

14. Primary Abbe Flap

AT the very end of the nineteenth century Robert Abbe switched a full-thickness flap from the lower to the upper lip in a secondary bilateral cleft and became immortal among plastic surgeons. He did not propose that his flap be used as a primary procedure and probably would shudder at the thought. Nevertheless, on rare occasions this action may be justified.

My first primary Abbe flap was carried out on Kim Moo Uy, a 10-year-old Korean boy with a severe bilateral cleft of the lip and palate. Early treatment by a marine dental lieutenant had inadvertently lost the premaxilla. As the palate gap was so large, this aspect was treated first. Then, in the fall of 1954, the diminutive prolabium was shifted into the columella position and a *small shield-shaped* primary Abbe flap was switched to create a natural philtrum for his upper lip. This was probably one of the first *primary* Abbe flaps ever used in bilateral lip clefts.

*Early
recognition
of this
point.*



Gillies had previously discussed with me the possibilities of a primary Abbe flap, but up to 1953 no primary flaps had been done as far as I know.



Rainsford Mowlem

A DELAYED PRIMARY LIP-SWITCH FLAP

A delayed primary Abbe flap had been used by Rainsford Mowlem of London in an infant from Egypt with a severe bilateral cleft and a diminutive prolabium. In his typical non-sense approach, he had left the inadequate prolabium dangling from the tip of the nose and closed the lip elements beneath it. This procedure avoided dragging the nose into the lip in "this little Naomi from the rushes of the Nile," and at 10 months the lip was released and the defect filled with an Abbe flap as a delayed primary action. The case was published in *The Principles and Art of Plastic Surgery*, 1957, by Gillies and Millard.



Pioneer work like this points to the loss suffered by cleft surgery when Mowlem, in his prime, turned over his flaps to Dawson, packed up and exiled himself to Spain. Here, it is reported, he sits in the shade of his villa overlooking his estate while an attendant named Jesus rides an ass up and down his groves collecting baskets of oranges and lemons.



Patrick Clarkson

INSERTED INTO THE PROLABIUM

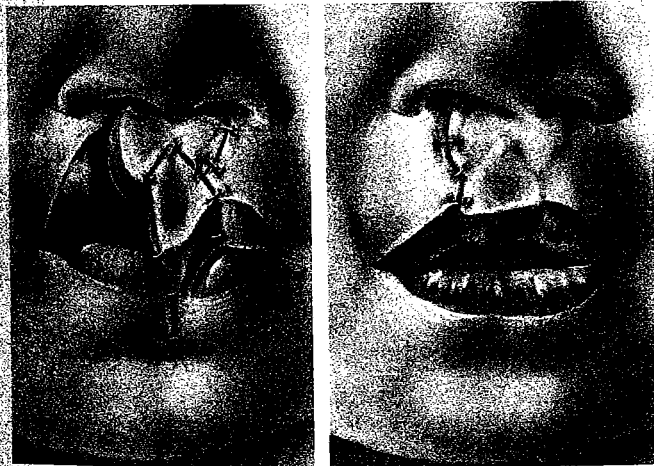
Patrick Clarkson trained with Gillies at Rookdown House during the war and served as plastic surgeon to the fractured faces and limbs of the British forces in the Italian campaign. He returned to Guy's Hospital in London but contributed a day a week at Rookdown House. His mumbled humor, his suave

manner and the ever present carnation in his lapel were a success at Harley Street. He was bold without caution on the road, at a party or in the operating theater.

In 1955 Clarkson stated:

Sir Harold Gillies tells me that primary Abbe flaps have been done in his service on occasions before. This note is simply to report the start of another investigation into the value of this flap. I have done two of these primary Abbe flaps at Guy's Hospital towards the end of the first month of the child's life. I repeat the view that it is undesirable to delay unduly the primary lip repair whether it be a simple or double cleft. . . . To my mind the crux of the deformity seen in severe double clefts of the lip and palate is that there is a deficiency of both soft and hard tissues. Current methods of repair from adjacent tissues give a high percentage of very unsatisfactory results—with flat, tight upper lips and collapsed upper alveolar arches.

Interestingly, Clarkson did not even mention the short columella and depressed nasal tip. It is possible that, although his own nose had been flattened in boxing, his successful early days as a dashing gentleman among the ladies caused him to have little concern over any flat nose. He switched the lower lip Abbe flap into a split in the prolabium without using this prolabial tissue to help the columella. Evidently he was more concerned about breathing during the time of flap attachment:



I have done this operation under local analgesia supported by an ounce of port wine. Because of the potential difficulty to breathing which attachment of the flap to both sides of the cleft at one stage might cause, I have attached one side at a time—doing the second side about a week or ten days after the first. The base of the flap I have cut at about three weeks.

It would seem to me that Clarkson stopped short of his potential. At least he did have the possibility of lengthening the columella with a forked flap of the entire prolabium at a later stage, as he already had lengthened his Abbe "philtrum" in the lip. In fact, this might be the treatment of choice now for the surgeon attending these two cases. The patients would be about 19 years old today and probably still have flat nasal tips if no further surgery has been done.

FULL CENTER OF LIP



Noshia Antia

Ten years later, in 1966, Bombay's Noshia Antia, one of Gillies' favorite students and a leprosy expert, reported 10 cases of primary Abbe flaps in bilateral clefts in the *British Journal of Plastic Surgery* and showed one beautiful result. In his high, cultured voice he postulated:

A stage must invariably come when the tissue available in the prolabium, columella, and the lateral elements is just not enough to produce an adequate lip or a columella and often both. No amount of tissue juggling can produce an adequate result. . . . It is evident that the prolabial element is not truly a part of the upper lip but is the displaced upper half of the columella which is tethered to the premaxilla. The lower half of the columella and the central half of the upper lip are totally missing. Even the most economic use of local tissue cannot adequately repair this upper lip and an Abbe flap represents an excellent solution to this problem.

Antia commented on what others have feared:

The only justifiable argument against a primary Abbe flap . . . is scarring of the lower lip and possible danger of such an operation to the life of the patient when it is carried out at an early age. Although the majority of the patients operated in this series have been over one year of age, in my experience this operation should not carry any greater risk . . . provided that adequate pre-operative and post-operative precautions are taken. The services of a skilled anesthetist who is aware of endotracheal intubation, fixation of the tube, and adequate airway in the immediate post-operative phase are absolutely essential for the success of this operation.



Antia closed the anterior palate and then took a central Abbe flap a little over half the width of the upper lip defect and long enough to assist the columella if necessary. He noted that during the flap attachment,

contrary to what one might think, feeding is not a problem.

DUTCH ABBE

In 1967 at the Rome International Congress, Cornelius A. Honig, of the University Hospital, Utrecht, The Netherlands, presented some interesting primary Abbe flaps in bilateral cleft cases. The blond Honig, who recalls,

In good winters one could skate on ice from one town to another, fits my image of *Hans Brinker and the Silver Skates*. This was his logic in relation to primary Abbe flaps in bilateral clefts:

In clefts of the primary and secondary palate, the primary deficiency will be clearly visible in the result, principally in the volume of the upper lip in proportion to the rest of the face and in the length of the columella. The extreme shortness of the columella produces the typical nasal deformity with the tip of the nose pulled downwards to the upper lip. . . . In the past five years we have modified our technique in these cases and we use the skin from the prolabium to lengthen the columella, and we close the defect in the upper lip with an Abbe transposition flap.

In 1973 Honig, living on a small farm with a delightful two-acre pond full of fish, wrote me his latest thoughts:

My present view on facial clefts is that treatment should depend on the extent of the tissue defect in each case. Unfortunately there is no method by which one can measure the extent of the defect, so one can only give an inadequate estimation. In some cases we still do a primary Abbe flap for bilateral cleft lips.

SOUTH OF THE BORDER ABBE

Reasoning that an untreated prolabium and columella in an adult maintain the same proportions with the facial features as exist at birth, or "once short, always short," pressured Micheline Viale-Gonzalez and Fernando Ortiz-Monasterio of Mexico City into Abbe action in 1970. When the columella and prolabium are both short, they shift the prolabium into the columella and use a primary Abbe flap for the lip defect. This maneuver, of course, ignores the well-known fact that attaching the lateral lip segments to the prolabium starts a stretching exercise that soon presents plenty of prolabium for both lip and nose.



Cornelius Honig

KEY TO CODE ON CASES

CL	= cleft lip
CP	= cleft palate
B.D.	= birth date
F.H.	= family history
F.T.	= first trimester
O.C.A.	= other congenital anomalies
R-A	= rotation-advancement
H.P.	= hard palate
S.P.	= soft palate
F.F.	= forked flap

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

MY SPECIFIC BILATERAL CL STATISTICS

Out of 52 personal primary bilateral clefts of the lip chosen (about 98 percent consecutively) for presentation in the various chapters of this book, there are 11 incomplete on both sides, 9 asymmetrical with one side complete, and 32 complete on both sides.

<i>Incomplete (11)</i>		<i>Asymmetrical (9)</i>		<i>Complete (32)</i>	
Male	7	Male	7	Male	23
Female	4	Female	2	Female	9
F.H. +	3	F.H. +	0	F.H. +	7 known
F.T. +	1	F.T. +	2	F.T. +	4 known
O.C.A.	0	O.C.A.	1	O.C.A.	4
CP	8	CP	8	CP	29

Of the 52 total, 71 percent are male and 29 percent female; 9.6 percent have O.C.A. and 86.5 percent have associated CP. Of the 52, a family history was obtained in 40, and of these, 25 percent have F.H. of clefts and 17.5 percent have an incident in the F.T.

Bilateral incomplete CL cases have 72 percent associated CP while asymmetrical CL cases have 88.2 percent associated CP, and complete CL cases have 90.6 percent associated CP.