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Best Practices on Periodicity of Examination, Preventive Dental Services, Anticipatory Guidance/Counseling, and Oral Treatment for Infants, Children, and Adolescents

Review Council

Council on Clinical Affairs

Revised

~~2013,~~ 2018

Purpose

The American Academy of Pediatric Dentistry (**AAPD**) intends ~~this guideline~~ these recommendations to help practitioners make clinical decisions concerning preventive oral health interventions, including anticipatory guidance and preventive counseling, for infants, children, and adolescents.

Methods

~~This guideline was~~These recommendations were originally developed by the Clinical Affairs Committee and adopted in 1991. This document is a revision of the previous version, last revised in ~~2009~~2013. The update used electronic database and hand searches of articles in the medical and dental literature using the terms: periodicity of dental examinations, dental recall intervals, preventive dental services, anticipatory guidance and dentistry, caries risk assessment, early childhood caries, dental caries prediction, dental care cost effectiveness and children, periodontal disease and children and adolescents U.S., pit and fissure sealants, dental sealants, fluoride supplementation and topical fluoride, dental trauma, dental fracture and tooth, non-nutritive oral habits, treatment of developing malocclusion, removal of wisdom teeth, removal of third molars; fields: all; limits: within the last 10 years, humans, English, and clinical trials; birth through age 18. From this search, ~~3,418~~ 1,884 articles matched these criteria and were evaluated by title and/or abstract. Information from ~~113~~49 articles was chosen for review to update this document. When data did not appear sufficient or were inconclusive, recommendations were based upon expert and/or consensus opinion by experienced researchers and clinicians.

Background

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Professional dental care is necessary to maintain oral health[1] (~~US DHHS 2000~~). The AAPD emphasizes the importance of initiating professional oral health intervention in infancy and continuing through adolescence and beyond[2] (~~US DHHS 2000, US DHHS 2003, Lewis and Ismail 1995~~). The periodicity of professional oral health intervention and services is based on a patient's individual needs and risk indicators[3,4,5,6,7,8]. Each age group, as well as each individual child, has distinct developmental needs to be addressed at specific intervals as part of a comprehensive evaluation[2,9-11]. Continuity of care is based on the assessed needs of the individual patient and assures appropriate management of all oral conditions, dental disease, and injuries[12-18]. The early dental visit to establish a dental home provides a foundation upon which a lifetime of preventive education and oral health care can be built. The early establishment of a dental home has the potential to provide more effective and less costly dental care when compared to dental care provided in emergency care facilities or hospitals[19-23]. Anticipatory guidance and counseling are essential components of the dental visit[2,9,10,19,20,22,24-27] (~~CDC 2001~~). Collaborative efforts and effective communication between medical and dental homes is essential to prevent oral disease and promote oral and overall health among children. Medical professionals can play an important role in children's oral health by providing primary prevention and coordinated care. Equally, dentists can improve the overall health of children not only by treating dental disease, but also by proactively recognizing child abuse, preventing traumatic injuries through anticipatory guidance, preventing obesity by longitudinal dietary counseling, and monitoring of weight status[28]. In addition, dentists can have an important role in assessing immunization status and developmental milestones for potential delays, as well as making appropriate referral for further neurodevelopmental evaluations and therapeutic services[29]. The unique opportunity dentists have to help address overall health issues strengthens as children get older since annual well child visits decreases while dental recall visits increase. Research shows that children aged 6- to 12-years are, on average, four times more likely to visit a dentist than a pediatrician[30,31].

Recommendations

This ~~guideline~~ document addresses periodicity and general principles of examination, preventive dental services, anticipatory guidance/counseling, and oral treatment for children who have no contributory medical conditions and are developing normally. ~~An a~~Accurate, comprehensive, and up-to-date medical, dental, and social histories are necessary for correct diagnosis and effective treatment planning. Recommendations may be modified to meet the unique requirements of patients with special health care needs[32].

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Clinical oral examination

The first examination is recommended at the time of the eruption of the first tooth and no later than 12 months of age[2,19,20,22,]. The developing dentition and occlusion should be monitored throughout eruption at regular clinical examinations[27]. Evidenced-based prevention and ~~Early~~ early detection and management of caries/oral conditions can improve a child's oral/general health, ~~general health and~~, well-being, and school readiness[5,24,33-36]. It has been reported that the number and cost of dental procedures among high-risk children is less for those seen at an earlier age versus later, confirming the fact that the sooner a child is seen by a dentist, the less treatment needs they are likely to have in the future[37]. On the other hand, ~~Delayed~~ delayed diagnosis of dental disease can result in exacerbated problems which lead to more extensive and costly care[8,33,38-41]. Early diagnosis of developing malocclusions may allow for timely therapeutic intervention[9,27].

Components of a comprehensive oral examination include assessment of:

- General health/growth assessment.
- Pain.
- Extraoral soft tissue.
- Temporomandibular joint.
- Intraoral soft tissue.
- Oral hygiene and periodontal health.
- Intraoral hard tissue.
- Developing occlusion
- Caries risk.
- Behavior of child.

Based upon the visual examination, the dentist may employ additional diagnostic aids (e.g., radiographs, photographs, pulp vitality testing, laboratory tests, study casts)[8,13,42-44].

The ~~most common~~ interval of examination ~~is six months~~ should be based on the child's individual needs or risk status/susceptibility to disease ~~however,~~ some patients may require examination and preventive services at more or less frequent intervals, based upon historical, clinical, and radiographic findings[4,7,8,16-18,25,45-48] (~~ADA – The Use of Dental Radiographs; Update and Recommendations 2006~~, ~~Greenwell 2001~~). Caries and its sequelae are among the most prevalent health problems facing infants, children, and

adolescents in America[49] (~~US DHHS 2000~~). ~~Carious~~ Caries lesions are cumulative and progressive and, in the primary dentition, are highly predictive of caries occurring in the permanent dentition[6,50] (~~Li and Wang 2002, Powell 1998~~). Reevaluation and reinforcement of preventive activities contribute to improved instruction for the caregiver of the child or adolescent, continuity of evaluation of the patient's health status, and repetitive exposure to dental procedures, potentially allaying anxiety and fear for the apprehensive child or adolescent[51]. Individuals with special health care needs may require individualized preventive and treatment strategies that take into consideration the unique needs and disabilities of the patient[32].

Caries-risk assessment

Risk assessment is a key element of contemporary preventive care for infants, children, adolescents, and persons with special health care needs. It should be carried out as soon as the first primary teeth erupt and reassessed periodically by dental and medical providers[6,25]. Its goal is to prevent disease by (1) identifying ~~and minimizing causative factors (e.g., microbial burden, dietary habits, plaque accumulation) and optimizing protective factors (e.g., fluoride exposure, oral hygiene, sealants)~~ children at high risk for caries, (2) developing individualized preventive measures and caries management, as well as (3) aiding the practitioner in determining appropriate periodicity of services[25,52,53]. Taking into consideration that the etiology of dental caries is multifactorial and complex, current caries-risk assessment models entail a combination of factors including diet, fluoride exposure, host susceptibility, and microflora analysis and consideration of how these factors interact with social, cultural, and behavioral factors. More comprehensive models that include social, political, psychological, and environmental determinants of health are also available[54-57]. Caries risk assessment forms and caries management protocols are available and aimed to simplify and clarify the process[25,58,59] (~~CDC 2001~~). Sufficient evidence demonstrates certain groups of children at greater risk for development of early childhood caries (ECC) would benefit from infant oral health care[24,33,60-64]. Infants and young children have unique caries-risk factors such as ongoing establishment of oral flora and host defense systems, susceptibility of newly erupted teeth, and development of dietary habits. Because the etiology of ECC is multifactorial and significantly influenced by health behaviors[65], preventive messages for expectant parents and parents of very young children should target risk factors (e.g., early mutans streptococci contamination, poor oral hygiene habits, nighttime feeding, high sugar consumption frequency) known to place children at a higher risk for developing caries[24,33,57,66]. ~~Children are most likely to develop caries if mutans streptococci are acquired at an early age (Harris et al 2004, Berkowitz 2006). The characteristics of ECC and the availability of~~

~~preventive approaches support age-based strategies in addressing this significant pediatric health problem (Berkowitz 2006). ECC can be a costly, devastating disease with lasting detrimental effects on the dentition and systemic health (AAPD Policy ECC Classifications, AAPD Policy ECC Challenges, Clarke et al 2006, Dye et al 2004, Jackson et al 2011, Davis, Deinard and Maiga 2010, Kobayashi et al 2005, Lee et al 2006, AAP 2011).~~ Motivational problems may develop when parents/patients are not interested in changing behaviors or feel that the changes require excessive effort. Therefore, it is important that health care professionals utilize preventive approaches based on psychological and behavioral strategies. Moreover, they should be sensitive to how they can effectively communicate their recommendations so that parents/patients can perceive their recommendations as behaviors worth pursuing. Two examples of effective motivational approaches used for caries prevention that share similar psychological philosophies are motivational interviewing and self-determination theory[67-73].

Consistently, studies have reported caries experience in the primary dentition as a predictor of future caries[74]. Early school-aged children are at a transition stage from primary to mixed dentition. These children face challenges such as unsupervised toothbrushing and increased consumption of cariogenic foods and beverages while at school, placing them at a higher risk for developing caries[75-77]. Therefore, special attention should be given to school-aged children regarding their oral hygiene and dietary practices.

Adolescence can be a time of heightened caries activity due to an increased number of tooth surfaces in the permanent dentition and intake of cariogenic substances ~~and~~, as well as low priority for oral hygiene[9,78] ~~procedures~~ (~~APA 2002~~). Risk assessment can assure preventive care (e.g., water fluoridation, professional and home-use fluoride and antimicrobial agents, frequency of dental visits) is tailored to each individual's needs and direct resources to those for whom preventive interventions provide the greatest benefit[9]. Because a child's risk for developing dental disease can change over time due to changes in habits (e.g., diet, home care), oral microflora, or physical condition, risk assessment must be documented and repeated regularly and frequently to maximize effectiveness[11,25].

Prophylaxis and professional topical fluoride treatment

The interval for frequency of professional preventive services is based upon assessed risk for caries and periodontal disease[3,4,7,8,10,11,25,58,59,60]. Prophylaxis aids in plaque, stain, and calculus removal, as well as in educating the patient on oral hygiene techniques and facilitating the clinical examination[10]. Gingivitis,

which is nearly universal in children and adolescents, ~~it~~ usually responds to thorough removal of bacterial deposits and improved oral hygiene[47,79,80]. Hormonal fluctuations, including those occurring during the onset of puberty and adolescent pregnancy, can modify the gingival inflammatory response to dental plaque[47,48,81]. Children can develop any of the several forms of periodontitis, with aggressive periodontitis occurring more commonly in children and adolescents than adults[47,48,80].

~~Caries risk may change quickly during active dental eruption phases. Newly erupted teeth may be at higher risk of developing caries, especially during the post-eruption maturation process.~~ Children who exhibit higher risk of developing caries and/or periodontal disease would benefit from recall appointments at greater frequency (e.g., every three months) than every six months[3,4,8,10,11,25,59]. This allows increased professional fluoride therapy application and improvement of oral health by demonstrating proper oral hygiene techniques, in addition to microbial monitoring, antimicrobial therapy reapplication, and reevaluation of behavioral changes for effectiveness[3,10,48,59,82-84].

Fluoride contributes to the prevention, inhibition, and reversal of caries[85-87] (~~CDC 2001~~). Professional topical fluoride treatments should be based on caries risk assessment and be part of a comprehensive preventive program in a dental home[19,25,86,89] (~~CDC 2001, Facts about Fluoride 2006, ADA Fluoride 2006~~). Plaque and pellicle are not a barrier to fluoride uptake in enamel[10] (~~Johnston and Lewis 1995, Ripa 1984, Bader, Shugars and Bonito 2001~~). Consequently, there is no evidence of a difference in caries rates or fluoride uptake in patients who receive rubber cup prophylaxis or a toothbrush prophylaxis before fluoride treatment[88,89] (~~Johnston and Lewis 1995, Ripa 1984~~). ~~Precautionary measures should be taken to prevent swallowing of any professionally applied topical fluoride.~~ Children at ~~moderate caries risk should receive a professional fluoride treatment at least every six months; those with~~ high caries risk should receive greater frequency of professional fluoride applications (e.g., every three ~~to six~~ months)[85,89-92] (~~Bader, Shugars and Bonito 2001~~).

Fluoride supplementation

~~Fluoride contributes to the prevention, inhibition, and reversal of caries (Adair 2006, AAPD Guideline Fluoride Therapy, CDC 2001, Tinanoff 2009).~~ The AAPD encourages optimal fluoride exposure for every child, recognizing fluoride in the community water supplies as the most beneficial and cost-effective preventive intervention. Fluoride supplementation should be considered for children at moderate

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to high caries risk when fluoride exposure is not optimal[85]. Determination of dietary fluoride sources (e.g., drinking water, toothpaste, foods, beverages) before prescribing supplements is required and can help reduce intake of excess fluoride[85]. In addition, supplementation should be in accordance with the guidelines recommended by the AAPD[85,93,94].

Radiographic assessment

Radiographs are a valuable adjunct in the oral health care of infants, children, and adolescents used to diagnose and monitor oral diseases, evaluate dentoalveolar trauma, as well as monitor dentofacial development and the progress of therapy[45]. Timing of initial radiographic examination should not be based on the patient's age, but upon each child's individual circumstances[45,46]. The need for dental radiographs can be determined only after consideration of the patient's medical and dental histories, completion of a thorough clinical examination, and assessment of the patient's vulnerability to environmental factors that affect oral health[45]. Every effort must be made to minimize the patient's exposure by applying good radiological practices (e.g., use of protective aprons and thyroid collars, when appropriate) and by following the ALARA Principle (As Low as Reasonably Achievable)[45].

Anticipatory guidance/counseling

Anticipatory guidance is the process of providing practical, developmentally-appropriate information about children's health to prepare parents for the significant physical, emotional, and psychological milestones[2,9,19,20,95,96]. Individualized discussion and counseling should be an integral part of each visit. Topics to be included are oral/dental development, growth and speech/language development, nonnutritive habits, diet and nutrition, injury prevention, development, tobacco use, substance use/abuse, intraoral/perioral piercing and oral jewelry/accessories[2,9,15,19,27,95-102].

Anticipatory guidance regarding the characteristics of a normal healthy oral cavity should occur during infant oral health visits and throughout follow-up dental visits. This allows parents to measure against any changes such as, but not limited to, growth delays, traumatic injuries, and presence of poor oral hygiene or caries. Tooth development and chronology of eruption can help parents better understand the implications of delayed or accelerated tooth emergence, the role of fluorides in newly erupted teeth that may be at higher risk of developing caries, especially during the post-eruption maturation process[95]. Assessment of developmental milestones (i.e., fine/gross motor skills, language, social interactions) is crucial for early recognition of potential delays and appropriate referral to therapeutic services[29]. Speech

and language are integral components of a child's early development[101]. Deficiencies and abnormal delays in speech and language production can be recognized early and referral made to address these concerns. Communication and coordination of appliance therapy with a speech and language professional can assist in the timely treatment of speech disorders[101].

Oral habits (e.g., nonnutritive sucking - digital and pacifier habits, bruxism, tongue thrust swallow and abnormal tongue position, ~~abnormal tongue thrusts,~~ self-injurious/self-mutilating behavior) may apply forces to teeth and dentoalveolar structures. Although early use of pacifiers and digit sucking are considered normal, habits of sufficient frequency, intensity, and duration can contribute to deleterious changes in occlusion and facial development[27]. It is important to discuss the need for early pacifier and digit sucking, then the need to wean from the habits before malocclusion or skeletal dysplasias occur[27]. Early dental visits provide an opportunity to encourage parents to help their children stop sucking habits by age three years or younger. For school-aged children and adolescent patients, counseling regarding any existing habits (e.g., fingernail biting, clenching, bruxism) is appropriate[27]. Parents should be provided with information regarding the potential immediate and long-term effects on the craniofacial complex and dentition from a habit. If treatment is indicated, habit treatment include patient/parent counseling, behavior modification techniques, appliance therapy, or referral to other providers including, but not limited to, orthodontists, psychologists, or otolaryngologists[27].

Oral hygiene counseling involves the parent and patient. Initially, oral hygiene is the responsibility of the parent. As the child develops, home care is performed jointly by parent and child. When a child demonstrates the understanding and ability to perform personal hygiene techniques, the health care professional should counsel the child. The effectiveness of home care should be monitored at every visit and includes a discussion on the consistency of daily oral hygiene preventive activities, including adequate fluoride exposure[3,4,9,25,85,103].

~~Caries-conducive dietary practices~~ The development of dietary habits and childhood food preferences appear to be established early and may affect the oral health as well as general and well-being of a child[104]~~, probably by 12 months of age, and are maintained throughout early childhood~~ (~~Douglass 2000, Reisine and Douglass 1998~~). The establishment of a dental home no later than 12 months of age allows dietary and nutrition counseling to occur early. This helps parents to develop proper oral health habits early in their child's life, rather than trying to change established unhealthy habits later. During infancy,

counseling should focus on breastfeeding, bottle or no-spill cup usage, concerns with nighttime feedings, frequency of in-between meal consumption of sugar-sweetened beverages (e.g., sweetened milk, 100 percent juice, soft drinks, fruit drinks, sports drinks) and snacks, as well as special diets[26]. ~~Dietary practices, including prolonged and/or frequent bottle or training cup with sugar-containing drinks and frequent between-meal consumption of sugar-containing snacks or drinks (e.g., juice, formula, soda), increase the risk of caries (Reisine and Douglass 1998, Tinanoff and Palmer 2000). The role of carbohydrates in caries initiation is unequivocal. Acids in carbonated beverages and sports drinks can have a deleterious effect (i.e., erosion) on enamel (Li, Zou and Dig 2012, Jawale et al 2012, Gambon et al 2011).~~ Excess consumption of carbohydrates, fats, and sodium contribute to poor systemic health[105-107]. Dietary analysis and the role of dietary choices on oral health, malnutrition, and obesity should be addressed through nutritional and preventive oral health counseling at periodic visits[26,108]. The U.S. Department of Health and Human Services and the U.S. Department of Agriculture ~~Food Plate (USDA) and Center for Disease Control and Prevention/National Center for Health Statistics' Growth Charts (CDC Growth Charts)~~ provide dietary guidelines every five years to help Americans two years of age and older make healthy choices to help prevent chronic diseases and promote a healthy diet[109] ~~guidance for parents and their children and promote better understanding of the relationship between healthy diet and development~~.

Traumatic dental injuries that occur in preschool, school-age children, and young adults comprise 5 percent of all injuries for which treatment is sought for[110]. Facial trauma that results in fractured, displaced, or lost teeth can have significant negative functional, esthetic, and psychological effects on children[111] (~~Cortes, Marcenes and Shelham 2002~~). Practitioners should provide age-appropriate injury prevention counseling for oro-facial trauma[15,96]. Initially, discussions would include advice regarding play objects, pacifiers, car seats, and electrical cords. As motor coordination develops and the child grows older, the parent/patient should be counseled on additional safety and preventive measures, including use of athletic mouthguards for sporting activities. ~~The greatest incidence of trauma to the primary dentition occurs at two to three years of age, a time of increased mobility and developing coordination (Flores 2002). The most common injuries to permanent teeth occur secondary to falls, followed by traffic accidents, violence, and sports (Rocha and Cardoso 2001, Caldas and Burgos 2001, Skaare and Jacobsen 2003, Tapias et al 2003).~~ Dental injuries could have improved outcomes not only if the public were aware of first-aid measures and the need to seek immediate treatment, but also if the injured child had access to emergency care at all times. Concerns with caregivers' dissatisfaction with experienced barriers to access

care, specifically the referral out of the dental home for emergency dental care, have been reported[112]. Therefore, it is important that all primary care providers inform parents about ways to access emergency care for dental injuries and provide telephone numbers to access a dentist, including for after-hours emergency care[113].

~~Nonnutritive oral habits (e.g., digital and pacifier habits, bruxism, abnormal tongue thrusts) may apply forces to teeth and dentoalveolar structures (AAPD Guideline Developing Dentition). Although early use of pacifiers and digit sucking are considered normal, habits of sufficient frequency, intensity, and duration can contribute to deleterious changes in occlusion and facial development (AAPD Guideline Developing Dentition). It is important to discuss the need for early pacifier and digit sucking, then the need to wean from the habits before malocclusion or skeletal dysplasias occur (AAPD Guideline Developing Dentition). Early dental visits provide an opportunity to encourage parents to help their children stop sucking habits by age three years or younger. For school aged children and adolescent patients, counseling regarding any existing habits (e.g., fingernail biting, clenching, bruxism) is appropriate (AAPD Guideline Developing Dentition).~~

~~Speech and language are integral components of a child's early development (American Speech Language Hearing Association). Deficiencies and abnormal delays in speech and language production can be recognized early and referral made to address these concerns. Communication and coordination of appliance therapy with a speech and language professional can assist in the timely treatment of speech disorders (American Speech Language Hearing Association).~~

Smoking and smokeless tobacco use almost always are initiated and established in adolescence[114-116] (~~CDC 1994~~). During this time period, children may be exposed to opportunities to experiment with other substances that negatively impact their health and well-being. The most common tobacco products include cigarettes, cigars, hookahs, snus, smokeless tobacco, pipes, bidis and kreteks (unfiltered cigarettes from India), dissolvable tobacco, and electronic cigarettes. In 2016, 7.2 percent of middle school students and 20.2 percent of high school students reported current tobacco product use[117]. E-cigarette use rose from 1.5 percent to 16.0 percent among high school students and from 0.6 percent to 5.3 percent among middle school students from 2011 to 2015[117]. Practitioners should provide education regarding the serious health consequences of tobacco use and exposure to second hand smoke[97,117] (~~CDC 1994~~). The practitioner may need to obtain information regarding tobacco use and alcohol/drug abuse confidentially from an adolescent patient[9,100]. When tobacco or substance abuse has been identified, practitioners should

provide brief interventions for encouragement, support, and positive reinforcement for avoiding substance use[97,100] ~~referral for appropriate intervention is indicated~~. If indicated, dental practitioners should provide referrals to primary care providers or behavioral-health/addiction specialists for assessment and/or treatment of substance use disorders in adolescents[100].

Complications from intraoral/perioral piercings can range from pain, infection, and tooth fracture to life-threatening conditions of bleeding, edema, and airway obstruction[99]. Although piercings most commonly are observed in the teenaged pediatric dental patient, education regarding pathologic conditions and sequelae associated with these piercings should be initiated for the preteen child/parent and reinforced during subsequent periodic visits (~~AAPD Policy Intraoral/Perioral Piercing~~). The AAPD strongly opposes the practice of piercing intraoral and perioral tissues and use of jewelry on intraoral and perioral tissues due to the potential for pathological conditions and sequelae associated with these practices[99].

~~**Radiographic assessment**~~

~~Appropriate radiographs are a valuable adjunct in the oral health care of infants, children, and adolescents (AAPD Guideline Radiographs, ADA – The Use of Dental Radiographs; Update and Recommendations 2006). Timing of initial radiographic examination should not be based on the patient's age (ADA – The Use of Dental Radiographs; Update and Recommendations 2006). Rather, after review of an individual's history and clinical findings, judicious determination of radiographic needs and examination can optimize patient care while minimizing radiation exposure (AAPD Guideline Radiographs, ADA – The Use of Dental Radiographs; Update and Recommendations 2006). The U.S. Food and Drug Administration/ADA guidelines were developed to as sist the dentist in deciding under what circumstances specific radiographs are indicated (ADA – The Use of Dental Radiographs; Update and Recommendations 2006).~~

Treatment of dental disease/injury

Health care providers who diagnose oral disease or trauma should either provide therapy or refer the patient to an appropriately trained individual for treatment[118]. Immediate intervention is necessary to prevent further dental destruction, as well as more widespread health problems. Postponed treatment can result in exacerbated problems that may lead to the need for more extensive care[22,34,35,40]. Early intervention could result in savings of health care dollars for individuals, community health care programs, and third-party payors[22,34,35,37,40].

Treatment of developing malocclusion

Guidance of eruption and development of the primary, mixed, and permanent dentitions is an integral component of comprehensive oral health care for all pediatric dental patients[27]. Dentists have the responsibility to recognize, diagnose, and manage or refer abnormalities in the developing dentition as dictated by the complexity of the problem and the individual clinician's training, knowledge, and experience[118]. Early diagnosis and successful treatment of developing malocclusions can have both short-term and long-term benefits, while achieving the goals of occlusal harmony and function and dentofacial esthetics[119] (~~Kanellis 2001, Woodside 2000, Kurol 2002, Sankey et al 2000~~). Early treatment is beneficial for many patients, but is not indicated for every patient. When there is a reasonable indication that an oral habit will result in unfavorable sequelae in the developing permanent dentition, any treatment must be appropriate for the child's development, comprehension, and ability to cooperate. Use of an appliance is indicated only when the child wants to stop the habit and would benefit from a reminder[27]. At each stage of occlusal development, the objectives of intervention/treatment include: (1) reversing adverse growth, (2) preventing dental and skeletal disharmonies, (3) improving esthetics of the smile, (4) improving self-image, and (5) improving the occlusion[27].

Sealants

A 2016 systematic review concluded sealants are effective in preventing and arresting pit-and-fissure occlusal caries lesions of primary and permanent molars in children and adolescents and can minimize the progression of noncavitated occlusal caries lesions[120]. ~~Sealants reduce the risk of pit and fissure caries in susceptible teeth and are cost-effective when maintained (Feigal 2002, Feigal and Donly 2006, AAPD Policy on Policy on Third-party Reimbursement of Fees Related to Dental Sealants, Beauchamp et al 2008, Isman 2010).~~ They are indicated for primary and permanent teeth with pits and fissures that are predisposed to plaque retention[121]. At-risk pits and fissures should be sealed as soon as possible. Because caries risk may increase at any time during a patient's life due to changes in habits (e.g., dietary, home care), oral microflora, or physical condition, unsealed teeth subsequently might benefit from sealant application[122] (~~Feigel 2002~~). The need for sealant placement should be reassessed at periodic preventive care appointments. Sealants should be monitored and repaired or replaced as needed[121-123].

Third molars

Panoramic or periapical radiographic assessment is indicated during late adolescence to assess the presence, position, and development of third molars[45,46] (~~ADA – The Use of Dental Radiographs; Update~~

~~and Recommendations 2006)~~. A decision to remove or retain third molars should be made before the middle of the third decade[124,125]. Impacted third molars are potentially pathologic. Pathologic conditions generally are more common with an increase in age. Evaluation and treatment may require removal, exposure, and/or repositioning. In selected cases, long-term clinical and radiographic monitoring may be needed. Treatment should be provided before pathologic conditions adversely affect the patient's oral and/or systemic health[119,124,125]. Consideration should be given to removal when there is a high probability of disease or pathology and/or the risks associated with early removal are less than the risks of later removal[14,119,125]. Postoperative complications for removal of impacted third molars are low when performed at an early age. A Cochrane review in 2012 reported that there was no difference in late lower incisor crowding with removal or retention of asymptomatic impacted third molars[126].

Referral for regular and periodic dental care

As adolescent patients approach the age of majority, it is important to educate the patient and parent on the value of transitioning to a dentist who is knowledgeable in adult oral health care. At the time agreed upon by the patient, parent, and pediatric dentist, the patient should be referred to a specific practitioner in an environment sensitive to the adolescent's individual needs[9,127]. Until the new dental home is established, the patient should maintain a relationship with the current care provider and have access to emergency services. For the patient with special health care needs, in cases where it is not possible or desired to transition to another practitioner, the dental home can remain with the pediatric dentist and appropriate referrals for specialized dental care should be recommended when needed[127]. Proper communication and records transfer allow for consistent and continuous care for the patient[42].

Recommendations by age

6 to 12 months

1. Complete the clinical oral examination with adjunctive diagnostic tools (e.g., radiographs as determined by child's history, clinical findings, and susceptibility to oral disease) to assess oral growth and development, pathology, and/or injuries; provide diagnosis.
2. Complete a caries risk assessment.
3. Provide oral hygiene counseling for parents.
3. Clean and r~~R~~emove supragingival and subgingival stains or deposits as indicated.
4. Assess the child's systemic and topical fluoride status (including type of infant formula used, if any, and exposure to fluoridated toothpaste) and provide counseling regarding fluoride.

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~~Prescribe systemic fluoride supplements, if indicated, following assessment of total fluoride intake from drinking water, diet, and oral hygiene products.~~

5. Assess appropriateness of feeding practices, including bottle and breast-feeding, and provide counseling as indicated~~.~~
~~6. P~~; provide dietary counseling related to oral health.
7. Provide age-appropriate injury prevention counseling for orofacial trauma.
8. Provide counseling for nonnutritive oral habits (e.g., digit, pacifiers).
9. Provide required treatment and/or appropriate referral for any oral diseases or injuries.
10. Provide anticipatory guidance.
11. Assess overall growth and development and make appropriate referral to therapeutic services if needed.
12~~11~~. Consult with the child's physician as needed.
~~12. Complete a caries risk assessment.~~
14~~13~~. Determine the interval for periodic reevaluation based on the child's individual needs or risk status/susceptibility to disease.

12 to 24 months

1. Repeat the procedures for ages six to 12 months every six months or as indicated by the child's individual needs or risk status/susceptibility to disease ~~individual patient's risk status/susceptibility to disease~~.
2. Assess appropriateness of feeding practices (including bottle, breast-feeding, and no-spill training cups) and provide counseling as indicated.
3. Review patient's fluoride status ~~(including any childcare arrangements which may impact systemic fluoride intake)~~ and provide parental counseling.
4. Provide topical fluoride treatments every six months or as indicated by the child's individual needs or risk status/susceptibility to disease.

2 to 6 years

1. Repeat the procedures for 12 to 24 months every six months or as indicated by the child's individual needs or risk status/susceptibility to disease. Provide age-appropriate oral hygiene instructions.
2. Scale and clean the teeth every six months or as indicated by individual patient's needs.

3. Provide pit and fissure sealants for caries-susceptible primary molars and permanent molars, premolars, and anterior teeth.
4. Provide counseling and services (e.g., mouthguards) as needed for orofacial trauma prevention.
5. Provide assessment/treatment or referral of developing malocclusion as indicated by individual patient's needs.
6. Provide required treatment and/or appropriate referral for any oral diseases, habits, or injuries as indicated.
7. Assess speech and language development and provide appropriate referral as indicated.

6 to 12 years

1. Repeat the procedures for ages two to six years every six months or as indicated by the child's individual needs or risk status/susceptibility to disease ~~individual patient's risk status/susceptibility to disease~~.
2. Provide substance abuse counseling and/or referral to primary care providers or behavioral-health/addiction specialists if indicated (e.g., smoking, smokeless tobacco).
3. Provide counseling on intraoral/perioral piercing.

12 years and older

1. Repeat the procedures for ages six to 12 years every six months or as indicated by the child's individual needs or risk status/susceptibility to disease ~~individual patient's risk status/susceptibility to disease~~.
2. During late adolescence, assess the presence, position, and development of third molars, giving consideration to removal when there is a high probability of disease or pathology and/or the risks associated with early removal are less than the risks of later removal.
3. At an age determined by patient, parent, and pediatric dentist, refer the patient to a general dentist for continuing oral care.

References

1. U.S. Dept of Health and Human Services. Office of the Surgeon General. A national call to action to promote oral health. Rockville, MD: U.S. Department of Health and Human Services, Public Health Service, National Institutes of Health, National Institute of Dental and Craniofacial Research; 2003.

2. American Academy of Pediatric Dentistry. ~~Guideline~~ Best practices on perinatal and infant oral health care. Pediatr Dent ~~2012~~2017;~~34~~39(special issue):~~132-6~~208-12.
3. Pienihakkinen K, Jokela J, Alanen P. Risk-based early prevention in comparison with routine prevention of dental caries: A 7-year follow-up of a controlled clinical trial; clinical and economic results. BMC Oral Health 2005;5(2):1-5.
4. Beil HA, Rozier RG. Primary health care providers' advice for a dental checkup and dental use in children. Pediatr 2010;126(2):435-41.
5. Fontana M. Noninvasive caries risk-based management in private practice settings may lead to reduced caries experience over time. J Evid Based Dent Pract 2016;16(4):239-42.
6. Fontana M, González-Cabezas C. The clinical, environmental, and behavioral factors that foster early childhood caries: evidence for caries risk assessment. Pediatr Dent 2015;37(3):217-25.
7. Patel S, Bay C, Glick M. A systematic review of dental recall intervals and incidence of dental caries. J Am Dent Assoc 2010;141(5):527-39.
8. Pahel BT, Rozier RG, Stearns SC, Quiñonez RB. Effectiveness of preventive dental treatments by physicians for young Medicaid enrollees. Pediatr 2011;127(3):682-9.
9. American Academy of Pediatric Dentistry. ~~Guideline~~ Best practices on adolescent oral health care. Pediatr Dent ~~2012~~2017;~~34~~39(special issue):~~137-44~~213-20.
10. American Academy of Pediatric Dentistry. Policy on the role of dental prophylaxis in pediatric dentistry. Pediatr Dent ~~2012~~2017;~~34~~39(special issue):~~141-2~~47-8.
11. Ramos-Gomez FJ, Crystal YO, Ng MW, Crall JJ, Feath-erstone JBD. Pediatric dental care: Prevention and management protocols based on caries risk assessment. CDAJ 2010;38(10):746-61.
12. American Academy of Pediatric Dentistry. ~~Guideline~~ Best practices on pediatric restorative dentistry. Pediatr Dent ~~2012~~2017;~~34~~39(special issue):~~214-21~~312-24.
13. American Academy of Pediatric Dentistry. Best practices on acquired temporomandibular disorders in infants, children, and adolescents. Pediatr Dent ~~2012~~2017;~~34~~39(special issue):~~258-63~~354-60.
14. American Academy of Pediatric Dentistry. ~~Guideline~~ Best practices on management considerations for pediatric oral surgery and oral pathology. Pediatr Dent ~~2012~~2017;~~34~~39(special issue):~~264-71~~361-70.
15. American Academy of Pediatric Dentistry. Policy on prevention of sports-related orofacial injuries. Pediatr Dent ~~2012~~2017;~~34~~39(special issue):~~67-71~~85-9.

16. Diangelis AJ, Andreasen JO, Ebeleseder KA, et al. International Association of Dental Traumatology Guidelines for the Management of Traumatic Dental Injuries: 1. Fractures and luxations of permanent teeth. Dent Traumatol 2012;28(1):2-12.
17. Andersson L, Andreasen JO, Day P, et al. International Association of Dental Traumatology Guidelines for the Management of Traumatic Dental Injuries: 2. Avulsion of permanent teeth. Dent Traumatol 2012;28(2):88-96.
18. Malmgren B, Andreasen JO, Flores MT, et al. International Association of Dental Traumatology Guidelines for the Management of Traumatic Injuries: 3. Injuries in the primary dentition. Dent Traumatol 2012;28(3):174-82.
19. American Academy of Pediatric Dentistry. Policy on the dental home. Pediatr Dent ~~2012~~2017;~~34~~39(special issue):~~24-5~~29-30.
20. American Academy of Pediatrics. Oral health risk assessment timing and establishment of the dental home. Pediatr 2003;11(5):1113-6. Reaffirmed 2009;124(2):845.
21. American Academy of Pediatrics Council on Children with Disabilities. Care coordination: Integrating health and related systems of care for children with special health care needs, Pediatrics. 2005;116(5):1238–44.
22. Berg JH, Stapleton FB. Physician and dentist: New initiatives to jointly mitigate early childhood oral disease. Clin Pediatr 2012;51(6):531-7.
23. Kempe A, Beaty B, Englund BP, et al: Quality of care and use of the medical home in a state-funded capitated primary care plan for low- income children, Pediatrics 2000;105(5):1020–28.
24. American Academy of Pediatric Dentistry. Policy on early childhood caries (ECC): Classifications, consequences, and preventive strategies. Pediatr Dent ~~2012~~2017;~~34~~39(special issue):~~50-2~~59-61.
25. American Academy of Pediatric Dentistry. ~~Guideline~~ Best practices on caries risk assessment and management for infants, children, and adolescents. Pediatr Dent ~~2012~~2017;~~34~~39(special issue):~~123-30~~197-204.
26. American Academy of Pediatric Dentistry. Policy on dietary recommendations for infants, children, and adolescents. Pediatr Dent ~~2012~~2017;~~34~~39(special issue):~~56-8~~64-6.
27. American Academy of Pediatric Dentistry. Best Practices on management of the developing dentition and occlusion in pediatric dentistry. Pediatr Dent ~~2012~~2017;~~34~~39(special issue):~~239-51~~334-47.
28. Tseng R, Vann WF Jr, Perrin EM: Addressing childhood overweight and obesity in the dental office: Rationale and practical guidelines, Pediatr Dent 2010;32(5):417–23.

29. Scharf RJ, Scharf GJ, Stroustrup A. Developmental milestones. Pediatr Rev 2016;37(1):25-37.
30. Brown EJ: Children's dental visits and expenses, United States, 2003. Statistical Brief no. 117. In: Quality AFHRA, ed. Rockville, Md; AHRQ Publication: 2006.
31. Selden TM: Compliance with well-child visit recommendations: Evidence from the Medical Expenditure Panel Survey, 2000-2002, Pediatrics 2016;118(6):e1766–78.
32. American Academy of Pediatric Dentistry. ~~Guideline~~ Best practices on management of ~~persons~~ dental patients with special health care needs. Pediatr Dent ~~2012~~2017;~~34~~39(special issue):~~152-7~~229-34.
33. American Academy of Pediatric Dentistry. Policy on early childhood caries (ECC): Unique challenges and treatment options. Pediatr Dent ~~2012~~2017;~~34~~39(special issue):~~53-5~~62-3.
34. Clarke M, Locker D, Berall G, Pencharz P, Kenny DJ, Judd P. Malnourishment in a population of young children with severe early childhood caries. Pediatr Dent 2006;28(3):254-9.
35. Dye BA, Shenkin JD, Ogden CL, Marshall TA, Levy SM, Kanellis MJ. The relationship between healthful eating practices and dental caries in children ages 2-5 years in the United States, 1988-1994. J Am Dent Assoc 2004;135(1):55-6.
36. Jackson SL, Vann WF, Kotch J, Pahel BT, Lee JY. Impact of poor oral health on children's school attendance and performance. Amer J Publ Health 2011;10(10):1900-6.
37. Nowak AJ, Casamassimo PS, Scott J, Moulton R: Do early dental visits reduce treatment and treatment costs for children? Pediatr Dent 2014;36(7):489–93.
38. Davis EE, Deinard AS, Maiga EW. Doctor, my tooth hurts: The costs of incomplete dental care in the emergency room. J Pub Health Dent 2010;70(3):205-10.
39. Kobayashi M, Chi D, Coldwell SE, Domoto P, Milgrom P. The effectiveness and estimated costs of the access to baby and child dentistry programs in Washington State. J Am Dent Assoc 2005;136(9):1257-63.
40. Lee JY, Bouwens TJ, Savage MF, Vann WF Jr. Examining the cost-effectiveness of early dental visits. Pediatr Dent 2006;28(2):102-5, discussion 192-8.
41. American Academy of Pediatrics. Early childhood caries in indigenous communities. Pediatr 2011;127(6):1190-8.
42. American Academy of Pediatric Dentistry. Best practices on record-keeping. Pediatr Dent ~~2012~~2017;~~34~~39(special issue):~~287-94~~389-96.
43. Dean JA. Examination of the mouth and other relevant structures. In: Dean JA, ed. McDonald and Avery's Dentistry for the Child and Adolescent. 10th ed. St. Louis, Mo: Elsevier; 2016:1-16.

44. Fontana M. Patient evaluation and risk assessment. In: Little JW, Falace DA, Miller CS, Rhodus, NL eds. Dental Management of the Medically Compromised Patient. 8th ed. St. Louis, Mo: Elsevier; 2013:1-18.
45. American Academy of Pediatric Dentistry. ~~Guideline~~ Best Practices on prescribing dental radiographs for infants, children, adolescents, and individuals with special health care needs. Pediatr Dent ~~2012~~2017;~~34~~39(special issue):~~299-301~~205-7.
46. American Dental Association (ADA). Dental radiographic examinations: Recommendations for patient selection and limiting radiation exposure. Available at: http://www.ada.org/~/media/ADA/Publications/ADA%20News/Files/Dental_Radiographic_Examinations_2012.pdf?la=en). Accessed August 15, 2017.
47. Califano JV, Research Science and Therapy Committee American Academy of Periodontology. Periodontal diseases of children and adolescents. J Periodontol 2003;74(11):1696-704.
48. Clerehugh V. Periodontal diseases in children and adolescents. British Dental J 2008;204(8):469-71.
49. Dye BA, Hsu K-L, Afful J. Prevalence and measurement of dental caries in young children. Pediatr Dent 2015;37(3):200-16.
50. Tagliaferro EP, Pereina AC, Meneghin MDC, Ambrosono GBM. Assessment of dental caries prediction in a seven-year longitudinal study. J Pub Health Dent 2006;66(3):169-73.
51. American Academy of Pediatric Dentistry. ~~Guideline~~ Best practices on behavior guidance for the pediatric dental patient. Pediatr Dent ~~2012~~2017;~~34~~39(special issue):~~170-82~~246-59.
52. Crall JJ, Quinonez RB, Zandona AF: Caries risk assessment: rationale, uses, tools, and state of development. In Berg JH, Slayton RL, editors: Early childhood oral health, Second Edition, Hoboken, New Jersey, 2016, Wiley-Blackwell.
53. Fontana M, Zero DT. Assessing patients' caries risk. J Am Dent Assoc 2006;137(9):1231-9.
54. American Academy of Pediatric Dentistry. Policy on social determinants of children's oral health and health disparities oral health programs for infants, children, and adolescents. Pediatr Dent 2017;39(special issue): 23-6.
55. Fisher-Owens SA, Gansky SA, Platt LJ, et al: Influences on children's oral health: A conceptual model, Pediatrics 2007;120(3):e510–20.
56. Lee JY, Divaris K: The ethical imperative of addressing oral health disparities: A unifying framework, J Dent Res 2014;93(3):224–30.
57. Seow KW: Environmental, maternal, and child factors which contribute to early childhood caries: a

unifying conceptual model, Int J Paediatr Dent 2012;22(3):157-68.

58. Domejean S, White JM, Featherstone JD. Validation of the CDA CAMBRA caries risk assessment: A six year retrospective study. J Calif Dent Assoc 2011;39(10):709-15.

59. Ramos-Gomez F, Ng MW. Into the future: Keeping healthy teeth caries free: Pediatric CAMBRA protocols. J Calif Dent Assoc 2011;39(10):723-33.

60. Harris R, Nicoll AD, Adair PM, Pine CM. Risk factors for dental caries in young children: A systematic review of the literature. Community Dent Health 2004;21(suppl):71-85.

61. Ramos-Gomez FJ. A model for community-based pediatric oral health: implementation of an infant oral care program. Int J Dent 2014;2014:156821.

62. Southward LH, Robertson A, Edelstein BL. Oral health of young children in Mississippi Delta child care centers. A second look at early childhood caries risk assessment. J Public Health Dent 2008;68(4):188-95.

63. Nunn ME, Dietrich T, Singh HK, Henshaw MM, Kressin NR. Prevalence of early childhood caries among very young urban Boston children compared with U.S. children. J Public Health Dent 2009;69(3):156-62.

64. Weber-Gasparoni K, Kanellis MJ, Qian F: Iowa's public health-based infant oral health program: A decade of experience, J Dent Educ 2010;74(4):363–71.

65. Albino J, Tiwari T. Preventing childhood caries: a review of recent behavioral research. J Dent Res. 2016;95(1):35-42.

66. Plutzer K, Keirse MJ. Incidence and prevention of early childhood caries in one- and two-parent families. Child Care Health Dev 2011;37(1):5-10.

67. Halvari AEM, Halvari H, Bjørnebekk G, Deci EL. Self-determined motivational predictors of increases in dental behaviors, decreases in dental plaque, and improvement in oral health: a randomized clinical trial. Health Psychol 2012;31(6):777-88.

68. Harrison RL, Veronneau J, Leroux B. Effectiveness of maternal counseling in reducing caries in Cree children. J Dent Res 2012;91(11):1032-07.

69. Ismail AI, Ondersma S, Jedele JM, Little RJ, Lepkowski JM. Evaluation of a brief tailored motivational intervention to prevent early childhood caries. Community Dent Oral Epidemiol 2011;39(5):433-48.

70. Miller WR, Rollnick S. Meeting in the middle: motivational interviewing and self-determination theory. Int J Behav Nutr Phys Act 2012;2(9):25.

71. Riedy C, Weinstein P, Manci L, et al. Dental attendance among low-income women and their

children following a brief motivational counseling intervention: A community randomized trial. Social Science & Medicine. 2015;144:9-18.

72. Weber-Gasparoni K, Reeve J, Ghosheh N, et al. An effective psychoeducational intervention for early childhood caries prevention: part I. Pediatr Dent 2013;35(3):241-6.

73. Weber-Gasparoni K, Warren JJ, Reeve J, et al. An effective psychoeducational intervention for early childhood caries prevention: part II. Pediatr Dent 2013;35(3):247-51.

74. Mejàre I, Axelsson S, Dahlén D, et al. Caries risk-assessement: a systematic review. Acta Odontol Scand 2014;72(2):81-91.

75. American Academy of Pediatric Dentistry. Policy on snacks and beverages sold in schools. Pediatr Dent 2017;39(special issue): 67-8.

76. Marshall TA, Levy SM, Broffitt B, et al. Dental caries and beverage consumption in young children. Pediatrics 2003;112(3Pt1):e184-e191.

77. Chankanka O, Marshall TA, Levy SM, Cavanaugh JE, Warren JJ, Broffitt B, Kolker JL. Mixed dentition cavitated caries incidence and dietary intake frequencies. Pediatr Dent 2011;33(3):233-40.

78. Warren JJ, Van Buren JM, Levy SM, et al. Dental caries clusters among adolescents. Community Dent Oral Epidemiol 2017 Jul 3. doi: 10.1111/cdoe.12317. [Epub ahead of print]

79. American Academy of Periodontology Research Science and Therapy Committee. Treatment of plaque-induced gingivitis, chronic periodontitis, and other clinical conditions. J Periodontol 2001;72:1790-800. Erratum J Periodontol 2003;74(10):1568.

80. American Academy of Periodontology. Comprehensive periodontal therapy: A statement by the American Academy of Periodontology. J Periodontol 2011;82(7):943-9.

81. American Academy of Pediatric Dentistry. Best practices on oral health care for the pregnant adolescent. Pediatr Dent 2017;39(special issue): 221-8.

82. Anderson MH, Shi W. A probiotic approach to caries management. Pediatr Dent 2006;28(2):151-3.

83. Featherstone JDB. Caries prevention and reversal based on the caries balance. Pediatr Dent 2006;28(2):128-32.

84. Clerehugh V, Tugnait A. Periodontal diseases in children and adolescents: 2. Management. Dent Update 2001;28(6):274-81.

85. American Academy of Pediatric Dentistry. ~~Guideline~~ Best practices on fluoride therapy. Pediatr Dent ~~2012~~2017;~~34~~39(special issue):~~167-70~~242-45.

86. Adair SM. Evidence-based use of fluoride in contemporary pediatric dental practice. Pediatr Dent 2006;28(2):133-42.

87. Tinanoff N. Use of fluoride ~~in early oral health~~. In: Early Childhood Oral Health. Berg JH, Slayton RL, eds, ~~Wiley-Blackwell~~John Wiley & Sons, ~~Ames, Ia~~ Hoboken, New Jersey~~2009~~2016:~~92-109~~104-119.

88. Azarpazhooh A, Main PA. Efficacy of dental prophylaxis (rubber-cup) for the prevention of caries and gingivitis: a systematic review of the literature. Brit Dent J 2009;207:E14.

89. Weyant RJ, Tracy SL, Anselmo TT, et al. Topical fluoride for caries prevention: Executive summary of the updated clinical recommendations and supporting systemic review. J Amer Dent Assoc 2013;144:1279-91.

90. Featherstone JD, Adair SM, Anderson MH, et al. Caries management by risk assessment: Consensus statement, April 2002. J Calif Dent Assoc 2003;331(3):257-69.

91. Axelsson S, Söder B, Norderam G, et al. Effect of combined caries-preventive methods: A systematic review of controlled clinical trials. Acta Odontol Scand 2004;62(3):163-9.

92. Källestål C. The effect of five years' implementation of caries-preventive methods in Swedish high-risk adolescents. Caries Res 2005;39(1):20-6.

93. American Dental Association Council on Scientific Affairs. Professionally-applied topical fluoride: Evidence-based clinical recommendations. J Am Dent Assoc 2006;137(8):1151-9.

94. Rozier RG, Adair, S, Graham F, et al. Evidence-based clinical recommendations on the prescription of dietary fluoride supplements for caries prevention. J Am Dent Assoc 2010;141(12):1480-9.

95. Casamassimo PS, Nowak AJ: Anticipatory guidance. In Berg JH, Slayton RL, editors: Early childhood oral health, 2nd edition, Hoboken, New Jersey, 2016, Wiley-Blackwell, pp 169-192.

96. Sigurdsson A. Evidence-based review of prevention of dental injuries. Pediatr Dent 2013;35(2):184-90.

97. American Academy of Pediatric Dentistry. Policy on tobacco use. Pediatr Dent ~~2012~~2017;~~34~~39(special issue):~~61-4~~69-73.

98. American Academy of Pediatric Dentistry. Policy on electronic cigarettes. Pediatr Dent 39(6):74-6.

99. American Academy of Pediatric Dentistry. Policy on intraoral/perioral piercing and oral jewelry/accessories. Pediatr Dent ~~2012~~2017;~~34~~39(special issue):~~65-6~~83-4.

100. American Academy of Pediatric Dentistry. Policy on substance abuse in adolescent dental patients. Pediatr Dent 2017;39(special issue);77-80.

101. American Speech-Language-Hearing Association. Available at: "http://www.asha.org/public/speech/development/chart.htm". Accessed August 23, 2017.

102. Lewis CW, Grossman DC, Domoto PK, Deyo RA. The role of the pediatrician in the oral health of children: A national survey. Pediatrics 2000;106(6):E84.
103. American Academy of Pediatric Dentistry. Policy on use of fluoride. Pediatr Dent 2017;39(6):49-50.
104. Kranz S, Smiciklas-Wright H, Francis LA. Diet quality, added sugar, and dietary fiber intakes in American pre-schoolers. Pediatr Dent 2006;28(2):164-71.
105. Drewnowski A. The cost of U.S. foods as related to their nutritive value. Am J Clin Nutr 2010;92(5):1181-8.
106. Ervin RB, Kit BK, Carroll MD, Ogden CL. Consumption of added sugar amoung U.S. children and adolescents, 2005-2008. NCHS Data Brief 2012;3(87):1-8.
107. 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.
108. U.S. Department of Agriculture. Center for Nutrition Policy and Promotion. USDA Food Patterns, 2015. Available at: "http://www.cnpp.usda.gov/USDAFoodPatterns". Accessed March 19, 2018.
109. U.S. Department of Health and Human Services and U.S. Department of Agriculture. 2015–2020 Dietary Guidelines for Americans, 8th ed, Washington, DC:U.S. Department of Health and Human Services and U.S. Department of Agriculture; 2016.
110. Andreasen JO, Andreasen FM, Andersson L. Textbook and color atlas of traumatic injuries to the teth, 4th edn. Oxford, UK: Wiley-Blackwell; 2007.
111. Lee JY, Divaris K. Hidden consequences of dental trauma: the social and psychological effects. Pediatr Dent 2009;31(2):96-101.
112. Meyer BD, Lee JY, Lampiris LN, Mihas P, Vossers S, Divaris K. "They Told Me to Take Him Somewhere Else": Caregivers' Experiences Seeking Emergency Dental Care for Their Children. Pediatr Dent 2017;15:39(3):209-14.
113. American Academy of Pediatric Dentistry. Policy on emergency oral care for infants, children, adolescents, and individuals with special health care needs. Pediatr Dent 2017;39(special issue):46.
114. American Lung Association. Stop Smoking. Available at: "http://www.lung.org/stop-smoking/". Accessed August 23, 2017.
115. Albert DA, Severson HH, Andrews JA. Tobacco use by adolescents: The role of the oral health professional in evidence-based cessation program. Pediatr Dent 2006;28(2):177-87.
116. U.S. Dept of Health and Human Services. Preventing Tobacco Use Among Youth and Young Adults: A Report of the Surgeon General. U.S. Department of Health and Human Services, Centers

for Disease Control and Prevention, Office on Smoking and Health, Atlanta, Georgia, 2012. Available at: "http://www.cdc.gov/tobacco/data_ statistics/sgr/2012/index.htm". Accessed August 15, 2017.

117. Centers for Disease Control and Prevention (CDC). Tobacco use among middle and high school students – United States, 2011-2016. Morbidity and Mortality Weekly Report. 2017; 66(23):597-603.

118. American Academy of Pediatric Dentistry. Policy on ethical responsibility ~~to treat or refer~~ in the oral health care management of infants, children, adolescents, and individuals with special health care needs. Pediatr Dent ~~2013~~2017;~~35~~39(special issue):~~106~~136-7.

119. ~~Bell RA,~~ Dean JA~~, McDonald RE, Avery DR~~. Managing the developing occlusion. In: Dean JA, ~~McDonald RE, Avery DR,~~ Jones JE, Vinson LAW, eds. McDonald and Avery's Dentistry for the Child and Adolescent. ~~Maryland Heights~~St. Louis, Mo: ~~Mosby~~ Elsevier Co; ~~2011~~2016:415-478.

120. Wright JT, Tampi MP, Graham L, et al. Sealants for preventing and arresting pit-and-fissure occlusal caries in primary and permanent molars: A systematic review of randomized controlled trials-a report of the American Dental Association and the American Academy of Pediatric Dentistry. J Am Dent Assoc 2016;147(8):631-45.

121. Beauchamp J, Caufield PW, Crall JJ, et al. Evidence-based clinical recommendations for the use of pit-and-fissure sealants. J Am Dent Assoc 2008;139(3):257-67.

122. Sasa I, Donly KJ. Dental sealants: A review of the materials. Calif Dent Assoc J 2010;38(10):730-4.

123. American Academy of Pediatric Dentistry. Policy on third-party reimbursement of fees related to dental sealants. Pediatr Dent ~~2012~~2017;~~34~~39(special issue):~~91-2~~120-1.

124. American Association of Oral and Maxillofacial Surgeons. Parameters and Pathways: Clinical Practice Guidelines for Oral and Maxillofacial Surgery. Version 4.0. AAOMS ParCare 2007:69-72.

125. American Association of Oral and Maxillofacial Surgeons (AAOMS). Advocacy white paper on third molar teeth (2016). Available at: "https://www.aaoms.org/docs/govt_affairs/advocacy_white_papers/management_third_molar_white_paper.pdf". Accessed August 15, 2017.

126. Mettes TD, Ghaeminia H, Nienhuijs ME, Perry J, van deer Sanden WJ, Plasschaert A. Surgical removal versus retention for the management of asymptomatic impacted wisdom teeth. Cochrane Database Syst Rev 2012;13(6):CD003879.

127. American Academy of Pediatric Dentistry. Policy on transitioning from a pediatric-centered to an

adult-centered dental home for individuals with special health care needs. Pediatr Dent 2017;39(special issue): 129-132.

~~American Academy of Pediatrics. Tobacco use: A pediatric disease. Pediatr 2009;24(5):1474-87.~~

~~American Dental Association Council on Scientific Affairs. The use of dental radiographs; Update and recommendations. J Am Dent Assoc 2006;137(9):1304-12.~~

~~American Association of Oral and Maxillofacial Surgeons (AAOMS). Advocacy white paper on evidence based third molar surgery. Available at: "http://aaoms.org/advocacy_position_statements.php". Accessed June 30, 2013.~~

~~American Psychological Association. Developing adolescents: A reference for professionals. Washington, DC. American Psychological Association; 2002.~~

~~Bader JD, Shugars DA, Bonito AJ. A systematic review of selected caries prevention and management methods. Community Dent Oral Epidemiol 2001;29(6):399-411.~~

~~Berkowitz RJ. Mutans streptococci: Acquisition and transmission. Pediatr Dent 2006;28(2):106-9.~~

~~Caldas FA Jr, Burgos ME. A retrospective study of traumatic dental injuries in a Brazilian dental trauma clinic. Dental Traumatol 2001;17(6):250-3.~~

~~CDC, National Center for Health Statistics. Growth charts. Available at: "http://www.cdc.gov/growthcharts/". Accessed March 11, 2013.~~

~~CDC. Preventing tobacco use among young people: A report of the Surgeon General (executive summary). MMWR Recomm Rep 1994;43(RR-4):1-10.~~

~~CDC. Recommendations for using fluoride to prevent and control dental caries in the United States. MMWR Recomm Rep 2001;50(RR14):1-42.~~

~~Cortes MI, Marcenes W, Shelham A. Impact of traumatic injuries to the permanent teeth on the oral health-related quality of life in 12- to 14-year-old children. Comm Dent Oral Epidemiol 2002;30(3):193-8.~~

~~Douglass JM. Response to Tinanoff and Palmer: Dietary determinants of dental caries and dietary recommendations for preschool children. J Public Health Dent 2000;60(3):207-9.~~

~~Dye BA, Tan S, Smith V, et al. Trends in oral health status. United States, 1988-1984 and 1999-2004. Vital Health Stat ll 2007;248:1-92.~~

~~Facts about Fluoride. CDS Rev 2006;99(1):44.~~

~~Featherstone JD. The caries balance: The basis for caries management by risk assessment. Oral Health Prev Dent 2004;2(suppl 1):259-64.~~

~~Feigal RJ, Donly KJ. The use of pit and fissure sealants. Pediatr Dent 2006;28(2):143-50.~~

~~Feigal RJ. The use of pit and fissure sealants. Pediatr Dent 2002;24(5):415-22.~~

~~Flores MT. Traumatic injuries in the primary dentition. Dental Traumatol 2002;18(6):287-98.~~

~~Gambon DL, Brand HS, Boutkabout C, Levie D, Veerman EC. Patterns in consumption of potentially erosive beverages among adolescent school children in the Netherlands. Int Dent J 2011;61(5):247-51.~~

~~Greenwell H. Committee on Research, Science and Therapy American Academy of Periodontology. Guidelines for periodontal therapy. J Periodontol 2001;72(11):1624-8.~~

~~Isman R. Dental sealants: A public health perspective. Calif Dent Assoc J 2010;38(10):735-45.~~

~~Jawale BA, Bendgude V, Mahuli AV, Dave B, Kulkarni H, Mittal S. Dental plaque pH variation with regular soft drink, diet soft drink, and high energy drink: An in vivo study. J Contemp Dent Pract 2012;13(2):201-4.~~

~~Johnston DW, Lewis DW. Three-year randomized trial of professionally applied topical fluoride gel comparing annual and biannual applications with/without prior prophylaxis. Caries Res 1995;29(5):331-6.~~

~~Kanellis MJ. Orthodontic Treatment in the primary dentition. In Bishara SE, ed. Textbook of Orthodontics. Philadelphia, Pa: WB Saunders Co; 2001:248-56.~~

~~Kurol J. Early treatment of tooth-eruption disturbances. Am J Orthod Dentofacial Orthop 2002;121(6):588-91.~~

~~Lewis DW, Ismail AI. Periodic health examination, 1995 Update: 2. Prevention of dental caries. The Canadian Task Force on the Periodic Health Examination. Can Med Assoc J 1995;152(6):836-46.~~

~~Li Y, Wang W. Predicting caries in permanent teeth from caries in primary teeth: An eight-year cohort study. J Dent Res 2002;81(8):561-6.~~

~~Li H, Zou Y, Ding G. Dietary factors associated with dental erosion: A meta-analysis. PLoS One 2012;7(8):e42626.doi:10.1371/journal.pone.0042626. Epub 2012 Aug 31.~~

~~Macgregor ID, Regis D, Balding J. Self-concept and dental health behaviors in adolescents. J Clin Periodontol 1997;24(5):335-9.~~

~~Powell LV. Caries prediction: A review of the literature. Community Dent Oral Epidemiol 1998;26(6):361-76.~~

~~Reisine S, Douglass JM. Pyschosocial and behavorial issues in early childhood caries. Comm Dent Oral Epidem 1998;26(suppl):132-44.~~

~~Ripa LW. Need for prior tooth cleaning when performing a professional topical fluoride application. A review and recommendation for change. J Am Dent Assoc 1984;109(2):281-5.~~

~~Rocha MJdC, Cardoso M. Traumatized permanent teeth in Brazilian children assisted at the Federal University of Santa Catarina, Brazil. Dental Traumatol 2001;17(6):245-9.~~

~~Sankey WL, Buschang PH, English J, Owen AH III. Early treatment of vertical skeletal dysplasia: The hyper-divergent phenotype. Am J Orthod Dentofacial Orthop 2000;118(3):317-27.~~

~~Skaare AB, Jacobsen I. Dental injuries in Norwegians aged 7-18 years. Dental Traumatol 2003;19(2):67-71.~~

~~Tapias MA, Jiménez-García R, Lamas F, Gil AA. Prevalence of traumatic crown fractures to permanent incisors in a childhood population: Mostoles, Spain. Dental Traumatol 2003;19(3):119-22.~~

~~Tinanoff NT, Palmer C. Dietary determinants of dental caries in pre-school children and dietary recommendations for pre-school children. J Pub Health Dent 2000;60(3):197-206.~~

~~U.S. Dept of Agriculture. Food Plate. Available at: "http://www.choosemyplate.gov". Accessed March 11, 2013.~~

~~U.S. Dept of Health and Human Services. Oral Health in America: A Report of the Surgeon General. Rockville, Md: U.S. Dept of Health and Human Services, National Institute of Dental and Craniofacial Research, National Institutes of Health; 2000.~~

~~Woodside DG. The significance of late developmental crowding to early treatment planning for incisor crowding. Am J Orthod Dentofacial Orthop 2000;117(5):559-61.~~

Recommendations for Pediatric Oral Health Assessment, Preventive Services, and Anticipatory Guidance/Counseling

Since each child is unique, these recommendations are designed for the care of children who have no contributing medical conditions and are developing normally. These recommendations will need to be modified for children with special health care needs or if disease or trauma manifests variations from normal. The American Academy of Pediatric Dentistry (AAPD) emphasizes the importance of very early professional intervention and the continuity of care based on the individualized needs of the child. Refer to the text of this guideline for supporting information and references. Refer to the text in the Recommendations on the Periodicity of Examination, Preventive Dental Services, Anticipatory Guidance, and Oral Treatment for Infants, Children, and Adolescents (*www.aapd.org/policies/*) for supporting information and references.

AMERICA'S PEDIATRIC DENTISTS THE BIG AUTHORITY on little teeth®	AGE				
	6 TO 12 MONTHS	12 TO 24 MONTHS	2 TO 6 YEARS	6 TO 12 YEARS	12 YEARS AND OLDER
Clinical oral examination [1]	•	•	•	•	•
Assess oral growth and development [2]	•	•	•	•	•
Caries-risk assessment [3]	•	•	•	•	•
Radiographic assessment [4]	•	•	•	•	•
Prophylaxis and topical fluoride [3,4]	•	•	•	•	•
Fluoride supplementation [5]	•	•	•	•	•
Anticipatory guidance/counseling [6]	•	•	•	•	•
Oral hygiene counseling [7]	Parent	Parent	Patient/parent	Patient/parent	Patient
Dietary counseling [8]	•	•	•	•	•
Injury prevention counseling [9]	•	•	•	•	•
Counseling for nonnutritive habits [10]	•	•	•	•	•
Counseling for speech/language development	•	•	•		
Assessment and treatment of developing malocclusion			•	•	•
Assessment for pit and fissure sealants [11]			•	•	•
Substance abuse counseling				•	•
Counseling for intraoral/perioral piercing				•	•
Assessment and/or removal of third molars					•
Transition to adult dental care					•

1 First examination at the eruption of the first tooth and no later than 12 months. Repeat every 6 months or as indicated by child's risk status/susceptibility to disease. Includes assessment of pathology and injuries.

2 By clinical examination.

3 Must be repeated regularly and frequently to maximize effectiveness.

4 Timing, selection, and frequency determined by child's history, clinical findings, and susceptibility to oral disease.

5 Consider when systemic fluoride exposure is suboptimal. Up to at least 16 years.

6 Appropriate discussion and counseling should be an integral part of each visit for care.

7 Initially, responsibility of parent; as child matures, jointly with parent; then, when indicated, only child.

8 At every appointment; initially discuss appropriate feeding practices, then the role of refined carbohydrates and frequency of snacking in caries development and childhood obesity.

9 Initially play objects, pacifiers, car seats; when learning to walk; then with sports and routine playing, including the importance of mouthguards.

10 At first, discuss the need for additional sucking: digits vs pacifiers; then the need to wean from the habit before malocclusion or skeletal dysplasia occurs. For school-aged children and adolescent patients, counsel regarding any existing habits such as fingernail biting, clenching, or bruxism.

11 For caries-susceptible primary molars, permanent molars, premolars, and anterior teeth with deep pits and fissures; placed as soon as possible after eruption.