

The treatment of cleft palate

— J D Erlank



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Curriculum vitae

Dr Erlank studied at the University of Pretoria and obtained the MB ChB in 1959. He then practised as a general practitioner in Pretoria till 1965. In 1970 he received the MMed in Plastic and Reconstructive surgery, was appointed on the staff of the University of Pretoria and became the Head of the Department of Plastic and Reconstructive Surgery in 1972. He is currently also Head of this Department at 1 Military Hospital and serves on many medical committees nationally.

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Summary

Many articles written on the treatment of cleft palate patients as well as the author's own experience at the University of Pretoria, form the basis of his recommendations. He discusses the repair of the soft palate, the repair of the hard palate and the appropriate ages to do it.

Too much controversy exists with regard to the treatment of cleft palate patients. After having studied the literature and our own results in the department of plastic surgery at the University of Pretoria, certain aspects in the treatment of cleft palates have become very obvious.

The time has come to evaluate the evidence we have at our disposal of the many published series in the literature of cleft palate repair and to at last come to consensus with regard to certain aspects in the treatment of cleft palate patients.

The advantage of better speech with early surgery has been weighed against the risk of facial growth inhibition. In general there has been four recommended approaches:¹

1. Complete repair of the soft and hard palate between 12-24 months of age. The reasoning here is that speech results are nearly as good as with earlier repair and that facial growth disturbance is less. This approach has been most common in the United States.
2. Late repair of soft and hard palate between 2-5 years of age. The emphasis was on preventing facial-dental growth inhibition and accepting the much poorer speech results.
3. Early repair of soft and hard palate between 3-9 months of age. The emphasis is on achieving maximal speech results with minimal or correctable facial growth alteration.
4. Early repair of the soft palate only at 3-9 months and repair of the hard palate at 5-15 years of age. The attempt aims to achieve good speech results by early repair of the soft palate and to avoid facial deformity by delaying repair of the hard palate. This approach however has been proven totally incorrect and unacceptable because of the poorer speech results.

It is generally agreed that the most important goal in cleft palate surgery is to achieve the best possible

speech results. It is also generally accepted that good speech results have to be achieved by the age of 5-6 years, and even earlier, as poor speech patterns cannot be rectified later in life.

Poor cleft palate type of speech has a frightening detrimental effect on the normal development and rate of success of any individual. It is therefore mandatory to try and attain the best possible speech results for the cleft palate patient.

The most important goal is to achieve the best possible speech results

There are no published reports suggesting that delaying palate repair is beneficial to speech. At no stage should the treatment given to a cleft palate patient be at the cost of achieving good speech. We have therefore come to the conclusion that early closure of the hard and soft palate from 6-12 months is needed to achieve the most important goal, and that is the best possible speech. There is no argument in favour of delaying cleft palate repair.

This view is supported by many published series of which I would like to mention: Aschauen² Holdsworth,³ Jolley,⁴ Peet,⁵ Evans,⁶ Robertson,⁷ Trusler,⁸ Bill,⁹ Ortiz-Monasterio,¹⁰ Koberg.¹¹

Jolley⁴ found that surgery before 12 months of age gave better speech results: 90% had excellent or good speech and only 50% had excellent or good speech, if operated on after 24 months of age.

Peet⁵ reported excellent function of the soft palate during speech if operated on between 12-15 months of age and significantly poorer results if operated on later.

Evans and Renfreu⁶ reported 87% normal speech if palate closure was achieved by 8 months of age and worse results when surgery was delayed.

Better speech with early surgery has to be weighed against the risk of facial growth inhibition

The results in the department of Plastic and Reconstructive surgery at Pretoria University have been similar. We have had normal resonance with speech in 71% of patients with closure of the palate done at 18 months of age. With closure between 9 and 10 months there has been a 79% normal resonance. Lip closure is done at 3 months of age. We therefore appeal for very early closure of the

hard and soft palate to achieve the most important goal in cleft palate patients, being normal or good speech.

The next point in question has been the extent of maxillary growth inhibition with early surgery of the hard palate. To determine which surgery inhibits facial growth one must distinguish between growth alterations in patients with combined cleft lip and palate repair and growth alterations in patients with a cleft of the hard and soft palate only. Nearly all reports indicate that severe facial growth disturbance is associated with combined cleft lip and palate surgery and not with isolated cleft palate surgery alone. Thus, lip repair may be an important cause of maxillary growth inhibition. Prominent workers like Law,¹² Ortiz-Monasterio,¹³ Haggerty,¹⁴ Boo Chai¹⁵ indicate patients with unrepaired cleft lip and palate develop normal facial configuration. However, children with repaired cleft lip and palate develop mid facial retrusion and dental alveolar malocclusion. In cases of cleft lips alone, repair also caused maxillary retrusion without any palate surgery having been done. Therefore it is especially the lip surgery that is the culprit, causing maxillary growth inhibition and not the palate surgery. Sur-

Severe facial growth disturbance is associated with combined cleft lip and palate surgery - and not with cleft palate surgery alone

gical repair of the cleft lip seems to create a tight anterior scar band that prevents the normal forward growth of the maxilla. This particular theory was proven with animal experiments done by Bardach.^{16,17} Onizuka and Isshiki,¹⁸ in their large series of 229 patients also proved the lip repair to be the main reason for maxillary retrusion and growth disturbance and not the palate repair.

Evidence by Cosman and Falk¹⁹ as well as Jolley,⁴ Lindsay,²⁰ O'Rianin²¹ and McEvitt²² also substantiated these findings that it was especially the lip repair which brought about growth disturbance and not the palate repair. These were also the findings at the cleft palate clinic of the department of Plastic Surgery at University of Pretoria.

To avoid growth disturbance of the maxilla, the repair of the cleft lip must be delayed until puberty. This, I am sure, no one in the world will accept! No child can be compelled to live with an unrepaired cleft lip until puberty just to avoid a growth disturbance which in most cases is completely undetectable by the general public. We therefore have no way at this stage of preventing maxillary growth problems. It will always be present in varying degrees, mostly not even noticed by the

layman. With orthodontic treatment which can be done from the permanent dentition phase, tremendous correction of the malocclusions can be accomplished.

In conclusion I would like to emphasise the following points. The most important goal in cleft palate treatment is to achieve normal speech and no other treatment, be it dental or anything else, may jeopardise this. Complete closure of the palate must be at 6-8 months.

Lip repair is a major cause of maxillary retrusion and not the palate repair. However lip repair, for obvious reasons, has to be done as early as possible, which is 3 months of age. No child can live for years with an unrepaired cleft lip. The dental treatment (orthodontics) is started from permanent dentition.

We have as yet no way of preventing maxillary growth problems, but orthodontic treatment can accomplish tremendous correction

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From the journals

Planned out-of-hospital births, New Jersey, 1978-1980

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Abstract This study involves 775 cases of New Jersey residents who had planned out-of-hospital births during the years 1978-1980. Birth certificate data analyzed and compared to New Jersey statewide birth data for the same time period. The women who chose a planned out-of-hospital birth were more likely than the total resident population to be older, married, better-educated and having their second baby. Reasons for selecting alternatives to physician in-hospital delivery were the desire to be attended by a midwife, to have the family present, to be part of the decision-making process, and faith in the birth process as being in line with nature. The out-of-hospital birth phenomenon was diffuse throughout the state, with more births attended by midwives than physicians and more births at home rather than at birthing centers. This study provides a basis for comparison of specific choices, providers and clientele involved in the birth alternative movement, and lays the groundwork for investigating long term changes in the demand for birthing services in New Jersey.