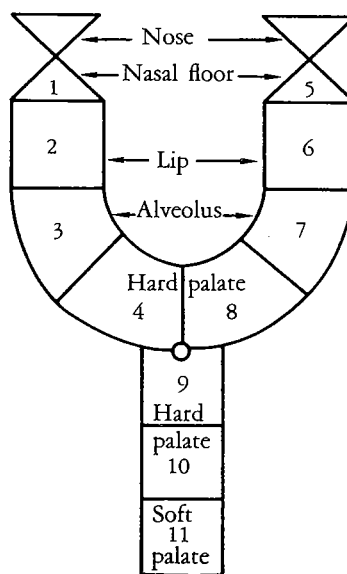


38. Examples of Complete Unilateral Cleft Cases

THE same code is used as in incomplete clefts. Discrepancies noted resulting from the primary surgery in complete clefts will be dealt with in the secondary section.

KEY TO CODE ON CASES

B.D.	birth date
F.H.	family history
F.T.	first trimester
O.C.A.	other congenital anomalies
Op	operation
Ad	adhesion
Adv	advancement
Rot	rotation
R-A	rotation-advancement
H.P.	hard palate
S.P.	soft palate
B.G.	bone graft
b-c	back-cut
wr	white roll flap
c	flap c
col	columella



A cleft is indicated by stippling, a submucous cleft or submucous distortion by horizontal lines.

GENERAL STATISTICS

In the unselected series of 80 unilateral clefts operated on in Miami and presented in detail, 45 were incomplete (Chapter 29), 35 complete (discussed in this chapter); 39 had associated cleft palate; 77 were Caucasian, 3 Negro, 21 female, 59 male, 29 right, 51 left; 16 had a family history of clefts; 15 had incidents in the first trimester of pregnancy; 8 had other congenital anomalies.

In the incomplete clefts (45), 10 had associated CP, 44 were Caucasian, 1 was Negro; there were 12 female, 33 males, 16 right, 29 left; 8 had F.H. of clefts, 6 had incidents in F.T. and 2 had O.C.A.

In the complete clefts (35), 29 had associated CP; 33 were Caucasian, 2 Negro, 9 female, 26 male, 13 right, 22 left; 8 had F.H. of clefts, 9 had incidents in F.T. and 6 had O.C.A.

There is no significant difference between incomplete and complete cleft lips in the following parameters except that associated cleft palate was 3.8 times more frequent in complete clefts (22 percent of incomplete and 83 percent of complete lip clefts had CP).

PERCENTAGES IN TOTAL SERIES

49 percent of lip clefts associated with palate clefts
96 percent Caucasian, 4 percent Negro
74 percent male, 26 percent female
64 percent left, 36 percent right
20 percent with family history of clefts
19 percent with first trimester incident
10 percent with other congenital anomalies

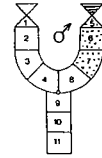
EARLY CASES WITHOUT REFINEMENTS (CASE 1)



1. 2 months



2. 2 months



B.D. October 8, 1957
 F.H. No clefts
 F.T. Uneventful
 O.C.A. None

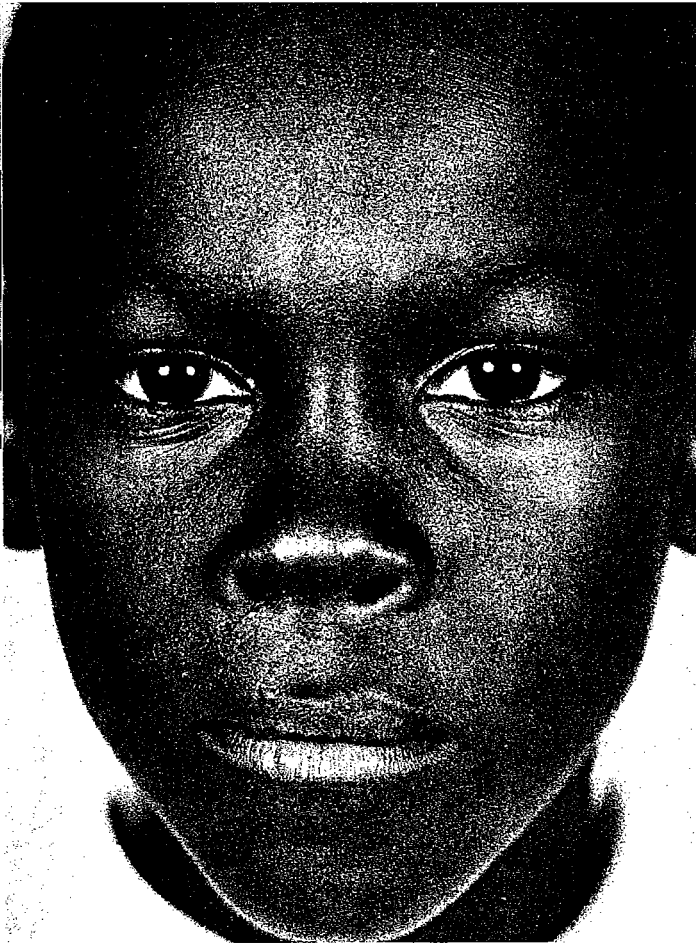
R-A. At 2 months
 Op. Early R-A without refinements.

Revisions. At 8 months. Lip: trimming of free border vermillion and scar excision. Nose: alar rim excision. At 12 years. Lip: free border revision. Nose: alar rim excision, normal alar base excision.

Original deformity and early results published in *Plast. Reconstr. Surg.* 25:600, 1960.



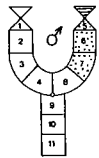
3. 2 years



4. 14 years

Comment. An early rotation-advancement without refinements that still produced a good lip and nose.

EARLY CASES WITHOUT REFINEMENTS (CASE 2)



B.D. October 29, 1957

F.H. No clefts

F.T. Bleeding

O.C.A. None

R-A. At 3 months

Op. 1. Early R-A without refinements. 2. Alar rim crescent excision. 3. Cleft side vermilion interdigitation posteriorly in lower lip.

Revisions. At 2 years. Lip: upper scar revision and V-Y mucosal roll-down on weak cleft side. Nose: alar base V-Y advancement medial on cleft side and alar wedge excision on normal side.

Original deformity and early result published in *Plast. Reconstr. Surg.* 25:602, 1960.

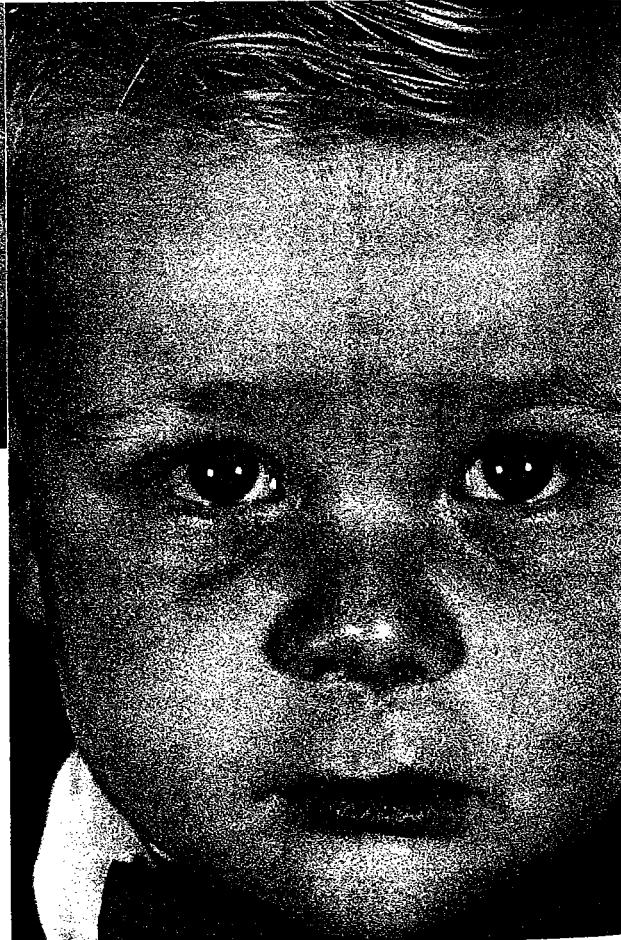


1. 3 months

2. 3 months



3. 1½ years



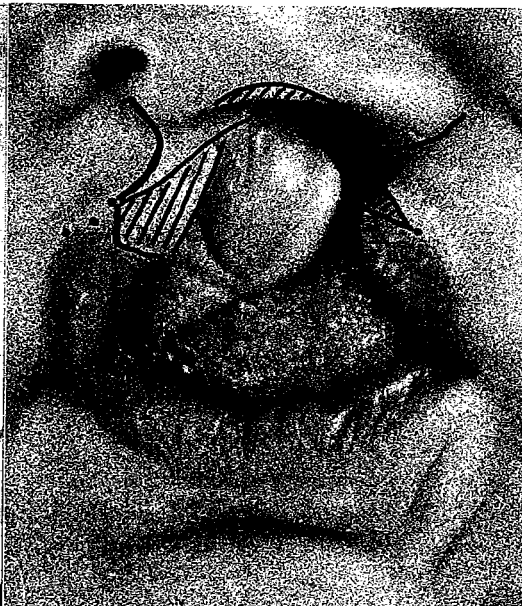
4. 2½ years

Comment. The advancement of the lateral flap into the rotation gap often produced attenuation of the lateral vermilion. This required a secondary V-Y roll-down and finally started me doing a primary posterior mucosal transposition to the weak side.

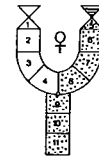
EARLY CASES WITHOUT REFINEMENTS (CASE 3)



1. 2 1/2 months



2. 2 1/2 months



B.D. September 26, 1958
 F.H. No clefts
 F.T. Auto accident in 2nd month
 O.C.A. None

R-A. At 2 1/2 months

Op. 1. R-A without refinements. 2. Wedge out of nasal lining. 3. Alar rim crescent. 4. Cleft vermilion overlapping non-cleft side.

H.P. and S.P. At 1 year vomerian flap for hard palate and 3 flap pushback.

Revisions. At 3 years. Extracted tooth in prominent premaxillary area. Mid V-Y of vermilion tubercle.

Comment. The outward rotation of the premaxilla and repositioning of the maxilla on the cleft side would have benefited by an adhesion which it did not have. The nasal deformity was stubborn. The muscle bunching in the lateral lip element resting over the prominent premaxilla has produced an unnatural bulging which is improving with time. The lack of the white roll flap is noticeable. Modern refinements and extensions would have improved the early result as would the more recent muscle surgery now being used.

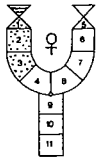


3. 1 year



4. 5 years

EARLY CASES WITHOUT REFINEMENTS (CASE 4)



B.D. October 17, 1958
 F.H. No clefts
 E.T. Uneventful
 O.C.A. Midline upper lip sinus

R-A. At 2½ months

Op. 1. Early R-A without refinements. 2. Excess vestibular skin excised. 3. Vermilion overlap from cleft side. 4. Alar rim crescent excision.

Revisions. 1 year postoperative. V-Y roll-down of vermillion mucosa on cleft side. Excision of midline upper lip sinus.

Original deformity and early result published in *Plast. Reconstr. Surg.* 25:599, 1960.



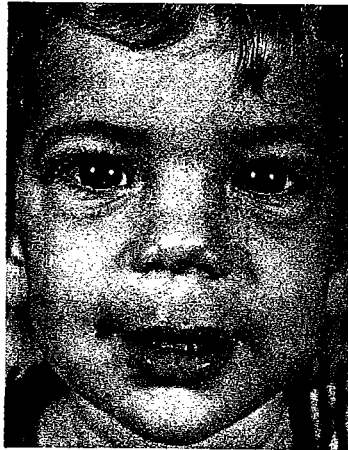
1. 2½ months



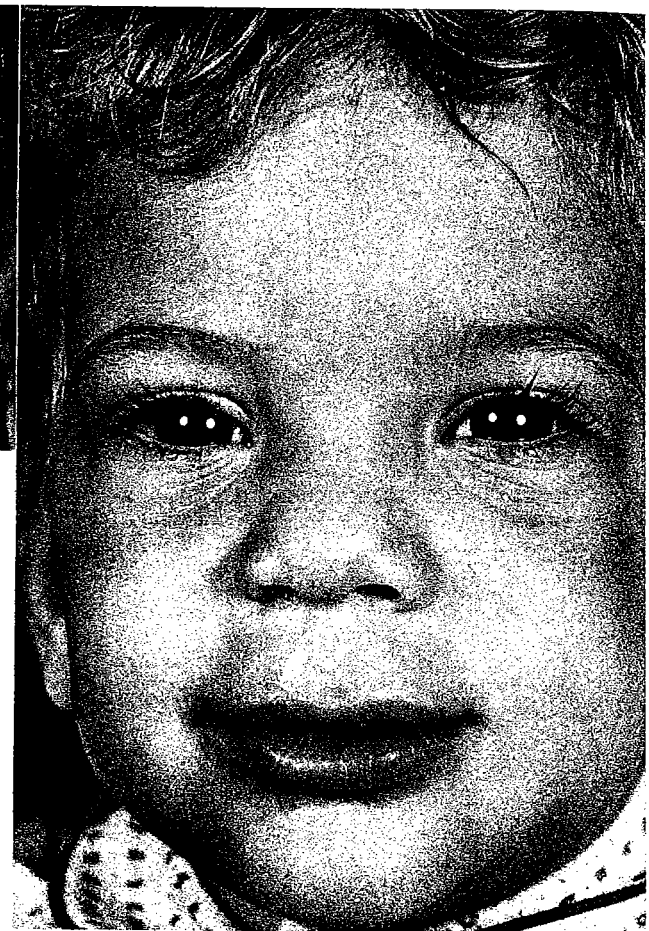
2. 2½ months



3. 2½ months postoperative



4. 9 months—contraction present at 2½ months postoperative but gone by 9 months old.



5. 1½ years

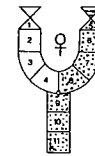
Comment. A skin sinus in the midline of the upper lip is rare, having been reported six times in the literature. It has never been recorded in association with a cleft of the lip except in this case.

EARLY REFINEMENTS (CASE 5)



1. 3 1/2 months

2. 3 1/2 months



B.D. January 16, 1962
 F.H. No clefts
 F.T. Uneventful
 O.C.A. None

R-A. At 3 1/2 months

Op. 1. Rot with b-c. 2. c for col.
 3. Adv with wr. 4. Alar rim web excision.

H.P. Vomer flap at 10 months.
 S.P. Pushback with right island flap at 13 months.

B.G. Iliac cancellous bone blocks and chips across cleft and over maxilla under alar base at 9 1/2 years.

Revisions. Lip: scar excision, vermilion revision. Nose: alar rim reduction.

Original deformity and early result published in *Plast. Reconstr. Surg.* 33:32, 1964.



3. 3 1/2 weeks postoperative

4. 1 year

5. 6 years



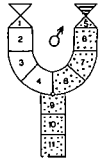
6. 6 years



7. 11 years

Comment. Original nasal deformity so severe that without primary alar cartilage correction will eventually require secondary rhinoplasty at 16 years of age.

EARLY REFINEMENTS (CASE 6)



B.D. March 27, 1962
 F.H. Paternal great-aunt cleft lip and palate
 E.T. Uneventful
 O.C.A. Capillary hemangioma of the cheek



1. 4½ months



2. 4½ months



3. 3 weeks postoperative

R.A. At 4½ months

Op. 1. Rot with b-c. 2. c for col. 3. Adv flap tip taken from vestibule. 4. wr flap used. 5. Alar rim crescent excision. Contracture at 3 weeks.

H.P. Vomer flap closure at 10½ months.

S.P. Pushback with right island flap at 13 months.

Revisions. Hard palate fistula closed twice and finally used tongue flap for closure. Lip vermilion first mobilized by lateral advancement and then filled out by V-Y roll-down.



4. 4 years

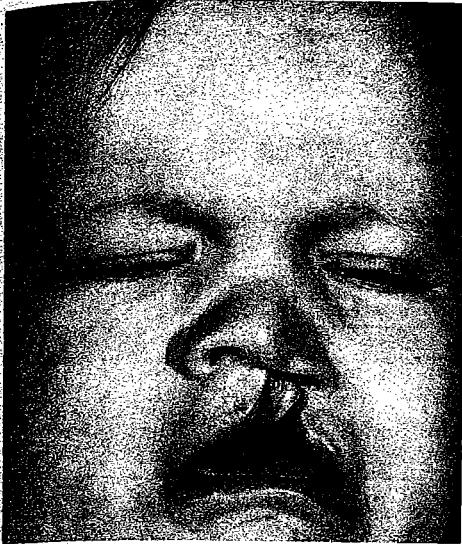
Original deformity and early result published in *Plast. Reconstr. Surg.* 33:34, 1964.

Comment. Tip of advancement flap taken from nasal vestibule. Primary procedure produced attenuated vermilion on cleft side requiring several secondary mucosal advancements.



5. 11 years

EARLY REFINEMENTS (CASE 7)



1. 3 1/2 months



2. 3 1/2 months



3. 1 year

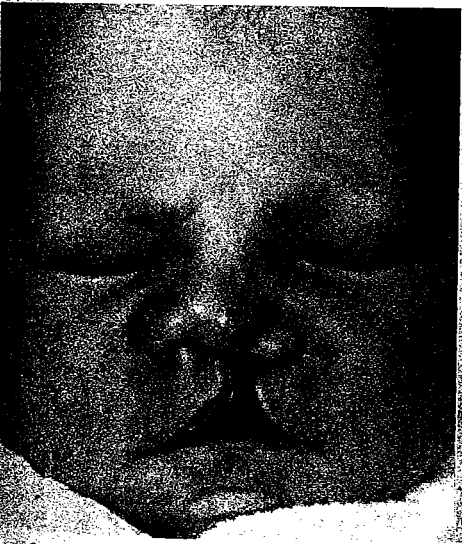


B.D. June 12, 1962
 F.H. No clefts
 F.T. "Ptomaine poisoning"
 O.C.A. Congenital heart deformity

R-A. At 3 1/2 months
 Op. 1. R-A without refinements. 2. Alar rim excision.
 H.P. and S.P. Surgery postponed because of severe heart deformity, subsequently performed elsewhere.

Comment. Primary rotation-advance without refinements carried out with great concern for poor circulatory condition of patient.

EARLY REFINEMENTS (CASE 8)



1. 2 months



2. 2 months



3. 2 1/2 years



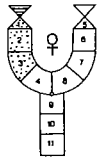
B.D. January 14, 1963
 F.H. No clefts
 F.T. Tooth extraction and infection
 O.C.A. None

R-A. At 2 months
 Op. 1. Rot with b-c. 2. c for col. 3. Adv with wr. 4. Alar rim excision.
 H.P. and S.P. At 9 months soft palate and vomer flap closure of hard palate fistula.

Revisions. At 2 1/2 years. Lip: vermillion excisions. Nose: alar rim excisions.

Comment. Not as easy a cleft as it seems and will deserve minor revisions if ever seen again.

EARLY REFINEMENTS (CASE 9)



B.D. January 20, 1963
 F.H. No clefts
 F.T. Uneventful
 O.C.A. None

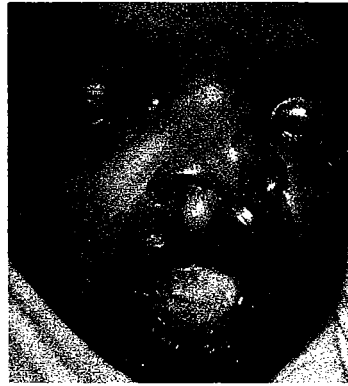
R-A. At 3½ months

Op. 1. Rot with b-c. 2. c for col.
 3. Adv with wr. 4. Posterior mucosal transposition to cleft side.
 5. Alar rim web excision and V excision of the lining.

Revisions. Lip: 4½ months postoperative—vermilion free border excision. Nose: 2 years postoperative—alar base transposition into the nasal floor.

Original deformity and early result published in *J. Fla. Med. Assoc.* 52:624, 1965, and *J. Am. Med. Wom. Assoc.* 21:914, 1966.

Comment. Alar base drifting required secondary transposition, finally encouraged me to advance the alar base on top of the advancement flap and later denude its tip and suture it to the septum for a strong alar base tie.



1. 3½ months



2. 3½ months



3. 2 years



4. 2 years



5. 2 years



EARLY REFINEMENTS (CASE 10)



1. 3 days



2. 3 months



3. 3 months postoperative



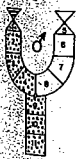
4. 1 year



5. 4 years



6. 10 years



B.D. July 26, 1963
 F.H. No clefts
 F.T. Uneventful
 O.C.A. Mucous pits of lower lip

R-A. At 3 months
 Op. 1. Rot with b-c. 2. c for col. 3. Adv with wr. 4. Alar rim web excision. Deficient cleft element resulted in attenuated vermilion on cleft side.
 B.G. At 7 months split rib grafts to onlay maxilla and chips into cleft.

S.P. At 10 months soft palate closure. At 7 years pharyngeal flap to soft palate.
 H.P. At 2 years vomer flap closure of hard palate.

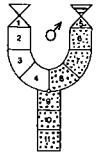
Revisions. Nose: alar rim excision at 10 months. Lip: upper scar excision and V-Y rolldown of mucosa on cleft side.

Mucous pits. Excision at 7 months and reexcision at 2 years finally corrected this deformity.

Original deformity and early results published in *Trans. 4th Int. Congr. Plast. Reconstr. Surg.* 1969 and *Plast. Reconstr. Surg.* 42:543, 1968, and *Cleft Lip and Palate* by Grabb, Rosenstein and Bzoch, 1971.

Comment. Severe deficiency of lip and maxillary tissue required several tricks including bone grafting but ended up with good result.

EARLY REFINEMENTS (CASE 11)



B.D. February 27, 1964
 F.H. No clefts
 F.T. Uneventful
 O.C.A. None

R.A. At 2 months

Op. 1. Rot with b-c. 2. c for col.
 3. Adv with wr. 4. Alar rim with elliptical excision.

H.P. At 10 months vomer flap hard palate closure.

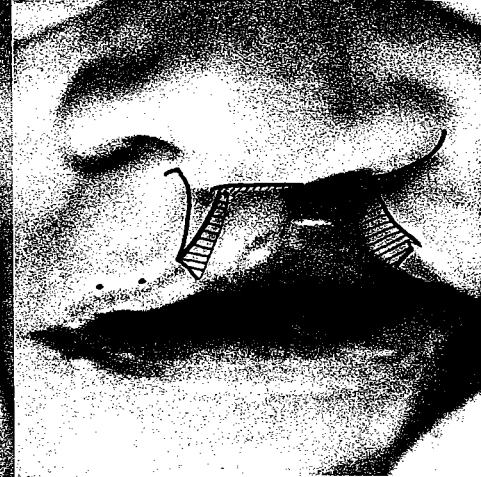
S.P. At 13 months soft palate closure with island flap.

B.G. At 8½ years iliac bone graft to maxilla under alar base.

Revisions. At 6 years. Nose: alar rim excision and Z of vestibule. Lip: revision of upper scar and V-Y posterior mucosal roll-down on cleft side.



1. 3 days



2. 2 months



3. 3 months



4. 3 years



5. 5 years



6. 7 years



7. 8 years

Comment. A wide cleft with severe nasal distortion which was rotated without difficulty. Lack of mucosal flap bolstering of the cleft side is seen in early postoperative photo and eventually required V-Y roll-down and maxillary bone grafting.

EARLY REFINEMENTS (CASE 12)



1. 3 days



2. 3½ months



3. 3 weeks postoperative



4. 3 months postoperative



5. 3 years



6. 7 years



B.D. October 20, 1964
 F.H. Mother's paternal cousin cleft lip and palate
 E.T. Viral infection
 O.C.A. None

R.A. At 3½ months
Op. 1. Rot with b-c. 2. c for col. 3. Adv with wr. 4. Alar rim excision. 5. No posterior mucosal flap transposition to non-cleft side.

Healing. Lip contracture at 3 weeks gradually relaxed at 3 months and 3 years.

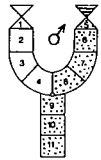
H.P. Left open until 5½ years.
S.P. Pushback with island flap at 13½ months.
B.G. Split rib grafts to maxilla at 5 years.

Revisions. At 7 years. Lip: scar and vermilion revisions. Nose: alar rim excision; alar base transposition.

Original deformity and early result published in *Trans. 4th Int. Congr. Plast. Reconstr. Surg.* 1969.

Comment. Original deformity severe. The early lip contracture was marked but gradually settled until almost symmetrical, requiring only minor revisions at 7 years. Further nasal correction will be required at 16 years.

EARLY REFINEMENTS (CASE 13)



B.D. January 7, 1965
 F.H. No clefts
 F.T. Uneventful
 O.C.A. None

R-A. At 3 months

Op. 1. Rot with b-c. 2. c for col.
 3. Adv with wr. 4. Medial mucosal
 posterior transposition to cleft side.

Revisions. Lip: free border trim on
 cleft side. Nose: V-Y alar base ad-
 vancement medially at 6 years.



1. 3 months



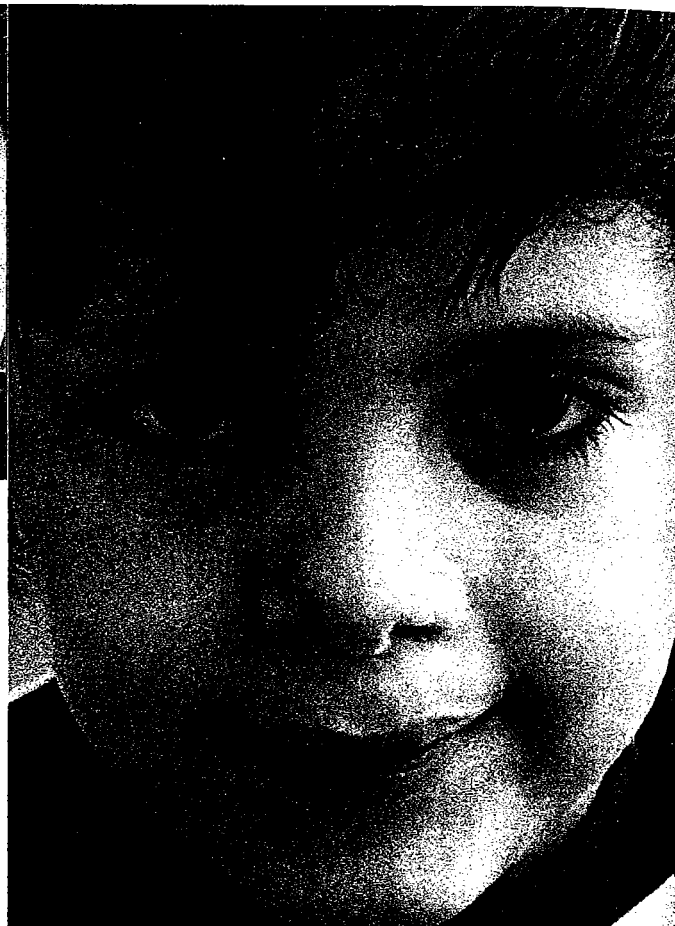
2. 3 months



3. 2 weeks postoperative



4. 6 years



5. 6 years

Comment. The original nasal distortion with the alar crease extending into a kink in the alar rim caused a persistent problem. It was not corrected primarily so will require revision at 16 years or sooner.

EARLY REFINEMENTS (CASE 14)



1. 2½ months



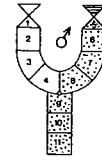
2. 2½ months



1 year



4. 7 years



B.D. February 24, 1965
 F.H. No clefts
 F.T. Auto fright around time of conception
 O.C.A. None

R.A. At 2½ months
 Op. 1. Rot with b-c. 2. c for col. 3. Adv with wr. 4. Posterior mu-
 cosa transposed from medial to cleft side.

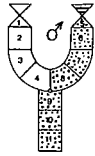
H.P. At 1 year vomer flap at time of pushback.

S.P. Pushback with island flap (rt).

Revisions. At 7 years. Closure of oronasal fistula; lip scar excision.

Comment. Original nasal distortion severe but as it was not corrected primarily with lift of the alar cartilage, rhinoplasty at 16 years will be necessary.

EARLY REFINEMENTS (CASE 15)



B.D. March 9, 1965
 E.H. Paternal 3rd cousin cleft lip
 E.T. Uneventful
 O.C.A. None

R-A. At 3 months

Op. 1. Rot with b-c. 2. c for col. 3. Adv with wr. Result good but slight deficiency of mucosa of cleft side free border.

H.P. At 9 months vomer flap for hard palate closure.

S.P. At 11 months soft palate push-back with island flap.

Fistula closed at 2 years.

B.G. At 5½ years iliac bone graft over maxilla under alar base with chips into the cleft.

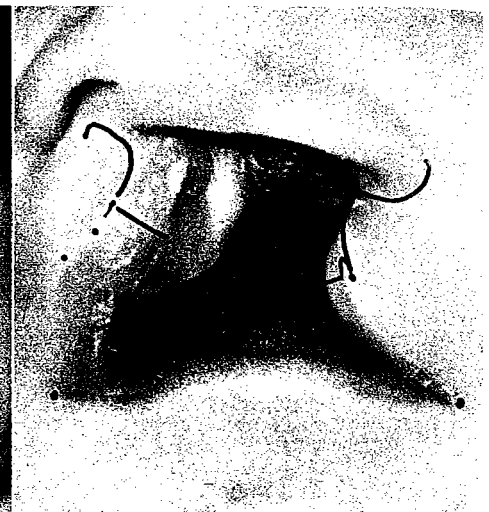
Revisions. At 7 years. Nose: flap taken out of alar base transposed into vestibule for release. Lip: V-Y mucosal roll-down for lip free border.

Original deformity and early results published in *Plast. Reconstr. Surg.* 42:536, 1968, and *Cleft Lip and Palate* by Grabb, Rosenstein and Bzoch, 1971.

Comment. Cleft with severe distortion that was effectively corrected with the primary rotation-advancement procedure necessitating only minor revisions at 7 years.



1. 3 months



2. 3 months



3. 6 months



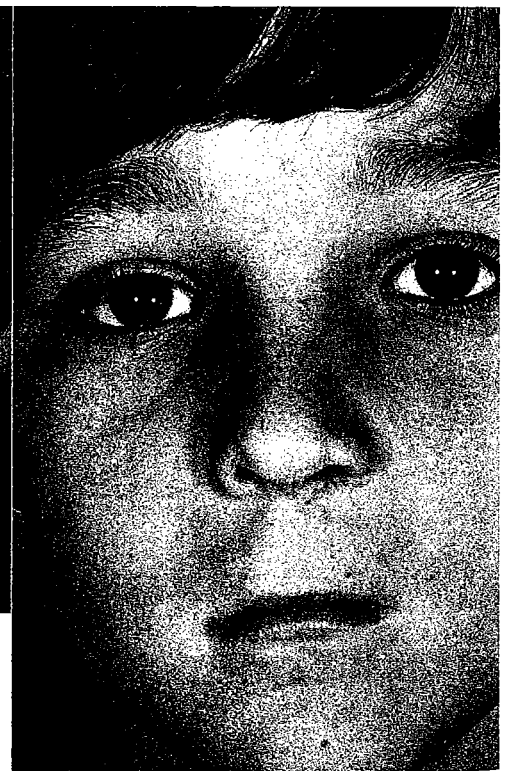
4. 3 years



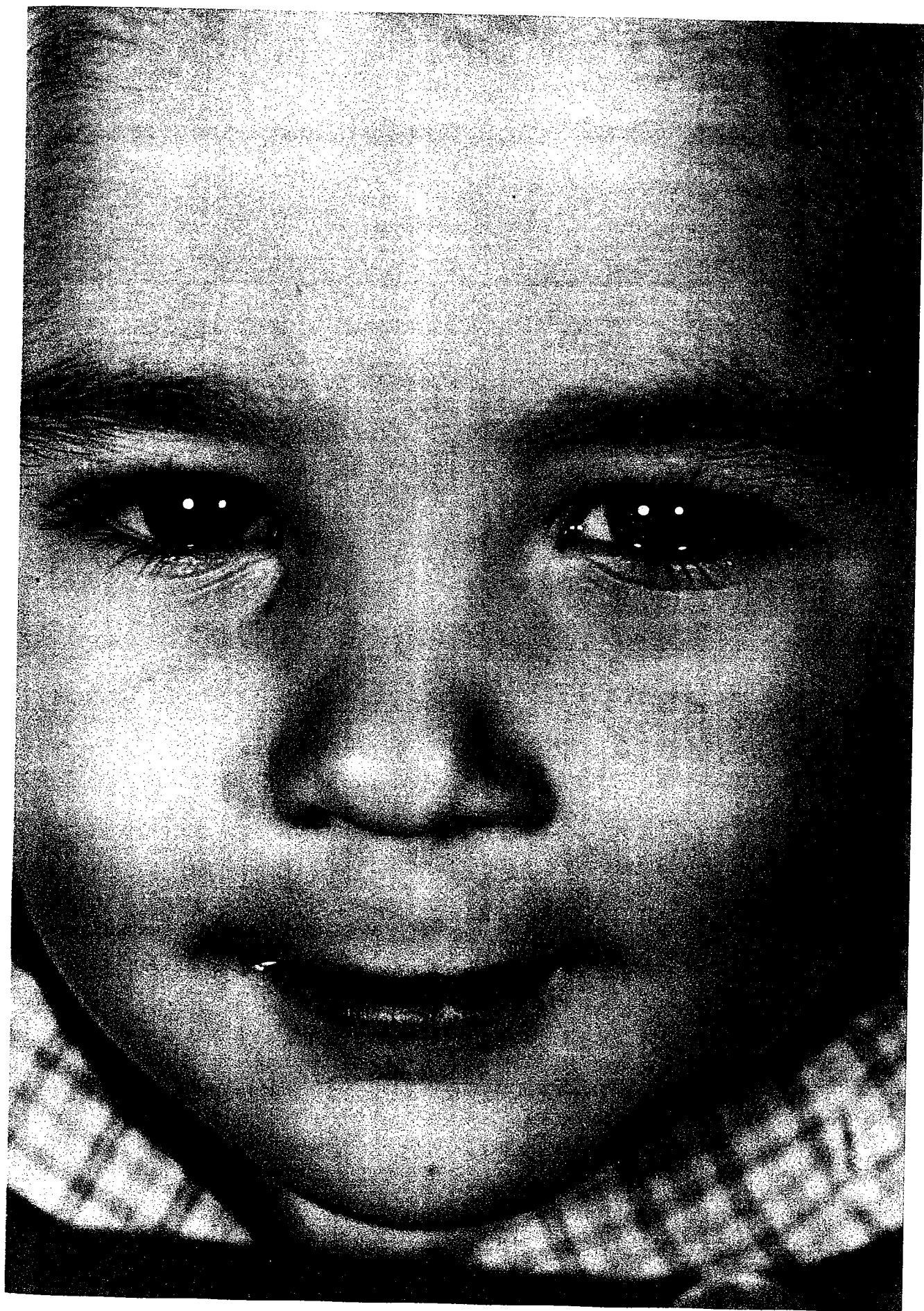
5. 7 years



6. 7 years



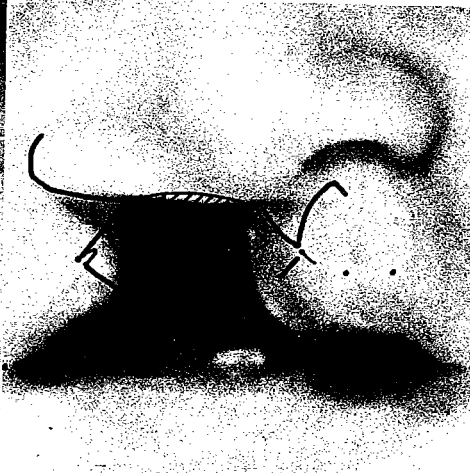
7. 7 years



EARLY REFINEMENTS (CASE 16)



1. 3 days



2. 5 months



3. 1 year—early contracture gradually relaxed



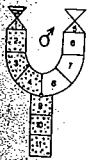
4. 2 years



5. 2 years



6. 6 years



B.D. May 4, 1966
 F.H. Father's grandmother had twins and one had a cleft lip and palate
 F.T. Bleeding during trimester
 O.C.A. None

R.A. At 5 months
 Op. 1. Anterior palate closed with mucoperiosteal flaps and Burian flap.
 2. Rot with b-c. 3. c for col. 4. Adv with wr. 5. Posterior transposition

of mucosa from medial side cut off inadvertently so cleft mucosa bolstered by reversed Burian from medial sulcus.

At 15 months screw-plate inserted to spread maxilla.

B.G. At 2 years. Split rib into the alveolar cleft and across maxilla under alar base.

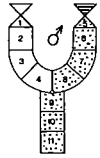
H.P. and S.P. Pushback with island flap at 2½ years.

Anterior fistula closed 6 months later.

Revisions. At 5 years. Lip: mucosal advancement on cleft side and free graft of muscle. Nose: alar base transposition and alar rim revision.

Comment. Original defect was horrendous, necessitating secondary mucosal roll-down to balance the vermilion free border.

EARLY REFINEMENTS (CASE 17)



B.D. October 14, 1966
 F.H. No clefts
 F.T. Uneventful
 O.C.A. None

At 2½ months anterior palate closed with vomer septal and lateral flaps and backed with turbinate mucosa.

R.A. At 3½ months -
Op. 1. Rot with b-c. 2. c for col.
 3. Adv with wr. 4. Alar rim excision.

B.G. At 13 months split rib bone grafts to arch maxilla and into cleft. Covered with Burian mucosal flap.
 S.P. At 18 months island flap push-back of palate.

Hypoplastic maxilla noted and orthodontia in action with some improvement.

Original deformity and early result published in *Plast. Reconstr. Surg.* 42:537, 1968.

Comment. Wide cleft with good early result with rotation-advancement without primary nasal correction. Yet early anterior palate closure using turbinate and at 13 months bone graft to maxilla resulted in hypoplastic maxilla being benefited by orthodontia.



1. 2 weeks



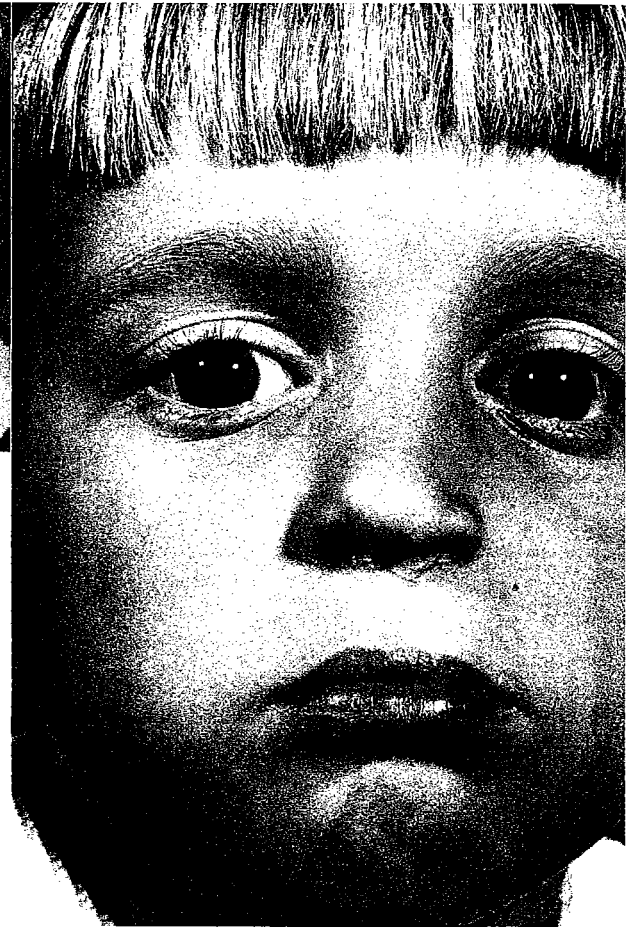
2. 2 weeks



3. 2 weeks



4. 1 year

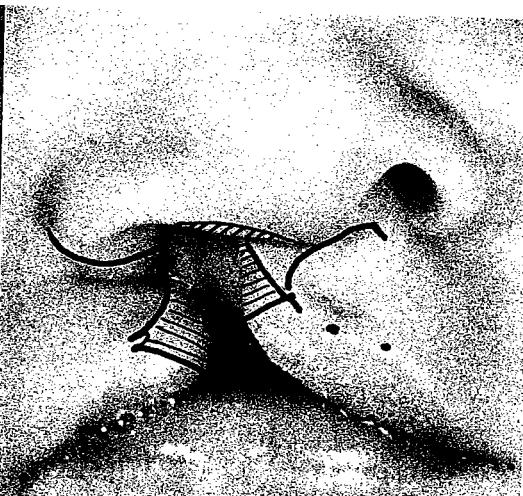


5. 6 years

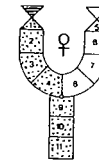
EARLY REFINEMENTS (CASE 18)



1. 3 months



2. 3 months



B.D. December 24, 1966
 F.H. No clefts
 F.T. Uneventful
 O.C.A. None

R.A. At 3 months
Op. 1. Rot with b-c. 2. c for col.
 3. Adv with wr. 4. Mucosal interdigitation posterior to cleft side.
H.P. and S.P. At 14 months nasal closure of hard palate and covered with anterior mucoperiosteal flap. Pushback with island flap (rt).



3. 1 month postoperative—early contracture of lip which subsided by 6 months



4. 10 months



5. 4 years—good

Comment. The deficiency in the upper portion of lateral lip element is reflected in the various stages from postoperative photo to late result. Cleft edge muscle flap could have filled out this upper grooving for slightly better balance. The nose will deserve revision at 16 years.



6. 5 years

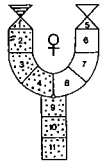


7. 5 years



8. 8 years

EARLY REFINEMENTS (CASE 19)

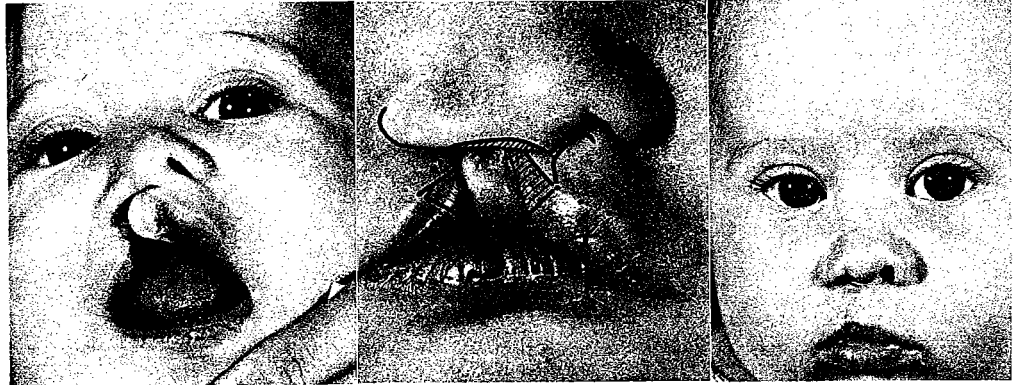


B.D. February 21, 1969
 F.H. No clefts
 F.T. Uneventful
 O.C.A. None

R-A. At 3½ months

Op. 1. Rot with b-c. 2. c for col.
 3. Adv with wr. 4. Posterior mu-
 cosal flap to cleft side. 5. Alar rim
 excision.

Early contracture subsided by 6
 months.



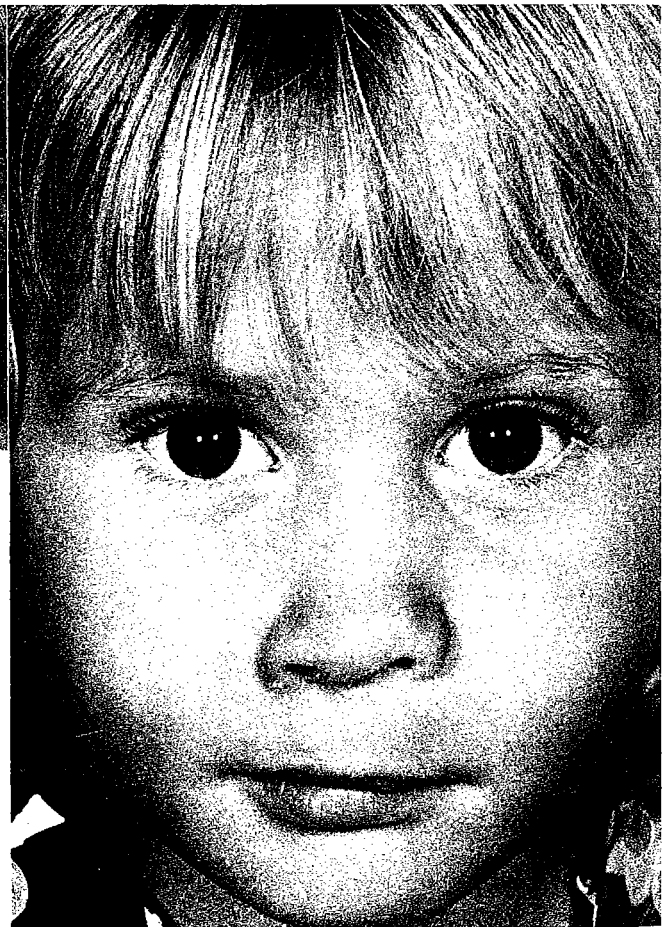
1. 3½ months

2. 3½ months

3. 6 months—early contra
 subsided by 6 months



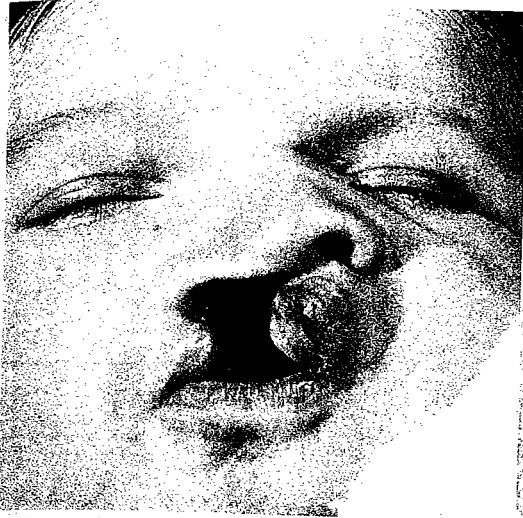
4. 2½ years



5. 2¾ years

Comment. Closure of lip over the
 projecting premaxilla so that the
 lump pummeling the lip probably
 explains less than ideal upper scar
 of union and lateral drifting of alar
 base. Secondary corrections will not
 be difficult.

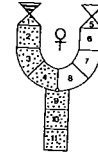
EARLY REFINEMENTS (CASE 20)



1. 3 weeks



2. 3 weeks



B.D. December 12, 1969
 F.H. Maternal cousin with cleft lip and palate
 E.T. Uneventful
 O.C.A. None

Ad. At 3 weeks. 1. Medial lip undermined. 2. Turn back vermilion flap from cleft side *without undermining*. 3. Lateral flap tucked under and sutured to medial element.

R-A. At 3 months

Op. 1. Closure of alveolar and anterior hard palate with mucoperiosteal flaps and mucosa of adhesion for 2nd layer. 2. Rot with b-c. 3. c for col. 4. Adv with wr. 5. Posterior mucosal transposition flap. 6. Alar rim excision.

H.P. Posterior hard palate closed with mucosa of nasal layer.

S.P. Pushback with island flap at 14 months.



3. 3 months



4. 3 months



5. 1 week postoperative

Revisions. None but improving with growth.



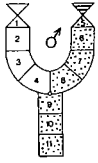
6. 2 years



7. 3 years

Comment. A severely wide cleft in lip and maxilla with such marked nasal distortion benefited by an adhesion. Requirement of a millimeter more back-cut than usual placed scar slightly lower in the lip. Two-layered closure of the alveolus and anterior hard palate at 3 months caused initial reduction in nostril on cleft side, but with growth this is improving, as seen at 3 years.

RECENT ADJUNCTS WITHOUT PRIMARY ALAR LIFT (CASE 21)



B.D. April 5, 1971
 F.H. No clefts
 F.T. Uneventful
 O.C.A. None

Ad. At 1 month

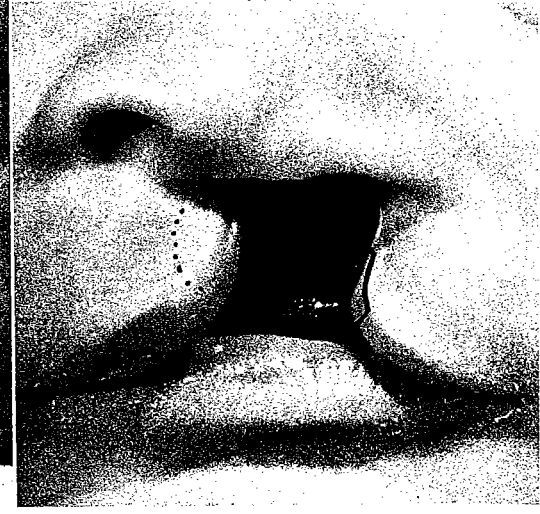
R.A. 5 months later

Op. 1. Adhesion material not used.
 2. Rot with b-c. 3. c for col. 4. Adv with wr. 5. Posterior mucosal interdigitation. 6. Alveolar cleft and nasal floor closed with mucoperiosteal flaps and lined with labial flap from sulcus. 7. Alar rim web denuded and transposed as a flap to nasal tip.

H.P. and S.P. At 13 months



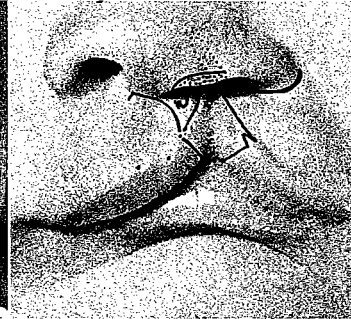
1. 1 month



2. 1 month



3. 5 months



4. 6 months



5. 3 months postoperative



Comment. A severe cleft improved by an adhesion. Then without using the adhesion material the rotation-advancement was carried out resulting in early contracture which is gradually subsiding. Use of adhesion material would have improved the early result. A re-rotation and re-advancement may be necessary.

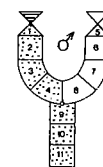
RECENT ADJUNCTS WITHOUT PRIMARY ALAR LIFT (CASE 22)



1. 3 weeks

2. 3 weeks

3. 3 months



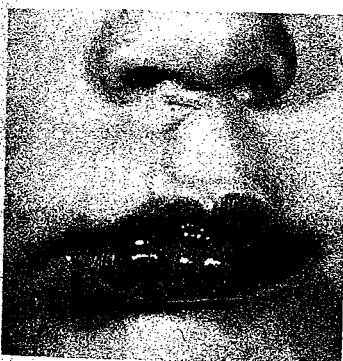
B.D. April 16, 1971
 F.H. No clefts
 F.T. Uneventful
 O.C.A. None



4. 5 months

5. 4 weeks postoperative

6. 6 weeks postoperative



7. 10 months



8. 2 years

Ad. At 3 weeks with slight freeing from maxilla on cleft side

R-A. At 5 months

Op. 1. Rot with b-c. 2. c for col. 3. Adv with wr. 4. Posterior mucosa interdigitation to cleft side. 5. Alar rim deepithelialized and transposed into tip.

Healing with catgut reaction even at 6 weeks (*arrow*). Scar never completely recovered.

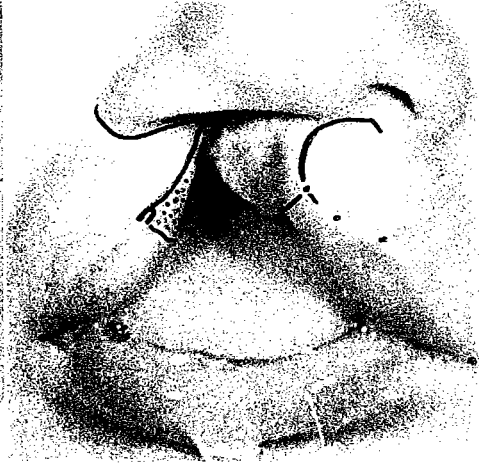
H.P. and S.P. At 17 months push-back and island flap and vomer flap with anterior mucoperiosteal cover.

Comment. Wide cleft benefited by an adhesion. Rotation-advancement went well, but reaction to catgut sutures at 6 weeks increased scarring in upper portion which is still noticeable at 2 years but should improve with years or be revised.

COMPLETE CLEFT (CASE 23)



1. 4½ months



2. 4½ months



3. 2 months postoperative—
contracture



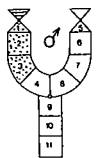
4. 8 months—lip laceration



5. 8 months—no primary alar lift
was done



6. 2 years—lacerated again but
only cheek!



B.D. May 14, 1971
 F.H. Mother had severe bilateral cleft of lip and palate
 FT. Much emotional stress
 O.C.A. None

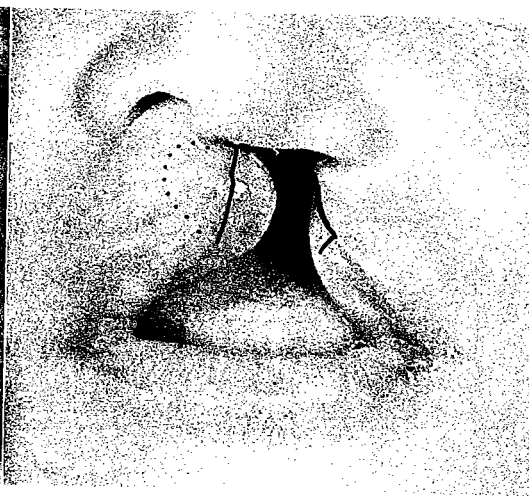
R-A. At 4½ months
 Op. 1. Alveolar cleft closed with mucoperiosteal flaps. 2. Rot with b-c. 3. c for col. 4. Adv with wr. 5. Alar base rotated. 6. Vermilion flap from medial element transposed to cleft side posteriorly. 7. Vermilion flap from lateral element used after denuded to increase tubercle of bow.

Comment. All's well that ends well.

COMPLETE CLEFT (CASE 24)



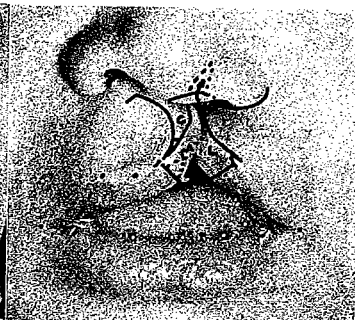
1. 2 months



2. 2 months



3. 5 months (adhesion)



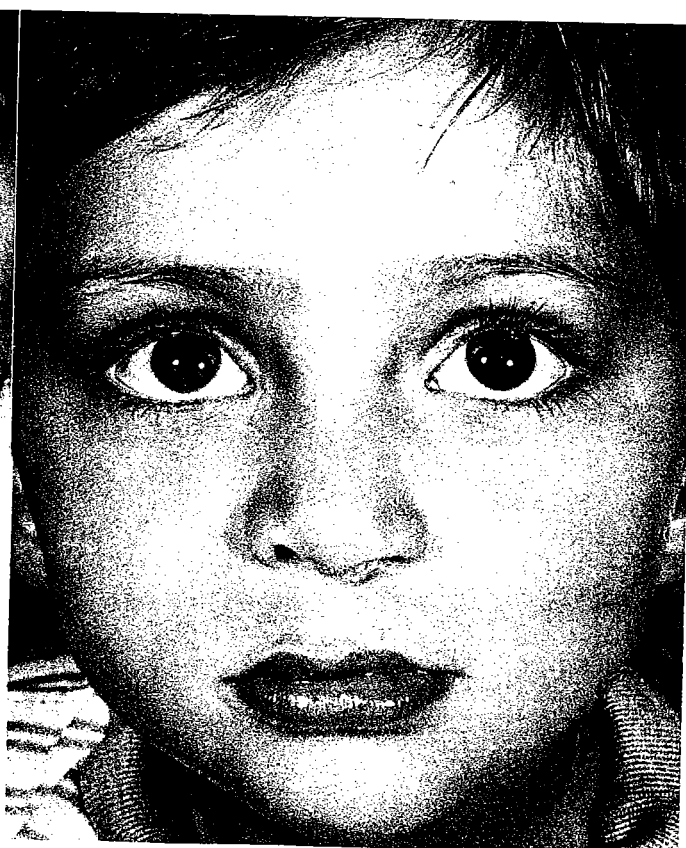
4. 7 months



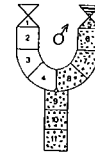
5. 1 year



6. 1 1/2 years



7. 2 years



B.D. June 23, 1971
 F.H. No clefts
 F.T. Uneventful
 O.C.A. None

Ad. At 2 months adhesion created.
S.P. At 7 months soft palate split and sutured.

Alveolus. Septal flap closure of alveolus and anterior portion of hard palate covered with mucosal scraps from adhesion.

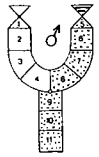
R.A. At 7 months

Op. 1. Rot with b-c. 2. c for col. 3. Adv with wr. 4. Mucosal tissue into alar base release. 5. Alar base denuded and sutured to septum. 6. Muscle flap from medial side to lower inferior cleft side. 7. Alar rim denuded and transposed as a flap into the tip.

H.P. At 1 year vomerine flap tucked under opposite mucoperiosteal edge.

Comment. At 7 months two-layered alveolar closure, definitive lip closure and soft palate closure.

COMPLETE CLEFT (CASE 25)



B.D. July 13, 1971
 F.H. No clefts
 E.T. Uneventful
 O.C.A. None

Ad. At 3 weeks

R-A. At 6 months

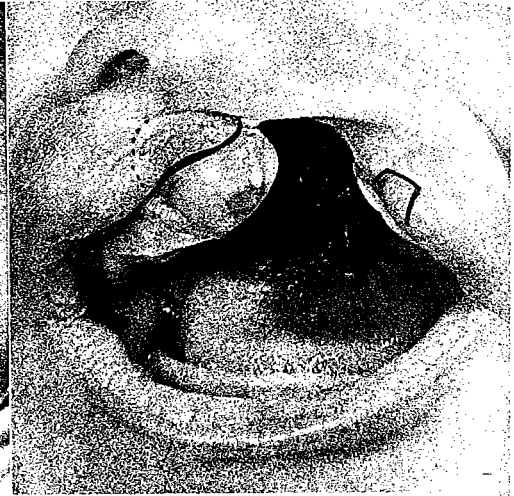
Op. 1. Rot with b-c. 2. c for col.
 3. Adhesion denuded and inserted
 under alar base. 4. Alar base advanced
 toward septum. 5. Adv with wr. 6. Alar
 rim denuded and transposed as flap
 into crease.

S.P. At 16 months soft palate closed.

H.P. Left open.



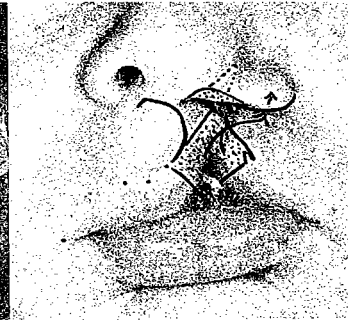
1. 3 days



2. 3 days



3. 3 weeks



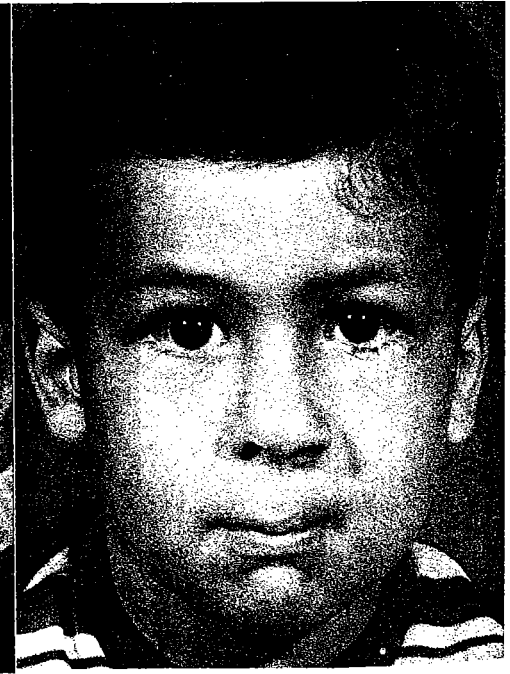
4. 6 months



5. 2 weeks postoperative



6. 2 years



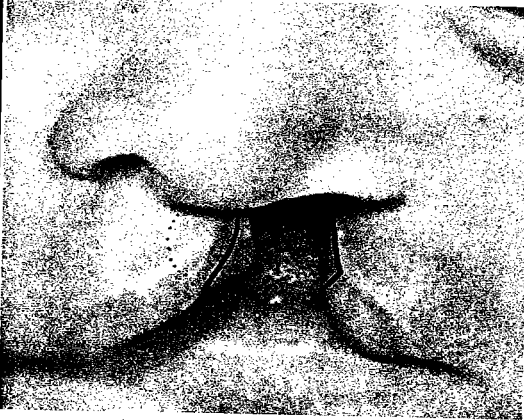
7. 2 years

Comment. Primary alar lift should have been done and will be done as a secondary procedure before school age.

COMPLETE CLEFT (CASE 26)



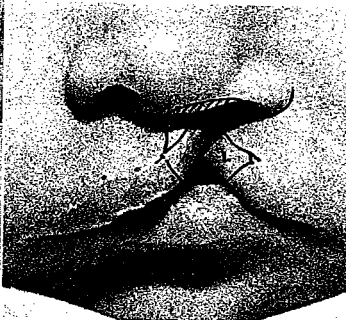
1. 1 month



2. 1 month



3. 3 months



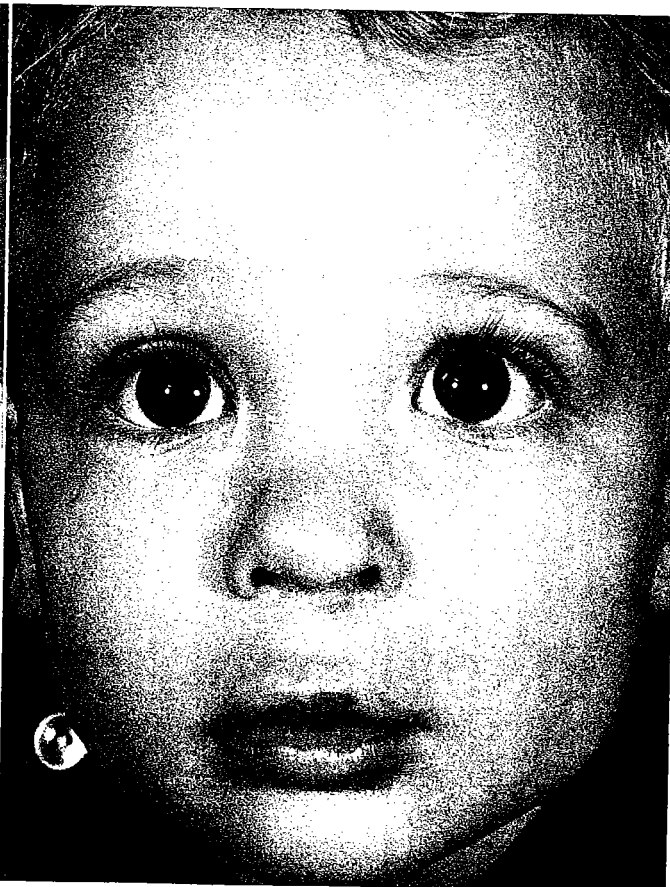
4. 6 months



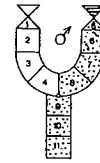
5. 8 months



6. 1 year



7. 1 1/2 years



B.D. August 22, 1971
 F.H. No clefts
 F.T. Uneventful
 O.C.A. None

Ad. At 1 month. 1. Medial lip element freed from maxilla. 2. Vermilion flap from lateral lip element sutured under medial element without undermining.

R-A. At 6 months

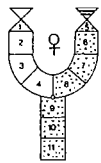
Op. 1. Mucosa from lateral portion of adhesion and cleft edge used to line vestibule of alar base release. 2. Rot with b-c. 3. c for col. 4. Adv with wr. 5. Tip alar base denuded and advanced to septum. Nasal floor closed. 6. Muscle flap from medial edge inserted into free border of cleft side. 7. Alar rim excision.

S.P. Soft palate split and sutured at time of lip closure.

H.P. Closure of hard palate at 12 1/2 months with vomer flap.

Comment. This wide cleft had the benefit of most of the modern adjuncts including an early adhesion, soft palate closure at the time of rotation-advancement, use of adhesion tissue to release the vestibular lining of the alar base and line nasal floor, muscle flap insertion from non-cleft edge into cleft side. The ultimate result should be good.

COMPLETE CLEFT (CASE 27)



B.D. October 9, 1971
 F.H. No clefts
 F.T. Uneventful
 O.C.A. None

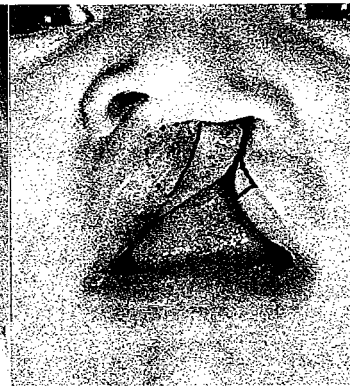
Ad. At 3 weeks. (No undermining lateral segment.) Separated after 1 week. Adhesion recreated after 1 month with slight lateral undermining.

R-A. At 6 months

Op. 1. Alveolar defect closed with mucoperiosteal flaps and mucosal cleft edge flap from adhesion (medial). 2. Alar base release closed with lateral mucosal flap. 3. Rot with b-c. 4. c for col (lengthened 5 mm.). 5. Adv with tip from vestibule to keep commissure to bow peak 23 mm. on each side. 6. Thin Adv tip bolstered by muscle from medial element. 7. wr.



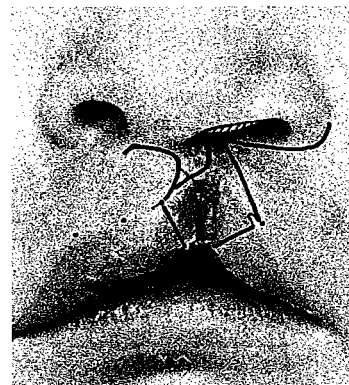
1. 3 weeks



2. 3 weeks



3. 4 months



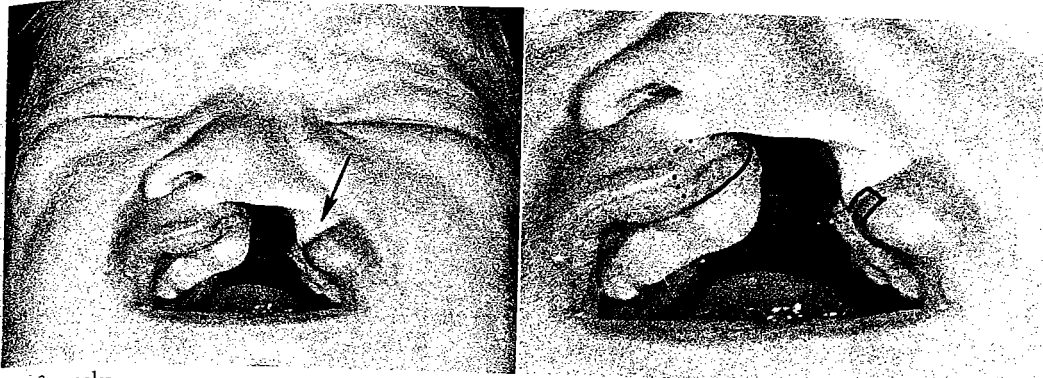
4. 6 months



5. 1½ years

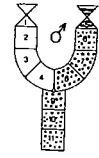
Comment. All latest mucosal edge flaps used for alveolar cleft closure and release of alar base. Reasonably symmetrical nasal tip without primary alar lift.

COMPLETE CLEFT (CASE 28)



1. 3 weeks

2. 3 weeks



B.D. December 30, 1971
 F.H. Father's father had CL(P); father's uncle's son's son had CL(P)
 F.T. Uneventful
 O.C.A. None

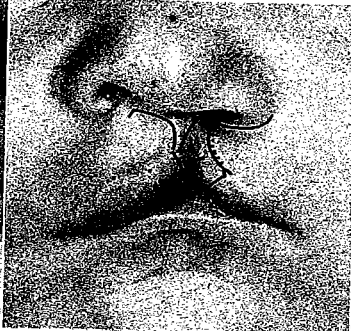
Ad. At 1 month. Medial element undermined, lateral element not freed.

R-A. At 5 months

Op. 1. Septal and premaxillary mucoperiosteum freed to close anterior cleft; mucosal paring flaps used for second layer. 2. Rot with b-c. 3. c for col. 4. Adv with wr. 5. Tip of alar base denuded and sutured to septum.



3. 3 months



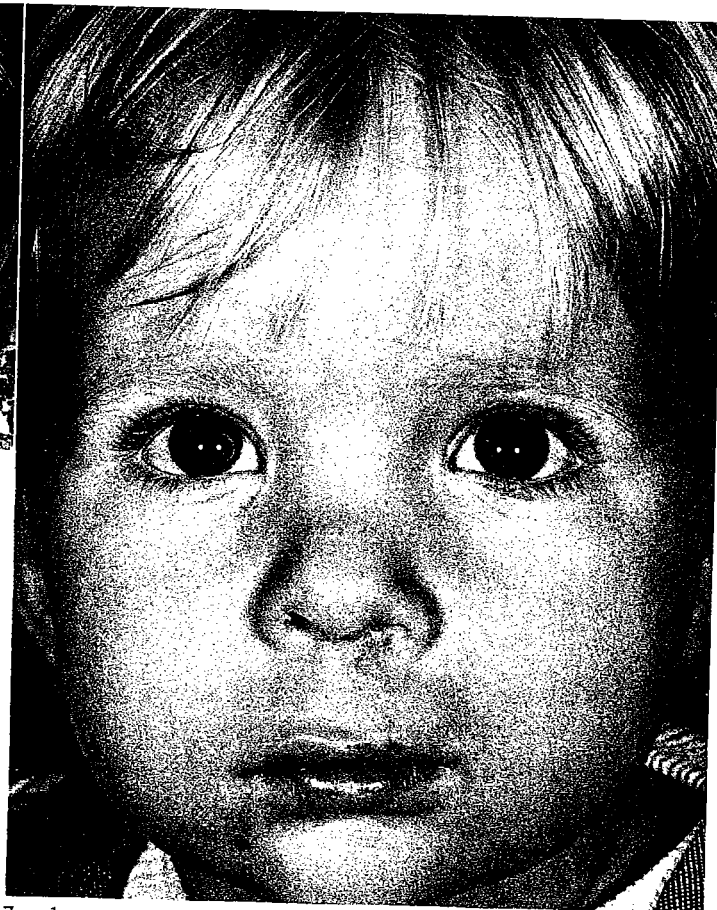
4. 5 months



5. 6 months



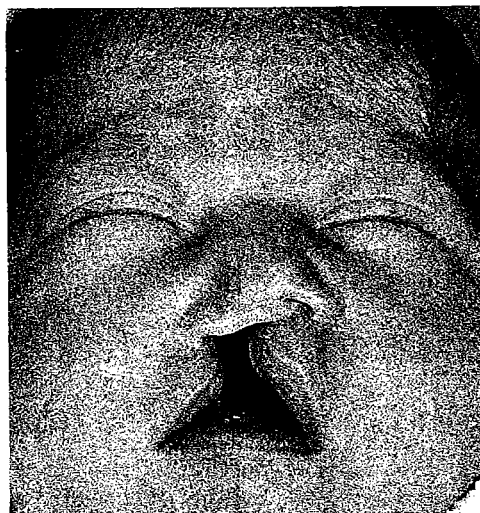
6. 1 year



7. 1 year

Comment. One of the cases with the upper lateral muscle deficiency present in the original deformity (*arrow*) and still present at 1 year (*arrow*). This recurring deformity finally caused me to use a medial edge muscle flap to fill out this lateral depression in the primary operation.

SECONDARY ALAR LIFT (CASE 29)



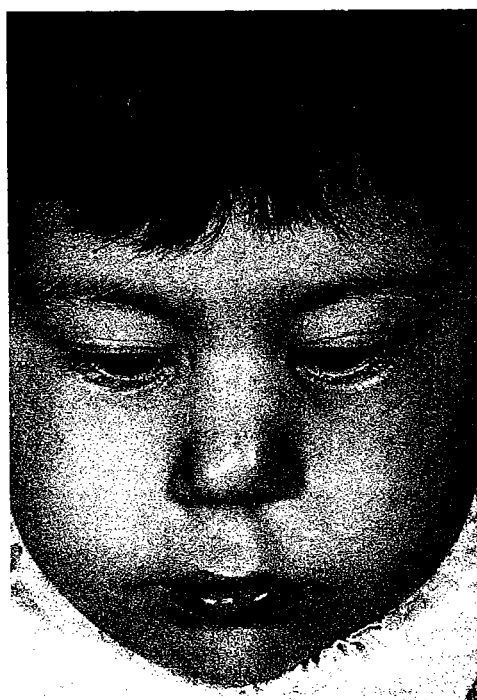
1. 2 weeks



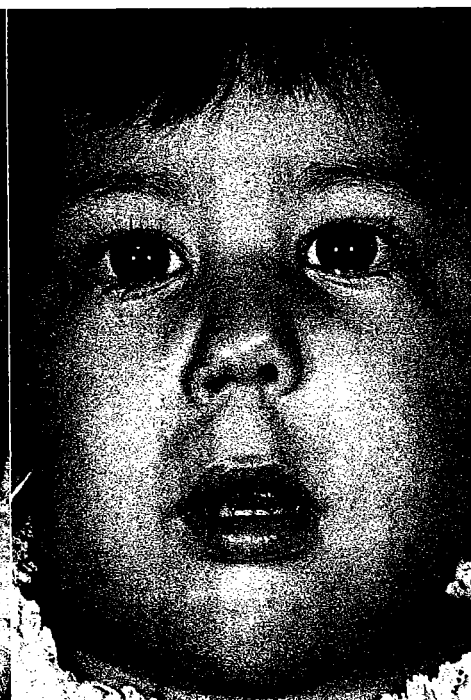
2. 2 weeks



3. 1 year



4. 20 months



5. 20 months



6. 20 months



B.D. August 20, 1971
 F.H. No clefts
 F.T. Uneventful
 O.C.A. None

Ad. At 2 weeks
R-A. At 5 months
Op. 1. Rot with b-c. 2. c for col. 3. Alar base advanced. 4. Adv with wr.

S.P. Closure of soft palate at 1 year.
H.P. Vomer flap closure at 17 months.

No attempt at alar lift primarily and alar base positioning difficult.

Revision. At 17 months. Alar base advanced and alar cartilage lift in attempt to reduce the severity of the nasal distortion but leaving final work for age 16 years.

Comment. Unusually difficult nose had delayed primary correction but requires further work.

STRAP FLAP ALAR LIFT (CASE 30)



1. 1 month



2. 1 month



3. 6 months



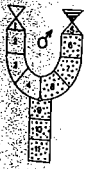
4. 1 month



5. 5 years



6. 5 years



B.D. July 27, 1966
 F.H. Paternal aunt had complete cleft of lip and palate
 F.T. Uneventful
 O.C.A. None

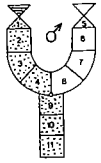
At 5 months anterior palate oral closure from septum and lateral flap from turbinate mucosa for 2nd layer. Prosthetic plate by Balber.

R.A. At 7½ months
 Op. 1. Rot with b-c. 2. c for col. 3. Adv with wr. 4. Primary nasal correction by bipedicle chondromucosal flap of alar cartilage sutured with cotton to septum and opposite alar cartilage. 5 months later, Hagerly-Mylin screw-plate pinned in.

Original deformity and early result published in *Plast. Reconstr. Surg.* 42:539, 1968.

Comment. A wide cleft that had 3 modifications in surgery. Alveolar and anterior palate closed (1) with vomer flap and covered with turbinate flap 2 months before lip closed. Primary radical nasal correction with (2) chondromucosal strap flap lifted and sutured to septum. (3) Maxillary bone graft at 2 years. In spite of these innovations, patient seems to be developing well.

STRAP FLAP ALAR LIFT (CASE 31)



B.D. August 10, 1966
 F.H. No clefts
 F.T. Uneventful
 O.C.A. None

Fitted with feeding plate by Dr. Balber (McNeil-Burston).

R.A. At 3 months

Op. 1. Rot with b-c. 2. c for col. 3. Adv with wr. 4. Nose: primary correction. Marginal and intercartilaginous incisions formed chondromucosal strap flap which was cut free laterally and sutured to opposite alar cartilage and septum with nylon.

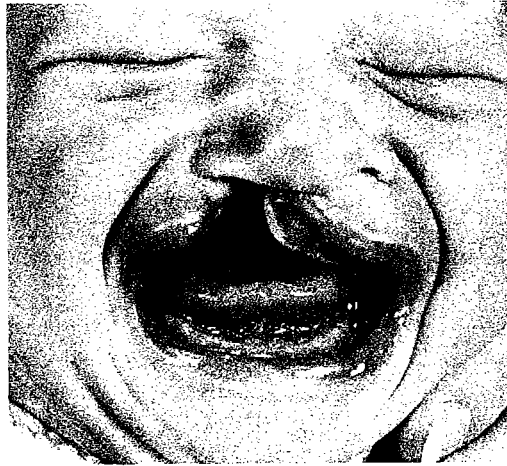
Screw-plate (Mylin-Hagerty) by Balber at 9 months.

Revisions. At 10 months postoperative. Oronasal fistula closed. Alar base transposition.

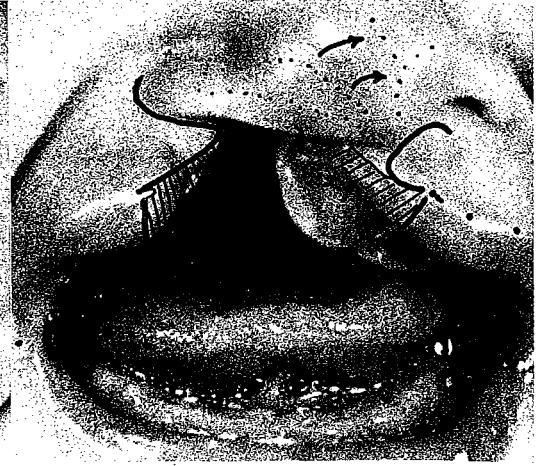
B.G. Split rib graft across maxilla and into cleft at 19 months.

S.P. Closed at 21 months.

H.P. Closed at 29 months.



1. 3 weeks



2. 3 months



3. 2 1/2 months postoperative—lip contraction



4. 6 months postoperative—lip has smoothed out



5. 4 years



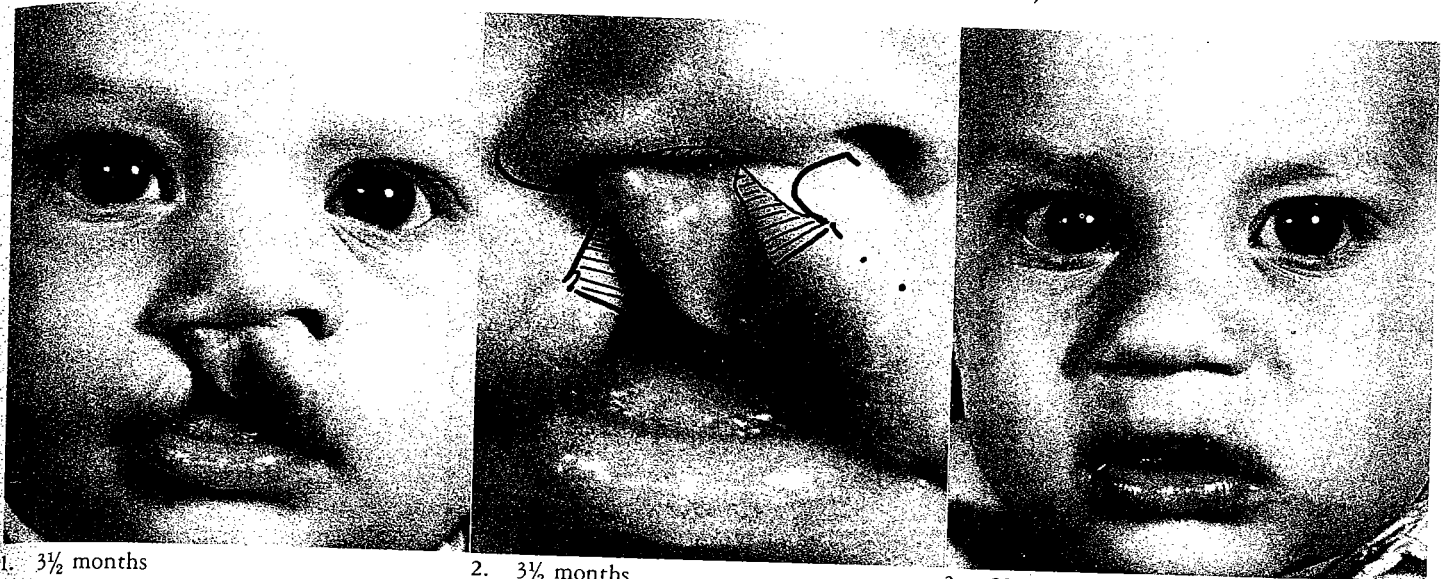
6. 6 years



7. 6 years

Comment. Primary radical nasal correction with chondromucosal strap flap advancement balanced the nasal tip quite well. Early lip contraction soon smoothed out with good balance.

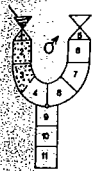
RECENT ADJUNCTS AND ALAR LIFT (CASE 32)



1. 3 1/2 months

2. 3 1/2 months

3. 20 months



B.D. October 20, 1966
 F.H. No clefts
 F.T. Uneventful
 O.C.A. None

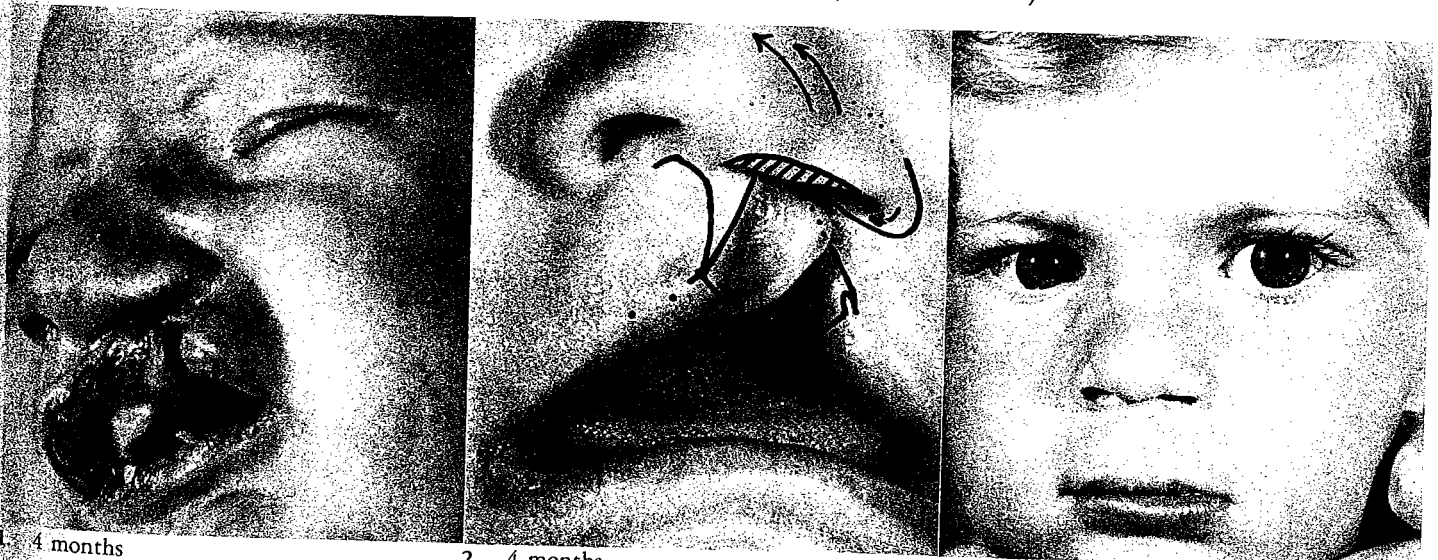
R-A. At 3 1/2 months
 Op. 1. Rot with b-c. 2. c for col. 3. Alar rim incision allowed chondro-

mucosal flap sutured with nylon to alar cartilage and septum. 4. Adv with wr. 5. Alar rim web excision.

Revisions. 5 months postoperative. Lip: vermilion elliptical excision of free border. Nose: elliptical excision of alar rim web.

Comment. The difference in height of the two peaks of the bow required a radical rotation with the aid of the back-cut but it was achieved without difficulty.

RECENT ADJUNCTS AND ALAR LIFT (CASE 33)



1. 4 months

2. 4 months

3. 1 1/2 years

B.D. November 18, 1970
 F.H. No clefts
 F.T. Uneventful
 O.C.A. None

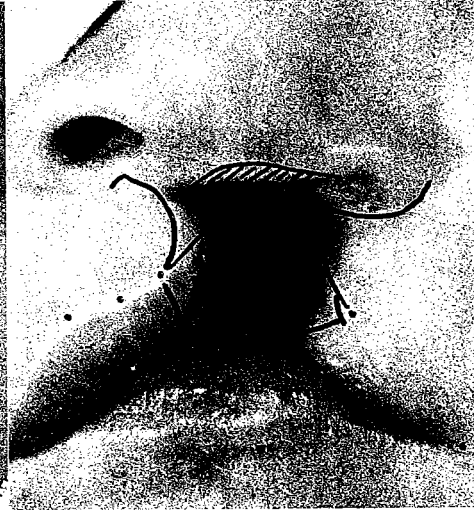
R-A. At 4 months
 Op. 1. Rot with b-c. 2. c for col. 3. Through intercartilaginous incision alar cartilage sutured with nylon to septum. 4. Adv with wr. 5. Alar rim excision.

Comment. Lip was closed over the projecting premaxilla without difficulty. Alar cartilage was lifted up to septum with a buried nylon suture with reasonable balance to the tip.

RECENT ADJUNCTS AND ALAR LIFT (CASE 34)



1. 9 months



2. 9 months



3. Early postoperative



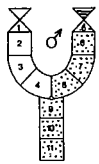
4. 6 weeks postoperative—severe hypertrophy



5. 3 months postoperative—improving



6. 8 months postoperative—even better



B.D. April 4, 1970
 F.H. No clefts
 F.T. Mother had rash at 2 months
 O.C.A. Congenital esotropia

R-A. At 10 months
 Op. 1. At time of R-A vomer flap closure of hard palate but left alveolar cleft open. 2. Rot with

b-c. 3. c for col. 4. Adv with wr.
 5. Nasal correction membranous septal incision joined intercartilaginous incision. Alar cartilage sutured to septum and opposite alar cartilage with nylon. One through-and-through suture.

H.P. and S.P. Island flap pushback at 18 months.

Comment. Cuban patient with severe absence of tissue seen first at 9 months. So no adhesion. Excellent early result with gradual hypertrophy of scar, more than seen ever before, but by 18 months greatly improved.

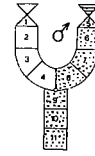
RECENT ADJUNCTS AND ALAR LIFT (CASE 35)



1. 9 days



2. 2½ months



B.D. October 22, 1970
 F.H. No clefts
 F.T. Uneventful:
 mother—38
 father—56
 O.C.A. None

Ad. At 9 days

R.A. At 2½ months

Op. 1. Large Skoog periosteal flap for 2nd layer closure. 2. Rot with b-c. 3. c for col. 4. Alar lift with suture. 5. Alar base advanced. 6. Adv with wr. 7. Posterior mucosal flap to attenuated lateral side. 8. Alar rim excision.

H.P. and S.P. At 13 months vomer flap and island flap pushback.

Revision. At 18 months. Closure of fistula. Nose: alar base advancement with denuded tip. Alar rim margin excision.



3. 1 year



4. 2½ years

Comment. This case had a large periosteal flap from the maxilla and will be reviewed later on this basis.

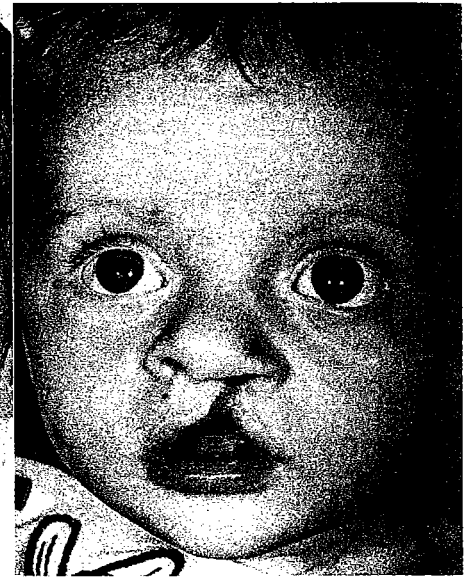
P. S.

Even during the writing of this volume, changes have been instituted into the primary correction of the lip and nose by the rotation-advancement principle. Here is the most recent example using many of the latest changes.

At six weeks of age a bilateral myringotomy with insertion of tubes, closure of the soft palate and creation of a high mucosal lip adhesion were accomplished.



Birth 1-12-73



Adhesion 2-28-73

At six months of age

1. Flap m covered the raw alveolus.
2. Rotation with back-cut.
3. Flap c advancement.
4. The membranous septal incision used to advance flap c extended across under the dome to join the intercartilaginous incision extension coming up from the lateral freeing of the alar base from the maxilla.
5. This exposure facilitated nylon suture lift of the slumped alar cartilage up on to the septum.
6. Flap l filled the lateral defect in the nasal vestibule.
7. The diminutive lateral lip element was increased in vertical dimension by including the tip of the alar base.

8. The lateral lip muscle fibers were dissected and brought down more transversely.

9. A muscle edge flap from the medial element was transposed into the muscle defect in the upper portion of the lateral element.

10. The lateral cleft skin edge was trimmed to a concavity to fit the convexity of the rotation edge.

11. A subcutaneous flap dissected from under the alar base flap was sutured to the septum at the nasal spine to correct the alar flare.

12. Flap c and ala base flap D joined to form the nostril sill.

13. A 1.5 mm. wide "white roll" mucocutaneous ridge flap was interdigitated across the scar.

14. A small posterior mucosal Z-plasty.



Rotation-Advancement
7-5-73

9-10-73

SUMMARY

By the time this volume is published, it will be over 20 years since the first cleft lip was rotated and advanced. The early results of the initial "crude" procedure in Korea, 1954-1955, long lost to follow-up, in general seem to be almost as good as today's early results awaiting later evaluation. This is an overwhelming vote of confidence in the method's fundamental principles and basic design. Extensions, refinements and more recent adjuncts have

been added to facilitate the execution particularly in difficult clefts, to bypass postoperative discrepancies, mine or those complained about by others, and to ensure greater final finesse in all cases. By now you should be able to *rotate* sufficiently without crossing the normal philtrum column and *advance* with adequacy but without paring laterally beyond normal limits. Placing more and more nasal components into more nearly normal position primarily seems to be decreasing the nasal distortion. The increase in economy with absolutely no discard of tissue and the conservatism in the timing of surgery, with early lip and soft palate adhesion but postponement of radical hard palate manipulation, promise an even better long-term prognosis. Fastidious scrutiny of the healing, growth and development of each patient through the years is constantly influencing the plan for the ensuing case. *Ever looking for a better way*, I have not done one case exactly like the one before, and no case in this book has been done exactly as I—or you I hope—will do the next cleft and the next. . . .

Semper investigans, nunquam perficiens.