

# Best of Children's Healthy Smile Project

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*A Summary of Past Blogs*

*1 September 2015*

Disclaimer: The information provided in this document has been extracted from a number of sources and is not meant to constitute medical advice or suggest treatment.

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## **1.0 ADA Extract – “Your Child’s Teeth”**

The following can be found in the ADA brochure titled: "Your Child's Teeth".

Many people don't understand the relationship between diet and dental disease. Diets high in sugar are not only bad for your body but also for your teeth. Plaque, a sticky film of bacteria, constantly forms on our teeth. This bacteria produces acids that attack tooth enamel. Because plaque is sticky, the harmful acids adhere to your teeth and can contribute to tooth decay. A diet low in sugar and high in fruits and vegetables and limiting snacks is recommended, especially for children.

Fluoride, a mineral that occurs naturally in all water sources has been proven to not only prevent cavities but also helps repair the early stages of tooth decay. Fluoride is found in two forms, systemic and topical. The systemic form is swallowed and can be found in the form of tablets or drops. Topical fluorides can be found in toothpaste, mouth rinses or can be applied at the dental office.

The time to start dental hygiene is when a child's first tooth emerges. Start your child off on the right foot by establishing a dental hygiene routine early and by also establishing good eating habits that will follow them throughout their life.

It is very important to take your child to the dentist twice a year. Consult with the dentist regarding scheduling a first dental visit within six months after the first tooth erupts.

## **2.0 20/20 Show Featuring Eastern Kentucky**

Last Sunday on ABC's program 20/20 Diane Sawyer took us to Eastern Kentucky, a very rural area of the state where coal mining is the largest industry. The area is one of the poorest regions of the nation. Not surprisingly, dental disease is rampant among the children and adults living there. It was heartbreaking to see a young mother with no upper teeth. It was also extremely sad to see children who's dental disease was so bad that they were unable to brush their teeth because it hurt too much. During the program it became apparent that one of the contributing factors to the extensive dental disease found was an addiction to Mountain Dew, a soda manufactured by Pepsi. For many people living in the area, the soda's high sugar content and lack of basic oral hygiene has led to severe dental disease. In one scene Mountain Dew was poured into a baby's bottle. In another, a young mother-to-be requested Mountain Dew to be brought home by her husband.

Lack of education, employment opportunities, and regular dental care among the area's population is apparent. No one wants to lose their teeth or see their child in severe pain from dental disease. Unfortunately, this is not an isolated problem. Where there is extreme poverty

dental disease is rampant among all ages.

This story has a somewhat happy ending. A dentist is treating families in the region using a portable clinic. He is able to give a beautiful smile back to many children with severe dental disease. Hopefully with 20/20's exposure of the problem, more funding will be provided for education and treatment of dental disease in this area and many like it.

### **3. Jessica's Story, The reason for founding Children's Healthy Smile Project.**

The following is a true story and the impetus behind the formation of Children's Healthy Smile Project.

#### **Jessica's Story**

What does it feel like to have severe dental disease as a young child?

For the answer you need only ask Jessica, a third grader in a southern California elementary school. Jessica, her real name, was first noticed by a dental hygienist visiting her school for Dental Health Month. Jessica had severe dental decay and her teeth were described as "black" (see Dental Disease (Photos)). Jessica had to be in pain. She probably felt embarrassed about her appearance and her smile. She may have suffered from secondary illnesses do to the severity of the decay. How does this affect Jessica's school work? How do you pay attention in class when you are in constant pain? What is Jessica's future? Without treatment her permanent teeth will certainly be affected by her existing dental disease. As the disease progresses, the cost of treatment will rise and becomes even more unaffordable for her family. How will she cope as a teenager; young adult? Will her appearance affect her self esteem? The effects will continue as she ages. Severe untreated dental decay can cause premature labor in women. It can also lead to heart disease and other illnesses. The effects can be life-long.

Jessica is not alone. Dental disease among children is an epidemic in America today. Jessica's story had a profound effect on her community. Because of Jessica and children like her, a free dental clinic operated by local dentists and hygienists is now available in her hometown.

More needs to be done to curb this epidemic. Free and low cost services, better education for parent and child, public awareness and national attention will be required before there can be a significant change. We as a country, state and community need to work together to effect change, to educate, prevent and treat our country's most vulnerable children.

#### **4.0 Dr. Nancy Rosen & Flouride**

Recently on CBS The Early Show, dentist Dr. Nancy Rosen spoke about the need for fluoride treatment as a dental disease preventative in children. She mentioned that most large cities have fluoride in their tap water but with so many families drinking bottled water, the fluoride may not be reaching the children. Dr. Rosen suggested that parents consult with their pediatrician and/or dentist to discuss the need for fluoride treatment.

A not so surprising statistic mentioned was that by third grade two-thirds of California's children have dental disease.

I learned first hand the extent of the problem when I volunteered to help during a dental screening in a local Title 1 school. About 150 children were screened and overall their dental hygiene was poor to average. A number of children needed immediate treatment. Children's Healthy Smile Project provided toothbrushes for each of the children and there were brochures available to take home to their parents.

Treatment for all the children who were found to have cavities may not be available. In some instances, the child will need to be sedated in order to receive the treatment, which is costly and most families do not have dental insurance.

The mission of Children's Healthy Smile Project is to educate the parent and the child by providing information on healthy oral hygiene and a healthy diet, along with the tools (toothbrush, toothpaste and floss) to maintain their child's smile.

## **5.0 Dental Screen Results**

Previously I mentioned the dental screening at a local elementary school. I just learned that as a result of that screening 58 students were identified with Class 3 and Class 4 dental disease. Now the question is how to find treatment for these children. When dental disease is this advanced the treatment can be expensive to obtain and difficult for the child.

The following excerpt is taken from a letter to The Honorable Dennis J. Kucinich, Chairman of the Subcommittee on Domestic Policy and from the follow-up report Titled " MEDICAID- Extent of Dental Disease in Children Has Not Decreased, and Millions are Estimated to Have Untreated Tooth Decay" from the GAO (United States Government Accountability Office) dated September 23, 2008.

Dental disease and inadequate receipt of dental care remain significant problems for children in Medicaid. Nationally representative survey data from 1999 through 2004 indicate that about one in three children aged 2 through 18 in Medicaid had untreated tooth decay, and one in nine had untreated decay in three or more teeth. Projecting the survey results to the 2005 average monthly Medicaid enrollment of 20.1 million children, we estimate that 6.5 million children aged 2 through 18 in Medicaid had untreated tooth decay. Children in Medicaid remain at higher risk of

dental disease compared to children who have private health insurance; children in Medicaid were almost twice as likely to have untreated tooth decay. Results in Brief: Survey data from 2004 and 2005 showed that only about one in three children in Medicaid had received dental care in the prior year; about one in eight children reportedly never sees the dentist. More than half of children with private health insurance, by contrast, had received dental care in the prior year. Children in Medicaid also fared poorly when compared to national benchmarks, as the percentage of children in Medicaid who received any dental care—37 percent—was far below HHS’s Healthy People 2010 target of having 66 percent of low-income children under age 19 receive a preventive dental service in the prior year.

For the complete report go to: <http://www.gao.gov/new.items/d081121.pdf>

Dental care may be difficult to obtain. Deamonte Driver, a 12 year-old boy died of an untreated infected tooth that led to a fatal brain infection. Deamonte was entitled to dental care from Medicaid but his parents experienced difficulty in obtaining treatment.

Today, with government cuts in spending on all programs, obtaining care for children with dental disease will be more challenging. Funding may need to come from the private sector. We all need to consider what will happen to these 58 children if treatment is not available. It is time for our community to step up and help. Their dental disease is not going away. What would you do if it were your child? You can help a child who may be in pain every day from dental disease and will not get better on his own.

## 6.0 Commentary on Welfare Cuts

Today in the local newspaper there was an article titled "Cuts spawn dismal outlook", reporting a \$9 million hit on services in California for welfare families, including transportation, childcare, etc. What this means for needy children was made very clear when I delivered the donated dental hygiene products to a local health care clinic serving low income families. I was told by the staff that funding for the vaccines a child is required to have before they can attend school has been cut. This means that parents will need to pay for these necessary vaccines out of pocket or keep their children out of school.

When as a state, and a nation, we are unable to provide the necessary requirements for a child to enter school, we need to reevaluate our priorities. Education is a "Right" given to a child.

Also, along with these funding cuts, health care for needy families and the elderly, including dental care, is at risk. Dental care for low income families can be difficult to find. Families living above the poverty level, but who are without dental insurance, may need to go without necessary dental care.

The clinic was happy to receive the dental care products, and educational materials. They serve a large pediatric population. With the proposed cuts to state and national funding, education and donated dental hygiene items may be the only hope to prevent dental disease. Treatment may become unavailable for the poor and uninsured. Let's hope not.

A Smile is a lifelong gift!!!!

## 7.0 Tetracycline

I received this comment earlier this year. It is from a woman who describes the humiliation she endured while growing up with teeth stained by tetracycline.

"Tetracycline is a antibiotic. If given to pregnant women while the babys' teeth are developing, it will stain the teeth a yellow grayish green. As a child I use to brush my teeth with hot water constantly. A dentist in the Navy was able to tell me this wasn't my fault. My mom confirmed her doctor treated her for illness not pregnancy at first. I try to talk without really opening my mouth. I suspect much of my social anxiety stems from the horrible discoloration. When I smile or eat my head goes down and my right hand hovers protectively near my mouth. Medicaid will pay to pull a bad tooth. Some days I'm glad my teeth are solid, other days I wish them all pulled so I can smile nice with white falsies. Tetracycline given to small children can turn their teeth black. I will research after this post to be doublely sure. If I'm wrong I will post a correction.

Tetracycline should not be given to pregnant women and children under age eight. Maybe your group could warn people of the risks. Does anybody know if doctors can be held accountable if their actions of writing a prescription out of guidelines results in damage later. Maybe some kids will be protected this way. Let kids know that if they have this problem, they weren't bad brushers. I hated opening my mouth in grade school as I was tormented with name calling. Ended up hating myself. I hope there's follow through into the school system and kids are told not to accept name calling for something they can't help. Black teeth on a small child that is caused by Tetracycline can not be brushed clean. The enamel is damaged. The quick research I did, did not say if the adult teeth will be stained also. Babies in the womb can have both sets of teeth stained. Mine were. Kids have to be taught to keep brushing their teeth even if they see no difference. I wish you well in your work. Peace and Blessings."

This is an example of how an unsightly smile can affect a child and stay with him or her throughout their life. This woman's teeth were not decayed but stained due to a side effect of an antibiotic her mother received.

Quite clearly the effects of the staining has caused her constant shame. To wish that she could have her teeth pulled and get dentures to solve the problem shows the extent of the damage. I suggested she contact a cosmetic dentist and discuss the possibility of veneers. Unfortunately, dental insurance may not pay for this procedure. You smile is a part of how you present yourself to others. She has lasting scars from living with "black teeth".

## 8.0 Healthy Teeth, Healthy Heart

The following is from an article posted on Real Age, [www.realage.com](http://www.realage.com), a website by Dr. Mehmet Oz and Dr. Michael Roizen, MD.

### Healthy Teeth, Healthy Heart

Find out how flossing could save more than your smile.

By the time we reach adulthood, most of us know that the consequences of not flossing are pretty tough on our teeth. Daily flossing is a vital part of dental care and promotes healthy teeth and gums. Sounds easy enough. But what if you knew that this simple daily ritual not only protects your mouth, but also may protect your heart and arteries? Suddenly, that little white string becomes more like a lifeline.

#### A blow to your smile

When we don't floss regularly, our teeth can really suffer. A soft, sticky, bacterial film begins to accumulate on neglected teeth, especially below the gum line. Eventually the acids in these soft, sticky plaques begin to destroy the outer enamel of teeth. Gums may become irritated and bleed. Breath may start to smell bad. And after a while, these soft, sticky plaques will harden into crusty yellow or brown deposits—called tartar—and make it even easier for more plaque to stick and accumulate on teeth. Eventually, dental diseases that lead to tooth loss can take hold, resulting in a failing smile and possibly even diminished eating function or speech impairment.

As if all of this were not reason enough to floss, now research suggests that regular flossing may have health impacts beyond your mouth. Here are three ways flossing may protect your health:

#### 1. Flossing may protect your heart

True, lack of flossing can lead to gingivitis and periodontal diseases, but the consequences of poor dental health may reach beyond your mouth and to your heart. Research has shown a distinct connection between periodontitis and cardiovascular disease. Men under age fifty with advanced periodontal disease were found to be 2.6 times more likely to die prematurely and 3 times more likely to die of heart disease compared to men with healthy teeth and gums.

In one emergency room study, patients who came to the ER with chest pain were found to have a higher rate of recurring gum infections. Researchers are not sure what is behind the connection, but the worrisome data makes the simple task of flossing a no-brainer for optimal health.

#### 2. Flossing may protect your arteries

Flossing and clogged arteries also may be related. Research has revealed that the same bacteria in tooth plaque also are found in the deadly fat deposits that obstruct arteries. Inflammation is a crucial link in the causal chain that leads to plaque and arterial obstruction.

Researchers speculate that bacteria from the mouth may enter the bloodstream and contribute to inflammation and artery clogging.

### 3. Flossing may reduce your risk of diabetes and its complications

If you already have certain health concerns, flossing may help protect you from any further health complications. For example, periodontal disease appears to make insulin resistance worse. When cells require more insulin to take up blood sugar from the blood stream, blood insulin and eventually blood sugar levels will rise. Increases in blood insulin and blood sugar levels both have undesirable effects, the best known being the development of type 2 diabetes.

Flossing regularly can make your real age as much as 6.4 years younger.

To the extent that good oral hygiene reduces plaque, gingivitis, periodontal disease, and the accompanying inflammatory processes, proper oral hygiene may in turn improve insulin sensitivity of liver and muscle cells and reduce blood sugar levels and the need for insulin.

Let the string lead the way

More and more research is pointing to ties between oral health and overall health. Even when taking into consideration other bad health habits such as smoking or excessive drinking, studies have still shown a strong link between periodontal disease and other diseases. Short of a visit to the dentist, no other single personal oral healthcare habit alone has the same ability to remove plaque between teeth and below your gum line.

Avoid relying exclusively on waterpiks for dental hygiene. The current technology is not as effective as traditional brushing and flossing.

Being aware of the connection between poor oral health and disease gives you one more opportunity to achieve premium wellness.

The next time you floss, use these tips to get the most out of that little white string:

Be sure to slide the floss under your gum line and also to gently curl it around each tooth as you floss.

Floss gently, but don't quit because your gums bleed. Eventually they will become stronger and bleed less with regular flossing.

Use fresh floss for each tooth juncture.

If you find it difficult to manipulate floss with your fingers, purchase dental floss picks or holders that anchor sections of floss for you in a small, U-shaped plastic device.

## **9.0 Long Term Effects of Dental Disease**

The long term effects of dental disease can be serious. The following article is particularly important for people with severe periodontal disease. The progression of dental decay and link to periodontal disease is known. Prevention of gum disease is crucial, starting with young children.

The following is from the American Academy of Periodontology

## a Statement on the Link Between Gum Disease and Heart Disease

New research linking gum diseases to a heart attack or stroke

Chicago – June 18, 1997 – The American Academy of Periodontology is concerned about new research linking gum diseases to a heart attack or stroke.

A recent study presented at the American Association for the Advancement of Science meeting suggests that the bacteria present in gum diseases may trigger blood clots which can contribute to a heart attack or stroke.

According to Dr. Timothy Rose, AAP President, this new study supports accumulating research that identifies gum disease as significantly increasing the risk for heart disease. The AAP believes emerging research in this area may establish periodontal disease as a risk factor for cardiovascular disease.

Gum disease, also known as periodontal diseases, is one of the most common infections - often more prevalent than the common cold. Common signs of gum disease include bleeding gums or pus between the teeth. Left untreated, this chronic infection can destroy the bone that supports the teeth and may lead to tooth loss.

Further research in this area is currently underway and being funded by the National Institutes of Health.

The Academy urges people who are at-risk for cardiovascular disease or have signs of gum disease to consult with a dentist experienced with treating periodontal disease. Regular periodontal screenings and evaluations, treatment, and professional maintenance are critical to the long-term management of periodontal disease.

Release Date: June 18, 1997

### NIH Funds Research to Explore Gum Disease and Heart Disease Link

The National Institutes of Health recently approved a grant of \$1.3 million to further study the link between periodontal (gum) diseases and cardiovascular disease. This funding will support the most comprehensive research to date to define the link between these two diseases.

According to the grant recipient, Dr. Robert Genco, Distinguished Professor and Chairman at State University of New York at Buffalo and Editor of the Journal of Periodontology, emerging research has identified infection and inflammation caused by periodontal disease as significantly increasing the risk for coronary heart disease.

Supporting one of Genco's theories, a recent study in the New England Journal of Medicine found that men with high levels of a marker for inflammation are at an increased risk for a heart attack.

Genco will study the link between periodontal disease and cardiovascular disease over five years. The study includes 1,000 subjects of both men and women from Caucasian and African-American descent, along with 2,200 control subjects. All known risk factors for heart disease will be assessed: stress, hostility, diabetes, smoking, weight, high blood pressure, blood lipids, family history, diet, alcohol and physical activity.

Genco theorizes that inflammation caused by periodontal diseases contributes to plaque build-up in the arteries which creates greater risk of heart disease. The study will explore the association between these two diseases.

More than \$250 billion is spent annually in direct and indirect costs related to cardiovascular disease.

Genco's study coincides with another grant for \$2.2 million in which collaborating researchers will also explore this link. "The emerging area of periodontal and systemic links is one that could have significant impact on public health," Genco noted. "The findings may be life-saving for some of the nearly one million people who die annually from heart disease," he suggests.

Previous studies demonstrated a link between periodontal disease and cardiovascular disease but were limited in size and/or scope, or did not fully control for all risk factors.

The Journal of Periodontology, the official publication of The American Academy of Periodontology (AAP), publishes original papers of the highest scientific quality to support the practice, education, and research in the dental specialty of periodontology.

A referral to a periodontist in your area and free brochure samples including one titled Ask Your Periodontist About Periodontal Disease and Heart Disease are available by calling 800-FLOSS-EM or visiting the AAP's Web site at [www.perio.org](http://www.perio.org).

#### About the AAP

The American Academy of Periodontology (AAP) is the professional organization for periodontists—specialists in the prevention, diagnosis, and treatment of diseases affecting the gums and supporting structures of the teeth, and in the placement of dental implants. Periodontists are also dentistry's experts in the treatment of oral inflammation. They receive three additional years of specialized training following dental school, and periodontics is one of the nine dental specialties recognized by the American Dental Association. The AAP has 8,000 members worldwide.

## 10.0 Baby Bottle Syndrome

The following article is by Doreen Bradley Satter, RN posted on [associatedcontent.com](http://associatedcontent.com).

Baby Bottle Syndrome is the rapid decay of baby teeth in infants and children from frequent, long exposure to liquids containing sugars. Most often, the upper four front teeth are affected.

This problem is caused by the baby or child falling asleep while drinking a bottle or while breast feeding. The sugary liquid from the milk or juice pools around the front teeth and reacts with the bacteria in the child's mouth causing tooth decay.

The prevalence of Early Childhood Caries is estimated to be as high as 90% in some Head Start populations.

A tooth can begin the process of decaying as soon as it has erupted. This means that a child as young as one year old can start having cavities. This is a severe problem and causes debilitating tooth destruction and even pain. It is the only severe dental disease common to children under the age of three.

The acids from the converted sugars that pool around the child's teeth destroy the enamel and dentin of the tooth. When the child is not sleeping, the flow of saliva in the mouth helps to rinse acids from the surface of the tooth. However, when the child is asleep, the flow of saliva is greatly reduced, and allows the sugars found in juices, milk or other soft drinks to pool, causing decay.

The first sign of Early Childhood Caries (ECC) appears as white chalky marks on the four upper front teeth. This is from the decalcification of the enamel by the acids. If these teeth are left untreated, unsightly and painful cavities will develop. These baby teeth are important for chewing and biting food, having a nice smile and speaking properly. The most important function of baby teeth, however, is that they hold space in the mouth for the upcoming permanent teeth.

A baby usually gets his or her first tooth around the age of 6 to 8 months. By the age of two, usually all 20 baby teeth are erupted. If these important baby teeth are lost to tooth decay, it can cause blocked eruption, drifting, crooking and crowding of the permanent teeth.

## **11.0 Burden of Oral Disease**

The Following is from The Centers for Disease Control and Prevention website.

The Burden of Oral Disease:

Oral health is often taken for granted, but is an essential part of our everyday lives. Good oral health enhances our ability to speak, smile, and kiss; smell, taste, touch, chew, and swallow; and convey a world of feelings and emotions through facial expressions. However, mouth and throat diseases, which range from cavities to oral cancer, cause pain and disability for millions of Americans each year.

\* Tooth decay (cavities) is a common problem for people of all ages. For children, untreated cavities can cause pain, dysfunction, absence from school, difficulty concentrating on learning, and poor appearance—problems that greatly affect quality of life and ability to succeed. Children

from lower income families often do not receive timely treatment for tooth decay and are more likely to suffer from these problems. Tooth decay also is a problem for many U.S. adults. Adults of some racial and ethnic groups experience more untreated decay.

\* Periodontal (gum) disease is an infection caused by bacteria under the gum tissue that begin to destroy the gums and bone. Teeth become loose, chewing becomes difficult, and teeth may have to be extracted. Gum disease may also be related to damage elsewhere in the body; recent studies point to associations between such oral infections and diabetes, heart disease, stroke, and preterm, low-weight births. Research is underway to further examine these connections.

### Most Oral Diseases are Preventable

Many children and adults still go without simple measures that have been proven effective in preventing oral diseases and reducing dental care costs. For example, fluoride prevents tooth decay, and the most cost-effective way to deliver the benefits of fluoride to all residents of a community is through water fluoridation—that is, adjusting the fluoride in the public water supply to the appropriate level for decay prevention. However, only 25 states have met the Healthy People 2010 objective of having 75% of their citizens on public water systems with water fluoridation. Fluoridation also is cost effective. A CDC study found that in communities with more than 20,000 residents, every \$1 invested in community water fluoridation yields about \$38 in savings each year from fewer cavities treated.

Dental sealants—plastic coatings applied to the chewing surfaces of the back teeth where most decay occurs—are a safe, effective way to prevent cavities. Yet, only about one-third of children aged 6–19 years have sealants. And, although children from lower income families are almost twice as likely to have decay as those from higher income families, they are only half as likely to have sealants.

### Oral Health Problems Are Common, Costly, and Painful

\* Tooth decay affects more than one-fourth of U.S. children aged 2–5 and half of those aged 12–15. About half of all children and two-thirds of children aged 12–19 from low income families have had decay.

\* Children and adolescents of some racial and ethnic groups and those of lower income experience more untreated decay. For example, 40% of Mexican-American children aged 6–8 have untreated decay, compared with 25% of non-Hispanic whites. Twenty percent of all adolescents 12–19 years currently have untreated tooth decay.

\* Advanced gum disease affects 4%–12% of adults. Half of the cases of severe gum disease in the U.S. are the result of cigarette smoking. Three times as many smokers as people who have never smoked have gum disease.

\* One-fourth of adults aged 65 and older have lost all of their teeth.

\* More than 7,000 people, mostly older Americans, die from oral and pharyngeal cancers each year. This year, about 30,000 new cases of oral cancer will be diagnosed.

What is most surprising in this article is that smoking causes half of the cases of severe gum disease.

Also, one fourth of adults aged 65 and older have lost all their teeth.

Prevention of dental disease is a lifetime commitment. Brushing, flossing, professional dental cleaning of your teeth, diet and not smoking needs to be emphasized. It's never too late to start healthy habits. Wrap some floss around your fingers and get going!

## 12.0 Deamonte Driver's Story

The following information is from The American Academy of Pediatric Dentistry (AAPD)

Head Start Dental Home Initiative

Deamonte Driver's Story

Every child deserves a healthy start on life, but when it comes to oral health many children face significant challenges. Children in low-income families tend to have higher rates of tooth decay, which often starts in the first year or two of life, and have greater difficulty accessing ongoing basic dental care. Tooth decay is the most common chronic childhood disease -- five times more common than asthma -- and 51 million school hours are lost to it every year.

In February 2007, a 12-year-old Maryland boy's toothache became a deeper medical issue; bacteria from an infected tooth seeped into his brain. Deamonte Driver was taken to the emergency room because he lacked insurance and he underwent two costly operations. He lost his life to this severe brain infection that was caused by bacteria from an infected tooth.

Deamonte Driver's death points to a breakdown in the Medicaid system. Healthy Smiles, Healthy Children and the American Academy of Pediatric Dentistry continue to advocate across the nation addressing ways to improve access to dental care for all children. Major improvements need to be made so that more children will not fall through the cracks. Although Deamonte Driver is a rare case, many children are at-risk.

Oral health is central to overall health. The mouth, as a part of the body, has long been ignored. Indeed, when dental problems go untreated innocent victims suffer unfortunate consequences. This exemplifies the importance of every child having a dental home and the proper infrastructure in place to prevent and treat dental decay.

Currently, more than nine million children have no medical insurance, and the number grows even higher for those without dental insurance. Families who have Medicaid find the system overbearing, the paperwork burdensome, and access to care an ultimate challenge.

The AAPD is partnering with the Office of Head Start (OHS) to provide dental homes to young children who may otherwise go without care. OHS has awarded a five-year, ten-million dollar grant to establish dental homes for approximately 1 million low-income children across America. A dental home means that each child's oral health care is delivered in a comprehensive, continuously accessible, coordinated and family-centered way by a licensed dentist.

A national network of pediatric dentists and general dentists will be created to provide quality dental homes for Head Start and Early Head Start children; train teams of dentists and Head Start personnel in optimal oral health care practices; and assist Head Start programs in obtaining comprehensive services to meet the full range of Head Start children's oral health needs. This collaboration will also provide parents, caregivers and Head Start staff with the latest evidence-based information on how they can help prevent tooth decay and establish a foundation for a lifetime of oral health.

While Deamonte is no longer with us, let us hope that this type of massive intervention for America's most vulnerable children will be his legacy.

## **13.0 Tips for Healthy Eating Habits**

The following provides tips on teaching your young child the importance of healthy nutrition.

### **Tips to Encourage Healthy Eating Habits in Children**

By Charlina Stewart

Dec 26, 2007

Teaching preschoolers about nutrition can send them on a path of lifelong health. Teach your children about healthy eating with these simple tips.

Preschoolers need nutrients to provide energy, promote growth of body tissues, and regulate body functions. That's why it is important for parents to encourage healthy eating habits in children when they are young. Preschool parents who are looking for ways to teach kids to make healthy food choices can try these no nonsense tips.

### **Model Healthy Eating Habits**

Parents are the primary influence in the lives of young children. If their eating habits are less than stellar, it will have a negative affect on children's food choices later in life. Demonstrate to kids the importance of a well-balanced diet by keeping your food choices healthy.

#### Let Preschoolers Take an Active Role in Their Nutrition

Allow young kids to help with menu planning, grocery shopping, and meal preparation. They can push the shopping buggy, reach for items on low shelves, wash lettuce, peel bananas, and add ingredients to foods. Being actively involved teaches youngsters the importance of a healthy diet. Kids will also appreciate that you value their opinions enough to let them assist when making healthy food choices.

#### Have a Wide Variety of Nutritious Fruits and Vegetables Available.

When preschoolers get hungry between meals, have fresh fruits and vegetables readily available for them to eat. This will help meet kids' nutritional needs and make them less likely to reach for less nutritious food options.

For additional information go to the Unites States Department of Agriculture's website. Click on link below for Kids and Preschoolers.

[http://www. choosemyplate.gov](http://www.choosemyplate.gov)

## 14.0 Comment on State of Care

Yesterday I received a phone call from a young man in Philadelphia, Pennsylvania, asking for my help in locating low cost dental treatment. He explained that he is currently taking antibiotics for an infection in his tooth. He has been treating the infection for several weeks with antibiotics without relief and needs further treatment. He has no health or dental insurance and has been turned away from several treatment centers because of his inability to pay. He said that as a child, he feared the dentist; therefore he avoided any treatment for what was to become a serious case of dental disease. He now is in danger of losing his front teeth. He also told me he is unable to secure a job because of his appearance. He is in a "catch twenty-two" situation. An online search found several nonprofit agencies that may be able to help him but they indicated that some type of payment is required. In the "real world" we cannot expect professionals in any field to provide treatment without compensation, but that does not excuse us from providing treatment for someone who is suffering and can be in danger of losing more than his teeth. A prolonged infection can have dire consequences. For a young man in his twenties to be in such a condition is sad. We can only hope that his search is successful and he gets the treatment he needs.

## 15. Gum Disease and Life Threatening Illnesses

The following are some interesting facts taken from About.com;

Recent studies suggest gum disease may contribute to or be warning signs of potentially life threatening conditions such as:

\* Heart Disease and Stroke - Studies suggest gingivitis may increase the risk of heart disease and stroke because of the high levels of bacteria found in infected areas of the mouth. As the level of periodontal disease increases, the risk of cardiovascular disease may increase with it. Other studies have suggested that the inflammation in the gums may create a chronic inflammation response in other parts of the body which has also been implicated in increasing the risk of heart disease and stroke.

\* Diabetes - People with diabetes often have some form of gum disease, likely caused by high blood glucose, according to the CDC. People with diabetes need to take extra care to ensure proper brushing and flossing techniques are used to prevent the advancement of the gum disease. Regular check-ups and cleanings with your dental hygienist should be followed.

\* Chronic Kidney Disease - A study, conducted by Case Western Reserve University, suggests that people without any natural teeth, known as edentulous, are more likely to have chronic kidney disease (CDK), than people with natural teeth. CDK affects blood pressure potentially causing heart disease, contributed to kidney failure, and affects bone health.

\* Preterm Birth - Babies that are born premature -- before 37 weeks of gestation -- may face numerous health complications. Research indicates that women with periodontal disease are three to five times more likely to have a baby born preterm compared to women without any form of gum disease. Women are more susceptible to gingivitis when pregnant and should follow their regular brushing habits, and continue with dental cleanings and examinations.

The mouth (gums) and body are connected. Caring for your teeth and gums is crucial in the prevention of many health issues.

## 16.0 Sealants

The following is from The State University website. The importance of sealants are discussed.

Dental Health and Children - Prevention of Dental Diseases, School-Based Health Care Services

Read more: Dental Health and Children - Prevention of Dental Diseases, School-Based Health Care Services <http://education.stateuniversity.com/pages/1907/Dental-Health-Children.html#ixzz0d0md9EaJ>

The oral health of children is important to their overall well-being. Just as the mouth cannot be separated from the rest of the body, oral health cannot be considered separate from the rest of

children's health. Often thought to be only the presence or absence of tooth decay, oral health actually includes all the sensory, digestive, respiratory, structural, and emotional functions of the teeth, the mouth, and associated facial structures.

Like other aspects of children's health, oral health must be considered in the context of social, cultural, and environmental factors. Dental and oral disorders can have a profound impact on children, and the burden of untreated dental health problems is substantial. Untreated dental decay (cavities) can result in pain, infection, tooth loss, difficulty eating or speaking, and poor appearance, all of which present challenges for maintaining self-esteem and attentiveness to learning. Chronic pain can alter a child's ability to sleep and play, and it hinders efforts to show them that their personal actions can make a difference in their own health.

Tooth decay is one of the most common chronic childhood diseases—it is five times more common than asthma. By the first grade, more than 50 percent of children in the United States have dental caries (decay) in their primary teeth, and more than 80 percent of U.S. adolescents have dental decay by age seventeen. Despite the availability of cost-effective preventive measures and improvements in children's oral health in the United States, many children still lack needed dental care—more, in fact, than lack medical care. There are significant and important disparities in oral health and access to dental care for poor and minority children, and for those with unusual health care needs. Hispanic, African-American and Native American children have more severe disease and greater levels of untreated disease than other children. In addition, children from low-income families are much less likely to have access to dental care than their peers, and their disease is almost twice as likely to remain untreated. Sadly, the children at greatest risk for problems resulting from tooth decay are also those least likely to receive dental care. In fact, dental care has become the most frequently reported unmet health need of children.

#### Prevention of Dental Diseases

Fortunately, most dental diseases can be prevented. The most common oral health problem for children is dental decay, which is preventable by a combination of community, professional, and individual measures, including water fluoridation, professionally applied topical fluorides and dental sealants (protective plastic coatings), regular use of fluoride toothpastes, and healthful dietary practices. Childhood is also a time to form healthful habits to reduce injury to the mouth or face, especially during sporting and recreational activities. Use of protective devices in schools may help young athletes recognize the hazards posed by their athletic interests and as they attain adulthood they may be more comfortable using the devices than if they had not used them at a younger age. A significant proportion of other oral problems, such as destructive gum disease and mouth and throat cancer, do not commonly arise until adulthood, and much of this burden can be attributed to the use of tobacco. Most daily smokers started smoking before age eighteen, and more than 3,000 young persons in the United States begin smoking each day. School programs to prevent tobacco use could become one of the most effective strategies to reduce tobacco use in the United States.

Read more: Dental Health and Children - Prevention of Dental Diseases, School-Based Health Care Services <http://education.stateuniversity.com/pages/1907/Dental-Health-Children.html#ixzz0d0ljGlm8>

## 17.0 Excess Fluoride

ScienceDaily (Dec. 2, 1998) — COLUMBUS, Ohio -- Children who use too much fluoride toothpaste before age 6 may run an increased risk of developing a condition that discolors teeth, new research shows.

A study of 1,189 seventh-grade children in India found that nearly 13 percent had fluorosis, a primarily aesthetic condition that affects adult teeth during their development. Children in this study who had used a fluoride toothpaste (8.2 percent) before age 6 had almost twice the rate of fluorosis as children not exposed to fluoride at that age. In the United States, about 95 percent of children 6 years or younger use fluoride toothpaste.

The results don't mean children shouldn't brush with fluoride toothpaste, said Ana Karina Mascarenhas, assistant professor of dentistry at Ohio State University. However, parents should make sure their child uses no more than a pea-sized amount each time they brush.

Also, the researchers found that the children who began brushing under the age of two with a fluoride toothpaste seemed to have a more severe form of fluorosis.

In mild cases, fluorosis tends to leave teeth with white stains. In severe forms, which are not very common, teeth can turn brown and enamel may break off, which can lead to cavities.

She conducted the study with Brian Burt of the University of Michigan. The results appear in a recent issue of the journal *Community Dentistry and Oral Epidemiology*.

According to Mascarenhas, no one had studied whether toothpaste might be a primary cause of fluorosis. She and Burt examined junior high school-aged children in Goa, India.

They cleaned the subjects' teeth with gauze and let the teeth air dry one minute before checking for fluorosis stains. Mascarenhas said she chose Goa because the state does not add fluoride to its water supply and other sources of fluoride are scarce. This means the children received most of their fluoride from toothpaste.

The researchers had the children's parents fill out questionnaires which included a history of fluoride toothpaste use and children's brushing habits. Parents were asked to circle a picture of the amount of toothpaste that most closely resembled what their child normally brushed with.

Ninety-three percent of the parents reported using toothpaste when they first began brushing their child's teeth. About equal numbers of children, 44 percent and 41 percent respectively,

reportedly used toothpaste amounting to half or three-quarter lengths of the toothbrush head. The rest of the children were equally divided between using either a pea-sized or full-brush amount.

The American Dental Association recommends children under 6 use a pea-sized amount of toothpaste. The ADA also recommends fluoride supplements -- in the form of tablets or drops -- be given to children 6 months or older who do not have access to fluoridated water. The U.S. government began fluoridating community water sources in 1945 with fluoride levels of 1 part per million. Without adding fluoride, water naturally contains fluoride levels of about 0.05 to 0.1 parts per million.

Mascarenhas said a tube of fluoridated toothpaste contains fluoride levels of about 1,000 to 1,500 parts per million. She added that many European countries offer toothpastes with lower fluoride doses, around 250-600 parts per million, for use by children.

“I do recommend that children under 6 years old use a fluoride toothpaste,” Mascarenhas said. “But parents should put less toothpaste on their child’s brush and supervise the child when she brushes.”

## **18.0 CDC Extract**

The following is an excerpt from the CDC (Center for Disease Control) website [www.cda.org](http://www.cda.org).

I recommend visiting their website and learn about their "Support for State Based Programs".

Oral health is often taken for granted, but it is an essential part of our everyday lives. Good oral health enhances our ability to speak, smile, smell, taste, touch, chew, swallow, and convey our feelings and emotions through facial expressions. However, oral diseases, which range from cavities to oral cancer, cause pain and disability for millions of Americans each year. For example,

\* Tooth decay (cavities) is a common problem for people of all ages. For children, untreated cavities can cause pain, dysfunction, school absences, difficulty concentrating, and poor appearance—problems that greatly affect a child’s quality of life and ability to succeed. Children from lower-income families often do not receive timely treatment for tooth decay, and they are more likely to suffer from these problems.

Tooth decay is also a problem for many U.S. adults, and adults and children of some racial and ethnic groups experience more untreated decay.

\* Periodontal (gum) disease is an infection caused by bacteria that gets under the gum tissue and begins to destroy the gums and bone. Teeth become loose, chewing becomes difficult, and teeth may have to be extracted. Gum disease also may be connected to damage elsewhere in the body;

recent studies link oral infections with diabetes, heart disease, stroke, and premature, low-weight births. Further research is under way to examine these connections.

#### Most Oral Diseases are Preventable:

Many children and adults still go without simple measures that have been proven to be effective in preventing oral diseases and reducing dental care costs. An example is water fluoridation. Fluoride prevents tooth decay, and the most cost-effective way to deliver the benefits of fluoride to all residents of a community is through water fluoridation—that is, adjusting the fluoride in the public water supply to the appropriate level for decay prevention. However, only 27 states have met the Healthy People 2010 objective of having 75% of their citizens on public water systems with water fluoridation.

Fluoridation is also cost effective. One CDC study found that in communities with more than 20,000 residents, every \$1 invested in community water fluoridation yields about \$38 in savings each year from fewer cavities treated.

Another safe, effective way to prevent cavities is through the use of dental sealants—plastic coatings applied to the chewing surfaces of the back teeth, where most decay occurs. Yet only about one-third of children aged 6–19 years have sealants. Although children from lower-income families are almost twice as likely to have decay as those from higher-income families, they are only half as likely to have sealants.

#### Oral Health Problems Are Common and Painful:

\* Tooth decay affects more than one-fourth of U.S. children aged 2–5 and half of those aged 12–15. About half of all children and two-thirds of children aged 12–19 from low-income families have had decay.

\* Children and adolescents of some racial and ethnic groups and those from lower-income families have more untreated decay. For example, 40% of Mexican American children aged 6–8 have untreated decay, compared with 25% of non-Hispanic whites. Twenty percent of all adolescents aged 12–19 years currently have untreated tooth decay.

\* Advanced gum disease affects 4%–12% of adults. Half of the cases of severe gum disease in the United States are the result of cigarette smoking. Three times as many smokers have gum disease as people who have never smoked.

\* One-fourth of U.S. adults aged 65 and older have lost all of their teeth.

\* More than 7,600 people, mostly older Americans, die from oral and pharyngeal cancers each year. This year, about 35,000 new cases of oral cancer will be diagnosed.

#### Oral Health Problems are Costly:

\* Each year, Americans make about 500 million visits to dentists.

\* In 2009, an estimated \$102 billion was spent on dental services in the United States.

## 19.0 Xylitol

The following is information from Xylitol.org, and is about the benefits of using Xylitol as a dental disease preventive.

What is Xylitol?

Pure xylitol is a white crystalline substance that looks and tastes like sugar. On food labels, xylitol is classified broadly as a carbohydrate and more narrowly as a polyol. Because xylitol is only slowly absorbed and partially utilized, a reduced calorie claim is allowed: 2.4 calories per gram or 40% less than other carbohydrates.

Xylitol has been used in foods since the 1960's. It is a popular sweetener for the diabetic diet in some countries. In the U.S., xylitol is approved as a food additive in unlimited quantity for foods with special dietary purposes.

Over 25 years of testing in widely different conditions confirm that xylitol is the best sweetener for teeth. Xylitol use reduces tooth decay rates both in high-risk groups (high caries prevalence, poor nutrition, and poor oral hygiene) and in low risk groups (low caries incidence using all current prevention recommendations). Sugarfree chewing gums and candies made with xylitol as the principal sweetener have already received official endorsements from six national dental associations.

Why Use Xylitol?

### ► Effective

Studies using xylitol as either a sugar substitute or a small dietary addition have demonstrated a dramatic reduction in new tooth decay, along with arrest and even some reversal of existing dental caries. Xylitol provides additional protection that enhances all existing prevention methods. This xylitol effect is long-lasting and possibly permanent. Low decay rates persist even years after the trials have been completed.

### ► Natural

Xylitol is right here, inside, already. Our bodies produce up to 15 grams of xylitol from other food sources using established energy pathways. Xylitol is not a strange or artificial substance, but a normal part of everyday metabolism.

Xylitol is widely distributed throughout nature in small amounts. Some of the best sources are fruits, berries, mushrooms lettuce, hardwoods, and corn cobs. One cup of raspberries contains less than one gram of xylitol.

Chewing is a natural process and chewing gums provide some exercise lacking in a refined diet.

If chewing is uncomfortable, xylitol mints or candies can also stimulate saliva, the natural tooth protector.

► Safe

In the amounts needed to prevent tooth decay (less than 15 grams per day), xylitol is safe for everyone.

The following article is from the CDA ,California Dental Association:

What is xylitol?

Xylitol is a natural sugar alcohol that helps prevent cavities. You may recognize other sugar alcohols used in sugarless products, such as mannitol and sorbitol. Xylitol is the sugar alcohol that shows the greatest promise for cavity prevention. It is equal in sweetness and volume to sugar and the granular form can be used in many of the ways that sugar is used, including to sweeten cereals and hot beverages and for baking (except when sugar is needed for yeast to rise).

How does xylitol prevent cavities?

Xylitol inhibits the growth of the bacteria that cause cavities. It does this because these bacteria (*Streptococcus mutans*) cannot utilize xylitol to grow. Over time with xylitol use, the quality of the bacteria in the mouth changes and fewer and fewer decay-causing bacteria survive on tooth surfaces. Less plaque forms and the level of acids attacking the tooth surface is lowered.

Studies show that *Streptococcus mutans* is passed from parents to their newborn children, thus beginning the growth of these decay-producing bacteria in the child. Regular use of xylitol by mothers has been demonstrated to significantly reduce this bacterial transmission, resulting in fewer cavities for the child.

What products contain xylitol and how do I find them?

Xylitol is found most often in chewing gum and mints. You must look at the list of ingredients to know if a product contains xylitol. Generally, for the amount of xylitol to be at decay-preventing levels, it must be listed as the first ingredient. Health food stores can be a good resource for xylitol containing products. Additionally, several companies provide xylitol products for distribution over the Internet.

How often must I use xylitol for it to be effective?

Xylitol gum or mints used 3-5 times daily, for a total intake of 5 grams, is considered optimal. Because frequency and duration of exposure is important, gum should be chewed for approximately 5 minutes and mints should be allowed to dissolve. As xylitol is digested slowly in the large intestine, it acts much like fiber and large amounts can lead to soft stools or have a laxative effect. However, the amounts suggested for cavity reduction are far lower than those typically producing unwelcome results.

Has xylitol been evaluated for safety?

Xylitol has been approved for safety by a number of agencies, including the U.S. Food and Drug Administration, the World Health Organization's Joint Expert Committee on Food Additives and the European Union's Scientific Committee for Food.

Xylitol has been shown to have decay-preventive qualities, especially for people at moderate to high risk for decay, when used as part of an overall strategy for decay reduction that also includes a healthy diet and good home care. Consult your CDA member dentist to help you determine if xylitol use would be beneficial for you.

## **20.0 Rationale for Dental Disease Prevention**

The importance of dental disease prevention is evident, the following article about tooth loss in later life emphasizes the consequences.

Only a generation ago, most people expected to go through old age with false teeth or no teeth at all. This expectation has changed substantially during the last several decades. Although nearly half of people 85 or over have none of their natural teeth, the likelihood of losing teeth with aging is steadily decreasing. There are several reasons for this change: improved nutrition, better access to dental care, and better treatment for tooth decay and periodontal disease (common causes of tooth loss).

When teeth are lost, chewing is greatly hindered, and speaking becomes a challenge. The face looks dramatically different without the support teeth normally provide for the lips, cheeks, nose, and chin. In older people, loss of teeth can speed the loss of bone around the roots of teeth (alveolar bone). The loss of bone may make getting dentures that fit much harder.

The most common cause of tooth loss is not taking good care of the mouth—that is, not brushing and flossing each day and not having regular dental checkups. Even when tooth decay and periodontal disease can be treated, teeth can be lost if people are unwilling or unable to see a dentist. Sometimes teeth are removed when advanced periodontal disease makes chewing painful or ineffective.

People who have lost some or all of their teeth can still eat, but they tend to eat soft foods. Soft foods tend to be relatively high in carbohydrates and low in protein, vitamins, and minerals. Foods that are high in protein, vitamins, and minerals, such as meats, poultry, grains, and fresh fruits and vegetables, tend to be harder to chew. Consequently, people who eat mainly soft foods may become undernourished.

Replacing lost teeth is important for the same reasons as for preventing tooth loss. The type of replacement depends on the number of teeth lost, the location of the lost teeth, and the health of the remaining teeth, gums, and the bone around the teeth's roots. Teeth can be replaced with

appliances that are fixed or cemented to existing teeth (bridges), implants, or removable appliances (partial or full dentures).

Today, with good oral hygiene and regular dental visits, tooth loss is preventable. There are few reasons why older individuals cannot retain their teeth for life.

A smile is a lifetime gift!!

## 21.0 Types of Periodontal Disease In Children

The following is from Perio.org, <http://perio.org/> a website by The American Academy of Periodontology.

Please visit their website for more information.

Types of periodontal diseases in children:

Chronic gingivitis is common in children. It usually causes gum tissue to swell, turn red and bleed easily. Gingivitis is both preventable and treatable with a regular routine of brushing, flossing and professional dental care. However, left untreated, it can eventually advance to more serious forms of periodontal disease.

Aggressive periodontitis can affect young people who are otherwise healthy. Localized aggressive periodontitis is found in teenagers and young adults and mainly affects the first molars and incisors. It is characterized by the severe loss of alveolar bone, and ironically, patients generally form very little dental plaque or calculus.

Generalized aggressive periodontitis may begin around puberty and involve the entire mouth. It is marked by inflammation of the gums and heavy accumulations of plaque and calculus. Eventually it can cause the teeth to become loose.

Periodontitis associated with systemic disease occurs in children and adolescents as it does in adults. Conditions that make children more susceptible to periodontal disease include:

\* Type I diabetes: Type 1 diabetes is usually diagnosed in children and young adults, and was previously known as juvenile diabetes. In type 1 diabetes, the body does not produce insulin. Insulin is a hormone that is needed to convert sugar, starches and other food into energy needed for daily life. Only 5-10% of people with diabetes have this form of the disease. With the help of insulin therapy and other treatments, even young children with type 1 diabetes can learn to manage their condition and live long, healthy, happy lives.

For example, in a survey of 263 Type I diabetics, 11 to 18 years of age, 10 percent had overt periodontitis.

\* Down syndrome: Down syndrome is a genetic condition in which a person has 47 chromosomes instead of the usual 46.

\* Kindler syndrome: First described in 1954 by Theresa Kindler, Kindler syndrome is a rare autosomal recessive genodermatosis characterized by congenital acral skin blistering, photosensitivity, progressive poikiloderma, and diffuse cutaneous atrophy. The syndrome is a combination of features of inherited blistering skin disorders (eg, dystrophic epidermolysis bullosa) and congenital poikilodermas.

Dental abnormalities occur commonly in affected persons and include advanced periodontal bone loss, mild-to-severe gingivitis, dental caries, and leukokeratosis of buccal mucosa. In one study, 13 of 18 patients with the syndrome had marked periodontal disease.

\* Papillon-Lefevre syndrome: Papillon-Lefevre Syndrome (PLS) is an extremely rare genetic disorder that typically becomes apparent from approximately one to five years of age. PLS is characterized by the development of dry scaly patches on the skin of the palms and the soles (palmar-plantar hyperkeratosis) in association with severe inflammation and degeneration of the structures surrounding and supporting the teeth (periodontium). The primary (deciduous) teeth frequently become loose and fall out by about age five. Without treatment, most of the secondary (permanent) teeth may also be lost by approximately age 17. Additional symptoms and findings associated with PLS may include frequent pus-producing (pyogenic) skin infections, abnormalities of the nails (nail dystrophy), and excessive perspiration (hyperhidrosis).

Signs of periodontal disease:

Four basic signs will alert you to periodontal disease in your child:

Bleeding gums during tooth brushing, flossing or any other time.

Swollen and bright red gums.

Gums that have receded away from the teeth, sometimes exposing the roots.

Bad breath. Constant bad breath that does not clear up with brushing and flossing.

Periodontal Disease Runs in the Family:

Periodontal disease may be passed from parents to children and between couples. Researchers suggest that the bacteria which causes periodontal disease may be passed from one person to another through saliva. This means that the common contact of saliva in families puts children and couples at risk for contracting the periodontal disease of another family member.

Genetics may also play a major role in the onset and severity of periodontal disease. Researchers found that Up to 30% of the population may be genetically susceptible to developing severe periodontal disease. Therefore, if one family member has periodontal disease, it is a good idea for all family members to see a dental professional for a periodontal disease screening.

Adolescence and oral care:

Evidence shows that periodontal disease may increase during adolescence due to lack of motivation to practice oral hygiene. Children who maintain good oral health habits up until the teen years are more likely to continue brushing and flossing than children who were not taught proper oral care.

Hormonal changes related to puberty can put teens at greater risk for getting periodontal disease. During puberty, an increased level of sex hormones, such as progesterone and possibly estrogen, cause increased blood circulation to the gums. This may cause an increase in the gum's sensitivity and lead to a greater reaction to any irritation, including food particles and plaque. During this time, the gums may become swollen, turn red and feel tender.

As a teen progresses through puberty, the tendency for the gums to swell in response to irritants will lessen. However, during puberty, it is very important to follow a good at-home oral hygiene regimen, including regular brushing and flossing, and regular dental care. In some cases, a dental professional may recommend periodontal therapy to help prevent damage to the tissues and bone surrounding the teeth.

Advice for parents:

Early diagnosis is important for successful treatment of periodontal diseases. Therefore, it is important that children receive a periodontal examination as part of their routine dental visits. Be aware that if your child has an advanced form of periodontal disease, this may be an early sign of systemic disease. A general medical evaluation should be considered for children who exhibit severe periodontitis, especially if it appears resistant to therapy.

Many medications can dry out the mouth or pose other threats to oral health. Be sure to tell your dental professional about any medications your family members are taking.

Monitor your family to see if anyone has the habit of teeth grinding. Grinding can increase the risk of developing periodontal disease, in addition to causing cracked or chipped teeth. Dentists can make custom-fitted night bite guards to prevent teeth grinding at night.

Researchers suggest periodontal disease can pass through saliva. This means that the common contact of saliva in families may put children and couples at risk for contracting the periodontal disease of another family member. If one family member has periodontal disease, all family members should see a dental professional for a periodontal evaluation.

The most important preventive step against periodontal disease is to establish good oral health habits with your child. There are basic preventive steps to help your child maintain good oral health:

\* Establish good oral health habits early. When your child is 12 months old, you can begin using toothpaste when brushing his or her teeth. However, only use a pea-sized portion on the brush

and press it into the bristles so your child won't eat it. And, when the gaps between your child's teeth close, it's important to start flossing.

- \* Serve as a good role model by practicing good oral health care habits yourself.
- \* Schedule regular dental visits for family checkups, periodontal evaluations and cleanings.
- \* Check your child's mouth for the signs of periodontal disease, including bleeding gums, swollen and bright red gums, gums that are receding away from the teeth and bad breath.

If your child currently has poor oral health habits, work with your child to change these now. It's much easier to modify these habits in a child than in an adult. Since your child models behavior after you, it follows that you should serve as a positive role model in your oral hygiene habits. A healthy smile, good breath and strong teeth all contribute to a young person's sense of personal appearance, as well as confidence and self-esteem.

## **22.0 Request for Dental Care**

Last week I received another request for help from an 18 year old young man with severe dental disease and missing front teeth. He lives in Western Pennsylvania. I was able to use the internet and find several free and low cost clinics in his area.

Unfortunately, when treatment requires dental implants or dentures, finding services can be difficult, but not impossible. Prevention is the key. Teaching the child and their parent/caregiver how to care for and about their teeth can prevent dental disease. There are many causes of severe dental disease other than neglect. Illness can affect dental health as well as diet and lack of professional dental care.

Diabetes. There is an association between diabetes (both type 1 and 2) and periodontal disease. Diabetes causes changes in blood vessels, and high levels of specific inflammatory chemicals such as interleukins, that significantly increase the chances of developing periodontal disease.

Heart Disease. There appears to be an association between periodontal disease and heart disease, but it is not yet clear if having one condition increases the risk for developing the other.

Other Medical Conditions. A number of medical conditions can increase the risk of developing gingivitis and periodontal disease. They include conditions that affect the immune system such as HIV/AIDS, leukemia, and possibly autoimmune disorders (Crohn's disease, multiple sclerosis, rheumatoid arthritis, lupus erythematosus).

If you need low cost or free dental care, the internet is a valuable tool. Using a search engine such as Google, try typing "free and low cost dental treatment " along with the area (where you reside). This should give you a list of organizations in your area that provide treatment.

## 23.0 Link Between Gum disease & Infant's Death

The following report is from MSNBC.

Mother's gum disease linked to infant's death

Pregnant woman's gingivitis caused baby to be stillborn, scientists

say By Linda Carroll

msnbc.com contributor

updated 8:43 a.m. ET, Fri., Jan. 22, 2010

Pregnant women with untreated gum disease may have more at stake than just their teeth. They may also be risking the lives of their babies, a new study shows.

Expectant mothers have long been warned that gum disease can cause a baby to be born prematurely or too small. But for the first time scientists have linked bacteria from a mother's gums to an infection in a baby that was full-term but stillborn, according to the study which was published Thursday in *Obstetrics and Gynecology*. Scientists from Case Western University made the discovery after a 35-year-old California woman contacted them to help investigate the death of her baby. Earlier studies by the same researchers showed that an oral bacteria called *Fusobacterium nucleatum* could spread from the bloodstream to the placenta in mice. The woman wanted to know if it was possible in humans.

Bacteria from the mouth can easily get into the bloodstream once a woman's gums are bleeding, explains the study's lead author Yiping Han, an associate professor of periodontics and pathology at Case Western University. Generally, this type of bacteria can be easily combated by the immune system of the mom-to-be, whether mouse or human. But because of special conditions that exist in the womb, the fetus can be more susceptible, Han suspects. "Once the bacteria are in the blood, they can go almost anywhere," Han says. "The placenta is an immunosuppressed organ, compared to other organs like the liver and the spleen. And that makes it easy for the bacteria to colonize the placenta."

The California woman told researchers that she had experienced heavy bleeding from her gums — a sign of gum disease — during her pregnancy. Bleeding gums aren't unusual in pregnant women, with about 75 percent developing the condition due to normal hormonal changes. Mild gum disease can be treated simply by brushing and flossing more often. Pregnant women with more serious cases may need dental surgery.

Usually women's uterine infections, which can harm a fetus, are caused by bacteria that work their way up from the vaginal canal, says Han. But the researchers detected a bacteria in the baby not typically found in the vaginal region. Plaque samples from the woman's teeth were found to be positive for the exact same strain of the oral bacteria found in the dead baby's stomach and lungs.

Women shouldn't be overly alarmed by the new study, says Dr. Richard H. Beigi, an obstetric infectious disease specialist and an assistant professor of reproductive science at the University of Pittsburgh Medical Center. "This is just one case," he explained. "Most pregnant women have bleeding gums and most don't have dead babies. This can happen, but it's rare. And this finding doesn't mean that it's increasing." Still, Beigi says, it should serve as a reminder that pregnant women with bleeding gums should see a dentist to treat their gingivitis. Gingivitis can increase the risk of preterm birth anywhere from twice to seven times, studies indicate.

The new study underscores the importance of oral hygiene not only for pregnant women, but also for those contemplating pregnancy, says Dr. Michael Lu, an associate professor of obstetrics, gynecology and public health at the University of California Los Angeles Medical Center.

"We know that gingivitis doesn't happen overnight and that it's important for women to enter pregnancy in good health," Lu says. "I would love to see every woman who is contemplating pregnancy get pre-conception care that includes an oral-health checkup."

Linda Carroll is a health and science writer living in New Jersey. Her work has appeared in The New York Times, Newsday, Health magazine and SmartMoney.

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The relationship between your gums and the health of your body is amazing. The simple task of brushing and flossing every day is imperative to not only dental health but general health. It is never too late to start a healthy oral hygiene routine. If you are pregnant or planning to become pregnant, visit your dentist for advice on healthy oral hygiene during pregnancy.

## **24.0 History of Dental Disease**

The following information is from the website [doctorspiller.com](#). References to name brand products were removed and a some small changes were made.

History of Dental Disease:

Sugar first came to the attention of the Europeans in the early 1500s after the new world was discovered, but it was expensive in Europe, and only the wealthy could afford it. Queen Elizabeth I was famous for her black teeth. The rest of us spent too much time working the land to indulge in such pleasures and while we lost our teeth to gum disease because oral hygiene was nearly nonexistent, tooth decay was not much of a problem.

All that changed in 1886 in Atlanta, GA with the invention of the first soft drink (brand name removed). An average of 9 bottles a day was sold in the first year grossing \$50 on an investment of \$70. Even with a loss of \$20, it was a good investment. Soft drinks were one of America's first widely distributed prepared foods. It was very cheap and gave a great sugar rush, something that few working stiffs had ever experienced. It was thirst quenching, readily available, and could be consumed while working the farm. On top of that, it actually contained a small amount of the extract of coca leaves which meant that the sugar rush was augmented by a cocaine rush, and it swept the country.

As a result, a huge epidemic of tooth decay also swept the country, and it did not begin to abate until the mid 60's when the first generation of children to have the benefit of fluoride in the water system began to enter their "cavity prone" (i.e. sugar slurping) years. Even the advent of fluoride did not stop the epidemic. It did slow it down, but now the forces of soft drinks, candy, and gum have increased the risk of dental disease (brand names removed).

Dental caries is still the most prevalent human disease in the world.

Facts about tooth decay:

1. If there were no fermentable sugars in your diet, you would never get a single cavity. This applies even to the rare person who's teeth are in fact "soft". This also holds even if you never brush your teeth! I once treated a woman who's teeth were soft enough to absorb overall color from normal foods. The enamel was so soft that while preparing the teeth for crowns, the diamond bur cut through them like they were made of hard chalk! Believe it or not, she had never had a single cavity! The reason for this was that she had been told as a child that her teeth were especially susceptible to decay and to avoid sugar as much as possible. She was also a consistent brusher because of the yellow cast to her teeth. I placed crowns on her teeth due to their appearance, not because they were decayed.

2. Very, very few people actually have "soft teeth". The number probably runs in the range of a small fraction of a percent of the population!

## 25.0 Commentary

As a mother and a grandmother it is difficult to understand why dental disease prevention is not considered as important as prevention of other childhood diseases. As mentioned in this Blog, dental disease can kill. Also, it can be devastating to the self-esteem of the child and adult. Dental disease is painful, expensive to treat and can lead to the loss of permanent teeth. Unlike

most diseases, which require a specific treatment that will "cure" you, dental disease cannot be cured only mitigated. Bridges and dentures are necessary when tooth loss cannot be prevented.

This year, I received several emails from young men who have lost, or are facing the loss, of permanent teeth. To make matters more difficult, treatment (which is costly) is difficult to obtain and afford. Although, sometimes tooth loss is unavoidable, such as the result of a sports injury. My son lost a permanent front tooth while riding a school bus. The bus hit a bump in the road and he was thrown forward, hitting his tooth on a medal bar. The tooth could not be saved. He endured having a false front tooth until he was old enough to have a permanent bridge. As parents, we were extremely upset by our son's pain and the subsequent suffering. I know it was difficult for him to feel confident about his smile. His injury was preventable by covering the medal bar with padding or removal of the bar. Other injuries, such as sports injuries, are preventable by wearing mouth guards.

The most common cause of tooth loss, dental disease, is very preventable. Simple brushing and flossing every day to remove plaque is key. Parents should treat dental disease as they treat other preventable diseases, aggressively and consistently, insisting that dental hygiene is a part of their child's daily routine.

Recently, a mother asked what to do when a child refuses to brush his or her teeth. My answer was "what do you do when your child refuses to sit in their car seat?" Certain things are not negotiable. Make healthy oral hygiene one of them. Find ways to make tooth-brushing fun. Brush your teeth with them; give them a timer to use. Purchase books about oral hygiene such as "The Tooth Book" by Edward Miller or "Open Wide" by Laurie Keller. For younger children, try "The Tooth Book" by Doctor Seuss, written by Theo. LeSieg, "Show Me Your Smile" by Christine Ricci or "Elmo Ready, Set, Brush" by Tom Brannon, available in Spanish and English.

Remember - A smile is a lifelong Gift.

## **26.0 Oral Health For Pregnant Women**

This informative article speaks to the importance of oral health for pregnant women.

Women with dental problems can pass bacteria to their newborns, experts say

By Sandy Kleffman

Contra Costa Times

Posted: 04/14/2010 04:41:04 PM PDT

Updated: 04/15/2010 08:46:10 AM PDT

Some dentists avoided treating the women, and prenatal providers often failed to discuss the subject. But now a growing body of evidence reveals the importance of good oral health in protecting both a mother and her newborn, experts say.

A woman can easily transmit bacteria from her mouth to her baby, starting the infant on a spiral

toward serious dental problems.

"My opinion is that this is not on the radar screen of most women," said Jeff Wood, chairman of the pediatric department at the University of the Pacific School of Dentistry in San Francisco. The most important time for women to ensure they have good oral health is before becoming pregnant. But it is not too late during pregnancy to visit a dentist and get problems resolved, experts say.

"When children are born, they don't have bacteria in their mouths, at least not initially," Wood said. Yet within six months, studies have shown a high correlation between bacteria in the mother's mouth and that found in the infant.

The transmission can take place by such simple acts as blowing on a spoon to cool food, kissing a baby on the mouth, or sharing something to eat.

As a pediatric dentist, Wood said he often deals with the results of a mother's poor oral health when he treats children with rampant tooth decay, which can lead to lifelong problems.

"It's so easily preventable," he said.

In February, a panel of California experts agreed, concluding that the benefits of dental care during pregnancy far outweigh the perceived risks.

The California Dental Association and American College of Obstetricians and Gynecologists brought together medical experts to examine the latest evidence and issue guidelines for pregnant women, dentists and prenatal care providers.

The group concluded that routine dental care, including X-rays with proper protection and the use of local anesthesia, can be undertaken at any time during pregnancy with no additional risk to the fetus when compared with the risk of not providing care.

The recommendations were based in part on guidelines issued in New York in 2006 after a pregnant woman with a severe toothache refrained from going to the dentist because she feared it could harm her fetus. She took massive doses of Tylenol instead.

The fetus died of liver toxicity from the large amount of Tylenol, and the woman had acute liver failure and needed a transplant, said Jane Weintraub, chairwoman of the division of oral epidemiology and dental public health at the UC San Francisco School of Dentistry.

Weintraub, who co-led the California panel, said many dentists have had little or no training in how to treat pregnant women.

"Until recently, we didn't have the data to support that it was safe," she said. "But it's safe and effective, and women need to take care of their oral health, both for themselves and their baby."

Most experts agree that bacteria can easily be transmitted from a mother to her newborn, but there are conflicting views about whether a mother's poor oral health can harm her fetus.

Wood notes that studies have shown a link between poor oral health and women delivering preterm or low-birthweight babies.

But Weintraub said the California panel concluded that although early studies showed such a link, the latest have not found a correlation.

Regardless of which studies are right, Contra Costa County health leaders believe there are enough concerns that they have been encouraging prenatal providers to ask pregnant women

whether they have had a routine dental exam within the past year and to schedule one if they have not, said Itika Greene, perinatal services coordinator.

Greene noted that pregnancy may be the one time many low-income women can be reimbursed for dental care. California has eliminated dental care for adult Medi-Cal recipients in a budget-cutting move, but continues to provide such care for pregnant women.

A recent report involving a stillbirth raises additional concerns about poor oral health and the fetus, Wood said.

In that case, the woman had pregnancy-associated gingivitis, an inflammation of the gums that often occurs because of the hormonal changes that women experience during pregnancy, according to a February report in the journal *Obstetrics and Gynecology*. After the stillbirth, researchers discovered the same bacteria in the placenta and fetus as in the mother's plaque. They concluded the bacteria may have moved from the mother's mouth to the uterus when the immune system was weakened during a respiratory infection.

"We know that some bacteria that are infectious can cross the placental barrier," Wood said. "It's so important for a woman's oral health to be under control."

The message has yet to reach many pregnant women, however. Several women interviewed this week before a prenatal education class at the John Muir Women's Health Center said they had not paid much attention to how oral health might affect their newborns.

"To be honest with you, I've never really thought about it," said Crystal Willis, of Fairfield, who is pregnant with twins. "Maybe the awareness isn't as great as it should be."

Craig Strunk, of Oakley, said no one had mentioned oral health to his wife, Marilyn, who is pregnant with twin girls. He questioned whether it is one more needless thing to worry about.

"If a mother's mouth bacteria is so detrimental to the fetus, wouldn't this have been mentioned before, or maybe we wouldn't have survived as a species?" he said. "I question the data."

The panel of experts, however, concluded that the data exists. They encouraged prenatal providers to educate pregnant women about the issue and to refer them for dental care, if needed.

"I'm always alarmed by the number of patients whose perception is that you go to the dentist only when you have a toothache," Wood said.

#### How to REDUCE CAVITIES IN NEWBORNS

- Maintain good oral health yourself.
- Wipe an infant's gums or teeth with a soft cloth after breast or bottle feeding.
- Brush the child's teeth using a pea-sized amount of toothpaste, especially before bedtime.
- Avoid putting the child to bed with a bottle or sippy cup containing anything other than water.
- Avoid saliva-sharing behaviors such as sharing a spoon when tasting baby food.

## 27.0 Tooth Loss & Cognitive Decline

This article is from Dimensions of Dental Hygiene <http://www.dimensionsofdentalhygiene.com/>

Tooth Loss Linked to Cognitive Decline

Researchers at Boston University Henry M. Goldman School of Dental Medicine (GSDM) linked tooth loss and periodontitis to cognitive decline in an extensive study published in the Journal of the American Geriatrics Society.

The university reports that Elizabeth Krall Kaye, MPH, PhD, searched for patterns in dental records from 1970 to 1973 to determine if periodontal diseases and tooth loss predicted whether people performed well or poorly on cognitive tests. She found that for each tooth lost per decade, the risk of doing poorly increased approximately eight to 10 percent. More cavities usually meant lower cognition, too. People with no tooth loss tended to do better on the tests.

Kaye cites inflammation as a possible cause, noting that other studies found higher levels of inflammation markers in people with Alzheimer's. "Periodontal disease and caries are infectious diseases that introduce Inflammatory proteins into the blood," she says. "There's a lot of circumstantial evidence that inflammation raises your risk of cognitive decline, and it could be that gum inflammation is one of the sources."

The men who were studied (veterans living in the Boston metropolitan area), enrolled in the VA Dental Longitudinal Study in the late 1960s and early '70s and returned on an ongoing basis for medical, dental and cognitive exams.

"The findings should give dentists yet another reason to try to prevent tooth loss and periodontal disease in their patients," concludes Kaye.

It is not necessary to face a life without your permanent teeth today. Yes, years ago when dental treatment was not always available and information on dental hygiene was scarce, loss of permanent teeth was common. Today, with flouride toothpaste, floss and regular visits to the dentist, you can expect to keep your teeth for life.

We are finding out the cost of poor oral hygiene and tooth loss is not just cosmetic, but can affect many areas of the body and in some cases, can be fatal.

## **28.0 Baby Teeth**

There are many reasons to maintain the health of primary or "baby teeth". The thought is that these teeth "just fall out" so therefore are not important. This is far from the truth. Primary teeth have several roles. They help with biting and chewing, and are crucial to a child's ability to speak. They may also make a child appear more attractive. Finally, primary teeth serve as a guide for permanent teeth. For this reason, primary teeth usually have more space between them to allow permanent teeth more room to erupt. Loss of primary teeth can lead to the misalignment of the permanent tooth therefore causing the need for early intervention by a orthodontist. Lastly, decay in the primary teeth can spread to the permanent teeth.

Gingivitis, an inflammation of the gums, provides an unhealthy "bed" for permanent teeth as they emerge.

The most important preventive step against periodontal disease is to establish good oral health habits with your child. There are basic preventive steps to help your child maintain good oral health:

- \* Establish good oral health habits early. When your child is 12 months old, you can begin using toothpaste when brushing his or her teeth. However, only use a pea-sized portion on the brush and press it into the bristles so your child won't eat it. And, when the gaps between your child's teeth close, it's important to start flossing.
  - \* Serve as a good role model by practicing good oral health care habits yourself.
  - \* Schedule regular dental visits for family checkups, periodontal evaluations and cleanings.
  - \* Check your child's mouth for the signs of periodontal disease, including bleeding gums, swollen and bright red gums, gums that are receding away from the teeth and bad breath.
- "An ounce of prevention is worth a pound of cure. " Make healthy oral hygiene a must, not an option for your child. You will be helping your child and yourself!

## 29.0 More on Baby Teeth

The following article supports the fact that baby teeth are important!

By DAN CHILDS

ABC News Medical Unit

May 2, 2007

Like many parents, Ariel Elliott, a Chicago mother of three girls, is no stranger to childhood tooth decay.

What makes her story different is the fact that her first child's dental problems began inexplicably and very early.

She said that when she first brought her daughter Avra to the dentist's office, her baby girl was not even a year old.

She soon learned that her daughter's teeth had already begun to decay, even before they had completely grown in.

Fortunately, the problem was caught early. But even now that Avra's dental prognosis has improved, Elliott remains puzzled as to exactly why tooth decay struck her daughter so early.

"I did all that I could," she said. "I fed them healthy, organic foods and brushed their teeth."

And now another of Elliott's daughters, 2-year-old Ilah, is experiencing similar difficulties.

"Just yesterday she [the dentist] filled four cavities in my 2-year-old's front teeth," Elliott said.

"She nursed a lot, and basically it rotted her first four teeth."

**Baby Tooth Decay on the Rise**

Experiences like Elliott's may be on the rise across the country. According to the largest government study of the nation's dental health in more than 25 years, the prevalence of cavities in the baby teeth of children ages 2 to 5 rose to 28 percent between 1999 and 2004 -- up 4 percentage points from the 24 percent rate seen in from 1988 to 1994.

The incidence of tooth decay continued downward in other age groups, making the trend reversal in the youngest age group all the more unexpected.

Lead researcher Bruce Dye of the National Center of Health Statistics at the Centers for Disease Control and Prevention said tooth decay at this early age can have big implications for dental health later on in life.

"We do know from a number of studies that when children have tooth decay in their baby teeth, they tend to have decay later in their adult teeth," Dye said.

"It is very, very important for children to keep their baby teeth because they hold the space in the mouth for where the adult teeth come in. If a child prematurely loses his or her baby teeth, the space that develops can cause the adult teeth to come in crowded."

### 30.0 Plaque

From Wikipedia, the free encyclopedia:

Although this article is a bit technical, it describes the process of the formation of plaque.

Dental plaque is a biofilm, usually colorless, that develops naturally on the teeth. It is formed, as in any biofilm, by colonizing bacteria trying to attach itself to a smooth surface (of a tooth). It has been also speculated that plaque forms part of the defense systems of the host by helping to prevent colonization by microorganisms which may be pathogenic.

The film is soft enough to come off if scraped with a fingernail. If not removed it starts to harden within 48 hours; in about 10 days the plaque becomes dental calculus (tartar), rock-hard and difficult to remove.

Dental plaque can give rise to dental caries (tooth decay)—the localised destruction of the tissues of the tooth by acid produced from the bacterial degradation of fermentable sugars—and periodontal problems such as gingivitis and chronic periodontitis.

The microorganisms present in dental plaque are all naturally present in the oral cavity, and are normally harmless. However, failure to remove plaque by regular tooth brushing means that they are allowed to build up in a thick layer. Those microorganisms nearest the tooth surface convert to anaerobic respiration; it is in this state that they start to produce acids.

\* Acids released from dental plaque lead to demineralization of the adjacent tooth surface, and consequently to dental caries. Saliva is also unable to penetrate the build-up of plaque and thus cannot act to neutralize the acid produced by the bacteria and remineralize the tooth surface.

\* They also cause irritation of the gums around the teeth that could lead to gingivitis, periodontal disease and tooth loss.

\* Plaque build up can also become mineralized and form calculus (tartar).

## 31.0 Effects of Dental Education

Effects of dental health education for mothers with young children in London by:

1. Ruth D. Holt
2. Gerald B. Winter
3. Brenda Fox,
4. Rosalind Askew

Article first published online: 29 MAY 2006

Abstract Dental health education for mothers with young children is thought to be capable of achieving a high standard of dental health for these children. This study considers the dental health of a sample of 5-yr-old children whose mothers were given dental health education at an early stage in their child's life. The dental health education was given to one group during home visits and to a second through leaflets sent by post. Comparisons were made with a third group of children whose mothers had been randomly selected to form a control group. Sixty-nine percent of children whose mothers were given advice at home were caries free, compared to 58% of children in the control group. Scores for gingivitis were also significantly lower in the first group. No significant differences in disease levels were seen between children whose mothers had been sent leaflets through the post and those in the control group. In relation to the use of fluoride supplements, 25% of the children whose mothers had been given personal advice received fluoride supplements regularly throughout the period of the study. Children of these highly motivated mothers showed less caries (83% were caries free) and lower levels of gingivitis than children who had never received supplements.

Parents are the primary educators of dental health for their children. Teaching parents to care for and about their child's teeth and establishing a healthy oral hygiene that the child will follow the rest of their life is paramount to the health and well being of not only the child's oral health but overall health. Healthy oral hygiene means reducing sugar and starch in your diet which will also help reduce weight gain. Choosing healthy fruits and vegetables instead of sugary snacks reduces your chances of diabetes and other diseases related to high sugar diets.

## 32.0 Suggestions: Getting Kid to Brush

The following is from Listerinekids.com Oral Care SMARTS Discover

Here are some suggestions for getting your kids to brush and floss their teeth.

D. Lott's advice for kids ages 6 to 7.

Show, don't tell

Floss once a day and brush and rinse twice a day, every day. Share the experience with your child. When leading by example, kids are likely to imitate behavior and make oral hygiene feel less like a "kid thing."

Make oral care fun

Turn flossing into a funny-face contest, or make brushing a "Simon says" game by calling out different parts of the mouth.

Reward healthy behavior

Offer rewards for achieving brushing, flossing, and rinsing goals. Post a calendar in the bathroom and reward kids with a gold star for each day of great oral care. At the end of each month, praise kids for a job well done.

For kids 8 to 10

Provide proof.

Visual cues serve as powerful motivation for kids. Post pictures of great smiles of favorite role models in the bathroom. Encourage flossing and use a children's mouthwash that attracts the particles that brushing can leave behind, giving kids reason to believe that rinsing works—the proof is in the sink. .

Let kids decide.

Give kids the freedom to make decisions. Let them choose their favorite toothbrush, a cool toothpaste, and type of floss. Then keep the bathroom stocked.

Clean to the beat

Brushing, flossing, and rinsing are all rhythmic activities. Play music to help kids enjoy oral care routines. On average, brushing should last two minutes. Together with flossing these activities last the length of a typical song.

For kids age 11-12

Embrace the power of the brush.

At this age, kids become increasingly aware and often self-conscious of appearances. Remind kids about the power of a healthy smile to build their confidence. Encourage them to brush, floss, and use an anticavity mouthwash to clean their whole mouth. The results will be fresh breath and a great looking smile.

Recruit others.

Enlist older siblings and other family members to encourage proper oral hygiene. Another voice for good care can be influential and make a powerful impact on kids' behavior.

### **33.0 California Smile Survey**

The following is from The California Smile Survey An Oral Health Assessment of California's Kindergarten and 3rd Grade Children

Use this link to view the entire Survey

<http://www.cdph.ca.gov/programs/MCAHOralHealth/Pages/default.aspx>

Foreword by David Perry, D.D.S.

Kids can't study when they hurt. They can't sit still, they can't focus. They are victims of the single most widespread disease among children in California: tooth decay. From February through June of 2005, the Dental Health Foundation coordinated screenings in 186 elementary schools throughout the State to monitor the oral health status of elementary school children in California. My colleagues and I, as well as registered dental hygienists, assistants and school nurses, looked in the mouths of over 21,000 children in kindergarten and third grade. To be honest, we were shocked. While there are children in some high income schools that have never had a cavity, in other schools there are kids in debilitating, chronic pain in every classroom. Our study confirmed what the Surgeon General's Report on Oral Health in 2000 had made clear: poor and minority children suffer most from dental caries. Almost three out of four low-income children in elementary school have had a cavity, as compared to about half who are not low income. And one out of three of those low-income children is sitting there in the classroom with untreated tooth decay. As a pediatric dentist, I treat children in pain every day. Often they can't even tell you they are in pain – their teeth have hurt for so long, they think it's normal. They don't know that eating shouldn't hurt. But it does for them, so these kids often are not getting the nutrition they need to grow. Severe tooth decay can make children sick. Kids with tooth decay are prone to repeated infections in their ears, their sinuses, and other parts of their bodies, because their infected teeth are continually pouring pathogens into their systems. And even their physicians can fail to notice where the infection ultimately is coming from.

Many parents think it is normal for some baby teeth to fall out long before the adult teeth push them out. Parents often let their infants and toddlers sleep with baby bottles in their mouths, often with juice or even soda in the bottle, leading to severe tooth decay.

Many parents think, "They're just baby teeth. They're going to fall out anyway. Why bother?" But these first teeth hold the space for the adult teeth emerging under them. If they are severely decayed, need to be pulled or fall out too soon, the permanent teeth can come in crooked and crowded, condemning the child to years of orthodontia or a life-time of twisted teeth. We've got to do more for our kids. We know how to restore decayed teeth, but there will never be enough resources to pay for all that treatment. And restoring decayed teeth doesn't stop the disease from re-occurring. The much smarter way to go is to prevent tooth decay in the first place. There is no reason why any California child has to live in pain, malnutrition, and infection from severely

decayed teeth when there are proven strategies for preventing decay. And that's what we're after: Wiping out tooth decay among this State's kids. I would really like you to take a look at this report. We'll give you the facts, and we have some simple recommendations. We can not only give California kids happier, healthier lives, we can actually save millions in tax dollars at the same time by preventing tooth decay.

#### Key Points:

- Tooth decay is a significant problem. By third grade it affects almost two-thirds of the children in California.
- 28% - some 750,000 of elementary school children - have untreated tooth decay.
- 4% - approximately 138,000 - need urgent dental care because of pain or infection.
- The oral health of California's children is substantially worse than national objectives. Of 25 states surveyed, only Arkansas ranked below California in kids' dental health.

California's problems are not easily solved. Prevention is key. Early childhood education of both parent and child is crucial.

## 34.0 Dental Disease Process

The following information is from the website: [Animated-Tooth-Decay.com](http://Animated-Tooth-Decay.com)

To understand the process of dental disease is an important factor in the prevention of dental disease.

tooth decay / cavities / dental caries

How (why) does tooth decay form? - What's the process?

Previously we defined tooth decay as a disease process where a location on a tooth has lost so much of its mineral content that a hole (cavity) has formed. Knowing this, the next logical question is why does this occur? What's the process that causes tooth decay?

Cavities form due to a process termed demineralization.

Tooth decay formation takes place due to a process called demineralization. The term "demineralization" simply describes the fact that minerals (like calcium compounds) are leached (dissolved away) from a tooth's hard tissues (enamel, dentin, cementum).

In the case of teeth, demineralization takes place as a process (over a period of time) due to the repeated exposure of a tooth's surface to acidic compounds.

Where do the acids that cause tooth decay come from?

The acids that cause tooth demineralization (cavity formation) are produced by specific types of bacteria (mutans streptococci and lactobacilli) that live in dental plaque.

These bacteria are living organisms just like we are. When we consume foods and beverages, we create waste products. Bacteria do the same thing. The bacteria that cause tooth decay utilize sugars (glucose, sucrose, fructose, lactose, or cooked starches) as their food source. The waste

products created during the digestion of these sugars are the acids (especially lactic acid) that cause the demineralization of tooth enamel and dentin.

Since the bacteria that live in our mouth eat when we do, as we ingest foods which contain sugars (such as soda, candy, milk, and even fruits and vegetables) these bacteria get a meal too. And within minutes they start producing the acids that cause tooth decay.

Factor associated with the formation of tooth decay :

When oral bacteria consume sugars, they start to produce the acids that cause tooth demineralization (tooth decay) within minutes.

Cavity prevention recommendation :

The less sugar you consume, or the fewer number of times you eat sugary foods, or the shorter the duration dietary sugars are allowed to remain in your mouth the less exposure your teeth will have to the acids produced by oral bacteria.

- Use artificial sweeteners rather than natural sugars.
- Minimize the duration sugars are allowed to remain in your mouth. Brush and floss, or at least rinse, promptly after consuming sugary foods.
- Don't snack on or sip on sugary foods and beverages over a prolonged period of time. Eat or drink these items in fairly prompt order and then clean your teeth.

Dental plaque provides a home for the oral bacteria that cause tooth decay.

Everyone's mouth is inhabited by bacteria, in fact a single human mouth can contain more microorganisms than there are people on planet Earth. While you can't sterilize your mouth, you can minimize your potential for having tooth decay. You do this by not allowing the bacteria that are present to form organized colonies. These bacterial colonies are referred to as "dental plaque."

Dental plaque not only provides a home for oral bacteria but it also acts as a medium that holds the acid they produce directly against a tooth's surface.

Take a look at our diagram to the left. When acid production is active (when we consume sugar) some of the acid that is formed will seep from the dental plaque's surface and into our mouth.

This isn't the acid that will cause tooth decay. Any acid finding its way into our mouth will get diluted, buffered, and/or washed away by saliva and the foods and beverages we eat and drink.

The acid that is instrumental in demineralizing a tooth's surface, and therefore causing tooth decay, is the acid that seeps in the opposite direction, on through the plaque and down to the tooth's surface.

This acid will lie underneath the dental plaque and directly against the tooth. And because the dental plaque covering over this acid will act as a protective layer there is less effective dilution, buffering, and washing action produced by saliva. This in turn means that the acid will tend to remain in very concentrated form (a pH of 4 and lower) for quite some time after it has been created, and therefore tooth demineralization will take place for an extended period of time also.

Factor associated with the formation of tooth decay :

Decay occurs in those areas where dental plaque lies on a tooth's surface.

Cavity prevention suggestion :

Brush and floss often and effectively.

- Brush and floss after every meal or snack.

Take the time to be thorough with your brushing and flossing. Those places that you don't clean effectively are precisely the locations where cavities will be most likely to form.

With time saliva will penetrate through the dental plaque and begin to have its neutralizing effect on the acids that have been created in response to the sugary meal. But this can take as long as two or more hours.

Factor in the formation of tooth decay :

Acid formation, and hence tooth demineralization, begins within minutes of the bacteria receiving a sugary meal. It can take up to several hours for saliva to penetrate the layer of dental plaque and neutralize these acids.

Cavity prevention suggestion :

Brush and floss promptly after eating so to make sure the dental plaque has been cleaned off the surface of your teeth.

The amount of tooth demineralization that takes place after an exposure to sugar is in part related to the age of the dental plaque. Characteristics such as the thickness, chemical nature, and types of bacteria living in dental plaque correlate with its age. Plaque that is only a few hours old will not be able to produce as much tooth demineralization as plaque which is several days old (when each is provided with an identical exposure to sugar).

Factor in the formation of tooth decay :

The longer dental plaque has been present on a tooth's surface, the more capable it is of causing tooth damage.

Cavity prevention suggestion :

Brush and floss often and effectively. Take the time to be thorough with your brushing and flossing.

## **35.0 Low Income Populations**

Oral Health: Dental Disease Is a Chronic Problem Among Low-Income Populations

HEHS-00-72 April 12, 2000

Full Report (PDF, 49 pages)

The following is from the Summary from the The U.S. Government Accountability Office (GAO).

GAO's analysis of the most recent national health surveys (1994-97) found that low-income people have disproportionately high levels of dental disease. Poor children had five times more untreated dental cavities than did children in wealthier families, and poor adults were much more likely to have lost six or more teeth to decay and gum disease than were their higher-income peers. Minorities also suffered high levels of dental disease. Dental problems not only cause pain and infection but lead to millions of lost school days and workdays each year. Although every state Medicaid program offers dental coverage for children and most programs cover adults

eligible for Medicaid, the use of dental services by low-income people is low. States are required to provide comprehensive dental benefits for children enrolled in Medicaid, and the State Children's Health Insurance Program provides variable but often substantial levels of dental coverage to eligible low-income children in all but two states. Adult dental services, although optional under Medicaid, are covered to some extent in about two-thirds of the states. The availability of coverage does not, in itself, however, bridge the income gap and increase the likelihood of a visit to the dentist. For example, GAO's analysis of 1995 Medicaid claims data showed that only 29 percent of enrolled adults had visited the dentist in the preceding year, less than half the rate of higher-income adults. National survey data also showed that poor children and adults visited the dentist at about half the rate of their higher-income counterparts in 1996--numbers that have essentially remained unchanged since 1977.

GAO noted that: (1) dental disease is a chronic problem among many low-income and vulnerable populations; (2) GAO's analysis of the most recent national health surveys (1994-1997) showed that relative to more affluent segments of the population, low-income populations had a disproportionate level of dental disease; (3) for example, poor children had five times more untreated dental caries (cavities) than children in higher-income families, and poor adults were much more likely to have lost six or more teeth to decay and gum disease than higher-income adults; (4) minority populations also faced high levels of dental disease; (5) dental problems result in pain, infection, and millions of lost school days and workdays each year; (6) although every state Medicaid program offers dental coverage for children and most programs cover adults eligible for Medicaid, use of dental services by low-income people is low; (7) states are required to provide comprehensive dental benefits for children enrolled in Medicaid, and the State Children's Health Insurance Program provides variable but often substantial levels of dental coverage to eligible low-income children in all but two states; (8) adult dental services, although optional under Medicaid, are covered to some extent in about two-thirds of the states; (9) the availability of coverage does not, however, bridge the income gap to equalize the likelihood of visiting a dentist; (10) for example, GAO's analysis of 1995 Medicaid claims data showed that only 29 percent of enrolled adults had visited the dentist in the preceding year, less than half the rate of higher-income adults; and (11) national survey data also showed that in 1996 poor children and adults visited the dentist at about half the rate of their higher-income counterparts--numbers that had stayed relatively unchanged since 1977.

## **36.0 Protect Baby's Teeth**

The following article is from the The American Academy of Pediatric Dentistry website.

### **HOW TO PROTECT YOUR BABY'S TEETH FROM CAVITIES**

Did you know that cavities are caused by germs that are passed from adult to child?

Babies are born without the bacteria that cause caries- the disease that leads to cavities. They get it from spit that is passed from their caregiver's mouth to their own. Caregivers pass on these germs by sharing saliva- by sharing spoons, by testing foods before feeding it to babies, by

cleaning off a pacifier in their mouth instead of with water, and through other activities where saliva is shared.

These germs can start the process that causes cavities even before babies have teeth, so it's important to avoid sharing saliva with your baby right from the start. See below for more tips on how to keep your baby- and your baby's teeth healthy and happy.

For you:

- Eat healthy foods to reduce the cavity-causing germs in your mouth.
- Brush your teeth with toothpaste that contains fluoride.
- Do not put anything in your baby's mouth that has been in your mouth including spoons or a toothbrush, do not blow on your baby's food.
- Do not use your spit to clean your baby's pacifier - use water instead.
- If you have bleeding gums or cavities, you should visit your dentist as soon as possible.

For your baby:

- Before your baby's first tooth becomes visible in the mouth, you should wipe the mouth every day with a soft, moist washcloth. As soon as teeth become visible in the mouth, brush the teeth with a small soft bristle toothbrush that contains a pea-sized smear of fluoride-containing toothpaste.
- Encourage your baby to spit out the toothpaste.
- You should brush your child's teeth at least twice each day - once in the morning and once at night. Remember, the most important time to brush your baby's teeth is right before bedtime.
- Talk to your baby's pediatrician or pediatric dentist about the right amount of fluoride for your baby. Ask if your child should be brushing with toothpaste that contains fluoride.
- Avoid giving your baby sticky foods and unhealthy snacks like candy, soda or juice in between meals. Instead, give your baby healthy snacks like cheese, yogurt or fruit. Only give your baby treats or juice at meal times.
- Establish bedtime routines that do not involve using the bottle filled with milk or juice to soothe the baby to sleep. Also avoid having the baby sleep with a bottle filled with milk or juice as the natural sugars in these liquids will get changed to acid, which will rot or decay the teeth and lead to dental infection and pain. Avoid having your baby drink from a sippy cup filled with juice between meals.
- Do not give your baby juice until he is 6 months old. Do not give your baby more than 4-6 ounces of juice per day.
- If you see white spots developing on your baby's teeth, then take your baby to a pediatric dentist right away. A white spot is often the first sign of a dental cavity.
- Schedule your baby's first dental visit with a pediatric dentist when she is one year old. Pediatric dentists have additional training beyond dental school working with babies and young children. Remember - first tooth, first birthday, first dental visit!

## **37.0 California MediCal**

Medi-Cal is a provider of dental treatment for children in California. The following information is from their website. It explains the various classifications of treatment provided.

The American Dental Association's "Classification of Treatment Needs" is a useful tool when referring children for dental services.

#### Class I: No Visible Dental Problem

No problem visualized. Child has not seen a dentist in the last 12 months, and should be referred for routine care.

#### Class II: Mild Dental Problems

Small carious lesions or gingivitis, the patient is asymptomatic. The condition is not urgent, yet requires a dental referral.

#### Class III: Severe Dental Problems

Large carious lesions, chronic abscess, or extensive gingivitis, or a history of pain. The need for dental care is urgent.

#### Class IV: Emergency Dental Treatment Required

Acute injury, oral infection, or other painful condition. An immediate dental referral is indicated.

A Medi-Cal or California Children's Services (CCS) eligible child may also be referred to a dentist or orthodontist if there is a severe malocclusion

## **38.0 General Information**

The following information is from Wikipedia. Please be advised:

This page documents an English Wikipedia content guideline. It is a generally accepted standard that editors should attempt to follow, though it is best treated with common sense, and occasional exceptions may apply. Any substantive edit to this page should reflect consensus.

#### Beneficial foods:

Some foods may protect against cavities. Fluoride is a primary protector against dental cavities. Fluoride makes the surface of teeth more resistant to acids during the process of remineralisation. Drinking fluoridated water is recommended by some dental professionals while others say that using toothpaste alone is enough. Milk and cheese are also rich in calcium and phosphate, and may also encourage remineralisation. All foods increase saliva production, and since saliva contains buffer chemicals this helps to stabilize the pH to near 7 (neutral) in the mouth. Foods high in fiber may also help to increase the flow of saliva and a bolus of fibre like celery string can force saliva into trapped food inside pits and fissures on chewing surfaces where over 80% of cavities occur, to dilute carbohydrate like sugar, neutralise acid and remineralise tooth like on easy to reach surfaces. Sugar-free chewing gum stimulates saliva production, and helps to clean the surface of the teeth.

According to World Dental, these are the top ten beneficial foods for teeth.

1.Green tea contains polyphenol antioxidant plant compounds that reduce plaque and help reduce cavities and gum disease. Tea may help reduce bad breath. Tooth enamel is strengthened because green tea contains fluoride which promotes healthy teeth.

2.Milk and yogurt are good for teeth because they contain low acidity, which means that wearing of teeth is less. They are also low in decay-inducing sugar. Milk is a good source of calcium, the main component of teeth and bones.

3.Cheese contains calcium and phosphate, which helps balance pH in the mouth preserves (and rebuilds) tooth enamel, produces saliva, and kills bacteria that cause cavities and disease.

4.Fruits such as apples, strawberries and kiwis contain Vitamin C. This vitamin is considered the element that holds cells together. If this vitamin is neglected, gum cells can break down, making gums tender and susceptible to disease.

5.Vegetables: Vitamin A, found in pumpkins, carrots, sweet potatoes and broccoli, is necessary for the formation of tooth enamel. Crunchy vegetables may also help clean gums.

6.Onions contain antibacterial sulfur compounds. Tests show that onions kill various types of bacteria, especially when eaten raw.

7.Celery protects teeth by producing saliva which neutralizes acid that causes demineralisation and cavities. It also massages the teeth and gums.

8.Sesame seeds reduce plaque and help build tooth enamel. They are also very high in calcium.

9.Animal food: beef, chicken, turkey, and eggs contain phosphorus which, with calcium, is one of the two most vital minerals of teeth and bone.

10.Water cleans the mouth and produces saliva that deposits essential minerals into the teeth. It keeps teeth hydrated and washes away particles from the teeth.

Detrimental foods:

Sugars are commonly associated with dental cavities. Other carbohydrates, especially cooked starches, e.g. crisps/potato chips, may also damage teeth, although to a lesser degree since starch has to be converted by enzymes in saliva first.

Sucrose (table sugar) is most commonly associated with cavities. The amount of sugar consumed at any one time is less important than how often food and drinks that contain sugar are consumed. The more frequently sugars are consumed, the greater the time during which the tooth is exposed to low pH levels, at which point demineralisation occurs (below 5.5 for most people). It is important therefore to try to encourage infrequent consumption of food and drinks containing sugar so that teeth have a chance to be repaired by remineralisation and fluoride.

Limiting sugar-containing foods and drinks to meal times is one way to reduce the incidence of cavities. Sugars from fruit and fruit juices, e.g., glucose, fructose, and maltose seem equally likely to cause cavities.

Acids contained in fruit juice, vinegar and soft drinks lower the pH level of the oral cavity which causes the enamel to demineralize. Drinking drinks such as orange juice or cola throughout the day raises the risk of dental cavities tremendously.

Another factor which affects the risk of developing cavities is the stickiness of foods. Some foods or sweets may stick to the teeth and so reduce the pH in the mouth for an extended time, particularly if they are sugary. It is important that teeth be cleaned at least twice a day, preferably with a toothbrush and fluoride toothpaste, to remove any food sticking to the teeth. Regular brushing and the use of dental floss also removes the dental plaque coating the tooth surface.

Chewing gum assists oral irrigation between and around the teeth, cleaning and removing particles, but for teeth in poor condition it may damage or remove loose fillings as well.

### **39.0 More Medical News**

The following article is By JANE E. ALLEN, ABC News Medical Unit

Oct. 17, 2011

ABC World News with Diane Sawyer

#### **Plaque, Appendicitis Bacterium Linked to Colon Cancer**

A bacterium that causes appendicitis and gum disease has been detected in colon tumors, according to new research that suggests it may set the stage for colorectal cancer, the second-deadliest malignancy. Only lung cancer kills more people each year.

If the finding can be validated by larger studies, fusobacterium might one day be used to prevent and screen for colorectal cancer, currently detectable through colonoscopy or tests for the presence of blood in the stool. fuscobacterium also might play a role in determining the prognosis of colorectal cancers and shaping their treatment, according to two research teams independently reporting a relationship between the rod-shaped microbe and cancers of the lower digestive system.

Fuscobacterium is a known player in disorders characterized by inflammation, such as gum disease and appendicitis. Scientists have tied some strains to two inflammatory bowel diseases, ulcerative colitis and Crohn's disease, both of which elevate the risk of colon cancer. In addition to promoting inflammation, fuscobacterium has other qualities that make it a formidable foe: it invades tissues and it's sticky, which helps explain its presence in the dental plaque that clings to tooth enamel.

A Canadian research team found significantly more fuscobacterium RNA (a type of genetic material) in colon tumors than in healthy tissues from the same people. That surprised the investigators because fuscobacterium is a rare inhabitant of healthy guts and "has not been

previously associated with cancer," said Robert Holt, a senior scientist with the British Columbia Cancer Agency Genome Sciences Center and associate professor at Simon Fraser University in Vancouver.

A U.S. group compared tissues lining cancerous and healthy regions of patients' colons, looking in each for stretches of the microbes' DNA (another type of genetic material). They theorized that if bacteria and viruses were involved in the development of colorectal cancer, the quantity of the microbes in tumor tissue would differ from the quantity in adjacent healthy tissue. Indeed, looking first at tissues of nine people, and then 95 more, they found a spike in fuscobacterium species, especially fuscobacterium nucleatum, fuscobacterium mortiferum and fuscobacterium necrophorum in diseased tissue.

"Tumors and their surroundings contain complex mixtures of cancer cells, normal cells, and a variety of microorganisms such as bacteria and viruses," said Dr. Matthew Meyerson, co-director of the Center for Cancer Genome Discovery at the Dana-Farber Cancer Center in Boston and senior author of the second study. "Over the past decade, there has been an increasing focus on the relationship between cancer cells and their 'microenvironment,' specifically on the cell-to-cell interactions that may promote cancer formation and growth."

Both studies will be published online Tuesday in the international journal Genomic Research. Holt and Meyerson said their findings couldn't discern whether fuscobacterium infection causes colon cancer, or fuscobacterium infection and inflammation develop because of colon cancer. Meyerson said additional studies comparing bacteria in the tissues of cancer patients and healthy people could demonstrate whether there are more fuscobacterium species in the intestines of colon cancer patients than in the intestines of the general population.

Earlier this year, British researchers published in the International Journal of Case Reports and Images the case of a 72-year-old man with rectal cancer whose abscessed liver contained fuscobacterium nucleatum. They called their findings "the first incidence in literature of colonic cancer in association with fuscobacterium nucleatum."

Several types of cancer have infectious origins. The H. pylori bacterium responsible for stomach ulcers also produces stomach cancers. Viruses responsible for hepatitis B and hepatitis C also cause liver cancer. The human papilloma virus causes the vast majority of cervical cancer. Just last week, UCLA researchers announced they'd found significant differences in the relative abundance of particular bacterial species in the mouths of pancreatic cancer patients and healthy people. They said the altered quantities eventually might be the basis of screening tests for pancreatic cancer. There, too, researchers were unable to tell whether the altered bacteria levels were a cause or an effect of the cancer.

## 40.0 Periodontal Disease

The following article is from [www.perio.org](http://www.perio.org), The American Academy of Periodontology. Periodontal disease is the end stage of dental disease. It is very important to understand what

periodontal disease is and how to prevent it by establishing healthy oral hygiene habits from birth.

Many people think of periodontal disease as an adult problem. However, studies indicate that nearly all children and adolescents have gingivitis, the first stage of periodontal disease.

Advanced forms of periodontal disease are more rare in children than adults, but can occur.

Types of periodontal diseases in children

Chronic gingivitis is common in children. It usually causes gum tissue to swell, turn red and bleed easily. Gingivitis is both preventable and treatable with a regular routine of brushing, flossing and professional dental care. However, left untreated, it can eventually advance to more serious forms of periodontal disease.

Aggressive periodontitis can affect young people who are otherwise healthy. Localized aggressive periodontitis is found in teenagers and young adults and mainly affects the first molars and incisors. It is characterized by the severe loss of alveolar bone, and ironically, patients generally form very little dental plaque or calculus.

Generalized aggressive periodontitis may begin around puberty and involve the entire mouth. It is marked by inflammation of the gums and heavy accumulations of plaque and calculus. Eventually it can cause the teeth to become loose.

Periodontitis associated with systemic disease occurs in children and adolescents as it does in adults. Conditions that make children more susceptible to periodontal disease include:

- Type I diabetes
- Down syndrome
- Kindler syndrome
- Papillon-Lefevre syndrome

For example, in a survey of 263 Type I diabetics, 11 to 18 years of age, 10 percent had overt periodontitis.

Periodontal Disease Runs in the Family

Periodontal disease may be passed from parents to children and between couples. Researchers suggest that the bacteria which causes periodontal disease may be passed from one person to another through saliva. This means that the common contact of saliva in families puts children and couples at risk for contracting the periodontal disease of another family member.

Genetics may also play a major role in the onset and severity of periodontal disease. Researchers found that Up to 30% of the population may be genetically susceptible to developing severe periodontal disease. Therefore, if one family member has periodontal disease, it is a good idea for all family members to see a dental professional for a periodontal disease screening.

Adolescence and oral care

Evidence shows that periodontal disease may increase during adolescence due to lack of motivation to practice oral hygiene. Children who maintain good oral health habits up until the teen years are more likely to continue brushing and flossing than children who were not taught proper oral care.

Hormonal changes related to puberty can put teens at greater risk for getting periodontal disease.

During puberty, an increased level of sex hormones, such as progesterone and possibly estrogen, cause increased blood circulation to the gums. This may cause an increase in the gum's sensitivity and lead to a greater reaction to any irritation, including food particles and plaque. During this time, the gums may become swollen, turn red and feel tender.

As a teen progresses through puberty, the tendency for the gums to swell in response to irritants will lessen. However, during puberty, it is very important to follow a good at-home oral hygiene regimen, including regular brushing and flossing, and regular dental care. In some cases, a dental professional may recommend periodontal therapy to help prevent damage to the tissues and bone surrounding the teeth.

#### Advice for parents

Early diagnosis is important for successful treatment of periodontal diseases. Therefore, it is important that children receive a periodontal examination as part of their routine dental visits. Be aware that if your child has an advanced form of periodontal disease, this may be an early sign of systemic disease. A general medical evaluation should be considered for children who exhibit severe periodontitis, especially if it appears resistant to therapy.

Many medications can dry out the mouth or pose other threats to oral health. Be sure to tell your dental professional about any medications your family members are taking.

Monitor your family to see if anyone has the habit of teeth grinding. Grinding can increase the risk of developing periodontal disease, in addition to causing cracked or chipped teeth. Dentists can make custom-fitted night bite guards to prevent teeth grinding at night.

Researchers suggest periodontal disease can pass through saliva. This means that the common contact of saliva in families may put children and couples at risk for contracting the periodontal disease of another family member. If one family member has periodontal disease, all family members should see a dental professional for a periodontal evaluation.

The most important preventive step against periodontal disease is to establish good oral health habits with your child. There are basic preventive steps to help your child maintain good oral health:

- Establish good oral health habits early. When your child is 12 months old, you can begin using toothpaste when brushing his or her teeth. However, only use a pea-sized portion on the brush and press it into the bristles so your child won't eat it. And, when the gaps between your child's teeth close, it's important to start flossing.
- Serve as a good role model by practicing good oral health care habits yourself.
- Schedule regular dental visits for family checkups, periodontal evaluations and cleanings.
- Check your child's mouth for the signs of periodontal disease, including bleeding gums, swollen and bright red gums, gums that are receding away from the teeth and bad breath.

If your child currently has poor oral health habits, work with your child to change these now. It's much easier to modify these habits in a child than in an adult. Since your child models behavior after you, it follows that you should serve as a positive role model in your oral hygiene habits. A healthy smile, good breath and strong teeth all contribute to a young person's sense of personal appearance, as well as confidence and self-esteem.

## 41.0 Heart Disease

The following is from the Harvard Health Publications website.

Heart disease and oral health: role of oral bacteria in heart plaque  
February 2007

BOSTON, MA — The billions of bacteria and other microscopic critters that live in the mouth unquestionably influence the health of teeth and gums. But do they also cause problems for the heart and blood vessels? And can improving oral health prevent cardiovascular problems?

The notion that problems in the mouth cause diseases elsewhere in the body makes sense but has been difficult to prove, explains the Harvard Heart Letter. Scientists are exploring several mechanisms that may connect the two processes. In people with periodontitis (erosion of tissue and bone that support the teeth), chewing and toothbrushing release bacteria into the bloodstream. Several species of bacteria that cause periodontitis have been found in the atherosclerotic plaque in arteries in the heart and elsewhere. This plaque can lead to heart attack.

Oral bacteria could also harm blood vessels or cause blood clots by releasing toxins that resemble proteins found in artery walls or the bloodstream. The immune system's response to these toxins could harm vessel walls or make blood clot more easily. It is also possible that inflammation in the mouth revs up inflammation throughout the body, including in the arteries, where it can lead to heart attack and stroke.

Although we still have a lot to learn about whether, and how, periodontitis and other oral problems are linked to heart disease, the Harvard Heart Letter notes that it still makes good sense to take care of your teeth. Brush and floss every day, and see your dentist at least twice a year for regular cleanings and oral exams. This will pay off for your oral health and just may benefit your heart as well.

## 42.0 Good Habits

The following is from [www.http://stephhicks68.hubpages.com/hub/How-to-Get-Kids-to-Brush-and-Floss-Their-Teeth](http://stephhicks68.hubpages.com/hub/How-to-Get-Kids-to-Brush-and-Floss-Their-Teeth).

Establish a Lifetime of Good Dental Health for Your Children

© Stephanie Hicks January 2012

We all know that its important to brush and floss your teeth daily, but its often hard to get children to complete this simple task. Generally speaking, kids younger than age 6 will need parental assistance with brushing and flossing to ensure that it is done correctly. Once children reach school age, they can be expected to brush and floss independently morning and night.

But how can you get them to consistently do so without nagging?

Oral hygiene is more than just fresh breath and clean teeth. Good dental health is a cornerstone of personal care. As we get older, plaque can lead to gingivitis, which is characterized by bleeding gums, tooth decay, loss of teeth and even heart disease. Dental care is just as important for growing children as getting to the doctor for annual check-ups.

Encouraging children to develop thorough, consistent habits of brushing and flossing their teeth teaches self-respect, pride and responsibility. As a mom of four kids, ages 8-14, I've tried just about every trick in the book to get my children to learn dental hygiene. I take them to the dentist twice a year and am happy to report we haven't had any cavities for nearly 5 years in our family.

If it is a struggle in your home to get kids to brush and floss your teeth, you are not alone. Read on for some tips to help improve oral health in your family.

### Make Brushing and Flossing Fun for Kids

Pediatric dentists and other experts suggest that children get used to having their teeth brushed as early as possible.

Before baby teeth even erupt, you can start good dental habits by gently wiping down gums with a clean, damp wash cloth or a fingertip toothbrush. Move the washcloth or fingertip brush in a circular movement while singing a soft song. By the time your child has a few teeth, cleaning their mouth will have started to become habit.

When kids are old enough to brush their teeth - either on their own or with adult assistance, make the practice fun so you experience less resistance.

Here are some ideas that may encourage your children to enjoy brushing and flossing:

Practice beforehand with an old toothbrush on a stuffed animal or doll

Sing a fun "brush your teeth" song - make up silly words and dance along!

Use a tooth brushing timer

Consider chewable tablets that turn plaque pink, and then brush away the color with a toothbrush

Get a character themed toothbrush and/or spin toothbrush

Use flavored toothpaste (with your dentist's approval)

Keep track of brushing and flossing with a star or reward chart

### Establish a Reward System When your Kids Brush and Floss

Children as young as 2 may positively respond to a reward system for brushing and flossing. One of the easiest ways of keeping track of good dental hygiene habits is with a chart. When posted in the bathroom, it becomes a constant reminder for your kids to brush and floss their teeth.

Of course, children younger than 6 will need adult assistance to properly brush and floss. Even though you may be the one completing the task, rewarding your children for each day or week

that they consistently care for their teeth can establish a good responsibility foundation for when they are older. My kids are now in elementary school and middle school, but we still keep a brushing and flossing reward chart for the youngest children!

With a reward system or chart, it is best to have your kids work toward non-food related goals, consistent with the purpose of establishing good dental hygiene. Consider offering an outing to a movie, a sleep-over with a friend, or a visit to Grandma's house as a reward for a certain number of days they remember to brush and floss. For younger children that are afraid of or resistant to having their teeth brushed, each week that they complete with your help may earn a small reward such as a coloring book or the opportunity to stay up 1/2 hour later one evening.

Pre-teens and teens have usually outgrown a reward chart, but you can still encourage them to brush and floss with incentives. My kids can earn up to \$1 bonus "allowance" for every week that they brush, floss, wear their retainer/headgear and rubber bands on their braces without our reminding them.

Some dentists also reward children that have a no cavity check-up. Our pediatric dentist has a wall on which kids can put up a piece of paper with their first name that proclaims they have no cavities. Once a month, the dentist picks one name randomly and that child earns a \$25 gift certificate of their choice.

#### Be a Model of Good Oral Hygiene Habits

Let's face it - kids want to do the same things that they see their parents or guardians do. By brushing and flossing daily yourself, and going to the dentist twice a year, you can be a model of good oral hygiene habits.

Invite your kids into the bathroom when you are getting ready in the morning or preparing to go to bed. Share your experiences after a visit to your own dentist with your family. When you show your children that you are consistently taking care of your own teeth, they may be more motivated to brush and floss - hopefully with less nagging!

#### Talk to Your Pediatric Dentist

It is important that you talk to your pediatric dentist about specific concerns related to your child's teeth. They may have recommendations to help address certain conditions such as a strong gag reflex, crooked or grooved teeth, or the child that consistently swallows toothpaste instead of spitting it out. Your dentist may also recommend a specific diet for your child, if necessary, such as avoiding gummy fruit snacks or eating low acid fruits and vegetables.

Regular dental visits for children are an important habit to establish along with daily brushing and flossing. Years ago, dentists did not see children for a first visit until they were at least 3 years old. Today, however, babies are encouraged to visit a pediatric dentist as early as age 1, as part of their overall health care.

If you have any questions, be sure to talk with your pediatrician who can likely recommend a good pediatric dentist in your area.

Establishing healthy oral hygiene, starting at birth, is very important in the fight against dental disease. It is crucial to find ways to make brushing and flossing "fun." Just as it is not an option to put your child in a car seat, brushing and flossing should not be an option

### **43.0 Saving Lives, Saving People**

The following recommendation:

CDC. Centers for Disease Control and Prevention. CDC 24/7: Saving Lives. Protecting People.

#### Overview

Tooth decay (dental caries) affects children in the United States more than any other chronic infectious disease. Untreated tooth decay causes pain and infections that may lead to problems; such as eating, speaking, playing, and learning.

The good news is that tooth decay and other oral diseases that can affect children are preventable. The combination of dental sealants and fluoride has the potential to nearly eliminate tooth decay in school-age children.

#### What Parents and Caregivers Can Do

Here are some things you can do to ensure good oral health for your child:

Encourage your children to eat regular nutritious meals and avoid frequent between-meal snacking.

Protect your child's teeth with fluoride.

Use a fluoride toothpaste. If your child is less than 7 years old, put only a pea-sized amount on their toothbrush.

If your drinking water is not , talk to a dentist or physician about the best way to protect your child's teeth.

Talk to your child's dentist about dental sealants. They protect teeth from decay.

If you are pregnant, get prenatal care and eat a healthy diet. The diet should include folic acid to prevent birth defects of the brain and spinal cord and possibly cleft lip/palate.

### **44.0 Nutritional Guide**

We received a note from Meghan Lambert with the Public Health Foundation. She has prepared a nutrition guide for preschoolers with useful tips on nutrition. Access the guide with this link: <http://krilloil.com/blog/nutrition-pyramid/#NutritionPreschoolYears>

Thank you Meghan

