

Guideline on Infant Oral Health Care

Originating Committee

Clinical Affairs Committee – Infant Oral Health Subcommittee

Review Council

Council on Clinical Affairs

Adopted

1986

Revised

1989, 1994, 2001, 2004, 2009, 2011

Purpose

The American Academy of Pediatric Dentistry (AAPD) recognizes that infant oral health is one of the foundations upon which preventive education and dental care must be built to enhance the opportunity for a lifetime free from preventable oral disease. The AAPD proposes recommendations for preventive strategies, oral health risk assessment, anticipatory guidance, and therapeutic interventions to be followed by dental, medical, nursing, and allied health professional programs.

Methods

This guideline is an update of the previous Guideline on Infant Oral Health Care, revised in 2009. This revision included a hand search of literature as well as a new search of the MEDLINE/Pubmed® electronic database using the following parameters: Terms: “infant oral health”, “infant oral health care”, and “early childhood caries”; Fields: all; Limits: within the last 10 years, humans, English, and clinical trials. Papers for review were chosen from the resultant list of 449 articles and from references within selected articles. When data did not appear sufficient or were inconclusive, recommendations were based upon expert and/or consensus opinion by experienced researchers and clinicians.

Background

The Centers for Disease Control and Prevention reports that caries is the most prevalent infectious disease in our nation's children.¹ More than 40% of children have caries by the time they reach kindergarten.² In contrast to declining prevalence of dental caries among children in older age groups, the prevalence of caries in poor US children under the age of 5 is increasing.³ Early childhood caries (ECC) and the more severe form of ECC (S-ECC) can be particularly virulent forms of caries, beginning soon after tooth eruption, developing on smooth surfaces, progressing rapidly, and having a lasting detrimental impact on the dentition.⁴⁻⁹ This disease affects the general population but is 32 times more likely to occur in infants who are of low socioeconomic status, who consume a diet high in sugar, and whose mothers have a low education

level.^{10,11} Caries in primary teeth can affect children's growth, result in significant pain and potentially life-threatening infection, and diminish overall quality of life.¹²⁻²¹ Since medical health care professionals are far more likely to see new mothers and infants than are dentists, it is essential that they be aware of the infectious etiology and associated risk factors of ECC, make appropriate decisions regarding timely and effective intervention, and facilitate the establishment of the dental home.^{4,22-25}

Dental caries. Dental caries is a common chronic infectious transmissible disease resulting from tooth-adherent specific bacteria, primarily mutans streptococci (MS), that metabolize sugars to produce acid which, over time, demineralizes tooth structure.²⁶ MS generally is considered to be the principal group of bacterial organisms responsible for the initiation of dental caries.²⁷ MS colonization of an infant may occur from the time of birth.²⁸⁻³⁴ Significant colonization occurs after dental eruption as teeth provide non-shedding surfaces for adherence. Other surfaces also may harbor MS.^{32,35,36} For example, the furrows of the tongue appear to be an important ecological niche in harboring the bacteria in preerupted infants.^{33,35}

Vertical transmission of MS from mother to infant is well documented.³⁷⁻³⁹ Genotypes of MS in infants appear identical to those present in mothers in 17 reports, ranging from 24 to 100%.³⁹ The higher the levels of maternal salivary MS, the greater the risk of the infant being colonized.^{40,41} Along with salivary levels of MS, mother's oral hygiene, periodontal disease, snack frequency, and socioeconomic status also are associated with infant colonization.³⁶ Reports indicate that horizontal transmission (ie, transmission between members of a group such as siblings of a similar age or children in a daycare center) also may be of concern.⁴²⁻⁴⁵ Dental caries is a disease that generally is preventable. Early risk assessment allows for identification of parent-infant groups who are at risk for ECC and would benefit from early preventive intervention. The ultimate goal of early assessment is the timely delivery of educational information to populations at high risk for developing caries in order to prevent the need for later surgical intervention.

Anticipatory guidance. Caries-risk assessment for infants allows for the institution of appropriate strategies as the primary dentition begins to erupt. Even the most judiciously designed and implemented caries-risk assessment, however, can fail to identify all infants at risk for developing ECC. In these cases, the mother may not be the colonization source of the infant's oral flora, the dietary intake of simple carbohydrates may be extremely high, or other uncontrollable factors may combine to place the infant at risk for developing dental caries. Therefore, screening for risk of caries in the parent and infant, coupled with oral health counseling, is not a substitute for the early establishment of the dental home.⁴¹ The early establishment of a dental home, including ECC prevention and management, is the ideal approach to infant oral health care.^{25,37} The inclusion of education regarding the infectious and transmissible nature of bacteria that cause ECC, as well as methods of oral health risk assessment, anticipatory guidance, and early intervention, into the curriculum of medical, nursing, and allied health professional programs has shown to be effective in increasing the establishment of a dental home.^{47,48} Recent studies, noting that a majority of pediatricians and general dentists were not advising patients to see a dentist by 1 year of age, point to the need for increased infant oral health care education in the medical and dental communities.^{49,50}

Recommendations

Recommendations for parental oral health⁵¹

Oral health education: All primary health care professionals who serve parents and infants should provide education on the etiology and prevention of ECC. Educating the parent on avoiding saliva-sharing behaviors (eg, sharing spoons and other utensils, sharing cups, cleaning a dropped pacifier or toy with their mouth) can help prevent early colonization of MS in infants.

Comprehensive oral examination: Referral for a comprehensive oral examination and treatment during pregnancy is especially important for the mother.

Professional oral health care: Routine professional dental care for the parent can help optimize oral health. Removal of active caries, with subsequent restoration of remaining tooth structure, in the parents suppresses the MS reservoir and minimizes the transfer of MS to the infant, thereby decreasing the infant's risk of developing ECC.⁵²

Oral hygiene: Brushing with fluoridated toothpaste and flossing by the parent are important to help dislodge food and reduce bacterial plaque levels.

Diet: Dietary education for the parents includes the cariogenicity of certain foods and beverages, role of frequency of consumption of these substances, and the demineralization/reminerization process.

Fluoride: Using a fluoridated toothpaste and rinsing with an alcohol-free, over-the-counter mouth rinse containing 0.05% sodium fluoride once a day or 0.02% sodium fluoride rinse twice a day have been suggested to help reduce plaque levels and promote enamel remineralization.²²

Xylitol chewing gum: Evidence suggests that the use of xylitol chewing gum (at least 2-3 times a day by the mother) has a significant impact on mother-child transmission of MS and decreasing the child's caries rate.⁵³⁻⁵⁵

Recommendations for the infant's oral health

Oral health risk assessment: Every infant should receive an oral health risk assessment from his/her primary health care provider or qualified health care professional by 6 months of age. This initial assessment should evaluate the patient's risk of developing oral diseases of soft and hard tissues, including caries-risk assessment, provide education on infant oral health, and evaluate and optimize fluoride exposure.

Establishment of a dental home: Parents should establish a dental home for infants by 12 months of age.⁵⁶ The initial visit should include thorough medical (infant) and dental (parent and infant) histories, a thorough oral examination, performance of an age-appropriate tooth brushing demonstration, and prophylaxis and fluoride varnish treatment if indicated. In addition, assessing the infant's risk of developing caries and determining a prevention plan and interval for periodic re-evaluation should be done. Infants should be referred to the appropriate health professional if specialized intervention is necessary. Providing anticipatory guidance regarding dental and oral development, fluoride status, non-nutritive sucking habits, teething, injury prevention, oral hygiene instruction, and the effects of diet on the dentition are also important components of the initial visit.

Teething: Teething can lead to intermittent localized discomfort in the area of erupting primary teeth, irritability, and excessive salivation; however, many children have no apparent difficulties. Treatment of symptoms includes oral analgesics and chilled rings for the child to "gum".⁵⁷ Use of topical anesthetics, including over-the-counter teething gels, to relieve discomfort are discouraged due to potential toxicity of these products in infants.⁵⁸⁻⁶⁰

Oral hygiene: Oral hygiene measures should be implemented no later than the time of eruption of the first primary tooth. Cleansing the infant's teeth as soon as they erupt with a soft toothbrush will help reduce bacterial colonization. Toothbrushing should be performed for children by a parent twice daily, using a soft toothbrush of age-appropriate size. Flossing should be initiated when adjacent tooth surfaces can not be cleansed with a toothbrush.⁴⁰

Diet: High-sugar dietary practices appear to be established early, by 12 months of age, and are maintained throughout early childhood.^{61,62} Frequent night time bottle feeding with milk and ad libitum breast-feeding are associated with, but not consistently implicated in, ECC.⁶³ Night time bottle feeding with juice, repeated use of a sippy or no-spill cup, and frequent in between meal consumption of sugar-containing snacks or drinks (eg, juice, milk, formula, soda) increase the risk of caries.⁶⁴

Fluoride: Optimal exposure to fluoride is important to all dentate infants and children.⁶⁵ Decisions concerning the

administration of fluoride are based on the unique needs of each patient.⁶⁶⁻⁶⁸ The use of fluoride for the prevention and control of caries is documented to be both safe and effective.⁶⁹⁻⁷³

When determining the risk-benefit of fluoride, the key issue is mild fluorosis versus preventing devastating dental disease. In children considered at moderate or high caries risk under the age of 2, a 'smear' of fluoridated toothpaste should be used. In all children ages 2 to 5, a 'pea-size' amount should be used.⁷⁴⁻⁷⁶

Professionally-applied topical fluoride, such as fluoride varnish, should be considered for children at risk for caries.^{69,72,73,77,78}

Systemically-administered fluoride should be considered for all children at caries risk who drink fluoride deficient water (<0.6 ppm) after determining all other dietary sources of fluoride exposure.⁷⁹ Careful monitoring of fluoride is indicated in the use of fluoride-containing products. Fluorosis has been associated with cumulative fluoride intake during enamel development.

Injury prevention: Practitioners should provide age-appropriate injury prevention counseling for orofacial trauma. Initially, discussions would include play objects, pacifiers, car seats, and electric cords.⁸⁰

Non-nutritive habits: Non-nutritive oral habits (eg, digit or pacifier sucking, bruxism, abnormal tongue thrust) may apply forces to teeth and dentoalveolar structures. It is important to discuss the need for early sucking and the need to wean infants from these habits before malocclusion or skeletal dysplasias occur.⁸⁰

Additional recommendations

Health care professionals and all other stakeholders in children's oral health should support the identification of a dental home for all infants by 12 months of age. Legislators, policy makers, and third party payors should be educated regarding the importance of early interventions to prevent ECC.

References

1. US Dept of Health and Human Services. Oral health in America: A report of the Surgeon General. Rockville, Md: US Dept of Health and Human Services, National Institute of Dental and Craniofacial Research, National Institutes of Health; 2000.
2. Pierce KM, Rozier RG, Vann WF Jr. Accuracy of pediatric primary care providers' screening and referral for early childhood caries. *Pediatrics* 2002;109(5):E82-2.
3. Dye BA, Tan S, Smith V, et al. Trends in oral health status: United States, 1988-1994 and 1999-2004. *National Center for Health Statistics. Vital Health Stat* 11(248). 2007.
4. Nowak AJ, Warren JJ. Infant oral health and oral habits. *Pediatr Clin North Am* 2000;47(5):1043-66.
5. Gray MM, Marchment MD, Anderson RJ. The relationship between caries experience in deciduous molars at 5 years and in first permanent molars of the same child at 7 years. *Community Dent Health* 1991;8(1):3-7.
6. Grindeford M, Dahllöf G, Modéer T. Caries development in children from 2.5 to 3.5 years of age: A longitudinal study. *Caries Res* 1995;29(6):449-54.
7. O'Sullivan DM, Tinanoff N. The association of early dental caries patterns with caries incidence in preschool children. *J Public Health Dent* 1996;56(2):81-3.
8. Johnsen DC, Gerstenmaier JH, DiSantis TA, Berkowitz RJ. Susceptibility of nursing-caries children to future approximal molar decay. *Pediatr Dent* 1997;19(1):37-41.
9. Heller KE, Eklund SA, Pittman J, Ismail AA. Associations between dental treatment in the primary and permanent dentitions using insurance claims data. *Pediatr Dent* 2000;22(6):469-74.
10. Drury TF, Horowitz AM, Ismail AA, et al. Diagnosing and reporting early childhood caries for research purposes. *J Public Health Dent* 1999;59(3):192-7.
11. Mobley C, Marshall TA, Milgrom P, Coldwell SE. The contribution of dietary factors to dental caries and disparities in caries. *Acad Pediatr* 2009;9(6):410-4.
12. Acs G, Lodolini G, Kaminsky S, Cisneros GJ. Effect of nursing caries on body weight in a pediatric population. *Pediatr Dent* 1992;14(5):302-5.
13. Ayhan H, Suskan E, Yildirim S. The effect of nursing or rampant caries on height, body weight, and head circumference. *J Clin Pediatr Dent* 1996;20(3):209-12.
14. Fleming P, Gregg TA, Saunders ID. Analysis of an emergency dental service provided at a children's hospital. *Int J Paediatr Dent* 1991;1(1):25-30.
15. Schwartz S. A one-year statistical analysis of dental emergencies in a pediatric hospital. *J Can Dent Assoc* 1994;60(11):959-62, 966-8.
16. Sheller B, Williams BJ, Lombardi SM. Diagnosis and treatment of dental caries-related emergencies in a children's hospital. *Pediatr Dent* 1997;19(8):470-5.
17. Low W, Tan S, Schwartz S. The effect of severe caries on the quality of life in young children. *Pediatr Dent* 1999;21(6):325-6.
18. Acs G, Pretzer S, Foley M, Ng MW. Perceived outcomes and parental satisfaction following dental rehabilitation under general anesthesia. *Pediatr Dent* 2001;23(5):419-23.
19. Thomas CW, Primosch RE. Changes in incremental weight and well-being of children with rampant caries following complete dental rehabilitation. *Pediatr Dent* 2002;24(2):109-13.
20. Cunnion DT, Spiro A III, Jones JA, et al. Pediatric oral health-related quality of life improvement after treatment of early childhood caries: A prospective multi-site study. *J Dent Child* 2010;77(1):4-11.
21. Sheller B, Churchill SS, Williams BJ, Davidson B. Body mass index of children with severe early childhood caries. *Pediatr Dent* 2009;31(3):216-21.
22. American Academy of Pediatrics. Policy on oral health risk assessment timing and establishment of the dental home. *Pediatrics* 2003;111(5Pt1):1113-6.
23. Lewis CW, Grossman DC, Domoto PK, et al. The role of the pediatrician in the oral health of children: A national survey. *Pediatrics* 2000;106(6):E84.

24. Harrison R. Oral health promotion for high-risk children: Case studies from British Columbia. *J Can Dent Assoc* 2003;69(5):292-6.
25. American Academy of Pediatrics, Section on Pediatric Dentistry and Oral Health. A policy statement: Preventive intervention for pediatricians. *Pediatrics* 2008;122(6):1387-94.
26. Loesche WJ. Role of *Streptococcus mutans* in human dental decay. *Microbiol Rev* 1986;50(4):353-80.
27. Ge Y, Caufield PW, Fisch GS, Li Y. *Streptococcus mutans* and *Streptococcus sanguis* colonization correlated with caries experience in children. *Caries Res* 2008;42(6):444-8. Epub October 3, 2008.
28. Berkowitz RJ, Jordan HV, White G. The early establishment of *Streptococcus mutans* in the mouths of infants. *Arch Oral Biol* 1975;20(3):171-4.
29. Stiles HM, Meyers R, Brunnelle JA, Wittig AB. Occurrence of *Streptococcus mutans* and *Streptococcus sanguis* in the oral cavity and feces of young children. In: Stiles M, Loesch WJ, O'Brien T, eds. *Microbial Aspects of Dental Caries*. Washington, DC: Information Retrieval; 1976:187.
30. Loesche WJ. Microbial adhesion and plaque. In: *Dental Caries: A Treatable Infection*. 2nd ed. Grand Haven, Mich; Automated Diagnostic Documentation, Inc; 1993: 81-116.
31. Wan AK, Seow WK, Purdie DM, Bird PS, Walsh LJ, Tudehope DI. A longitudinal study of *Streptococcus mutans* colonization in infants after tooth eruption. *J Dent Res* 2003;82(7):504-8.
32. Wan AK, Seow WK, Walsh LJ, Bird P, Tudehope DI, Purdie DM. Association of *Streptococcus mutans* infection and oral developmental nodules in predecidate infants. *J Dent Res* 2001;80(10):1945-8.
33. Berkowitz RJ. Mutans streptococci: Acquisition and transmission. *Pediatr Dent* 2006;28(2):106-9, discussion 192-8.
34. Law V, Seow WK, Townsend G. Factors influencing oral colonization of mutans streptococci in young children. *Aust Dent J* 2007;52(2):93-100, quiz 159.
35. Tanner ACR, Milgrom PK, Kent R Jr, et al. The microbiota of young children from tooth and tongue samples. *J Dent Res* 2002;81(1):53-7.
36. Wan AK, Seow WK, Purdie DM, Bird PS, Walsh LJ, Tudehope DI. Oral colonization of *Streptococcus mutans* in six-month-old predecidate infants. *J Dent Res* 2001; 80(12):2060-5.
37. Davey AL, Rogers AH. Multiple types of the bacterium *Streptococcus mutans* in the human mouth and their intra-family transmission. *Arch Oral Biol* 1984;29(6):453-60.
38. Berkowitz R, Jones P. Mouth-to-mouth transmission of the bacterium *Streptococcus mutans* between mother and child. *Arch Oral Biol* 1985;30(4):377-9.
39. Douglass JM, Li Y, Tinanoff N. Association of mutans streptococci between caregivers and their children. *Pediatr Dent* 2008;29(5):375-87.
40. American Academy of Pediatric Dentistry. Policy on early childhood caries (ECC): Classifications, consequences, and preventive strategies. *Pediatr Dent* 2011;33(special issue):47-9.
41. Parisotto TM, Steiner-Oliveira C, Silva CM, Rodrigues LK, Nobre-dos-Santos M. Early childhood caries and mutans streptococci: A systematic review. *Oral Health Prev Dent* 2010;8(1):59-70.
42. Mattos-Graner RO, Li Y, Caufield PW, Duncan M, Smith DJ. Genotypic diversity of Mutans streptococci in Brazilian nursery children suggests horizontal transmission. *J Clin Microbiol* 2001;39(6):2313-6.
43. Van Loveren C, Buijs JF, ten Cate JM. Similarity of bacteriocin activity profiles of Mutans streptococci within the family when the children acquire strains after the age of 5. *Caries Res* 2000;34(6):481-5.
44. Emanuelsson L, Wang X. Demonstration of identical strains of Mutans streptococci within Chinese families by genotyping. *Eur J Oral Sci* 1998;106(3):778-94.
45. Mitchell SC, Ruby JD, Moser S, et al. Maternal transmission of Mutans streptococci in severe-early childhood caries. *Pediatr Dent* 2009;31(3):193-201.
46. American Academy of Pediatric Dentistry. Policy on the dental home. *Pediatr Dent* 2011;33(special issue):24-5.
47. Douglass JM, Douglass AB, Silk HJ. Infant oral health education for pediatric and family practice residents. *Pediatr Dent* 2005;27(4):284-91.
48. Fein JE, Quiñonez RB, Phillips C. Introducing infant oral health into dental curricula: A clinical intervention. *J Dent Educ* 2009;73(10):1171-7.
49. Brickhouse TH, Unkel JH, Kancitis I, Best AM, Davis RD. Infant oral health care: A survey of general dentists, pediatric dentists, and pediatricians in Virginia. *Pediatr Dent* 2008;30(2):147-53.
50. Malcheff S, Pink TC, Sohn W, Inglehart MR, Briskie D. Infant oral health examinations: Pediatric dentists' professional behavior and attitudes. *Pediatr Dent* 2009;31(3): 202-9.
51. Nowak AJ, Casamassimo PS. Using anticipatory guidance to provide early dental intervention. *J Am Dent Assoc* 1995;126(8):1156-63.
52. New York State Department of Health. Oral health care during pregnancy and early childhood: Practice Guidelines. Aug, 2006. Available at: "<http://www.nyhealth.gov/publications/0824.pdf>". Accessed June 10, 2011.
53. Isokangas P, Söderling E, Pienihäkkinen K, Alanen P. Occurrence of dental decay in children after maternal consumption of xylitol chewing gum: A follow-up from 0 to 5 years of age. *J Dent Res* 2000;79(11):1885-9.
54. Söderling E, Isokangas P, Pienihäkkinen K, Tenovou J. Influence of maternal xylitol consumption on acquisition of mutans streptococci by infants. *J Dent Res* 2000;79(3):882-7.

55. Thorild I, Lindau B, Twetman S. Caries in 4-year-old children after maternal chewing of gums containing combinations of xylitol, sorbitol, chlorhexidine, and fluoride. *Eur Arch Paediatr Dent* 2006;7(4):241-5.
56. American Academy of Pediatric Dentistry. Guideline on periodicity of examination, preventive dental services, anticipatory guidance/counseling, and oral treatment for infants, children, and adolescents. *Pediatr Dent* 2010;32 (special issue):93-100.
57. Tinanoff NT. The oral cavity. In: Kliegman RM, Stanton BF, St Geme J, Schor N, Behrman RE eds. *Nelson Textbook of Pediatrics*, 19th ed. Philadelphia, Pa: Elsevier (Saunders); 2011:1257.
58. Balicer RD, Kitai E. Methemoglobinemia caused by topical teething preparation: A case report. *Scientific World J* 2004;15(4):517-20.
59. Bong CL, Hilliard J, Seefelder C. Severe methemoglobinemia from topical benzocaine 7.5% (baby Orajel) use for teething pain in a toddler. *Clin Pediatr* 2009;48(2): 201-11.
60. US Food and Drug Administration. FDA drug safety communication: Reports of a rare, but serious and potentially fatal adverse effect with the use of over-the-counter (OTC) benzocaine gels and liquids applies to the gums or mouth. Available at: "<http://www.fda.gov/Drugs/DrugSafety/ucm250024.htm>". Accessed June 10, 2011.
61. Douglass JM. Response to Tinanoff and Palmer: Dietary determinants of dental caries and dietary recommendations for pre-school children. *J Public Health Dent* 2000; 60(3):207-9.
62. Kranz S, Smiciklas-Wright H, Francis LA. Diet quality, added sugar, and dietary fiber intake in American preschoolers. *Pediatr Dent* 2006;28(2):164-71.
63. Reisine S, Douglass JM. Psychosocial and behavioral issues in early childhood caries. *Commun Dent Oral Epidem* 1998;26(suppl):32-44.
64. Tinanoff NT, Kanellis MJ, Vargas CM. Current understanding of the epidemiology, mechanism, and prevention of dental caries in preschool children. *Pediatr Dent* 2002;24(6):543-51.
65. Milgrom PM, Huebner CE, Ly KA. Fluoridated toothpaste and the prevention of early childhood caries: A failure to meet the needs of our young. *J Am Dent Assoc* 2009;140(6):628, 630-1.
66. American Academy of Pediatric Dentistry. Policy on use of fluoride. *Pediatr Dent* 2010;32(special issue):34-35.
67. Hale K, Heller K. Fluorides: Getting the benefits, avoiding the risks. *Contemp Pediatr* 2000;2:121.
68. American Dental Association. Caries diagnosis and risk assessment: A review of preventive strategies and management. *J Am Dent Assoc* 1995;126(suppl):1S-24S.
69. Adair SM. Evidence-based use of fluoride in contemporary pediatric dental practice. *Pediatr Dent* 2006;28(2): 133-42.
70. Whitford GM. The physiological and toxicological characteristics of fluoride. *J Dent Res* 1990;69(special issue): 539-49, discussion 556-7.
71. Workshop Reports I, II, III from "A symposium on changing patterns of fluoride intake" held at UNC-Chapel Hill, April 23-25, 1991. *J Dent Res* 1992;71(5):1214-27.
72. CDC. Recommendations for using fluoride to prevent and control dental caries in the United States. *MMWR Recomm Rep* 2001;50(RR-14):1-42.
73. Facts about fluoride. *CDS Rev* 2006;99(1):44.
74. Pang DT, Vann WF Jr. The use of fluoride-containing toothpastes in young children: The scientific evidence for recommending a small amount. *Pediatr Dent* 1992;14 (6):384-7.
75. Ramos-Gomez FJ, Crall JJ, Gansky SA, Slayton RL, Featherstone JD. Caries risk assessment appropriate for the age 1 visit (infants and toddlers). *J Calif Dent Assoc* 2007;35(10):687-702.
76. Scottish Intercollegiate Guideline Network. Prevention and management of dental decay in the pre-school child. A national guideline. Available at: "<http://www.sign.ac.uk/pdf/qrg83.pdf>". Accessed June 10, 2011.
77. American Dental Association, Council on Scientific Affairs. Professionally-applied topical fluoride: Evidence-based clinical recommendations. *J Amer Dent Assoc* 2006; 137(8):1151-9.
78. American Academy of Pediatric Dentistry. Guideline on caries-risk assessment and management for infants, children, and adolescents. *Pediatr Dent* 2011;33(special issue):110-7.
79. American Academy of Pediatric Dentistry. Guideline on fluoride therapy. *Pediatr Dent* 2010;32(special issue): 143-6.
80. American Academy of Pediatric Dentistry. Guideline on periodicity of examination, preventive dental services, anticipatory guidance, and oral treatment for children. *Pediatr Dent* 2010;32(special issue):93-100.