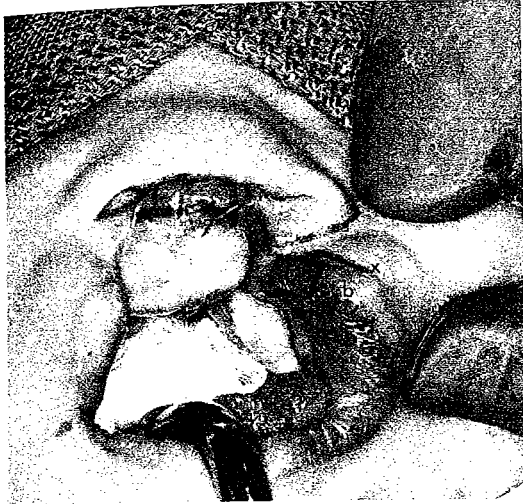
Whatever this length is on the pared side of the prolabium, an equal skin edge must be fashioned on the corresponding cleft edge of the lateral lip element. With point x as the lateral limit, a distance identical with the vertical length of the prolabium is measured upward along the mucocutaneous junction of the lateral element.

Another limiting factor depends on how high along the lateral cleft edge there is full-bodied vermilion with a discrete white roll ridge. Paring this vermilion topped with the mucocutaneous ridge creates a lateral flap b, which should be full-bodied and 1 to 2 mm. longer than the distance on the prolabium of half the cupid's bow. The attenuated vermilion above this along the upper cleft edge of the lateral element can be pared but preserved as flap l for vestibular lining use later.

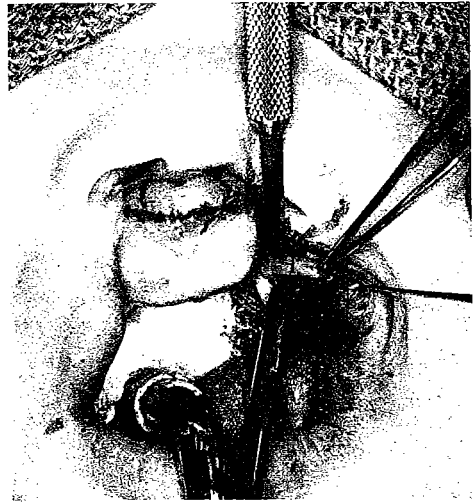
Flap l

The attenuated vermilion of the upper portion of the cleft edge of the lateral element, which is often discarded, has great value. It should be pared as a flap l based above on the alveolus. It is then available for lining the lateral vestibular defect created when the lip and alar base are released from the maxilla by undermining and extension of the incision medially along the intercartilaginous line. As the lip advances medially and the alar base moves forward and inward, a raw area in the vestibule is created. Previously it has been left to scar on its own, but flap l fills this void and reduces contracture. Bill Berkeley left me the gift of his endorsement of flap l which he incorporated in his bilateral cleft lip plan as presented by Hal Chaplin in Boston in 1976.

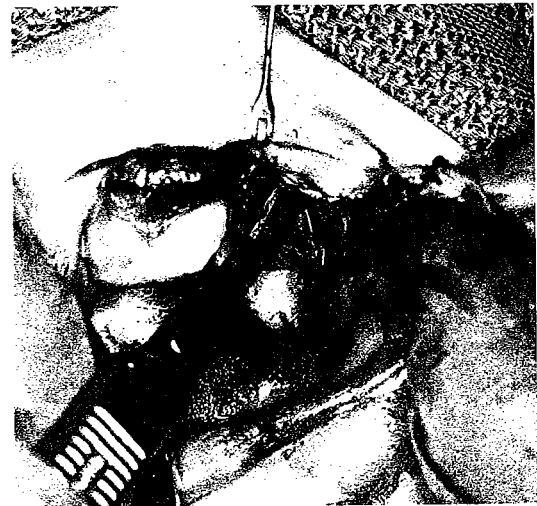
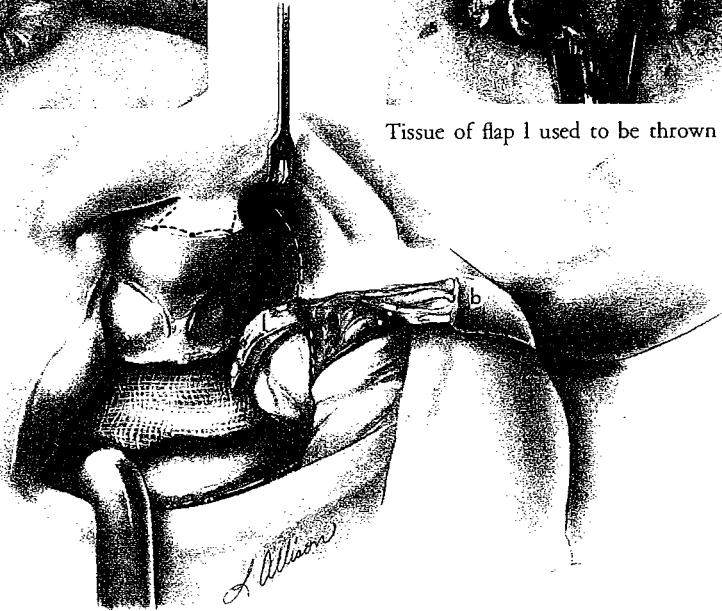




To freshen the cleft edge, the attenuated upper vermilion is cut as a flap 1 based on the alveolus. It is destined to line the raw area created when the alar base is released from the maxilla along the broken line.

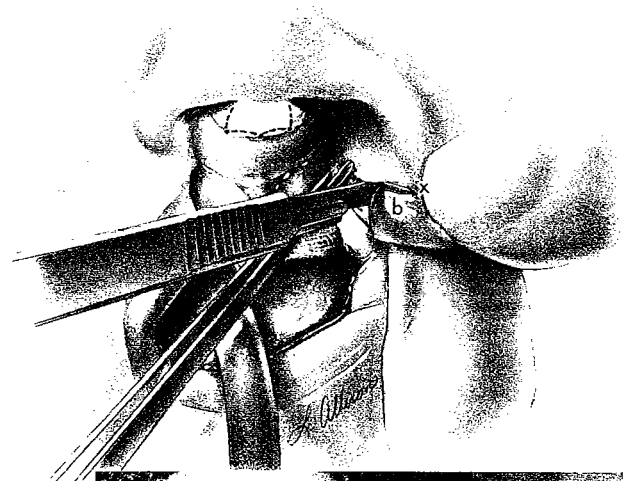
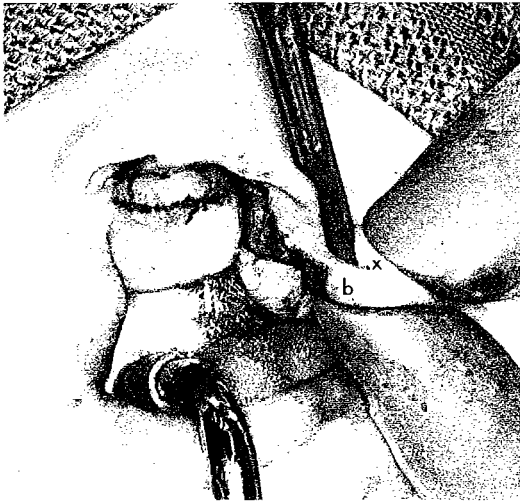


Tissue of flap 1 used to be thrown away.



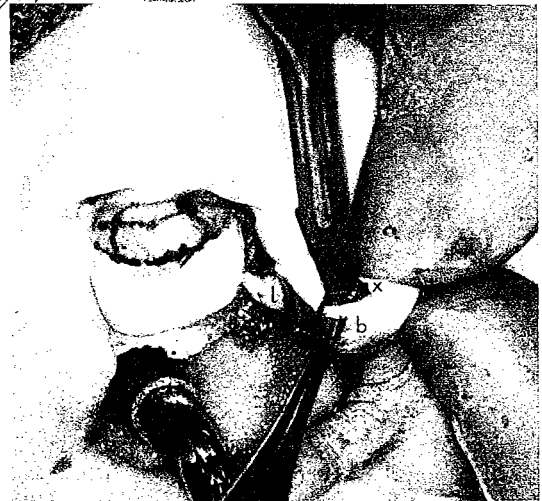
Flap b

The continued paring of the cleft edge of the lateral lip element cuts flap b, which is full-bodied vermilion edged with a white roll ridge. The flap is scored with a No. 15 B-P blade and stabbed out with a No. 11 B-P.



When paring the lateral lip element retain the mucocutaneous "white roll" ridge on the full-bodied vermilion flap b.

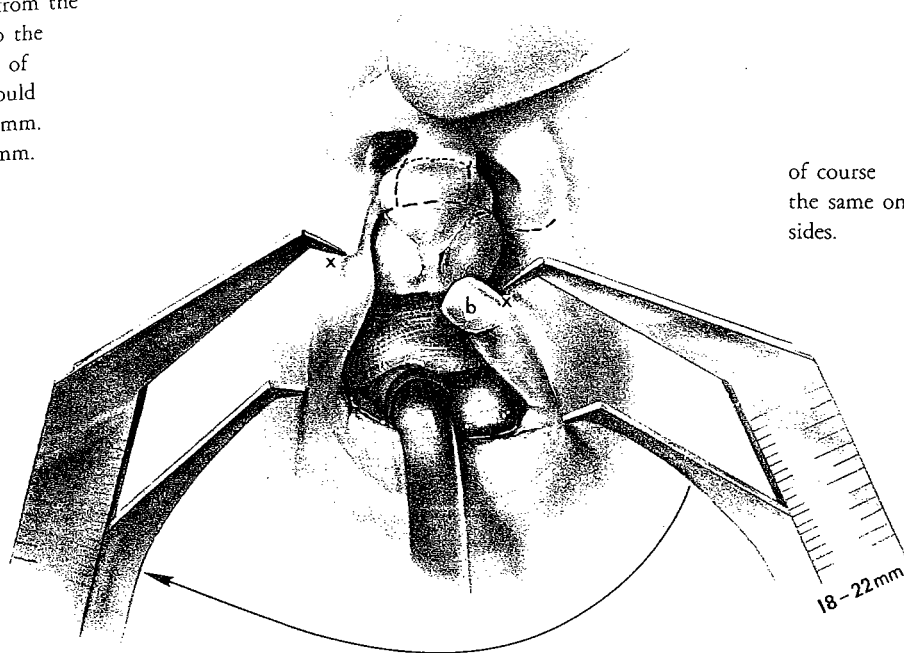
This flap b will overlap the turndown flap of prolabium vermilion to form half of a cupid's bow.



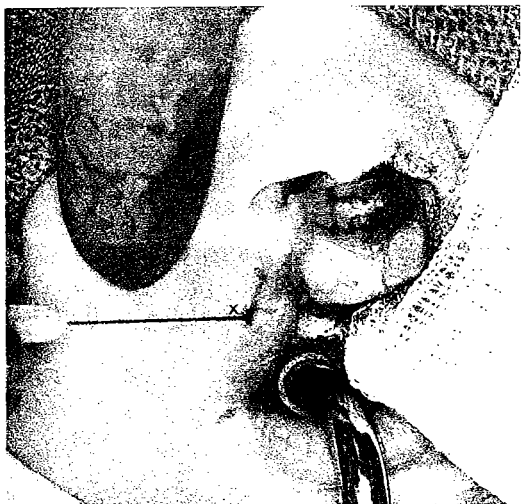
SIMILAR DESIGNING OF THE INCOMPLETE CLEFT SIDE

The normal distance from commissure to height of potential peak of bow is measured on the lateral lip elements to mark the limit of allowable lateral paring. This point is stabbed with a needle dipped in methylene blue. As previously described for the complete cleft side, the right side is being measured for vermilion flap b, which again is fashioned slightly longer than half the bow's width.

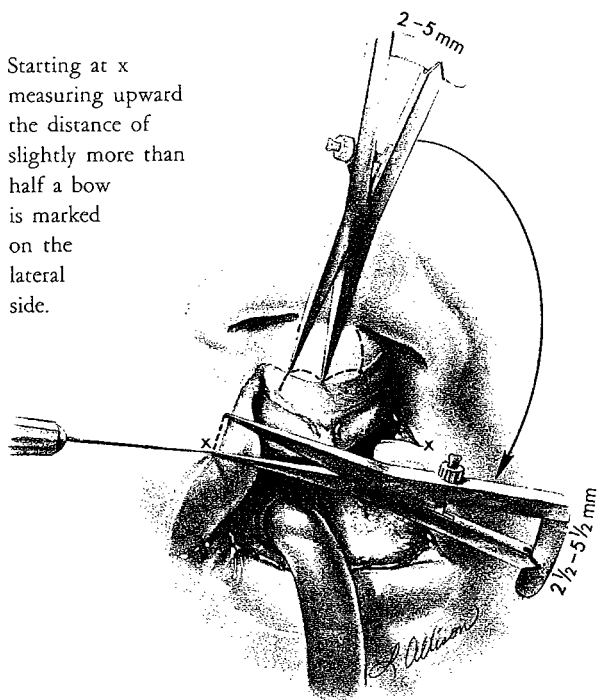
The distance from the commissure to the potential peak of the bow x should be at least 18 mm. preferably 22 mm. and



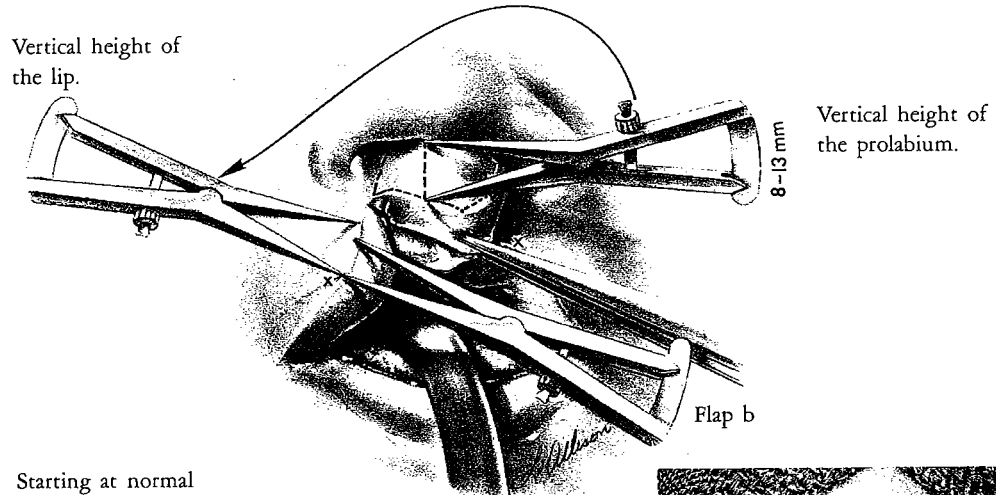
The limit of the lateral paring is determined by this measurement and is marked by stabbing a needle with methylene blue.



Starting at x measuring upward the distance of slightly more than half a bow is marked on the lateral side.



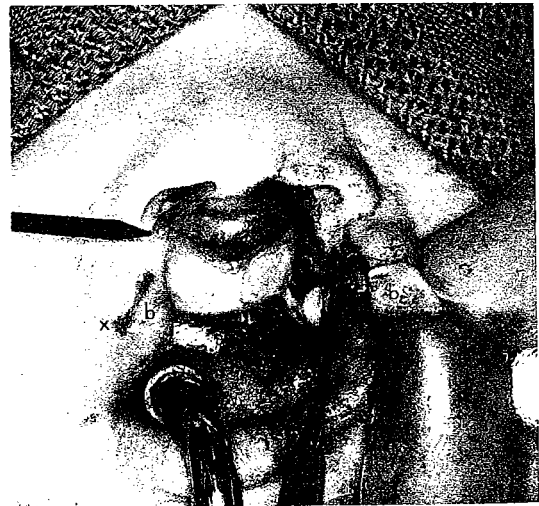
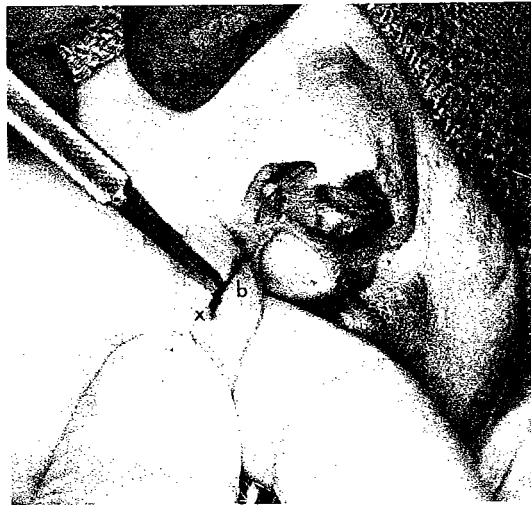
The vertical height of the prolabium is measured on the right and is marked along the mucocutaneous junction line of the cleft edge of the lateral element beginning at the limiting point. Flap b is marked, scored and cut.



Vertical height of the lip.

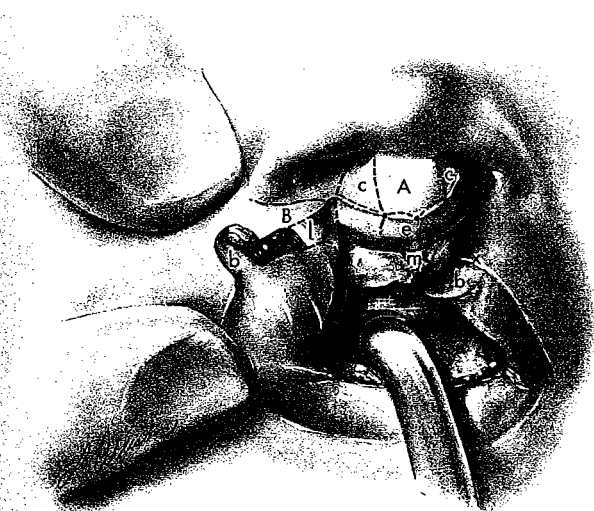
Vertical height of the prolabium.

Starting at normal commissure to bow-peak distance, the lateral lip is pared a distance to match the vertical height of the prolabium.

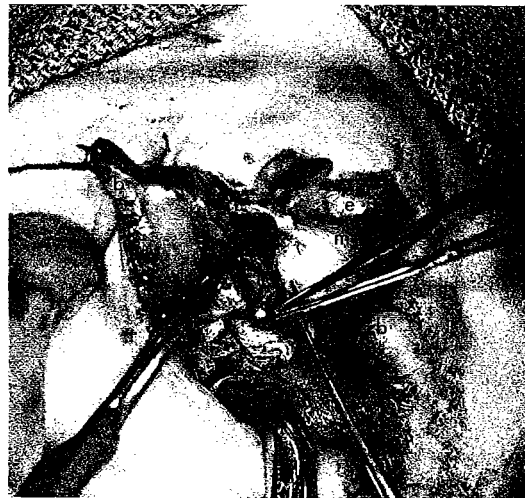


During this paring flap b is released.

The right incomplete cleft side has been marked, flap b has been pared and flap l is now being pared toward its base up on the alveolus. The lateral lip element is dissected free of the maxilla, but the incomplete cleft has not yet been converted into a complete one.



On incomplete cleft side flap l is designed to enable economic use of the attenuated vermilion.



Flap l has been pared and the lateral lip element is being freed from the maxilla.

SCORING THE FORKED FLAP

The lateral excess of prolabium skin and vermilion is pared as future forks for the columella with their bases on the side of the columella. A 3 mm. cuff of vermilion on the lateral side of the fork can be maintained for suturing to the membranous septum during the columella lengthening procedure. Its presence during the banking time gives more bulk and reduces raw area and its contracture. Any of this vermilion not beneficial to the forks should be left on the premaxilla to reduce its raw area and assist in sulcus formation.



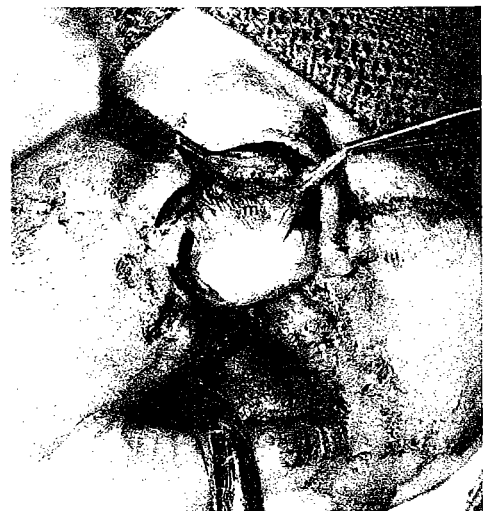
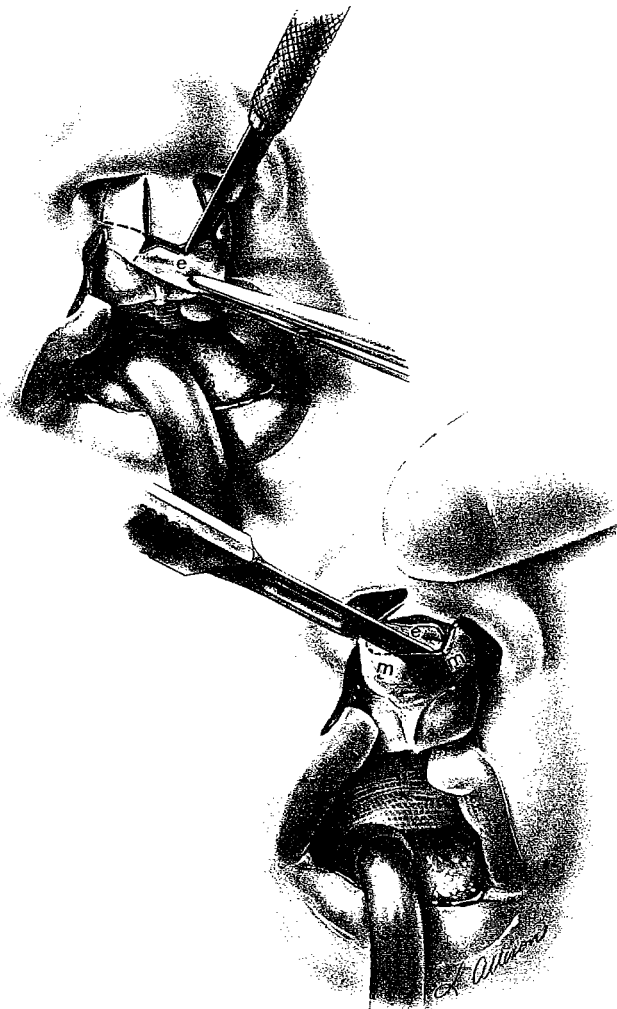
Prolabium is being outlined to philtrum proportions by incisions.



INCISING THE PROLABIUM

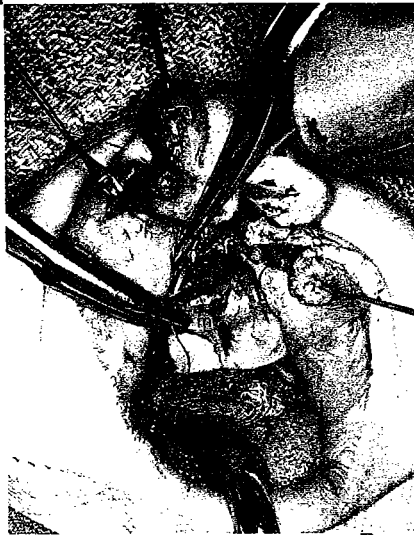
Incisions along the vertical marks on the prolabium define the lateral sides of a philtrum of normal width. Then the inferior vermilion of the prolabium is turned back as flap e, leaving enough base for viability. The remaining inferior vermilion is cut free from the prolabium but left attached to the premaxilla. This mucosa, continuous with what is left from the lateral vermilion of the prolabium not required in the forks, forms an inverted mucosal m. Careful suturing of the cuffs of mucosa m will achieve cover of much of the raw area on the premaxilla and thus line the posterior wall of the upper labial sulcus.

The inferior vermilion of the prolabium is being turned down as flap (e) for lining the free border tubercle leaving enough base for its viability. The remaining excess vermilion is left attached to the premaxilla (m) for raw area cover as the prolabium is dissected from the premaxilla.



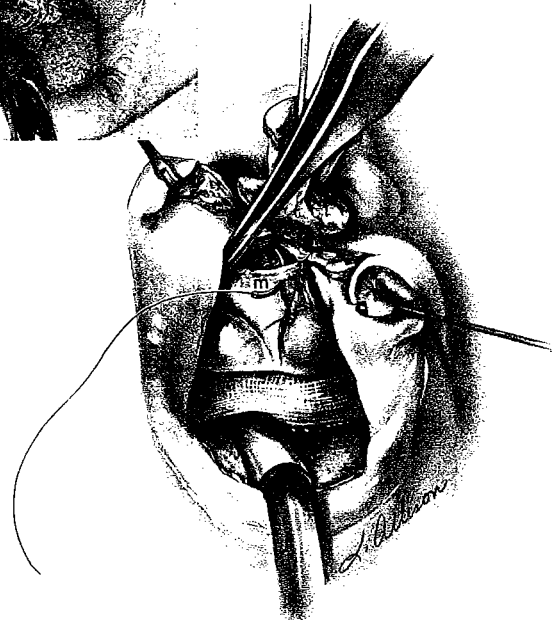
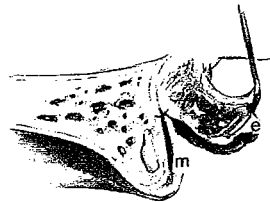
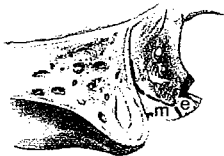


Whatever mucosa that could be spared from the prolabium was left attached to the premaxilla. The mucosa m is being sutured over the raw area of the premaxilla to create lining for the posterior side of the upper labial sulcus.

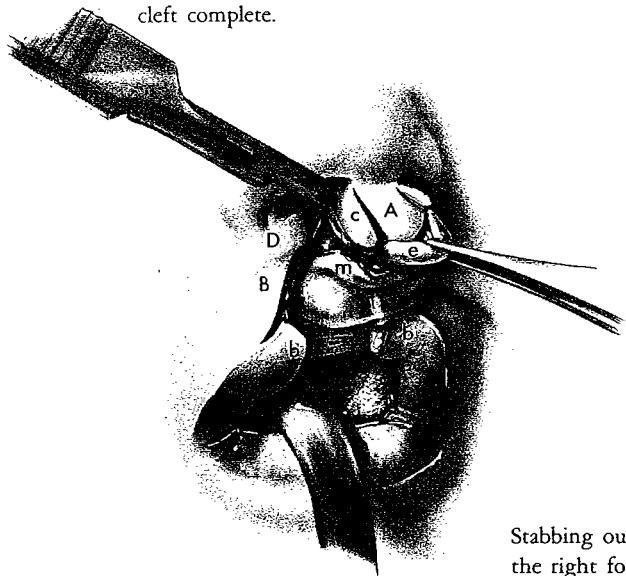


Posterior prolabium mucosa being turned under to cover premaxilla.

Suturing of flap m.



Making the incomplete cleft complete.



Stabbing out the right fork.



Freeing the prolabium from the premaxilla.

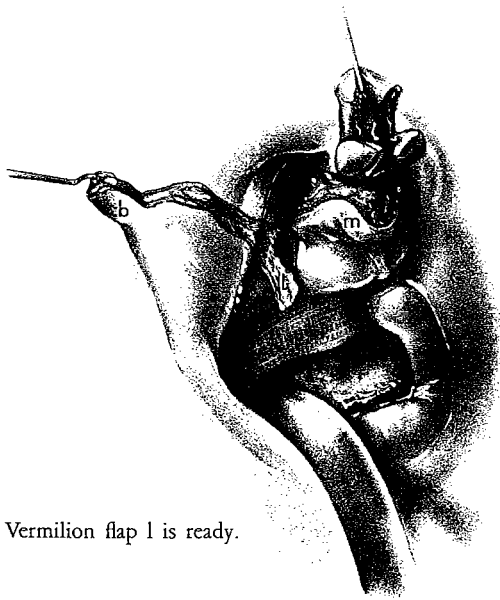


Philtrum and forks are free from the premaxilla.

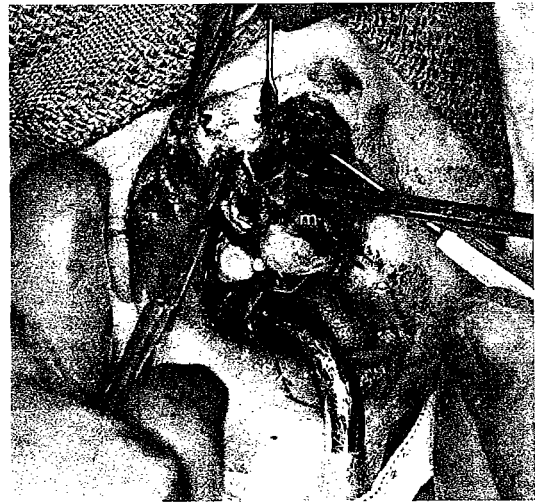
CONVERSION OF INCOMPLETE TO COMPLETE CLEFT

The incomplete cleft on the right is converted into a complete cleft. Then the entire prolabium with its inferior vermilion turnback flap and its lateral forks is elevated off the premaxilla up to the nasal spine, leaving any spare vermilion on the premaxilla for raw area cover.

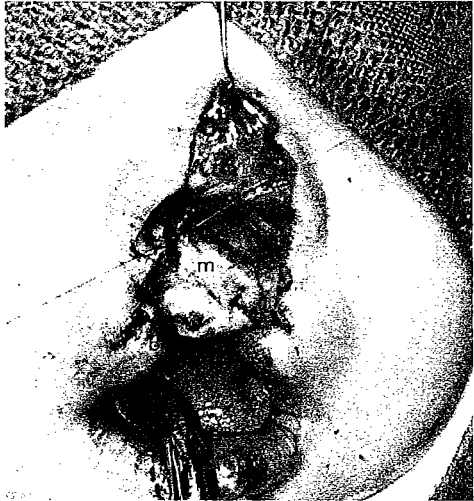
Upper cleft edge vermilion flap I is hanging ready. The right lateral lip element is released from the maxilla and the alar base incised along the intercartilaginous line of the vestibule to facilitate its correct positioning during the lip closure. Flap I will fit this vestibular defect.



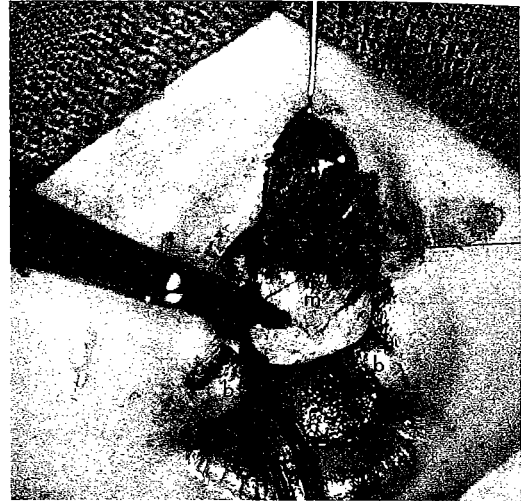
Vermilion flap I is ready.



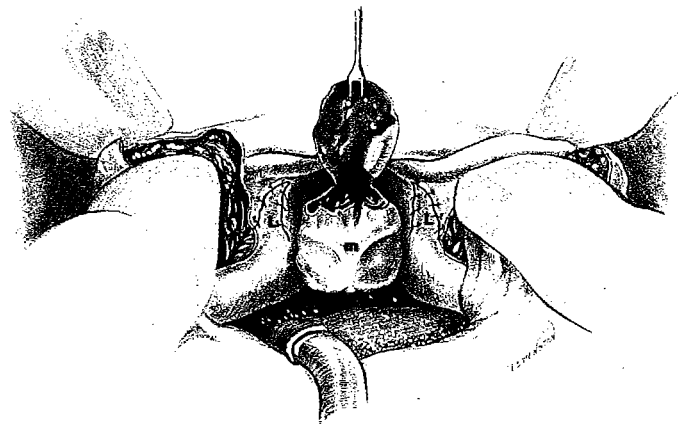
Alar base being released from the maxilla.



Residual prolabium vermillion (m) being sutured over premaxilla.



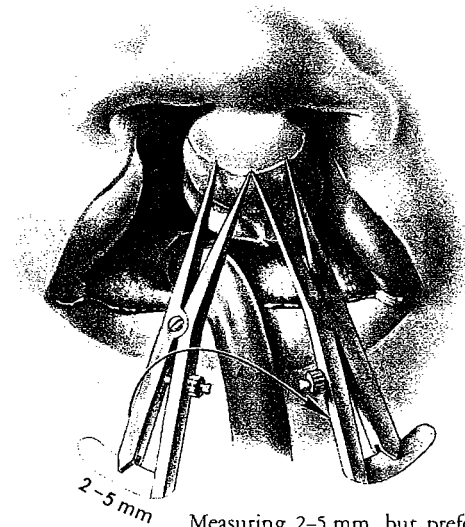
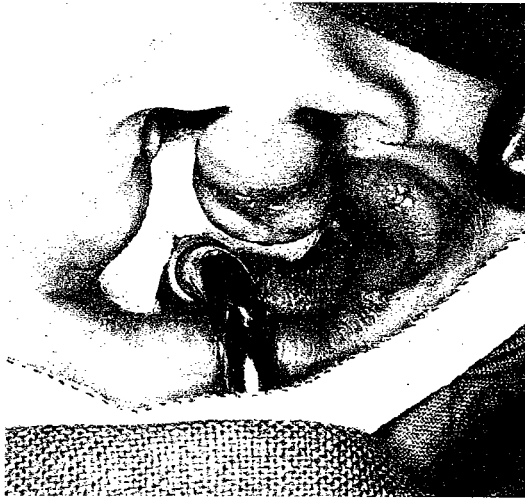
Cover of the premaxillary raw area with 'm' creates the posterior half of the upper labial sulcus.



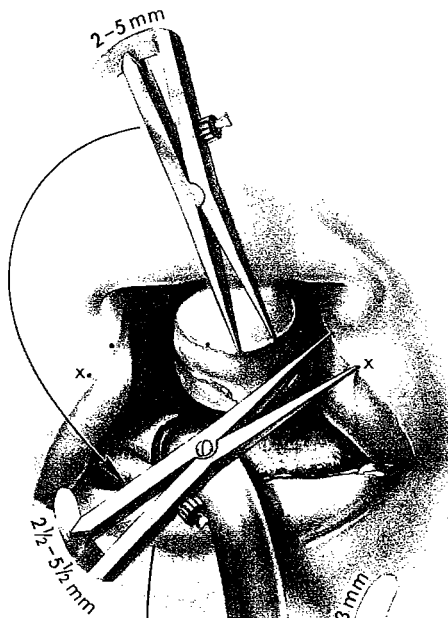
Whatever extra vermillion m that is attached to the premaxilla is sutured over the raw area to create the posterior side of the upper sulcus.

The incomplete cleft has been transformed into a complete cleft.

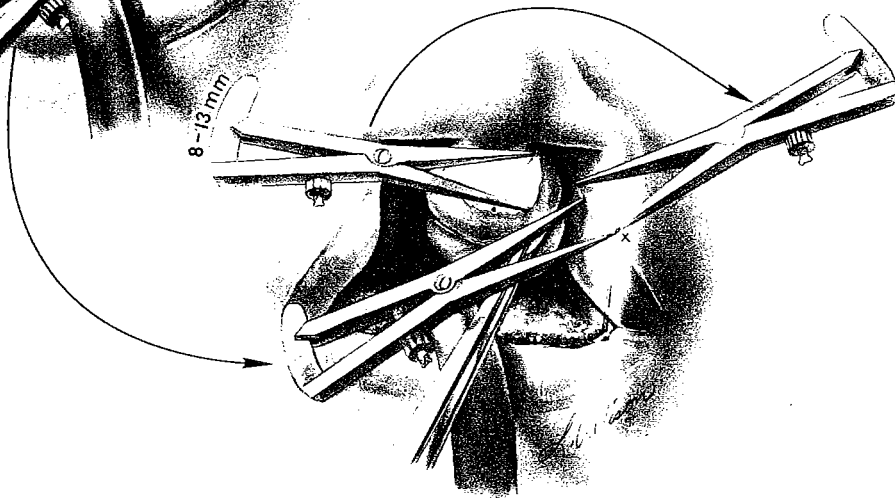
Bilateral complete cleft



Measuring 2-5 mm. but preferably 3 mm. width of each arch of the bow from the midline.



Width of one arch and a little more is measured along the lateral cleft edge starting upward from point x, the normal commissure, to peak of bow distance.



Vertical height of the prolabium determines the further upward extension of this paring so that the lateral and medial pared skin edges match.