

47. Columella Retraction

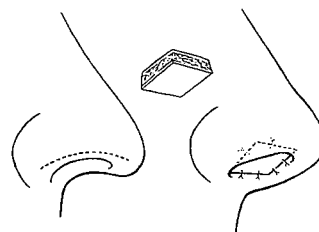
IN bilateral cleft deformities the columella may vary in shortness from near normal to near absence. It also may be retracted, but this condition is not so common and is usually a secondary sequela with columella lengthening. If the retraction is minor to moderate in degree, it may be improved by a columella strut of septal cartilage to increase anterior projection. It may be corrected by a composite auricular graft inserted into a membranous septal releasing incision.

Muir and Bodenham, for Gibson's *Modern Trends in Plastic Surgery* in 1966, advocated this ear graft for the mildly retracted columella:

A simple and effective method used by the authors utilizes a double-sided elliptical graft of ear lobule let into a horizontal incision parallel to and just above the columella, and below the septal cartilage. The graft is totally surrounded by vascular tissue, takes well and is hidden from view.

This is but one of many examples of direct simplicity in corrective design as advocated by gracious, perceptive Denis Bodenham of Bristol, England, site of the launching of the *Hispaniola* in Robert Louis Stevenson's *Treasure Island*. An international expert in melanoma and a clear thinker in all of plastic surgery, Bodenham reflected upon the effects of our efforts to camouflage cleft anomalies:

By constantly raising the standards of our treatment of congenital deformities we are enhancing their matrimonial prospects and ensuring for our successors a steady flow of new cases to treat.



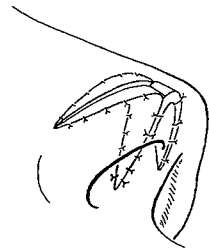
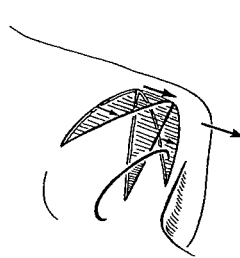
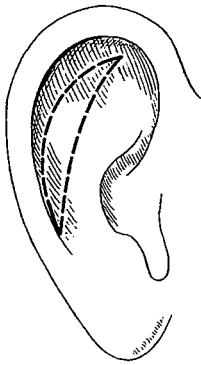
Denis Bodenham

RETRACTION PLUS NASAL TIP SHORTNESS



Reed Dingman

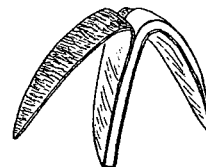
If there is shortness of the nose associated with retraction of the columella, the membranous septal incision is extended laterally on each side in an anterior vestibular or intercartilaginous incision. This allows the entire front of the retracted nose to come forward, leaving an ominous gap. Reed Dingman of the University of Michigan has courageously designed a composite ear graft which he peels and slices like a "banana split" to fit perfectly into the defect, supplying both lining and support along three axes. Not many surgeons have enough of the daredevil in them to gamble such a large and complex composite graft inside a scarred nose. When successful, however, it promises to be a fine trophy.



The same adventuresome spirit has lured Dingman off to big game country many times. Once on the plains of Uganda, East Africa, Dingman with a Remington 7 mm., a black scout and a white hunter had climbed into an open-backed twig and brush blind about 75 yards from a baited tree. Through a small hole in the front of the blind he could watch a branch cleared of leaves and lashed with the hindquarter of a zebra. There they waited in the hot, steamy afternoon with the flies buzzing. Dingman had just begun to doze when there was the slightest snap of a twig. The white hunter tapped him and pointed over his shoulder with his thumb in a hitchhiking motion, doubly indicative. Dingman half turned his head toward the open back of the blind to face, not 15 yards away, a large lioness, the killer of the breed, crouched ready to spring. The next few seconds were somewhat exciting, but fortunately for plastic surgery Dingman's aim was accurate and it is the *lioness'* skin graft that adorns the Dingman den!



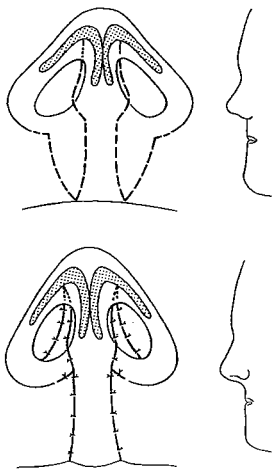
I have always had a little less love for free grafts than flaps—not that both do not offer their own hazards. Yet here is a case in which there just was no immediate local tissue for flaps, and so the composite ear graft was about the only way out. This secondary deformity actually occurred in a unilateral cleft case but it demonstrated a problem more often encountered in bilateral clefts. Through a membranous septal incision extending laterally as anterior vestibular incisions, the contracted tip and retracted columella were released. Into the three-dimensional gap was inserted a composite chondrocutaneous auricular free graft. In this case, the “banana split” was peeled with only skin for the non-cleft side and skin with cartilage for the cleft side, maintaining an intact main stem of skin, cartilage and skin to fill the releasing space between the septum and the columella.



As a final nasal refinement in symmetry, a strip of alar cartilage from the non-cleft side was used as a second-stage onlay graft for the cleft side.

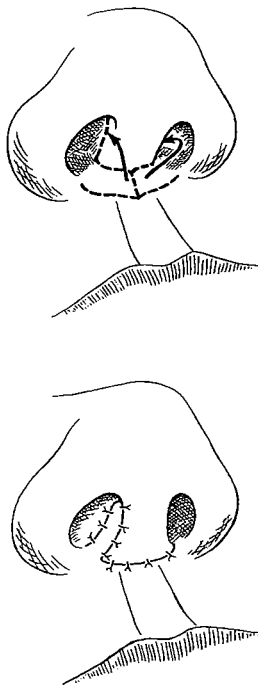
MODERATE TO SEVERE COLUMELLA RETRACTION

Here again the Dingman composite graft can be of value, but for those fearful of large composite grafts' "taking" inside the nose, other methods are available.



Turning the fork

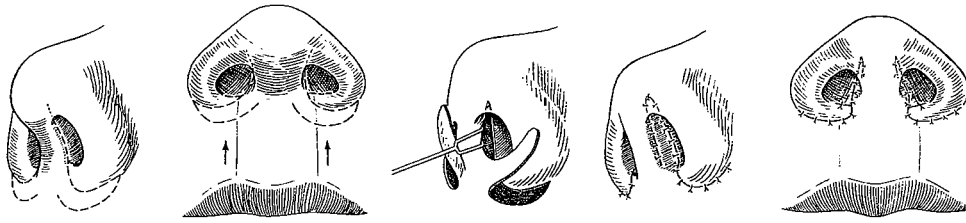
Otto Neuner of Berne has modified the forked flap for correction of the retracted columella. Two vertical flaps, incorporating the bilateral scars and based on the alar bases, are transposed 180 degrees and let into a membranous septal releasing incision. This maneuver will certainly correct columella retraction, and if the columella is long enough in the first place, there is no reason the forks cannot be used to correct a secondary deformity with a secondary priority.



Transverse lip flaps

When columella retraction is not accompanied by shortness, as after a forked flap, and at the same time the lip suffers vertical length, lip flaps described in 1954 by Richard E. Straith, M. G. Von Linde and J. L. Teasley, of Detroit, or a modification of this principle, can be of value. Straith ingeniously took bilateral flaps from the lip in front of the columella and transposed them into a membranous septal releasing incision, allowing shortening of the central portion of the lip.

A modification that has been used in Miami designs two lateral transverse full-thickness flaps taken high in the lip at its junction with the nose based medially. They also can be transposed into a membranous septal releasing incision, resulting in correction of columella retraction and shortening of the long lip.



In 1974 Randall and Lynch, after experience with primary columella lengthening with the forked flap, noted the problem of retraction:

Some of these columellas have lacked bulk so that the contour in profile has shown a retruded or "keyhole" type deformity. This defect would appear to be easily corrected by inserting a cartilaginous strip behind the columella or inserting a composite graft in the newly constructed membranous septum at a later date.

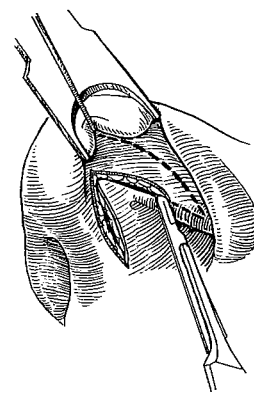
In their attempt to maintain the extended V wedge of the columella-lip angle on the prolabium, they are forced to take more tissue from the upper columella than probably can be spared from this relatively narrow element. This maneuver may account for their columella deficiency and retraction, which incidentally can occur occasionally even without this extra sacrifice.

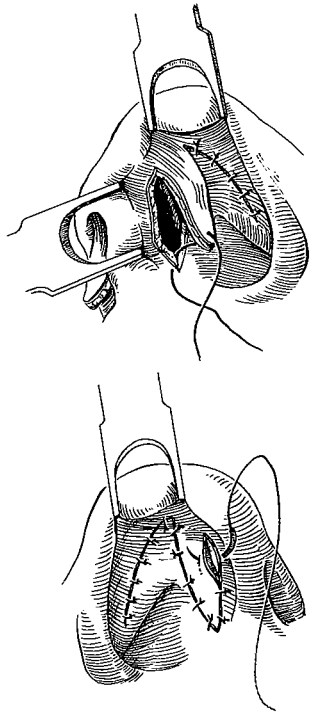
Bilateral alar chondromucosal flaps

My favorite approach to the correction of the retracted columella, when its length is adequate and the lip is satisfactory, is achieved with flaps inside the nose. It was first described in 1963 and again in 1969 and 1972. It involves the use of alar chondromucosal flaps, and although it can be used in the snub nose associated with columella retraction, its more classic application is in a long or bulbous-tipped nose with overhanging sidewalls and a marked retraction of the columella.

In certain secondary bilateral cleft lip noses that have had their columellae lengthened, there sometimes results a retraction which can be quite deforming.

First, a generous membranous septal incision is made to release completely the retracted columella. Then two standard chondro-



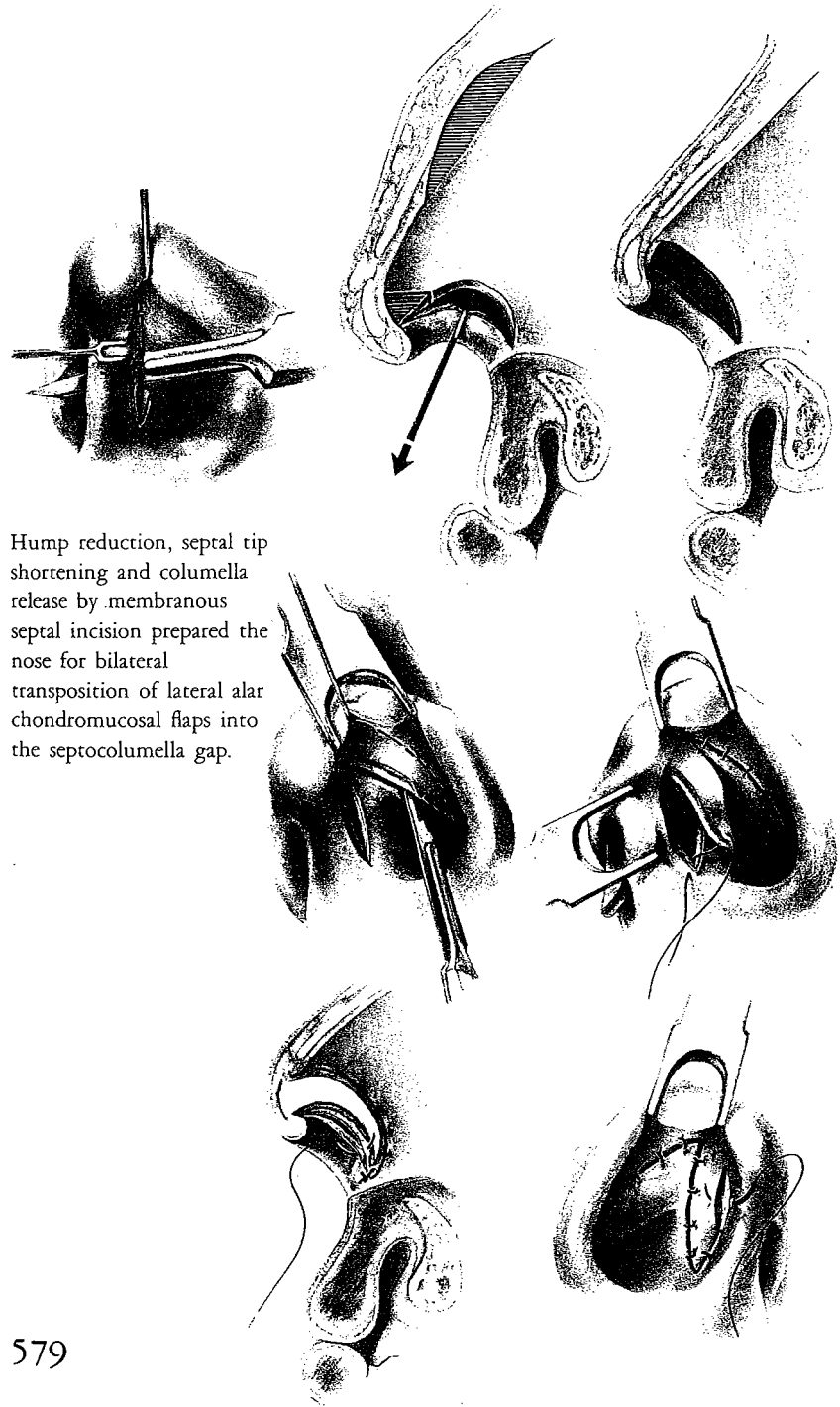
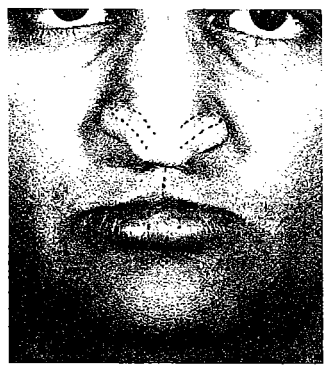


mucosal flaps are cut long and narrow (3.0×0.5 cm.), composed of lateral vestibular lining carrying a corresponding strip of alar cartilage. These flaps are based superiorly and anteriorly high up under the tip just above the front point of the septum. They are created by extending the membranous septal incision bilaterally out along the intercartilaginous line and then turning forward and cutting back toward the tip in cartilage-splitting anterior vestibular incisions. Their vascular dependability is remarkable considering the hazardous width-to-length ratio but probably can be explained by the cartilage backing of the flap, which acts as a splint preventing collapse or kinking of the vessels. Based under the tip, these flaps are free to move forward with advancement of the tip and columella following the membranous septal release. Each flap makes half a turn as it swings down into the membranous septal gap to join its mate from the opposite side. With cartilage touching cartilage and mucosa turned out, the flaps are sutured together between columella and septum. The cartilage in the flaps mimics the medial alar crura and maintains the forward projection of the columella. These flaps are usually available even after a conservative rhinoplasty. Taking them from the lateral vestibule offers several welcome assets such as the lifting of overhanging sidewalls and the reduction of a bulbous nasal tip.

A classic example using the procedure just diagramed is seen in this bilateral cleft lip and palate case from Bombay, first treated in India and then by Gillies in London. When seen in Miami at age 26 years, the patient had a short, tight upper lip with a slightly protuberant lower lip, a humped nose with a hooked tip and a *retracted columella*. Remarkably enough, the columella had been lengthened adequately.



Cleft lip rhinoplasty included hump reduction, septal shortening and bilateral osteotomy. Bilateral alar chondromucosal flaps based anterosuperiorly were swung into a membranous septal releasing incision achieving five things: (1) The long sidewalls were elevated. (2) The retraction of the columella was corrected. (3) The nasal tip was elevated. (4) The alar cartilages were reduced. (5) The airways were improved. The upper lip was divided in the middle and a midline shield-shaped 2.0 × 1.5 cm. Abbe flap inserted. The pedicle was divided after 10 days.



Hump reduction, septal tip shortening and columella release by membranous septal incision prepared the nose for bilateral transposition of lateral alar chondromucosal flaps into the septocolumella gap.



Six months later, double-breasted-vest-type scar revisions were used on the lip, but the final result was never recorded as the patient returned to India.



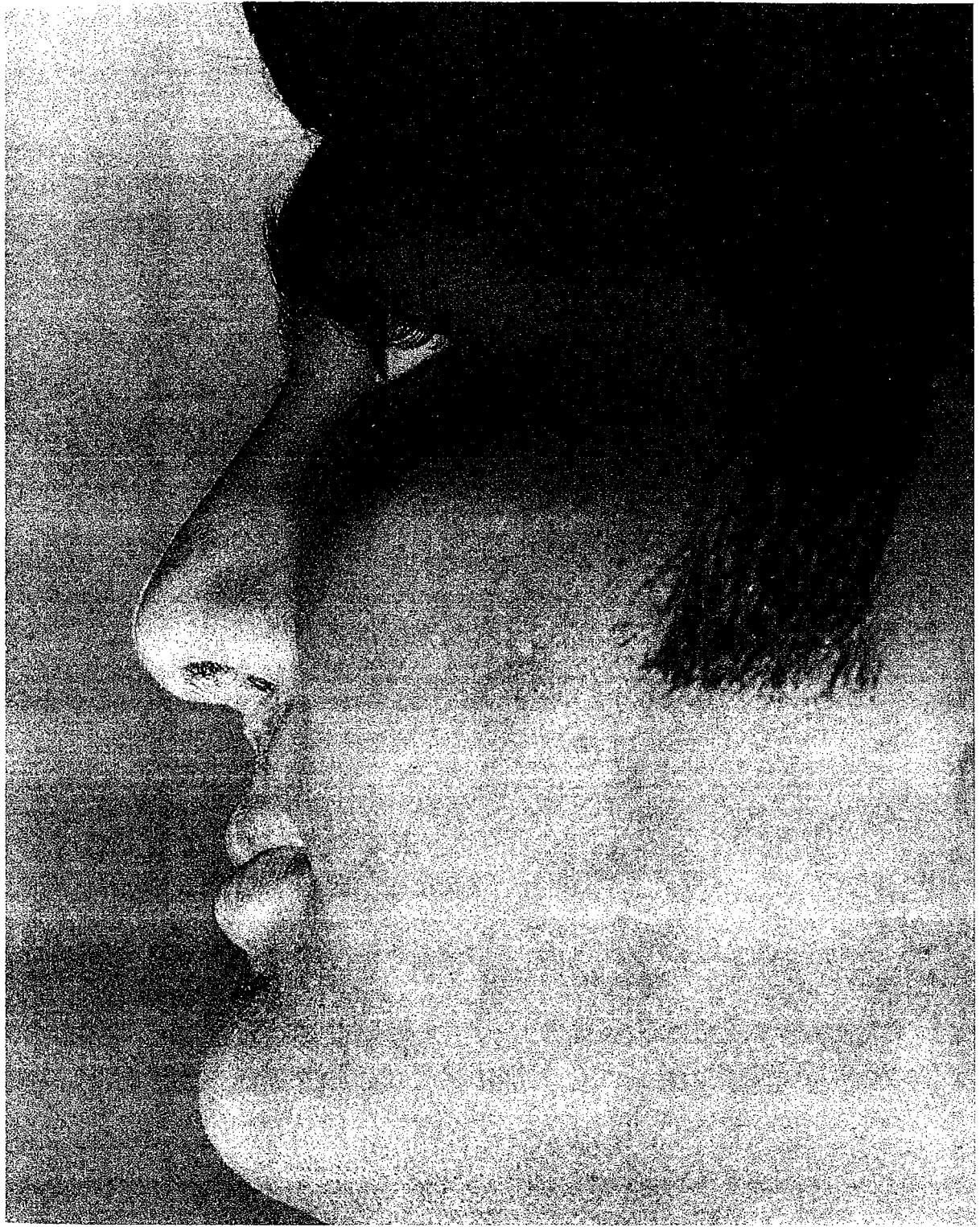
COLUMELLA RETRACTION WITH ALAR ASYMMETRY

Here is an asymmetrical bilateral cleft which, after 33 years and numerous operations, presented a tight upper lip and an odd nasal distortion. The retracted columella was the key to the correction. Bilateral chondromucosal flaps from the lateral side-walls were used to symmetrize the alae and release the columella. Then an S.M.R. (submucous resection) produced a septal cartilage strut which was inserted into the columella for skeletal support. The tight upper lip was divided in the center and a midline shield-shaped 2 cm. Abbe flap transposed into the defect with its tip inserted into the columella base. The pedicle was divided after 12 days.



COLUMELLA BASE RETRACTION

There is columella base retraction which is unattractive and eye-catching but quite common following certain columella lengthening procedures. The major portion of the columella is prominent enough in profile or, more often, it actually bulges with greater than ideal prominence to present the appearance of a hanging columella. Then, at its base join with the lip it fades



away in retraction forming an acute nasolabial angle, often referred to as a reentrant angle.

This secondary deformity is rather likely to follow the use of the entire prolabium for lengthening the columella. The natural column shape of the original short columella is difficult to duplicate with the thick, flat prolabium attached to it, even after thinning and rolling it into a column. Moreover, the end of the prolabium flap may not be quite long enough so that it flattens out at the base of the columella where it is forced to tuck in at an acute angle as it joins the lip with an encircling scar. Of course, the superior bulge accentuates the inferior tuck!

When there is enough prolabium to lengthen the columella adequately and still split its end to splay into the nostril sills or even to tailor it into a point to extend several millimeters back into the center of the upper portion of the lip, the deformity may be avoided.

If this little deformity does occur, the principle of a solution is the same as that in most problems, large or small, of plastic surgery. *With the ideal in mind, determine what is missing, search for what you have but do not need that can be used to make what you do need and then execute the shift.*

Determine the amount that the columella bulge requires for ideal reduction. Mark this as a lozenge-ellipse and circumscribe the area with an incision maintaining an inferior subcutaneous pedicle base with parallel incisions; use a back-cut in the pedicle for extra release if necessary. From the lower end of the lozenge-ellipse incision extend a midline releasing incision vertically down through the retracted columella zone, the encircling scar and a short way (mm.) into the actual lip. Then advance the lozenge-ellipse out of the columella hill across the gully to round out the nasolabial angle with one clean sweep.



This patient was first operated on in infancy by a pioneer plastic surgeon in Miami. After several operations by other surgeons, the result presented a prolabium half in the lip and half in the nose with grief to both, a tight lip and a depressed nasal tip.

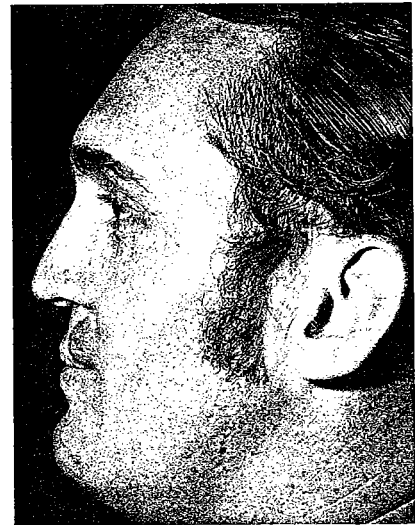


19 years

The remaining prolabium was thinned, rolled and advanced into the columella with release of the nasal tip, and an Abbe flap immediately followed in its wake.

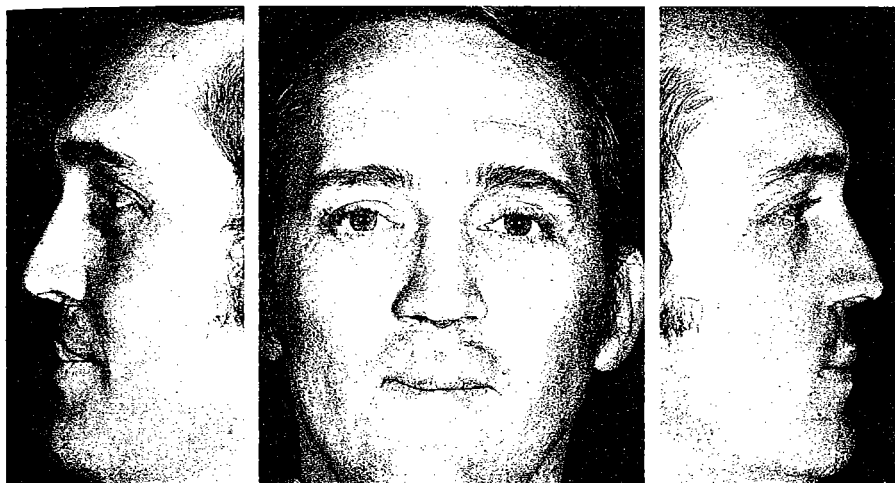


20 years



30 years

After one attempt at defatting of the columella 10 years later, the deformity of base retraction under a columella bulge still persisted. The lozenge-ellipse from the bulge was advanced on a subcutaneous pedicle across the scarred nasolabial angle with reduction above and filling out below.



31 years

When first seen at 18 years of age this girl had already had a prolabium advancement into the columella and an Abbe flap but she still had a flattened nasal tip. Transfer of more tissue into the tip left the base of the columella retracted. The retraction was corrected in turn with the lozenge-ellipse advancement across the reentrant nasolabial angle.

