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Matt Mullin

Hole-y Mouth Jewelry! Piercings Could Lead to Anterior Tooth Loss

BY PATTY REYES, CDE

According to a just-released study from Tel Aviv University, you'd have to have a hole in your head to get a tongue or lip piercing. But some young people do and are often unaware they are at risk for dental complications.

"There are short-term complications to piercings in low percentages of teens, and, in rare cases, a piercing to the oral cavity can cause death," said Liran Levin, DMD, Department of Oral Rehabilitation, School of Dental Medicine at Tel Aviv University. "Swelling and inflammation of the area can cause edema, which disturbs the respiratory tract."

Levin said the most common concerns are tooth fracture and periodontal complications, which can be long term.

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AGD Urges Senators to Co-sponsor Oral Health Care Measure

The Academy of General Dentistry is praising the recent introduction of the "Oral Health Initiative Act of 2008" by Senators Benjamin Cardin (D-Md) and Susan Collins (R-Maine) that proposes establishing a multifaceted approach to oral health care through the creation of an expert oral health working group to assess existing federal oral health programs and recommend improvements.

"Dental disease presents a very serious problem for our children, particularly those from lower-income families," said Vincent Mayher, DMD, MAGD, AGD president. "This working group should look closely at all federal oral health care programs and make recommendations for improvement to ensure that no child is without dental care."

The working group would also develop programs to improve the oral health of and prevent dental disease in children, Medicaid-eligible adults, and other vulnerable populations who are among those Americans at highest risk of dental disease.

"Considering that the National Institutes of Health found that dental decay is the most common chronic childhood disease among children in the United States, preventive measures stopping dental disease before it worsens are essential to the future well-being of our nation's children," said Myron Bromberg, DDS, chairman of the AGD Legislative and Governmental Affairs Council.

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Safe for Pregnant Women to Receive Essential Dental Treatment

While obstetricians have typically considered dental care safe for pregnant women, supporting clinical trial evidence has been lacking. Until now.

In the June issue of the *Journal of the American Dental Association*, expectant women can safely undergo essential dental treatment and receive topical and local anesthetics at 13 to 21 weeks gestation.

Researchers compared safety outcomes from the Obstetrics and Periodontal Therapy Trial in which pregnant women received root planing and scaling, as well as essential dental treatment of moderate-to-severe cavities or fractured or abscessed teeth.

Eight hundred and twenty-three pregnant women with periodontitis were randomly selected to receive scaling and root planing either at 13 to 21 weeks gestation or up to three months postdelivery. (Pregnant women, experts recommended, should defer elective care before eight weeks gestation and during late pregnancy.) Researchers determined that 483 of these women also needed essential dental treatment; 351 completed all recommended treatment.

The research team was led by Bryan Michalowicz, DDS, MS, professor of periodontics, University of Minnesota School of Dentistry, Minneapolis.

Obstetric nurses reviewed medical records throughout the trial to monitor the subjects for serious adverse events, as defined by the authors as pregnancies that ended in a nonlive birth and other adverse events, including hospitalizations for more than 24 hours because of labor pains, hospitalizations for any other reason, fetal or congenital anomalies, and neonatal deaths, according to the study.

Vitamin D Levels in Pregnancy May Affect Baby's Teeth

Researchers are looking at low maternal vitamin D levels during pregnancy that could affect primary tooth calcification, thus leading to enamel defects, a risk factor for early childhood tooth decay.

Investigators from the University of Manitoba (Winnipeg and Victoria) recently presented a study conducted to determine the vitamin D status of pregnant women; the incidence of enamel defects; and early childhood tooth decay among their newborns; and the relationship with prenatal vitamin D levels.

Of the 206 pregnant women in their second trimester, only 21 women (10.5 percent) were found to have adequate vitamin D levels. The vitamin concentrations were related to the frequency of prenatal vitamin and milk consumption.

One hundred thirty-five newborns, 55.6 percent of them male, at 16.1 ± 7.4 months of age were studied, and researchers found that 21.6 percent of them had enamel defects while 33.6 percent had early childhood tooth decay. Mothers of children with enamel defects had lower, but not significantly different, mean vitamin D concentrations during pregnancy than those of children without defects, according to the study. Meanwhile, mothers of children with early childhood tooth decay had significantly lower vitamin D levels than those whose children were cavity-free. Newborns with enamel defects were significantly more likely to have early childhood tooth decay.

This is the first study to show that maternal vitamin D levels may have an influence on primary teeth and the development of early childhood tooth decay.

Diabetic Kids Get Permanent Teeth Sooner

Gum disease seems to come to mind whenever oral health and diabetes is mentioned. While it is true diabetics are at an increased risk of chronic periodontitis, there is another possible oral manifestation: Diabetic children who lose their deciduous teeth seem to get their permanent teeth sooner than their counterparts.

This little-investigated observation is worth further study because aberrations in tooth eruption can lead to a series of complications, such as malocclusion, crowding, and therefore difficulty in maintaining good oral hygiene and increased risk of decay and gum disease, said authors in the May issue of *Pediatrics*. At the same time, more definitive data might help doctors diagnose childhood diabetes.

In a study of nearly 600 children from age 18 down to 6, the NIDCR grantees found those with diabetes had accelerated tooth eruption in the late mixed dentition period, which occurs between the ages of 6 and 14. There were no differences during the early stages of tooth eruption in the two groups, scientists noted.

However, they did observe an accelerated eruption of clinically visible tooth crowns in diabetic children. Focusing on the still poorly defined biology of tooth eruption, the scientists said, "These findings suggest a dual complement of mechanisms influencing the intra- and extra-alveolar phases of eruption, the latter being modified in diabetes."

'Bridges to Nowhere'

The American Academy of Implant Dentistry is recommending aging dental bridges be replaced with permanent dental implants.

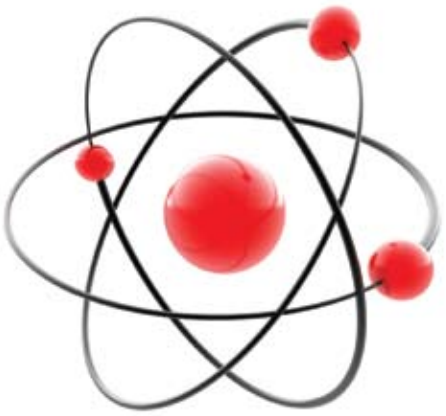
"Many of us have had the same bridges in our mouths for 20 years or more. They were put in at a time when bridgework was considered to be the norm for replacing missing or compromised teeth," said Olivia Palmer, DMD, of Charleston, S.C., an associate fellow of AAID and a diplomate of the American Board of Oral Implantology.

Computer-guided dental implant surgery today has made the procedure quicker, highly predicable, long-lasting, and 97 percent successful, far superior to outcomes with bridges. Palmer, therefore, advised anyone with one or more missing teeth who might consider having a first bridge inserted or replacing an old one to ponder the benefits of implants before getting treatment.

"An old bridge is basically worthless for preserving good dental health. In essence, it's a bridge to nowhere. So why keep a bridge to nowhere? For most patients, implants are a much better treatment alternative because they preserve the bone of the jaw, can be flossed easily, do not decay, and function just like natural teeth," she said, adding, "Also, to get implants you don't have to sacrifice healthy teeth, which is required with bridgework."

Bridges generally fail after five to 10 years as patients have trouble flossing them, said Palmer. "Because these bridges link missing tooth spaces to adjacent teeth, many patients find it very difficult to floss the bridge. Therefore, root surfaces below and around bridgework often decay, if not kept meticulously clean by flossing. It is impossible to repair this marginal decay, so the entire bridge must be replaced," she said.

"With an estimated two of three Americans having at least one missing tooth, implants are becoming the preferred tooth-replacement option. Implant surgery is one of the safest, most precise and predictable procedures in dentistry," said Palmer.



Dental Health Coordinator Program Proposed

A proposal that would implement the position of Community Dental Health Coordinator comes courtesy of the state of Michigan.

If the bill passes, a four-year demonstration program would authorize the practice of CDHCs to work in designated underserved areas under a dentist's supervision. CDHCs could provide limited dental care, including tooth scaling and placing temporary restorations. During the demonstration project, CDHCs must complete a curriculum developed by the ADA.

Additionally, the bill would create an advisory committee to study the issue, and to recommend to the state's director of community health whether CDHCs shall continue to practice past the expiration date of the pilot program.

New Molecule May Have Diagnostic, Therapeutic Applications

Using a plethora of plant viruses, National Institute of Standards and Technology materials researchers have identified a small biomolecule that binds to one of the key crystal structures of the body, the calcium compound that is the basic building block of bone and teeth. And, with more fine tuning, the molecule can be a highly discriminating probe for a huge range of therapeutic and diagnostic applications related to teeth and bones.

While there are different mechanical properties, hydroxyapatite, a crystalline compound of calcium phosphate, is the major structural component of bones and teeth. Accounting for the differences are the slight variations in the manner the crystal forms.

Of significant importance is monitoring and identifying the formation of this particular crystal. Researchers are working on a number of problems including the remineralization of teeth to repair decay damage, the integration of prosthetic joints and tissue-engineered bone materials for joint and bone replacement, and cell-based therapies to regrow bone tissue.

Currently, there is no one practical way to spot the formation of hydroxyapatite in living systems or tissue samples. Materials scientists can identify the crystal structure with high reliability by the pattern it makes scattering X-rays, but it's a complex procedure, requires fairly pure samples, and certainly can't be used on living systems, according to authors.

UPCOMING MEETINGS

2008	
Sept. 6-9	94th annual meeting, American Academy of Periodontology, Seattle, Wash., perio.org/meetings.
Sept. 12-14	CDA Fall Scientific Session, San Francisco, 800-CDA-SMILE (232-7645), cda.org.
Sept. 24-27	FDI Annual World Dental Congress, Stockholm, congress@fdiworldental.org.
Oct. 16-19	American Dental Association 149th Annual Session, San Antonio, Texas, ada.org.
Oct. 25-29	American Public Health Association Oral Health Section's annual meeting and exposition, San Diego, www.apha.org/meetings.
Nov. 2-8	United States Dental Tennis Association Fall meeting, Palm Desert, dentaltennis.org.
2009	
May 14-17	CDA Spring Scientific Session, Anaheim, 800-CDA-SMILE (232-7645), cda.org.
Sept. 12-13	CDA Fall Scientific Session, San Francisco, 800-CDA-SMILE (232-7645), cda.org.
Oct. 1-4	American Dental Association 150th Annual Session, Honolulu, Hawaii, ada.org.
Nov. 8-14	United States Dental Tennis Association Fall meeting, Scottsdale, Ariz., dentaltennis.org.

To have an event included on this list of nonprofit association continuing education meetings, please send the information to Upcoming Meetings, CDA Journal, 1201 K St., 16th Floor, Sacramento, CA 95814 or fax the information to 916-554-5962.

Honor

Sheldon Baumrind, DDS, Berkeley, Calif., professor and director of the Craniofacial Research Instrumentation Laboratory at University of the Pacific Arthur A. Dugoni School of Dentistry, was honored with the International Association for Dental Research 2008 Craniofacial Biology Research Award.

Sheldon Baumrind, DDS

PIERCINGS, CONTINUED FROM 651

"There is a repeated trauma to the area of the gum," he said in a previous interview. "You can see these young men and women playing with the piercing on their tongue or lip. This act prolongs the trauma to the mouth, and, in many cases, is a precursor to anterior tooth loss."

Levin, who conducted the study with Yehuda Zadik, DMD, and Tal Becker, DMD, both in the Israeli Army, found that close to 15 to 20 percent of teens with oral piercings are at high risk for both gum disease and tooth fractures.

The high number of fractures from piercings are not found in other age demographics, and cases of severe periodontal damage in the young who do not have oral piercings are rare, researchers said.

Their first study, published in 2005 in the peer-reviewed *Dental Traumatology*, was conducted on 400 individuals between the ages of 18 and 19. Using research from throughout the globe, this new review, published in late 2007 in *American Dental Journal*, is the biggest and first of its type to document the complications and risks from oral piercings. For example, 20 percent of Israel's teens and 10 percent of their counterparts in New York have some type of oral piercing compared to 3.4 percent of the Finnish.

In the Israel-based study, participants were asked questions about their knowledge of the risk factors associated with oral piercings; their piercing history; and their oral health. These questions were posed to those who had piercings and to those without prior to the start of clinical oral exams.

Levin noted that those with piercings were body-image conscious but oblivious about the potential risks of their mouth jewelry in the later years.

Levin advised teens to refrain from getting oral piercings, but if they are insistent, they should ensure the piercing tools are disposable, and, to help reduce infection, that related equipment be cleaned in an on-site autoclave.

Furthermore, Levin said, the area should be rinsed regularly with a chloroxidine-based mouthwash for two weeks, they should avoid toying with the piercing, and to clean it regularly. Calculus deposits over time may form on the piercing and should be removed by the dentist. Regular checkups are highly recommended.

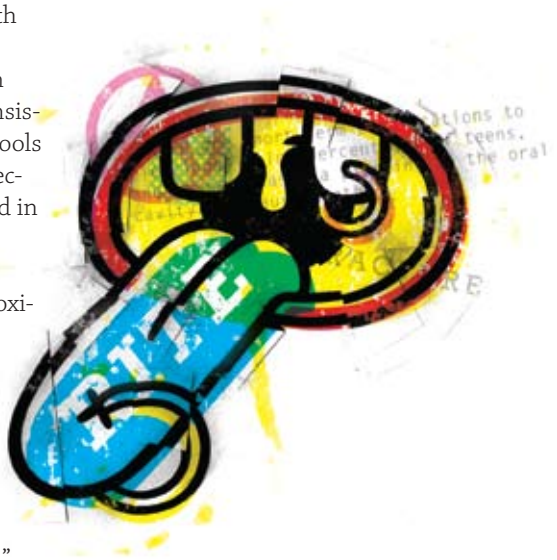
"Teenagers are not easy to manage," Levin said, offering further advice to parents, "Try, where possible, to dissuade your teen from getting a piercing. They will thank you when they are older."

Good Flossing Habits Start in Childhood

Inspiring a cycle of good oral care, Dr. Fresh has created colorful, single-use Flossers that are easy to use and are perfectly sized for a child's small mouth. Each FireFly Kids Flosser is preloaded with nylon-waxed floss and the handle's shape makes it easy to reach difficult spots in the mouth. A 36-count pack comes in four assorted colors — green, pink, blue, and orange, retails for $1.49, and is appropriate for children ages 4-12. For more information, go to www.drfresh.com.

Oxford Handbook of Clinical Dentistry

The new edition of this essential pocket guide, Oxford Handbook of Clinical Dentistry, covers the whole of clinical dentistry in a concise format. Authors have distilled the key elements of clinical practice into a readily accessible book, with blank pages provided for readers to add their own notes. Included in this edition is an extensive revision of cavity classification, caries diagnosis, resin composites and light curing, endodontics, and bleaching and implants; new material on caries risk assessment and new preparation techniques. To order online, go to http://www.researchandmarkets.com/product/8de763/oxford_handbook_of_clinical_dentistry_fourth.



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College Students Create Conduit to Dental Careers

A mentor program that steers students in middle and high school toward careers in health and science has been developed by students themselves at the New York University College of Dentistry.

"Operation Dental Success" is a curriculum for Brothers and Sisters in Science, a component of NYU's Programs for Preparatory Education in Science and Medicine, through which youths are encouraged to pursue higher education.

"Our aim is to encourage traditionally underrepresented racial, ethnic and socioeconomic groups toward pursuing careers in the health and science fields, and provide some of the tools and knowledge necessary to succeed," said Marcus D. Johnson, a senior dental student at NYU, and Marcus Michael Villacarlos, DMD, a 2007 NYU graduate, who launched the program.

Brothers and Sisters in Science was created by NYU medical students but didn't have a dental element until 2004 when Johnson received a grant from the American Medical Student Association. In the program, the university students volunteer to tutor, teach and mentor middle and high schoolers in New York via various activities ranging from providing hands-on experiences in health professions and information on dentistry as a career; offering a six-week program in the summer that allows participants to job shadow researchers and clinicians; as well as introducing middle school students at the Salk School of Science to scientific concepts that support their annual "Exploratorium" project.