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Dental Care for Children with Special Needs

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The state of one's oral health is an important indicator of that person's overall health and well being. Stressing early healthy dental habits in young children is an investment in their overall health. This is equally true for children with special needs, although barriers exist to ensuring good dental hygiene and provision of dental care for this population.

The mouth contains many different types of bacteria. Harmful bacteria can grow out of control and cause oral infections such as tooth decay (caries) and gum disease (periodontal disease). In addition, certain chronic illnesses such as diabetes, can lead to gum disease. Long-term gum disease has been linked to later heart disease. Good overall oral care with brushing, flossing and regular dental visits is necessary to optimize good dental health. The American Academy of Pediatric Dentistry advises that a child's first dental visit take place when the first tooth erupts in the mouth or up to one year of age. This first visit helps to assess oral habits and to establish a **dental home** for the child.

THE DENTAL HOME

A dental home is a clinic/private office/ specialty center which provides comprehensive dental care. On occasion, when a specialty treatment is unable to be completed within the dental home, the child would be referred to another location for that specific treatment, and then upon completion, the child would return ("come back home"), to the original office.

A dental home should provide the following:

- Comprehensive oral health care, including acute care and preventive services
- Comprehensive assessment for oral diseases and conditions
- An individualized preventive dental health program based upon a cavity-risk assessment and a gum disease risk assessment
- Anticipatory guidance about growth and development issues (i.e., teething, thumb-sucking or pacifier habits, tooth eruption process)
- A plan for acute dental trauma
- Information about proper care of the child's teeth and gums (gingiva). This would include the prevention, diagnosis, and treatment of disease of the supporting and surrounding tissues and the maintenance of health, function, and appearance of those structures and tissues
- Dietary counseling
- Referrals to dental specialists when care cannot directly be provided within the dental home.

Case History-"Rob"

"Rob" (not his real name), a six-year old boy with Down Syndrome, (a chromosomal disorder accompanied by intellectual deficit and other health problems), came to the Rose F. Kennedy Dental Clinic for an initial visit. The chief complaint by his mother was, "My son has been to other dentists but they were not able to take care of him." Rob's mother had taken him to three other dentists, but because of his uncooperative behavior in the dental setting, the other dentists were not able to properly examine him. Rob had been diagnosed with a heart abnormality at birth, which fortunately, had not warranted treatment. He was hospitalized at age three for placement of ventilation tubes in his ears due to multiple ear infections and hearing loss. Due to complications after surgery with his anesthesia, Rob was required to stay in the hospital for three days. According to his mother, Rob is not a frequent snack eater, but he drinks large amounts of sugary drinks. He does not brush his own teeth, but reluctantly allows his mother to do so. Due to Rob's history of a heart abnormality, a pediatric cardiologist was consulted who indicated that Rob was not

required to have antibiotics prior to dental treatment.

At his dental examination, Rob required some time and coaxing, but he allowed a thorough clinical exam. It revealed that Rob had both, primary (baby) and permanent teeth, poor oral hygiene, generalized gum inflammation, but luckily, no cavities (caries). His jaw shape was abnormally positioned with the lower jaw (mandible) jutting out further than his upper jaw (maxilla). Although Rob did not have evident cavities, he did have a lot of plaque and tartar (calculus) present on his teeth and gums. Plaque and tartar are teeming with bacteria that cause inflammation and infection of the teeth and gums. Plaque is a soft substance that can be easily removed by proper tooth brushing and flossing. Tartar is a hard substance that can only be removed with a dental scaler or ultrasonic device. In order to detect whether Rob had cavities between his teeth, it would be necessary to get x-rays; however, Rob could not cooperate for these. Rob would require sedation to obtain x-rays. Our dentist had to assess whether sedating Rob was an appropriate risk for the benefit it would provide. Because Rob had a past history of difficulties after anesthesia and due to his lack of cavities on exam, our dentist decided not to sedate Rob at this time.

The comprehensive treatment plan for Rob was to establish the RFK Dental Clinic as his dental home, complete a dental cleaning (prophylaxis) and apply topical fluoride, encourage the parent to reduce the amount of sugary beverages given to Rob, educate the parent and Rob on proper oral hygiene techniques, and to place Rob on a more frequent three month recall regimen rather than the usual six month recall regimen. At each three month recall, Rob's cavity risk and oral hygiene status would be evaluated along with his ability to cooperate with taking x-rays. Eruption of the permanent dentition would be monitored. If at any point in future recall visits Rob would become cooperative for taking x-rays, the status of cavities between the teeth and the development of his permanent dentition would be monitored with x-rays.

Rob's case covers many issues in dentistry which are addressed at each visit. Part of the oral exam process covers risk assessment for cavities and gum disease. The goal of risk assessment is to identify and minimize causal factors such as: dietary habits, plaque accumulation, and bacterial burden. Risk assessment is also meant to increase protective measures such as: oral hygiene education, fluoride exposure and placement of sealants, if indicated. Infants and young children have unique risk factors such as a developing oral flora (with newly erupting teeth and the development of dietary habits) as well as a developing immune system. Streptococcus mutans is the most common bacterium to cause tooth decay, and children are more likely to develop cavities if they acquire Strep. mutans at an early age.

Severe decay of the primary dentition (baby teeth), also known as Early Childhood Caries (ECC), can be a significant health problem. Dental cavities and their damage are amongst the most prevalent health problems facing children in America. Caries is cumulative and progressive. The prevalence of caries in baby teeth is highly predictive of caries occurring in the permanent dentition. ECC can be a costly, devastating disease with lasting detrimental effects on the dentition and general health. Treatment usually includes multiple dental extractions and/or large restorations. Due to the extent of ECC, treatment is usually done in a hospital operating room under general anesthesia. These factors alone may pose a significant medical risk to the child. Therefore, frequent re-evaluation and reinforcement of preventive care is warranted to improve dental education to the caregiver of the child, and for continuity of care. Additionally, repetitive exposure to dental procedures can have a desensitizing effect and may potentially allay anxiety and fear for the apprehensive patient.

Adolescence can also be a time of increased caries due to an increased diet of cavity-promoting foods, as well as inattention to proper oral hygiene. Hormonal changes, especially those occurring during the onset of puberty, can modify the inflammatory response of the gums to dental plaque. Inflammation of the gums (gingivitis) is nearly universal in children and adolescents and usually responds to thorough removal of bacterial deposits and improved oral hygiene. In short, risk assessments should be repeated regularly because a child's risk for developing dental disease can change over time due to changes in eating habits, home care, and oral bacteria.

Case 2: "Jose"

Jose's example highlights the need for repeated risk assessment. Jose, a thirteen year old boy with sickle cell anemia and severe intellectual disability came to the dental clinic because his father reported, "The doctor told us his teeth look bad and we need to see the dentist." Jose's mother, who speaks only Spanish, brings an English-speaking family member, to doctor visits. Jose's sickle cell anemia was diagnosed in infancy and he has been hospitalized four times

for sickle cell crisis. His last hospitalization was two years ago. He had been on preventive penicillin until age nine and is currently not taking any medication. Jose was seen by a dentist only once before, many years ago, while in the Dominican Republic. At that time, two primary (baby) teeth were removed. Jose is extremely resistant to oral home care and his parents are unable to provide proper toothbrushing on a regular basis. He also consumes a diet placing him at risk for cavities, frequently snacking on sweets and drinking large amounts of fruit juice. Jose's exam revealed severe decay of his permanent teeth and he had extremely poor oral hygiene with severe plaque accumulation, generalized gum inflammation with overgrowth of his swollen gums, and an enlarged upper jaw. Due to Jose's extensive treatment needs, the decision was made to refer him to a hospital operating room so that all of his treatment could be completed at one time, under general anesthesia. Due to his sickle cell anemia, a hematology consult was obtained. The hematologist recommended that Jose be admitted to the hospital one day prior to the procedure to monitor his hemoglobin levels and for possible blood transfusion.

Jose's comprehensive treatment plan included: establishing the RFK Dental Clinic as his dental home, referring him to a hospital to have his dental treatment (x-rays, cleaning, all restorations and any extractions) completed in an operating room (OR) under general anesthesia, and educating his parents on the importance of daily oral hygiene. After Jose's dental surgery, the RFK Dental Clinic staff would work with Jose's parents to develop techniques for an effective oral hygiene regimen that would work for Jose. Jose would return to the RFK clinic for follow up and would be placed on a three month recall schedule. High percentage fluoride toothpaste would be prescribed for cavity control. At each three month recall, Jose's oral hygiene would be reassessed and dental staff would determine whether his parents felt that techniques for Jose had been effective. Dietary recommendations would be reviewed to determine whether the parents were able to implement changes. The restorations done in the OR would also be evaluated at each recall visit. If at any time in the future restorations were to become defective or extractions were to be needed due to new cavity development, Jose would most likely be referred back to the OR for treatment.

In conclusion, children with special needs who have a dental home are more likely to receive appropriate preventive and routine dental care thus preventing complications and the need for more extensive dental care. The dental home provides a child with opportunities for individualized care depending on their clinical and behavioral needs. As children with special needs grow, their clinical needs change as well. Appointment times and treatment modalities may need to be modified. The RFK Dental Clinic at CERC provides a dental home for thousands of special needs children and adults, which includes comprehensive dental care using a wide variety of behavioral management techniques.

Taking care of oral health is an investment in overall health. So, brush at least twice a day, floss daily, eat a healthy diet, minimize snacks, replace your toothbrush every 3 to 4 months and schedule regular dental checkups. Watch for signs and symptoms of oral disease and make sure to contact your dentist if any problems arise.

References

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