PEDIADONTIA.

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IN PRESENTING for the consideration of the dental profession a paper on *Pediadontia* (children's teeth), I am actuated by a desire to call attention to that most neglected part of our population, the little children between the ages of two and six years. From a dental standpoint, little attention has been paid them. The condition of this part of our population is so closely related to the dental conditions in our schools that it merits serious consideration. We are confronted by statistics gathered in our schools from time to time, showing the terrible conditions found among the children examined from a dental standpoint. For the correction of these conditions, education of the children, establishment of clinics, instruction in the use of the toothbrush, and other means have been advocated and used. It is from but few parts of the country, however, that the results of this work have been reported.

The reason for the lack of more widespread work along this line, has been the inability to educate the proper authorities as to the value of the work, as well as a lack of funds which might be appropriated for dental clinics. We no sooner make a start in the work of repairing the teeth of children in schools, and begin to make progress, before a new influx of children, with equally bad mouth conditions, confronts us. To care for these new patients, in addition to keeping up with the repair work among the older children, previously treated, is a monumental task.

Year after year this condition does,

and will confront us, and something must be done to get the new pupils started in school with better mouth conditions. In all school and institutional work, we are hampered by a lack of operators. However, this phase of the problem has been much bettered by the entrance of the oral hygienist into the field. It will take years before oral hygienists in sufficient numbers, can be educated to carry on this important work.

In addition to all the means being used to relieve the situation confronting the dental profession, have we not neglected a most important factor, which might change the status of affairs and greatly help in this struggle against diseased conditions in the child's mouth? Can we not approach the problem from the standpoint of bringing the children up to school age with better mouth conditions than is at present the case? In my judgment, the greatest aid in the betterment of mouth conditions in our schools, will be found in the education and care the mother can give the child between the ages of two and six years, so that when the child enters school, it will do so with greater freedom from caries, and the consequent destruction of tooth structure. Granting then, that the mother, caring for the health of the child, is the logical caretaker of the child's teeth, what can we do to educate the mother?

The expense of buying toothbrushes, without doubt, deters thousands of mothers with large families, from properly caring for the teeth of their children.

For the reason, then, that we must aid the children of the poor, as well as the children of the rich, a cheap means of caring for the children's teeth must be demonstrated to the mother. As a means to this end, and on account of the cheapness of the materials required, the use of orange or bass-wood sticks with a dentifrice, or some cheaper material, such as precipitated French chalk, can be recommended; and for polishing the interproximated surfaces of the teeth, fine white wool yarn, or any other carrying medium, will suffice.

We have at hand, then, materials for caring for children's teeth, easily within the means of all mothers, for the care of all the children. The education of the mother by the dentist, or oral hygienist, should cover many things of importance in relation to the care of the teeth, and the building up of a normal, healthy mouth. Having devoted considerable time to this kind of educational work, I believe the mother should be taught the following, among many other things, with regard to a child's mouth.

First, the value of the deciduous teeth as related to the child's health and development. The health and development of the child depends upon its ability to play well, sleep well, and eat well. That the lack of desire to play, to sleep, and to eat is induced more by aching, diseased teeth than all other factors combined. That the structure and occlusion of the permanent teeth, is largely dependent on the preservation intact of the deciduous teeth.

Second, that the care and preservation of the child's teeth is dependent upon the mother's efforts, for the child will permit the mother to care for it, where it will not permit a stranger to do so. That the preservation of a healthy, wholesome mouth condition is the result of systematic, thoro and regular care, carried out in detail.

Third, that the surfaces most vulnerable to decay in the child's mouth, are

the occlusal surfaces of the molars, and the inter-proximate surfaces of the teeth.

Fourth, that as a supplement to the proper daily use of the toothbrush, all the surfaces of the teeth should be polished at least once a month with an orange or basswood stick, pumice or powder, and the inter-proximate surfaces polished with flat floss silk, or fine white wool yarn. That this will protect the child's teeth, between eighty-five and ninety-five per cent, against caries, if thoroly and regularly done.

Fifth, that as an aid in the prevention of caries, the occlusal surfaces of the deciduous molars should be protected with cement in the same manner that Dr. G. V. Black advised the protection of the six-year molar.

Sixth, that the six-year molar is not a temporary tooth. That it is not replaced by another tooth, if lost, and that erupting as it does, in early childhood, it must be especially the object of care and should be protected by the use of cement rubbed onto the occlusal surface, as soon as the tooth erupts.

Seventh, that the normal development of the jaws, preparatory to the eruption of the permanent teeth, is dependent largely on the development of the muscles of mastication. For this reason, the child should thoroly masticate all its food. That the food should be prepared in such a way as to require thoro mastication.

Eighth, that according to Dr. Dewey, in his work entitled "Practical Orthodontia," five of the nine acquired causes of malocclusion are due to the loss of deciduous tooth structure. That the results of habits of childhood, such as thumb-sucking, tongue-sucking, and the use of pacifiers, are destructive to normal occlusion.

Ninth, that candy, and carbohydrates in other forms, is the worst enemy of sound teeth, for the reason that the destruction of the teeth by caries is most easily induced by chemical changes in these substances, lodged about the teeth.

Tenth, that a thoro knowledge of a good technic in the use of the toothbrush, is one of the greatest means known for the preservation of the teeth. That the child should not be depended upon to protect its own teeth, thru its own efforts, but that the use of the brush, in the hands of the mother, in the care of the child's mouth, is absolutely essential in early childhood.

The technic of hand-polishing the surfaces of the teeth should be carefully taught, for it is only by systematic care that the desired results can be obtained. At regular times, and regular intervals, thoro brushing of the teeth, and prophylaxis carried out in detail is essential in order to prevent the beginning of tooth destruction, for prevention must be the ultimate goal.

Observation makes it clear that the Dental Profession of today is not fulfilling its duty in the dental education of the public, and particularly, of the mothers. There is no widespread, systematic effort being made to carry much-needed information to all parts of the country. What we need is a strong, well-financed organization to carry on this much-needed educational propaganda. In oral hygiene work lies the dentist's greatest opportunity for good, and it is up to the dental profession. Thoroly systematized, this work can be of inestimable value to all people, especially in its relation to the health and development of the children.

No time can be used to better advantage than in helping educate the mothers of America, by teaching them methods useful in preserving the children's teeth. In closing, let me emphasize the necessity for the fullest cooperation of every member of the profession in this work. Dentistry for children must play a leading part in the health work among the children of our country. Remembering that a normal, healthy mouth is the true basis of good health, may we not all be inspired to greater effort in this impor-

tant cause. A normal mouth with a full complement of prophylactically clean teeth is splendid health insurance.

DISCUSSION.

Haidee Weeks Guthrie, New Orleans, Louisiana.

Dr. Thomas is correct in calling attention to the common neglect of the child's mouth. He has very properly pleaded for the education of those who guard the child, and has evolved a plan for this education, beginning with the mother. This works well in certain types of families; but, alas, we are leaning on a broken reed if we expect to take the average grown-up woman and give her, by any possible system of instruction, sufficient knowledge and technic to properly care for her child's teeth. She has, in all probability, thruout her life, neglected her own. We must educate the mother in oral hygiene. Yes, but when she herself is a school child. Then, and only then, can the mother be made an active and capable aid in our campaign. We must then in this case, wait years for our results. On the other hand, the teacher, acting under instruction of a competent dentist, can bring home in a most complete and thoro way the lessons of oral hygiene. The teacher has an open mind and can be taught.

I cannot approve at all of a substitute for the toothbrush. The use of the toothbrush is the shibboleth of the campaign and the brush must be made its symbol. Any mechanical aid to do the work of the toothbrush such as chewing of coarse food, use of orange wood stick and pumice, etc., must be welcome, of course, but never as a compromise or a substitute.

It should not be difficult if we face our task of propaganda, to secure the demanding of a certificate of a clean mouth with all cavities properly filled as a pre-requisite to attendance at school exactly as we demand now a certificate of vaccination.

The work is in no sense the dragging

of a lengthening chain, and as the years go by will narrow itself down to an intensive and concentrated effort on the earlier years. Unless this is done, in my opinion, the work would be truly stupendous.

An institution or a community unit whose children's mouths are once put in order can be kept in good shape with a comparatively small effort, provided there is some one constantly on guard to see that the work goes on and that caries is checked before extensive damage is done.

I have several times made the statement that the battle for the child's mouth is lost or won by the age of 8. Under proper schooling in oral hygiene between the ages of 2 and 8 years, if the mouth is kept in order to this age, very little dental work is needed after that time. My work has amply confirmed this statement. I am now caring for a community settlement of 1500 children without assistance except from lay helpers and without remuneration. I am able to do this because the social service workers give me the most perfect cooperation.

One of our activities is a day nursery where we average 150 children from the cradle to 8 years. For two years I selected and observed 50 of these children with average mouths between the ages of two and four and we did not have a single case of caries in the two years. We used a systematic toothbrush drill and regular and periodical inspection of the mouths.

In a previous paper published in 1916, I made this statement: "Even in intelligent families today the child's teeth are sadly neglected. Education of the parent is essential; but there is no way to secure this instruction excepting thru the children themselves at school."

I am more than ever convinced of the truth of this. I now wish to go a bit farther and ask you for a pre-requisite to the instruction of the child. It is for the proper instruction of the dentist himself and the doctor in his school.

The medical profession today is asking us for a character of work which we, as a profession, are not prepared to give because of defective training in the care and management of the child himself. That the child's mouth is neglected is true; but we are partly to blame. The average dentist would gladly part with his child patient, if he were not to lose prestige thereby. As it is, he gives the child's mouth insufficient care because he dreads the encounter or perhaps lacks the patience or tact to put himself in proper relation with the child. He salves his conscience with the thought of the temperamental difficulties of the case and puts silver nitrate into carious first molars and lets them go on to destruction.

He has never had specific instruction in the art of managing the child and quite often only a superficial attempt at instruction in the treatment of the conditions encountered in the child's mouth which are peculiar to the age of childhood.

Can we expect to give to the medical profession the guidance which it asks for, if we neglect in our dental colleges the teaching of this branch?

My opinion is that the object we all wish for, namely,—the proper care of the child's mouth is to be obtained by,—

1. Systematic and regular dental inspection in the schools;
2. Instruction of the child and his teachers in oral hygiene;
3. Employment of full-time dentists, who themselves have received a special training in the work.
4. Employment of a force of social service workers whose duty it shall be to seek the cooperation of the parent. This is to be done by visiting the homes, by organization of Mothers' Clubs and keeping up an interest in their meetings.

This looks like a formidable program. It doubtless is an expensive one. However, we know its value and if we convince the mothers of our own and the

medical profession of its necessity, the public will know and soon the needed funds will be provided. It is an uphill fight for a few of us to ask the public to subscribe to an educational dictum which the profession-at-large holds in doubt. We must specially educate the dentist for service in schools who in turn will instruct the teacher and the social worker. All of these will teach the mother and finally all will unite to swing into the movement the greatest of all available forces, the interest of the child himself in his own welfare.

A. C. Thompson, Detroit, Mich.: Dr. Thomas' splendid paper, emphasizing as it does that which should be the very foundation of oral hygiene education, namely the care and training of children from the very beginning of dentition, should receive a thoro investigation and discussion by this department. One point emphasized by the speaker was the importance of reaching children before school age. This is beyond the field of the school dental clinics, and how to reach those of pre-school age is not made clear. In our work we are endeavoring to reach this unexplored field thru the board of health, under whose supervision we work.

In conclusion I would suggest the advisability of the National Dental Association establishing a new department, to be known as the Pediadontic department.

Dr. Rich, Nashville, Tenn.: I would like to ask Dr. Thomas to give us in as few words as possible, some idea as to the technic he tries to instill into the mind of a mother taking care of her child, say two or four years old?

Dr. Washburn, St. Paul, Minn.: Along this line the great work that is being done by such members of the profession as Dr. Thomas and Dr. Guthrie, will establish a system or put forth an idea for the general practitioner that

many of them will turn the idea down as being not a practical one, namely, because the mother does not care to take care of children.

Dr. Thomas: A discussion of the child's mouth opens up a subject of such tremendous proportions that it could not be covered in a short paper. It appeared to me that I might be able to suggest some educational points of value which the dentist might discuss with mothers while the mothers were having their own dentistry done. If times like this are not taken advantage of in daily practice, we are missing a fine opportunity for educational work. Expense enters into every question of today and is essentially a factor in the solution of this great problem: The Conservation of the Child's Teeth. A hand technic in prophylaxis using a stick properly devised, can be taught a mother so that all the little children in the family can be cared for where the cost makes it impossible to own toothbrushes. In cases where deciduous teeth are necessarily extracted, the spaces must be maintained with proper space maintainers. None of the deciduous molars should be removed without this space being maintained. The reason is obvious.

There are a number of instruments of this kind on the market; I am not recommending any particular one. You can use a pocket knife and make a prophylactic stick in two minutes. As far as the instrument is concerned I think we all know we can go out in the back yard and, if necessity arises, we can make a prophylactic instrument with any kind of a stick. The thing is, I wish to suggest, the greatest amount of good to the greatest number of children. I have taken care of some five hundred children since the first of April. I tried to bring before your minds an idea which would be best and available for any mother if she had a jackknife and stick and some instruction.