

Dental Public Health Update

California Children's Dental
Disease Prevention Conference

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Overview

- Sealants
- Amalgam Controversy
- Fluoride
- Antibacterials
- Caries Predictors
- Floss
- Soft Drinks

Sealants

- On June 16, 2006 Mayor Gavin Newsom signed into law the banning of Bisphenol-A (BPA) in articles or products intended for use in children under 3 years of age *only in San Francisco*

**What does this have do with
Dental Sealants?...**

Sealants & BPA



- BPA originally developed as synthetic estrogen, but is now used to make resins.
- Composite resins formulated from a *mixture*, but *no known use of BPA by itself* in sealants.
- Low levels of BPA may be released into saliva from sealants right after application.

Sealants & BPA



In conclusion:

“Taken together, the weight of evidence *does not support* the hypothesis that low oral doses of BPA adversely affect human reproduction and developmental health.”

thus...

- No scientific basis for the ordinance
- SF government did not solicit any input

www.bisphenol-a.org

Sealants recommendations

Evidence-based Recommendations for the Use of Sealants

A. Reeves, F. Chiappelli, & O. Cajulis

CDA Journal. Vol.34, July 2006, UCLA School of Dentistry

The preventive effect for 2nd generation sealants ranges from 33%-71%. The median preventive effect is higher when sealants are reapplied, compared to a single application, because sealant effectiveness decreases over time.



Amalgam Controversy

“Federal review finds no scientific evidence of harm from mercury fillings.”

September 1, 2006, The Associated Press

- Silver fillings aren't dangerous despite exposure to mercury.
- The Food and Drug Administration reviewed 34 recent research studies.



Amalgam Controversy

FDA Advisers: Fillings May Not Be Safe

September 7, 2006, The Associated Press

Government health advisers **rejected** the federal report

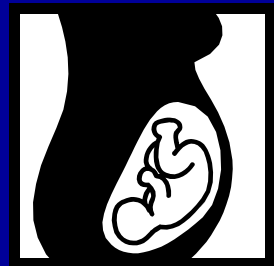
- “...didn't objectively and clearly present the current state of knowledge about fillings.”
- “...the report's conclusions about safety weren't reasonable.”

Amalgam Controversy

New York State Department of Health
Practice Guidelines: Oral Health Care
during Pregnancy and Early Childhood

Jay Kumar, DDS, MPH
Bureau of Dental Health
New York State Department of Health

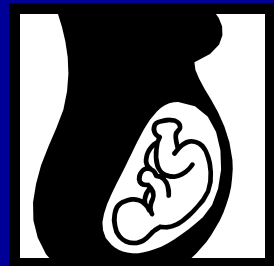
<http://cdhp.org/Projects/PPMCHResources.asp>



Amalgam Controversy

What advice should I give about the use of dental amalgam fillings during pregnancy?

1. All health professionals should educate women about the potential harm of untreated caries during pregnancy.
2. Women with symptomatic or severe caries should be treated promptly, including in the 1st trimester.
3. The oral health professional and the pregnant woman should determine the best treatment options based on the benefits, risks and alternatives of using dental amalgam fillings.



Amalgam Controversy

What advice should I give about the use of dental amalgam fillings during pregnancy?

4. The elemental mercury found in dental amalgams is different from methyl mercury, a form of organic mercury.
5. The consumption of fish and seafood is the major source of organic mercury.
6. The ingestion of methyl mercury during pregnancy is more of a concern than mercury vapor released from dental amalgams.



Fluoride – Clinical Trial

Sealant & Fluoride Varnish in Caries: A Randomized Trial

M. Bravo, J. Montero, J.J.Bravo, P. Baca, and J.C. Llodra
J Dent Res 84(12):1138-1143, 2005. Granada, Spain

Purpose: to compare sealants with fluoride varnish in the prevention of occlusal caries in permanent 1st molars – 4 yrs. of the program + 5 yrs. of discontinuation.

Fluoride – Clinical Trial

Results: **Sealants** effective in reducing caries both during the program and 5 years after discontinuation. **Fluoride Varnish** effective during the program, but not in the discontinuation period. No rebound effect. The molars did not show the high risk found in the control molars. Overall effect of the 4 yr. program remained significant.



Fluoride – Recommendations

Professionally applied topical fluoride: Evidence-based clinical recommendations

JADA, Vol. 137, August 2006
(See handout Table 3)



Fluoride – Clinical Trial

Fluoride Varnish Efficacy in Preventing Early Childhood Caries

Weintraub, Ramos-Gomez, Jue, Shain, Hoover, Featherstone, & Gansky
J Dent Res 85(2):172-176. 2006

No related adverse events were reported. Fluoride varnish added to caregiver counseling is efficacious in reducing early childhood caries incidence. Fluoride varnish applications resulted in a dose-response effect.



Antibacterial Treatment

Antibacterial Tx. Needed for Severe Early Childhood Caries

Zhan, Featherstone, Gansky, Hoover, Fujino, Berkowitz, Den Bestin
J Public Health Dent. Vol. 66. Summer 2006. UCSF

Objective: Assess the effect of povidone iodine as an adjunct to treat ECC.

Conclusions: Prophylaxis, fluoride gel, and caries treatment did not prevent new caries in > 60% of high risk infants. Single application of povidone iodine reduced SM and LB for 3 months, but failed to reduce future caries formation over 1 year.

Caries Predictors

Assessment of Dental Caries Predictors in a 7 yr. Longitudinal Study

Tagliaferro, Pereira, Meneghim, Ambrosano.

J Public Health Dent. Vol.66. Summer 2006. Brazil

Objective: Identify risk factors for dental caries increment in permanent dentition in 6-8 year old children.

Results: **Past dental caries** in primary teeth and **mother's educational level** were significant predictors of caries.



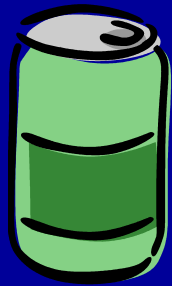
Floss

Dental Flossing and Interproximal Caries: A Systematic Review

Hujoel, Cunha-Cruz, Banting, Loesche
J Dent Res 85(4):298-305. 2006

Objective: Assess the effect of flossing on interproximal caries.

Results: Professional flossing for 1.7 yrs. on primary teeth was associated with a 40% caries risk reduction. Self flossing showed no effect.



Soft Drinks



Carbonated Soft Drinks and Dental Caries in the Primary Dentition

Sohn, Burt, Sowers
J Dent Res 85(3):262-266. 2006

Objective: Analyze fluid intake data among 2-10 yr. old children in NHANES III (1988-94).

Results: 13% of children had high carbonated soft drink consumption, higher caries experience in primary dentition than other patterns. A fluid intake pattern, milk, water, or juice was less likely to be associated with dental caries.