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HOW TO BUILD AND MAINTAIN GOOD TEETH

Prepared by the Director of Dental Hygiene
Division of Maternal and Child Health
Nebraska State Department of Health

A dental survey conducted in Nebraska in 1934 in which the American Dental Association and the United States Public Health Service cooperated, gave evidence of a serious condition existing in the mouths of our grade school children. It indicated that more than 90% of them were in need of dental treatment. A state department of health is interested in the prevention of dental disease because: First, there is a very close relationship between teeth and health. Second, teeth will not decay in the mouth of a perfectly healthy individual. Third, dental decay in the great majority of children can be prevented. In the discussion of preventive dentistry, we should learn the structure of teeth and how they grow and develop. It will help us to understand why the three essentials for the building and maintaining of good healthy teeth are important; namely, adequate nutrition, mouth hygiene, and early and regular dental care for your child.

What are teeth like?

The part of the tooth extending out of the gum is called the crown of the tooth. It is covered with enamel which is a very hard substance, very much harder than bone. It protects the tooth from outward injury during the biting and grinding of food and it also protects the inner portion of the tooth against germs that cause decay.

The substance beneath the enamel is known as dentine. It is much softer and less dense than enamel. That is why decay spreads more rapidly when the softer material inside is reached.

The root is the part of the tooth below the gumline. Some teeth have only one root, others have two or three. The root is covered with a thin layer of bonelike substance known as cementum. At the end of the roots there are small openings through which the blood vessels and nerves enter the tooth. Both the blood vessels and nerves are surrounded by a soft, spongy substance, which with the blood vessels and nerves, is called the pulp.
The space in the center of the crown occupied by the pulp is called the pulp chamber. The tooth gets its nourishment through the blood vessels in the pulp. It is through them that it receives the calcium (lime) and phosphorus which makes it hard and strong and helps it to resist decay.

Teeth come together with great force when food is being chewed. The shock of chewing is broken by Nature's invention—a layer of elastic tissue called the periodental membrane. It is around the roots of the tooth. This tissue connects the cementum covering of the roots to the jaw bone.

The roots of the teeth are not attached directly to the bone. Between the root of the tooth and the bone there is a layer of tissue which holds the tooth in place and also acts as a cushion or pad which lessens the shock as the jaws come together. This layer of tissue is known as the periodental membrane.

Shapes, functions, and names of the teeth

Teeth are shaped differently because of the type of work they are required to do. The four front teeth above and below have cutting edges. They are used for cutting food and are called incisors. The teeth at the corners of the mouth are used for tearing food and for holding. They have one cusp and are called cusps. Just behind the cuspid teeth in the baby set of teeth are the baby molars. They are larger teeth with three or four cusps and are used for grinding and chewing.

Just behind the cuspid teeth in the second set of teeth are the bicuspid. They are the teeth which take the place of the baby molars at about ten or eleven years of age. They have two cusps which are separated by a deep groove.

The large teeth behind the bicuspid in the second set of teeth are the molars. They have large broad surfaces with four or five cusps separated by grooves and fissures and are used for grinding. The finer they grind the food the more easily it can be mixed with the stomach juices and digested.

Permanent six-year molar

Two Sets of Teeth

The first set of teeth are called deciduous or baby teeth. There are twenty. The second set of teeth are called permanent teeth and they are thirty-two in number.

Spaces Between Teeth

As a child reaches the age of about four years, spaces begin to develop between the deciduous or (baby) teeth, due to the fact that the permanent teeth are developing in the jaws. The jaws are getting larger and as they get larger, spaces develop between the baby teeth. That is a normal condition.
At six years of age the first permanent tooth makes its appearance. It does not replace any of the deciduous (baby) teeth, but comes in the mouth immediately behind the second baby molar and is called the permanent six-year molar. If any one tooth in the mouth is more important than another it is this particular tooth. The second permanent teeth that come in are the lower central incisors and they do replace the lower front incisors at about six to seven years of age.

Between the ages of six and thirteen years all of the deciduous (baby) teeth will be replaced with permanent teeth. The baby molars will be replaced with permanent bicuspids but all the other deciduous (baby) teeth will be replaced by the same type of teeth. At about twelve years of age the second permanent molar appears directly behind the permanent six-year molar. The third molars or wisdom teeth appear behind the second molars some time after the seventeenth year. When they are erupted, all of the permanent teeth will be in the jaws. There will be thirty-two teeth, sixteen in each jaw.

Baby Teeth are Important

Many parents say, "Why repair the baby teeth? They will be lost anyway." That idea is wrong. Many children and adults have underdeveloped jaws and crowded, irregular teeth because their baby teeth were allowed to decay and had to be removed too soon. Let us discuss briefly the importance of these first baby teeth.

They are the teeth that are going to chew the food for digestion and assimilation during the period in life when the greatest amount of growth is taking place physically and mentally. A child needs good teeth to chew his food well and get the most benefit from it. The habit of bolting food is formed many times by children because the baby teeth were too sore to chew with due to decay and infection.

Baby teeth act as pathfinders for the second teeth. They help the permanent teeth to come into the jaws where they properly belong so that the permanent teeth of one jaw will fit properly with the teeth in the opposing jaw.

Baby teeth are pathfinders. The roots of the baby teeth act as guides for the permanent teeth that form beneath them. The following picture shows some of the permanent teeth partly formed and growing in the jaw beneath the baby teeth.

Decayed and neglected baby teeth can and do many times damage the permanent teeth next to them.
As the crowns of the permanent teeth gradually grow larger in the jaw bone they normally press against the roots of the baby teeth. This pressure causes the roots of the baby teeth to be dissolved so that by the time the permanent teeth are ready to come through the gums, only the crowns of the teeth remain. At this stage baby teeth are easy to remove. Many times they fall out while the child is eating or biting on something hard.

If the roots of baby teeth do not dissolve properly the permanent teeth may come in behind or in front of them. If this happens, the baby teeth should be removed by the dentist at once. The longer it is delayed, the more difficult to get the permanent teeth into their proper place.

The Most Important Teeth

The permanent six-year molars, which come in at six years of age back of the second baby molar are the most important teeth we have. They are the teeth that keep the jaws the right distance apart at the age of ten or eleven when the baby molars are lost and the permanent bicuspids are coming in place. They have a great deal to do with the alinement of the permanent teeth that come in the jaws in front of them. They come in about four years before the baby molars are lost and if the baby molars are maintained in a healthy condition the six-year permanent molars will be compelled to come in where they properly belong. If, due to neglect, it is necessary to remove the baby molars too early, the six-year molars may drift forward and occupy some or all of the space once occupied by the baby molars and the arch of the jaw will be just that much too small. Naturally, there will not be room for all the permanent teeth that are supposed to come in the jaw. The teeth will be crowded and irregular, out of line, and in some cases, prevented from coming in at all. X-ray pictures show them locked down in the jaw. We speak of them as impacted teeth.

These six-year molars should be examined as soon as they come in because many of them are not perfectly formed and come through the gums with flaws already in them. They should be repaired at once. Remember the most important tooth of all, the six-year molar, the sixth tooth back, comes in at six years of age.

In order that teeth may develop properly they must be nourished and fed. The crowns of all the baby teeth are formed before a child is born, therefore, the mother is responsible for the quality of the baby teeth. In order that the teeth of her baby shall be healthy, strong teeth, she should be advised by her physician regarding diet which will meet the needs for building healthy teeth and bones for 19514.
her baby. All of the time from about six weeks of foetal life until about twenty years of age the process of developing and building bones and teeth is constantly going on, and during that period foods rich in tooth building materials are necessary.

Calcium (lime), phosphorus and vitamin D are important elements in the building of teeth. Vitamin D is important for it enables the baby to take up the calcium (lime) and phosphorus and deposit them in the teeth and bones.

Vitamin D is obtained in cod liver oil and sunshine. During the winter months when it is impossible to expose very much of the body to sunlight it becomes necessary to get our vitamin D from cod liver oil. Sunlight that is filtered through fog, soot, or glass loses much or all of its value.

Milk and the dairy products supply the largest amount of calcium (lime) while vegetables (especially green leafy vegetables), and fruits of all kinds both raw and canned also contain some calcium.

Growing boys and girls need more calcium (lime) each day than an adult. Their daily intake of food should be richer in tooth and bone building elements. Proper foods not only build strong teeth, but also protect them after they are formed.

Mouth Hygiene

Another important factor in the prevention of decay is clean teeth. A child's mouth is small hence the brush should be small having no more than five or six rows of bristles set widely apart so they can easily be kept clean. Bristles should not be too stiff, neither should they be so soft that they will not remove the food particles or massage the gums. The proper treatment of a toothbrush will add to its efficiency and service. Before a brush is used it should be soaked in a solution of salt water (1 teaspoonful of common table salt to a glass of water). This will set and clean the bristles and make them more pliable. Wash a brush thoroughly in clean cold water before and after using it. Place it under the faucet and allow the water to run with plenty of force. Never use hot water on a brush as it quickly softens the bristles and makes it unfit for use. Shake the brush and put it in a clean light place to dry. When it is possible, put it in the sunlight to dry and kill the germs. Do not shut it up in a box as it will
not dry between brushings, the bristles will remain soft, and germs will thrive. Keep the brush where dirt and dust cannot reach it. Hang it without the bristles touching other brushes. If you keep it in a glass, place the bristle end up. One person only should use the glass. A child should have two brushes using one brush one day and the other the next. This will allow them to dry out, get back their stiffness and also gives time for air and light to kill the germs.

A paste or powder used for cleaning teeth should not be too coarse and it should not contain strong medicines which may irritate the gums. Most all tooth pastes and powders on the market can be used safely. A good powder for cleaning teeth can be made by mixing one teaspoonful common table salt with five teaspoonfuls baking soda.

Children should be taught when very young to brush their teeth. By the time the child is four years old he should know how to brush his own teeth. Teeth should be brushed twice a day, after the morning meal and at bedtime.

Many mothers find it easier to get the child in the habit by setting the example of carefully brushing their own teeth twice each day. Appeal to his pride. Compliment him each time he makes the effort to brush his teeth and remark about the beauty of clean teeth.

Time and patience will add tooth brushing habits to other health habits. When once the habit is formed, they will carry it through life.

When a child is sleeping, decay can work without being disturbed. The germs that cause decay grow and multiply very rapidly in the mouth because it is the ideal incubator for germ growth, but they must have food; therefore, less decay will develop if the child goes to bed with a clean mouth.

There are many methods used for cleaning teeth. Some are good and others are harmful. Some fail to clean the teeth properly, others injure the gum tissue causing sensitive areas just above the gumline later in life. This can be avoided by proper habits of brushing.

Children's teeth should be brushed in the direction in which they grow; namely, the upper teeth should be brushed from the gums down and the lower teeth should be brushed from the gums up. This will enable the bristles of the brush to reach the spaces between the teeth and this is less likely to injure gum tissue at the necks of the teeth. This method may seem a little difficult at first, but with practice it becomes just as easy and more efficient than the old method of brushing back and forth with the bristles of the brush jumping from one tooth to the other omitting the areas between.

Dental floss is a silk thread covered with wax and is used to clean surfaces of the teeth which can not be reached with the tooth brush. Children under ten years of age seldom need it but older children may need it occasionally. The wax covering makes it easier to pass between teeth and helps protect the gums from being injured from its sharpness. Ordinary cotton and silk thread should never be used for it is likely to bruise and cut the gum and injure the tissues that hold the teeth in place. Even dental floss should be used very gently, holding it firmly between the thumb and finger pass it through the spaces between the teeth. Pull it back and forth in an effort to clean the surfaces between the teeth which can not be reached with the tooth brush. Again, dental floss should be used very carefully if you are to avoid injury to the gum tissue.
After cleaning the teeth, rinse the mouth well with water. Holding the water in the mouth with the teeth and lips, it should be forced around in the mouth with the cheeks and lips.

No other disease is so common among children as dental decay. Everywhere the percentage of children needing dental treatment runs from 30 to 95%. Many children have cavities in several teeth. Teeth that are not perfectly formed or teeth that are not kept clean are very likely to decay.

When the enamel covering of a grinding tooth is imperfectly formed because the child has not received the proper foods, there are flaws in the enamel on the chewing surface. Decay will start easily and spread to the inside of the tooth.

Decay often begins in flaws in the enamel. Diets of expectant mothers and children that is lacking in calcium (lime) and phosphorus prevent formation of perfectly formed teeth. Most all flaws develop into cavities. Children's teeth should be examined at least twice each year and all the flaws and cavities repaired.

The cost of dental service for a child in keeping the child's teeth in a healthy condition is much less than it is to restore it to a healthy condition after a few years of neglect. Many times the results caused from neglect can never be remedied regardless of cost. If a tooth is neglected until it becomes infected and the removal is necessary before the proper time, the cost of the extraction is oftentimes as much as the cost of a filling would have been had it been placed when the cavity was small. In one instance the child would still have the tooth in a healthy condition, and in the other instance the tooth is lost. If the space from which the tooth has been extracted is not maintained for the permanent tooth and allow for normal growth and development of the jaw, oftentimes it is necessary for the dentist to place a space maintainer with an additional cost.

We advise that children should start going to their dentists at 2½ years of age and as often as the dentists think they need to see the individual child in order that they can keep those baby teeth in a normal healthy condition until it is time to lose them. There are many children at three years of age with teeth badly decayed.

The importance of the baby teeth in relation to normal growth and development of the jaws and for proper mastication of foods during the growing period in a child's life can not be overstressed. Because of the fact that the nerve or pulp of a baby tooth occupies such a large portion of the crown of the tooth, it is necessary that teeth be examined often enough so that the dentist will be able to find beginning cavities if the teeth are to be repaired by simple fillings. When a cavity in a baby tooth reaches the size when it can be seen by simply looking in the mouth, an exposed nerve would be the result in many of them when all the decay was removed.
If a child is taken to the dentist at 2½ years of age, there may not be very much done on the first visit except getting acquainted. An examination may be made on the second visit. The dentist can perhaps clean the teeth on the third visit. During these visits the child and the dentist are getting to be the best of friends. If a little decay develops, he will be able to find the cavity when it is very small and the child will have no fear in having it remedied. A small cavity may be repaired by very simple dentistry that leaves the small patient happy with no fear of future visits to the dentist as he grows older.

Many times the child's first contact is the day following an all night of toothache. He is brought to the dentist's office nervous from pain and loss of sleep. The tooth is sore and perhaps past the stage where it can be saved and the loss of the tooth may be necessary. Whether the child is hurt or not in getting relief, he will always associate pain with the dental office. Early and regular visits to the dentist will prevent this. It is the right thing to do from both a health and an economic standpoint.

Through no fault of the dentist, many times fillings come out because of the fact that baby teeth are so small, and when weakened by decay, easily break down especially when biting some hard substance. This is less likely to happen when children are seen frequently so that cavities can be detected when very small and the fillings needed are very small. The filling will have more tooth structure to hold it and there is less danger of having to fill too closely to the nerve pulp.

The early loss of baby molars, due to neglect, is a serious thing in the life of a child. Many times it is responsible for the second set of teeth coming in crooked and irregular, causing faces and mouths to be deformed because the teeth are not in their proper place.

Decay, if neglected, often causes abscesses at the end of roots. Abscesses contain pus. Sometimes the pus will force its way through the jaw bone and form a gum boil. When this condition exists see that the infected tooth is cared for by the dentist before the poison is carried by the blood stream to other parts of the body. Sometimes abscesses form rapidly, causing a great deal of pain and swelling. Others cause little pain and swelling. The slow painless abscess is more dangerous because oftentimes it goes unnoticed for a long time and the blood stream may pick up germs from an abscess or the poisons given off by the germs and carry them to other parts of the body.

Many poisons that drain from abscesses have been known to cause heart disease, kidney disease, rheumatism and other diseases. Do not think that decayed teeth are unimportant. Many diseases can result from them. Sometimes x-ray pictures are necessary to show whether teeth are abscessed or not.

Early and regular examinations and care of baby teeth are the best means of preventing decay from extending to the place where nerves or pulps become infected and abscesses occur.

We have tried in this short discussion to bring to you the importance of that first set of teeth. We have called your attention to some of the fundamentals in prevention of dental decay; namely, nutrition, mouth hygiene, and early and regular visits to the dentist. We know that if the baby teeth are kept in a healthy condition until it is time for them to be lost, the second or permanent set of teeth
have a much better chance of coming into the mouth in proper alignment. Less decay is the result.

Enamel has no power to reproduce itself when once the tooth has made its appearance in the mouth. The only way the normal shape and function of a tooth can be restored is by dental fillings or restorations. Remember that what a mother eats before the baby is born oftentimes determines the quality of the enamel on the crowns of the baby teeth, and that what the growing child eats after he is born plays an important part in the quality of the second set of teeth. Teeth that are well formed offer greater resistance to decay than do teeth that come into the mouth poorly formed.

Questions

1. Give some reasons for interest in the prevention of dental disease, especially in the deciduous or (baby) teeth. Page 1.
2. Name and define the different parts of a tooth. Page 2.
3. Why are teeth not uniform in shape? Page 2.
4. Name the different types and give their uses. Page 2.
7. What effect does the early loss of a deciduous (baby) tooth have on the growth and development of jaws? Page 3.
8. Give reasons why deciduous (baby) teeth are important. Page 3.
9. When are the crowns of deciduous (baby) teeth developed? Page 4.
10. Name three important elements for the building of teeth and bones. Tell how each may be obtained. Page 5.
15. At what age should regular visits to the dentist begin and give reasons why. Page 7.
17. How may these poisons reach other organs of the body? Page 8.
18. Name three means by which teeth of a child may be kept in a healthy condition. Page 8.