Some Principles To Be Considered In The Rehabilitation Of Cleft Lip And Cleft Palate Cripples

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SOME PRINCIPLES TO BE CONSIDERED IN THE REHABILITATION OF CLEFT LIP AND CLEFT PALATE CRIPPLES
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The current movement to develop interest in rehabilitation of the crippled child as evidenced by local and national associations for those afflicted with poliomyelitis, cerebral palsy, muscular dystrophy, nephrosis, pancreatic cystic disease, etc. is especially appealing because of the obvious physical deformities and some of the far reaching complications of these diseases in infants and young children. One of the earliest classifications of congenital disease to receive attention in this country is that of children born with cleft lip and/or cleft palate. These children deserve as much attention as those mentioned above, for not only are they crippled, but many times have multiple handicaps. Too often, the attention to them has pivoted about their anatomical defects. This should not be so, for although they are crippled cosmetically, they are often crippled also in speech, dentition, normal facial growth, hearing, social adjustment and, not infrequently, in the development of psychologic trauma. While children with these lip and palate deformities may not so frequently appeal to the emotions, these patients with their multiple handicaps deserve generous attention so that they may reach their most useful place in society.

Since the latter part of the last century, the greatest emphasis in the care of these unfortunate babies has been in the closure of the palate opening, and the closure of the cleft lip. However, there is more to the problem than just the surgical closure and mechanical management of those deformities. Often the surgeon has had to carry the entire responsibility for the care of the cleft cripple and at times, his efforts have been entirely directed to closure of the lip and repeated attempts at closure of the cleft palate. His efforts have been concentrated on shutting off the fistula, so that the glottic blast, instead of being short-circuited through the cleft, would have to traverse the moulds of speech, namely the teeth, tongue and lips. Occasionally, scarred, thickened, short, tight or perforated palates would develop and in time orthodontists and prosthodontists began to take issue with the surgeons as to the most efficient method and proper time for cleft palate closure.

Actually, the mechanical closure of the oronasal fistula is and should be considered the least part of the problem in rehabilitation of cleft children. The principal objectives of restoration should be the restoration of normal speech, the normal growth of the maxilla, proportioning of the face, dentition, preservation of hearing, speech therapy and psychologic adjustment.

The day of the surgeon having to assume total responsibility for the direction of the care of the cleft child is outmoded. For total restoration, a well patterned program can best be accomplished by a group of specialists, which may be designated "the cleft team," (a) Dental specialists, e.g., the orthodontist, prosthodontist and exodontist; (b) Medical specialists, e.g., the pediatrician, otologist and surgeon; (c) Auxiliary specialists e.g., child psychologist, audiologist, and speech therapist.

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The objective of the team is to have each patient reach the fullest degree of functional as well as anatomical rehabilitation. The meetings of the team should be held regularly and its patients considered by each of the members and the plan of treatment modified with the progress of the patient. The captaincy of the team should be vested in the individual with the greatest understanding of the problem.

The care of the cleft cripple begins at birth. The parents must be acquainted with the problem and reassured by allowing them to view photographs of restored children. Reassurance as to the improbability of clefts in future siblings should be emphasized. True cleft families are rare.

Realizing that there are two schools of thought in the matter of timing of repair of cleft palates, it is the author's opinion that single cleft lips should be repaired within the first three days of life, provided there is no systemic contraindications. The reasons for this belief are as follows: Newborns are relatively shock-proof; they possess a favorable fluid balance; they have a greater number of red blood cells and amount of hemoglobin than at any subsequent time. Newborns have a relatively great humoral resistance to infection because of their maternal endowment of agglutins, lysins and opsonins. Tissue healing is generally favorable; little anesthesia is required (I prefer intratracheal anesthesia). With an early lip repair, the newborn may return home to its expectant relatives on about the seventh day, thereby relieving emotional tension. Early closure of a single cleft facilitates and speeds the approximation of the palatal processes in those with cleft palate. In doing early repairs of the single cleft lip it is important to avoid "tight" lip and subsequent contractures and collapse of the healed processes with dental and maxilla deformity.

It has been learned by experience that full correction of the nasal deformity should be attempted at the time of the lip repair and also that the correction does not interfere with the growth of the nose.

Double cleft lips are usually not repaired so soon. The tissue is too scant and there is the complicating technical problem of the protruding pre-maxilla. Timing of repair of the cleft palate is variable with the degree and type of the cleft. Surgical closure itself is not the only important thing, but the attainment of good understandable speech, the preservation of hearing and proper growth of the maxilla are also of paramount importance. Many patients, of necessity, have been well rehabilitated with good prosthetic devices. The disadvantages of the permanent prosthesis are obvious, but if complicating deformities follow surgery, protheses may be needed. These are matters for the cleft palate team to decide in the interest of the individual patient.

In this country it is customary in many areas for the surgical closure of the palate to be done at, or shortly after, the age of 17 months. In some areas also, the cleft palate is successfully closed at the age of one year or less. It is the feeling of some that the cleft palate should not have surgical treatment until the age of six to eight years or later. This opinion has a basis in the patients seen with useless palates, in those without intelligible speech, those handicapped by "parrot beak" noses, inadequate dentition and prognathism. The responsibility of the surgeon who operates
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at the early age is considerable and he must have a knowledge and skill which will enable him to achieve closure without appreciable deformity.

In those unsuccessful cases where the scarred, useless palate would only be more damaged by further surgery, it is better to open the palate to such a degree that a prosthesis with adequate bulk for velopharyngeal closure can be fitted and retained.

The usual successful results of early, adequate repair are illustrated by the following plates:

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Fig. 1a. Single complete uni-lateral cleft palate. Age 24 hours. Note repair of nose.

Fig. 1b. Later Gillie's Cupid Bow operation will be done to restore full thickness of vermillion portion of lip which was congenitally deficient.

Fig. 2a. Uni-lateral single incomplete cleft lip repaired at birth.

A—Before
B—After
Fig. 3a. Surgical repair of uni-lateral incomplete cleft lip at age 24 hours.
Fig. 3b. Note repair of nose.

Fig. 4a. Almost complete double cleft lip. Repair age six weeks. Uni-lateral surgical restoration. Opposite side six weeks after first stage.
Fig. 4b. Note full lip, full vermilion and reasonably good restoration of nose. Palate repair done at 17 months.

Fig. 5a. Pre and post prosthesis. Previously scarred and short palate precludes adequate surgical management. A dental appliance (prosthesis) to achieve velo-pharyngeal closure.
Fig. 5b. View of appliance removed from mouth.
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Fig. 6a. Illustrates closure of palate defect due to physiologic muscle compression following an early closure of the uni-lateral single cleft lip.

Fig. 6b. In this case, physiological closure of the palate has been too rapid due to tightness of the lip and has been accompanied by some collapsing of palatal arches.