

## 16. *Early Proponents of the Rotation-Advancement Principle*

ALONG with the criticisms and modifications of rotation-advancement occasionally came enthusiasm. Sir Archibald McIndoe wrote a personal note:

This is the best method yet devised for the cleft lip deformity.

Sir Harold Gillies, who had taught all the principles involved in the rotation-advancement method and had looked at many a cleft through the years, never quite saw it. Yet once it was called to his attention, he became its most enthusiastic booster. At age 75 he married his wonderful theater sister, Sam Clayton, and whisked her off to India on a honeymoon. During this trip he taught surgery and, in spite of an occasional distraction, even took time to demonstrate the rotation-advancement method to the surgeons of India.

For instance, after a surgical demonstration in Bombay he and his party set off for Poona, ordinarily a three-hour journey. Seven hours later, when they finally arrived, it was explained that Sir Harold had enjoyed four hours painting a water buffalo. Yet Gillies, typically late, faithfully proceeded with his surgical demonstration. This is a quote from a letter from an Indian surgeon present in Poona at the time:

It was in 1958 when Sir Harold Gillies first visited India that he performed the Millard operation for the first time in Poona. After finishing it he took me aside and said: "Dr. Maneksha, try this operation and you will not regret it!" Ever since that day I switched over from the quadrangular flap





*Rusi Maneksha*

method to the rotation-advancement procedure—both for primary and secondary clefts. It is thirteen years now and the results speak for themselves.

It is because of Gillies that the rotation-advancement principle has long been the method of choice throughout most of India. In fact, in 1959 Rusi Maneksha sent an exciting Christmas card from Bombay to Miami. Under a small before-and-after photograph of an Indian baby, who had greatly benefited by a rotation-advancement procedure, was written



“Merry Christmas from the children of India.”

His first paper was read by title “Experience with the New Millard Principle in Harelip Repair” at the Second Congress of the International Society of Plastic and Reconstructive Surgeons in London in 1959. In 1963 he published his experience with the method.



## FREE HAND

Many surgeons have been attracted to the rotation-advancement method because of its freehand design. George Joss of Norwich, England, with Rouillard stated it succinctly:

His method is simple; it demands that the skin markings be drawn by eye, which is at least as accurate as caliper measurements of landmarks and the potential cupid's bow can be readily defined. The incisions are not irrevocable; Millard recommends a "cut as you go" technique, but if there has been slight enthusiasm with the blade the unwanted addition to the incision can be sewn up without detriment to the result.



*George Joss*

## GRADUAL ACCEPTANCE

In 1961 Michael Lewin completed a survey of American and Canadian plastic surgeons and found, among other facts, that the rotation-advancement principle had been accepted by 19.6 percent. He concluded:

Almost 20 percent of the surgeons have adopted Millard's technique, which is remarkable in the light of its very recent introduction into the literature.



*Michael Lewin*

## FROM THE CANADIAN SIDE

Fred M. Woolhouse of Montreal, former football halfback at McGill University and ardent teacher of Canadian plastic surgeons, was trained by A. B. LeMesurier and "Doc" A. W. Farmer in cleft lip surgery at Toronto Sick Children's Hospital. Upon discharge from the Navy, Woolhouse introduced his own modification of the LeMesurier method to the Montreal Children's Hospital, where the Mirault-Blair procedure was still in vogue. As Woolhouse wrote to me in 1972:

This being a teaching hospital several other repairs which seemed to possess some merit of their own were tried, i.e. Tennison, Randall etc.

We had for a long time been dissatisfied with the residual nasal deformity remaining after an otherwise satisfactory LeMesurier lip repair. Conse-



*Fred Woolhouse*

*Mustardé,  
please note.*

*He starts  
the McNeill-  
Burstion neonatal  
orthodontia within  
the first 12 hours.*

quently, when the Millard repair was introduced it was principally with a view to improving the nostril sill and the "set" of the alar base—which it did—that we changed. In our early Millards, however, we sometimes had to cut back on the lateral side to achieve enough length at the tip of the cupid's bow on the cleft side and this took away the natural pout.

Another dissatisfaction with the LeMesurier repair was the occasional overgrowth of the cleft side. We never found this to occur as consistently as Brauer and others had suggested but at the same time recognized that it happened too often. In an attempt to have the best of both worlds we even, on one occasion, combined a Millard "advancement" (nostril sill creation) with a LeMesurier lip repair—but this was complicated beyond all reason.

Finally we learned to do the Millard repair consistently well—particularly after the introduction of some refinements by yourself and possibly one or two of our own.

We now use the Millard rotation-advancement almost exclusively. Our procedure is as follows:

The lip is repaired when the baby weighs ten pounds—under general anesthesia. We close the alveolar cleft (with a nasal and oral closure) and the remaining cleft in the primary palate. We then use the Millard lip repair with the small back cut (as a rule) at the columellar end of the rotation flap; the columellar advancement with the small unilateral forked flap; freeing the attachment of the posteriorly displaced base of the medial crus of the alar cartilage on the affected side from the anterior nasal spine; increasing the advancement component by extension into the excess skin of the stretched vestibule, and occasionally extending the upper lateral incision around the alar base; freeing the lateral element from the maxilla and the nasal vestibule to release the alar base from the maxilla; occasionally also freeing the posterior end of the lateral crus and closure with a "V to Y" or "Z"-plasty when the web persists in the nostril following all of the preceding. Finally we use the mucocutaneous interdigitation with your 1 × 2 mm. flap to preserve the "white reflex."

## TESSIER

I had heard of Paul Tessier of Foch Hospital, Paris, but missed a visit with him during my European peregrinations in 1948–1949. The failure to meet him is understandable because at intervals during this time Tessier joined Jacques Cousteau's second underwater team as physician and could be found only in the waters off the coast of southern France and 50 meters



*Paul Tessier*

below the surface, the limit for that era.

It was in 1961 that Tessier first started using the rotation-advancement method. Some might suggest that accepting this method that early was an omen of his courage later to be displayed in the treatment of hypertelorism, Crouzon's disease and Apert's disease. I prefer to think it was rather the same principle of moving displaced parts into normal position that pleased him. Anyway, at Christmastime 1971, in a personal note he added:

I still use it, almost every time on unilateral cases.

And I hung the letter on our Xmas tree!

### NORDIC APPROVAL

Henrik Borchgrevink reported that the rotation-advancement method had been the routine approach for primary clefts since 1960 at the Rikshospitalet University Hospital in Oslo, Norway, and that he himself had used it for all primary unilateral clefts, complete or incomplete, without exception since 1962. His 1970 endorsement is quite convincing:

The rotation-advancement principle in primary cleft lip repair has been adopted by an apparently ever increasing number of surgeons throughout the world . . . and the reservations against the method are gradually expressed with less enthusiasm. The advantages usually mentioned are as follows: the method offers good possibilities for simultaneous lip and nose correction, for preservation and positioning of natural landmarks, tissue saving, non-conspicuous scars, and less difficulty for secondary corrections.



*Henrik Borchgrevink*

### LINTILHAC

In 1966 Jean Paul Lintilhac with J. P. Cochain of Paris wrote that they had shifted to the rotation-advancement method in 1960, expressing it in a rather charming manner:

Besides the pleasure in operating which one cannot help feeling when everything comes together perfectly and which for a plastic surgeon already speaks in favor of this technique.

## PITANGUY



*Ivo Pitanguy*

Ivo Pitanguy and I have always had a camaraderie probably partly based on his having antagonized almost as many surgeons over the years as I have. Yet his great personal charm usually wins most of them back again. In spite of being an old friend from our bachelor days in London in the early 50's, or because of it, he acknowledged graciously in 1963 in one of his seven languages:

La technique de Millard, employée dans la phase initiale, permet une reconstruction intéressante du plancher narinaire et une rotation de l'aile du nez ne nécessitant aucune manipulation du cartilage alaire. Les premiers résultats observés sont très satisfaisants et permettent d'augurer que ladite technique occasionnera moins de séquelles dans l'âge adulte. Le temps en jugera.

He not only used the method and suggested extending the lateral advancement incision farther around the alar base but also adapted its use to secondary cases and allowed me to demonstrate my procedure in his fabulous Brazilian clinic in Rio in 1969.

## GALAMBOS



*Joseph Galambos*

Joseph Galambos of Budapest, Hungary, defended the rotation-advancement principle at Schuchardt's Second Cleft Palate Symposium in Hamburg in 1964. I was there and was encouraged by the sagacity of his stand. He opened with

The variety of the harelip, the different developments of the lip stumps, the variations in the height of the lip, the discrepancies in the severity of the deformity and occlusion obviously require methods of correction which can be flexibly adapted to the given conditions.

The great variety of methods published in the literature since World War II shows characteristically that there is an increasing endeavour towards perfection in this field. . . . If we consider that the methods of Z plasties, which in spite of their large-scale similarities differ very much from one another, are used in different patients, after the methods of various surgeons, at different ages, the significance of the statistical figures diminishes immediately.

Galambos proceeded to condemn such methods as LeMesurier with

The upper-lip portion on the cleft side grows unproportionally,

and Giraldes with

obviously destroys the philtrum harmony in the cupid's bow,

and Récamier's method with

The postoperative scarline however is of an entirely vertical direction.

He concluded with remarkable insight for this time:

The advantages of the Millard operation are as follows:

1. The normal position of the alar base will be automatically retained, the nostril sill is arched, the nostril floor is not depressed or flared and the nose requires only rarely intranasal manipulation.
2. The scar runs as a philtrum column on the side of the cleft and shows no tendency to contract because the incision is radially branched out in its upper portion.
3. A natural cupid's bow is formed with a central dimple and normal philtrum associated with a straight columella.

In 1968 at a Yugoslav Symposium at Maribor, Galambos praised the rotation-advancement method's revolt from established doctrine.

Millard (1955) disregarding any skin excision broke from the dogma of Veau where the soft tissue above the peak of the cupid's bow is unfitted for plastic aims.

He recalled that Ingelfrans, Poupard and Lacheretz in 1963 criticized the rotation-advancement with the following points:

1. The procedure is difficult to perform.
2. In the case of a total cleft the curved incision is placed below the columella and this may result in a conspicuous scar formation.
3. The maximum transverse tension is below the nostril instead of the middle or the lower third of the lip for bringing about a pleasing profile line and avoiding pressure upon the alveolar arch.

Then Galambos countered incisively,

According to our opinion Millard offers more than LeMesurier and Tension in this point. Through the very fact that the transverse tension is in the maxillary region the upper lip is placed loose, soft and without scars in front of the maxilla . . . the physiological pressure upon the maxilla simultaneously exercises a slight pressure upon the dental arcade and . . . may be regarded as a surgical procedure of orthodontia. Regular examinations of our patients (687 operations) through many (10) years prove this opinion of ours.

Late in 1972 I wrote Galambos inquiring about his present stand and was answered with a reminder that since Stockholm he had been fascinated with the rotation-advancement,

not only because it terminated the century old misbelief that the tension must not be placed on the area of the maxilla but because the artistic freedom without numerical scheme entrusted the operating surgeon with the solution. . . . Then too I am in possession of several illustrations of patients operated on by other methods which clearly demonstrate the wrong principles of past methods. In Hungary I am recorded as an expert in Millard's technic and have published papers in Hungarian and German and presented films on this method in West and East Germany, Yugoslavia and at the Hungarian Academy of Sciences.



#### PROOF OF THE PUDDING

In 1964, just prior to our Society of Plastic Surgeons meeting in San Francisco, dapper Ed Brown, trained by Albert Davis, invited me to a cleft lip clinic on Post Street and demonstrated



some very lovely rotation-advancement results. It was exciting to see how well he had mastered the principle.

## HONORABLE ORIENTAL ACCEPTANCE

As the method was conceived in the Orient, it was poetic justice that some of its early acceptance occurred in Japan. Ohmori said in Honolulu in 1962,

Lately, Millard's method is also being applied as one of many valuable procedures.

### ODA

One of the earliest proponents of the rotation-advancement principle was the late Kentaro Oda of Osaka City. He sent me a colorful Japanese geisha doll and then one day in 1963 arrived in Miami to observe a cleft lip surgical demonstration. He reported having used the method for years with superior results and explained that it had been responsible for many patients' traveling to him from all over Japan, amounting to at least 100 new cases each year. The results he showed were impressive. He was a frail, gentle, charming man, and we became good friends. One day I hope to visit his clinic and give a lecture in his honor.

Another important proponent following the rotation-advancement method and publishing results in 1965 was Professor Shojiro Takahashi of Tokyo Dental School.

### MOTOMASA SASAKI

Motomasa Sasaki, professor and Chairman of the Department of Oral Surgery, Sapporo Medical College, Hokkaido, Japan, was a student of Oda. Between 1961 and 1968 he did 282 cleft lip operations by the rotation-advancement approach. Since 1964 he has been grading the results of the various aspects of the unilateral cleft deformity after surgery:

*Labial deformity:* cupid's bow, mucosal tubercle, vermilion,



Kentaro Oda



Motomasa Sasaki

mucosal margin, philtrum dimple, philtrum column, vestibule of the nose.

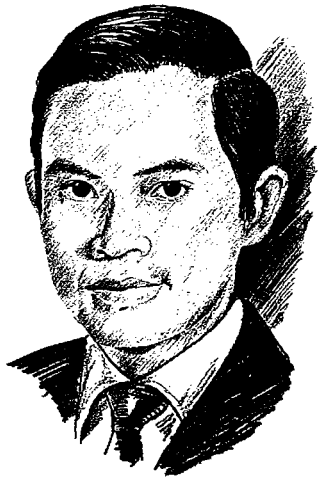
*Nasal deformity:* nasal tip, nasal alar base, columella, septum, nostril, nostril floor, alar web.

*Profile:* nasal tip, lack of pout, mucosal margin of upper lip, proportion of upper to lower lip.

*Scar:* extent, form, shade, tension, consistency.

A grade of 10 was a bad result; a grade of 0 excellent. Sasaki reports that most of his rotation-advancement results range from 0 to under 2 points.

#### EVEN IN WAR-TORN SOUTH VIETNAM



*Tran Van Khang*

I am particularly proud of the work of Tran Van Khang, a 30-year-old Vietnamese medical student from the University of Saigon, who wrote a 100-page thesis for his Doctorate of Medicine in 1967 entitled "Étude de la Technique de Ralph Millard dans le Traitement des Becs-de-Lièvre." In a charming Oriental manner he dedicates his work to his professors, parents, relatives, friends, acquaintances and even his battle comrades of the 31st Regiment serving southwest of Mekong in 1963-1964. His thesis is based on 118 cases operated on by Professor Dang Van Chieu using the rotation-advancement method at La Clinique Chirurgicale A from May 1962 to May 1966. Of the 118, 47 were unilateral incomplete clefts, 59 unilateral complete, 4 bilateral incomplete, 7 bilateral complete and 1 bilateral asymmetrical. One hundred were from 1 to 18 years of age while 73 of these were from 5 to 18 years old. This work was written without knowledge of the later publications on *refinements* and *extensions* and was a most complete and encouraging report. Khang wrote:

Les résultats le plus souvent excellents, quelquefois stupéfiants, nous laissent plein d'admiration tant pour la dextérité de notre maître que pour l'ingéniosité de cette technique.

He outlined with clarity the many advantages of this approach and explained that failures were not due to the technique but

probably to the inexperience of the operator. He acknowledged that early scar contracture did occur but subsided in a short time if the method was executed correctly and the "suture musculaire" accurately applied. For wide total clefts, he emphasized that the difficulty is no greater than with other methods and that a tight lip was rare. He did warn that there is less chance of danger from tension if the patient is at least three months of age and if the lip is dissected quite free from its attachments to the maxilla.

## ONIZUKA

Takuya Onizuka, Professor of Plastic Surgery, Faculty of Medicine, Showa University, Tokyo, in 1972 stated:

I have been using the rotation-advancement method or its modification for several thousand cases during the past ten years. Now I suppose the operative method for the primary case is near the final goal. Therefore the most progress should be in philtrum plasty, functional muscle alignment and rhinoplasty.

He continues to practice what he preached by proposing new methods of philtrum construction and columella lengthening.

## OTHER EASTERN PROPONENTS

Charles Pinto of the Bai Lerbai Wadia Hospital for Children, Bombay, trained with Barrett Brown in St. Louis and with Eric Peet at Oxford. H. S. Adenwalla of Trichur, India, student and friend of the late Pinto, wrote to me in 1972 soon after Pinto's untimely death. He reminisced about his teacher's exploring mind and the dexterity of his craftsmanship:

Nothing seemed difficult when you saw him execute it . . . he had a certain old world concept of chivalry, charity and supreme magnanimity. . . . He splashed the canvas of life with bright colours taking a puckish, school-boyish delight in everything he did.

Another excerpt from Adenwalla's letter was pertinent:



*Charles Pinto*

In our country, patients do not return for secondary corrections which a straight repair on a complete cleft so often requires, and so he started looking for an answer in one stage. He did extensively try out Barrett Brown's modification and to a lesser extent LeMesurier's and Tennison's operations. He however came to the conclusion that the rotation advancement method was the answer. I quote from one of his publications, "The Millard repair, in our experience is a great advance—it produces a nice nostril sill, the height obtained on the cleft side is of good length and the scar produced by this operation looks like a philtral line. We have been extremely pleased with the results obtained by this operation."

Adenwalla also noted:

With the rotation advancement method he often mounted a small "Z" on the web that forms on the inner surface of the roof of the nostril.



*H. S. Adenwalla*

H. S. Adenwalla is chief consulting surgeon and principal medical officer to the Christian Jubilee Mission Hospital, Trichur, Kerala, South India. In the hospital's twentieth-year report, which recorded 9,000 operations in the year 1971 with cases coming from as far as the state of Madras, Adenwalla commented:

Plastic surgery was therefore really born in our country . . . the clay potters of Satara near Poona . . . and Charak talks of reconstructing a cleft lip some nine hundred years ago . . . has now come back to us through the West.

In the 1972 hospital report Adenwalla presented two lovely results of the rotation-advancement method in complete unilateral clefts. He noted:



Excellent nostril symmetry as you can see in Nadesa's pictures.

He also pointed out:

Dayalal's is a wider defect and here I mounted a small "Z" on the web that forms on the inner surface of the nostril roof as Charles Pinto suggested in 1965.



This Z of Pinto's must be similar to that described as a secondary procedure by Straith. In the lip of this case, a posterior mucosal transposition primarily would have filled or a V-Y posterior mucosal roll-down still will fill out the weak free border on the cleft side for better symmetry.

As much poet as "potter," Adenwalla philosophized:

A plastic surgeon is really a general surgeon with a hobby and this hobby lies in the aesthetic realm of a refined reverence for tissue and true appreciation of the dignity and beauty of the normal human form. . . . Thus he has taken the clefts of lip and palate from the paediatric surgeon. . . . His art would be quite meaningless if he reconstructed a face but failed to put a smile on it. The true plastic surgeon must always hope that the skill of his surgery will help towards the healing of all the internal scars that external wounds can cause.

#### OUT OF A FORTUNE COOKIE

In January 1974 the first symposium on reimplantation surgery was held at McGill University and the team of Chinese surgeons made Montreal the first stop of their North American

tour. Gaston Schwarz asked them what method they used in cleft lip and they explained that as orthopedic surgeons they did not do clefts but would have one of their plastic surgeons answer. This is a translation of a letter dated February 28, 1974 from the Division No. 3, Plastic Surgery Department, The Peking Medical College:

Since 1963, we have been using the Millard method for repair of unilateral harelips . . .

This is quite exciting as the Chinese did the first recorded cleft lip operation over 1,500 years ago, adding quite a bit of credence to their present judgement!

#### ALSO GAINING IN THE WEST

Twenty questions were sent to the approximately 200 members of the California Society of Plastic Surgeons, and the result of the questionnaire was presented at their Annual Meeting in April 1969. To the question "What kind of cleft lip repair do you use?" they answered: "Millard 60 percent; Tennison 20 percent; LeMesurier 12.5 percent; other 7.5 percent." And, as everyone knows, how California goes is important.

#### THE LATEST RATINGS

A survey by resident John Osborn, of John Kelleher's unit in Toledo, was begun at the plastic surgical chief residents' conference at Duke University in April and completed in June 1974. Response from a total of 80 residency training programs in the U.S.A. and Canada recorded the various methods being used in these units:

Usual unilateral cleft lip repairs:

Straight line repair	1	(1%)
Triangular flap	30	(37.5%)
Quadrilateral or rectangular	6	(7.5%)
Rotation-advancement	71	(89%)