# **Quality Resource Guide**

# Early Childhood Oral Health in the General Dentistry Office

## **Author Acknowledgements**

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# **Educational Objectives**

Following this unit of instruction, the learner should be able to:

- 1. Provide contemporary views of early childhood oral health.
- 2. Deliver essential preventive oral health messages for infants and toddlers to their caretakers.
- 3. Discuss early childhood milestones and their applications to clinical practice.
- 4. Describe strategies for effective examination and fluoride application in young children.

Drs. Quinonez and Byrd have no relevant relationships to disclose.

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## Contemporary Views of Early Childhood Oral Health

Despite a general decline in dental disease, significant prevalence of dental caries has been observed among preschool aged children.<sup>1,2</sup> Dental caries remains the most common chronic disease of childhood, five times more prevalent than asthma. While recent studies indicate a decrease in untreated dental disease in children, the more relevant question is what dental providers can do to prevent ECC, avoid its associated morbidity, and not miss the opportunity to influence oral health trajectories at an early age.<sup>2-4</sup>

Since 1986, the American Academy of Pediatric Dentistry (AAPD) has advocated for children to have their first dental visit by age 1. This recommendation is primarily based on literature supporting the strong association between maternal and child oral health and, the chemotherapeutic benefits of fluoride exposure in early childhood.5-8 The American Academy of Pediatric Medicine (AAP) modified its recommendation in 2003 for the first dental visit from age 3 to age 1, paralleling the AAPD's guideline. The difference between the statements from these two organizations was related to situations of limited access to dentists, where the AAP recommended children at low risk for dental disease receive preventive oral health services in their medical home until a dental referral was possible.9-10

While these guidelines continue to be updated, the fundamental recommendations on the timing of the first dental visit have remained unchanged since 2003, and are now endorsed by various national organizations.<sup>11</sup> Children who receive early care are more likely to have a higher number of preventive visits and decreased dental costs.<sup>12-14</sup> A recent systematic review of the importance of preventive dental visits from a young age indicates that while the evidence of early preventive care is limited, the benefits are greatest among high risk children less than three years of age or those with active dental disease.<sup>15</sup>



Despite the documented benefits of early preventive dental care, multiple barriers exist for providers wishing to care for young children. These include lack of appropriate training, comfort in managing the young child patient, and low reimbursement.<sup>16-18</sup> General dentists provide the largest amount of young children's oral health care. This Quality Resource Guide highlights the principles of the Baby Oral Health Program (bOHP)\* model of oral health in early childhood. It provides the dental team with fundamentals of preventive messaging to caretakers of infants and toddlers and provides developmental-appropriate strategies to promote comfort in examining and delivering fluoride varnish to young children.

## Preventive Oral Health Messages for Infants & Toddlers

This section focuses on preventive messages for caregivers, emphasizing risk and protective factors. It follows a systematic caregiver presentation outlined on the bOHP website, a program developed with the goal of improving the health trajectories of every child by engaging providers to deliver comprehensive and essential preventive oral health services in early childhood.

## **Overview**

The use of visual aids has been shown to improve provider-patient (or caregiver) communication.<sup>20-21</sup> Beginning the discussion by contextualizing the prevalence of ECC can be helpful. For example, after learning about the family's chief complaint, a conversation focusing on anticipatory guidance can begin by stating: "Four out of ten children begin kindergarten with a history of cavities. We wish to help prevent this for your child. Let's talk about how we can do this together" (**Figure 1**). Motivational interviewing (MI) techniques can be utilized to promote and

\* bOHP is a free website (<u>www.babyoralhealthprogram.org</u>) that has various resources, including training videos for the dental team, outlining implementation of an infant and toddler oral health program into clinical practice.<sup>19</sup>

tailor oral health recommendations. Open ended questioning, affirming statements, periodic summary statements, and identifying attainable goals can aid in motivating behavior change.<sup>22</sup>

## Medical history

A thorough review of a child's medical history is important, as many conditions and their associated medications, can negatively influence oral health. For example, developmental defects of enamel are associated with children born prematurely and can be a risk factor for caries.<sup>23</sup> Similarly, many medications tend to have high sugar content to increase compliance, but frequent exposures can pose a risk to oral health.<sup>24</sup>

## **Feeding practices**

Childhood feeding practices are established early in life. There are limitations to gathering an accurate comprehensive dietary intake from caregivers at any one appointment. Gathering information and providing recommendations about dietary intake for infants and toddlers in terms of liquids and solids is helpful.

## Figure 1



Dental team member sharing caregiver presentation using the bOHP website (www.babyoralhealthprogram.org)

Liquids: Leading national health organizations, AAP, AAPD, the American Heart Association (AHA), and the Academy of Nutrition and Dietetics (AND) published consensus recommendations on beverage intake for children up to age 5. Breast milk or infant formula should be the only nutrient fed to infants until 4 to 6 months of age. For mothers unable to breastfeed, infant formula is considered a complete source of nutrition.<sup>25</sup> When comparing breastfed infants to those that never breastfed, evidence suggests that breastfeeding may be protective of the development of overweight/ obesity.26 The literature is inconclusive on the benefits of prolonged breastfeeding past twelve months, with a recent study suggesting potential caries risk with longer duration and increased frequency, including nocturnal feedings.<sup>27</sup>

No juice intake is recommended in the first year of life, primarily due to the empty calories and the requirement of fat from milk for brain development.<sup>25</sup> The only exception to this recommendation would be when a child is constipated and their physician may recommend specific 100% fruit juice intake. Juice should be limited to a minimal amount of 100% fruit juice, with whole fruit consumption encouraged preferentially, for all children.<sup>25,28,29</sup>

After 12 months of age, many children transition to whole cow's milk and should drink 16 to 24 ounces of milk per day for the next year of life. Plain cow's milk (skim and 1%) and water are the recommended beverages for children ages 24 months to 5 years old. Sugar-sweetened, plantbased/non-dairy milks, and caffeinated beverages are not recommended for children under 5 years old.25 Encourage water between meals and any 100% juice or milk during mealtimes only. Once teeth emerge, frequent exposure to sugarsweetened beverages and refined carbohydrates presents a risk to dental disease development as well as overweight/obesity.30 Similarly, increased milk consumption, especially milk varieties with added sugars, can pose a risk for ECC and iron deficiency anemia.31

**Solids:** A complete diary of a child's dietary intake may be difficult to gather in a busy clinical practice.

The frequency and types of snacks in between meals are two important questions for caregivers. Recommendations of one scheduled snack time between meals, versus grazing, and avoidance of sticky foods are simple and succinct suggestions that can quickly address many pitfalls associated with dietary practices for toddlers to decrease the risk of developing dental disease. Promoting AAP recommendations for a well-rounded diet that includes whole fruits, vegetables, whole grains, high quality proteins, and minimally processed foods provides a platform to link healthy teeth with healthy hearts in messaging to caregivers.<sup>32-33</sup>

## Oral Hygiene

The AAPD recommends beginning tooth brushing as soon as the first tooth emerges (6-8 months of age). Similarly, the American Dental Association's (ADA) 2014 systematic review of toothpaste use in children suggests a "smear" or "grainsized" amount of fluoride toothpaste for children < 3 years.<sup>34</sup> Fluoride toothpaste should be used as a "medication", monitored, and controlled as toddlers begin to exercise their independence and brush on their own. Caregivers should be encouraged to follow the child's "independent brushing" by using fluoride toothpaste and completing the brushing, given that children do not have the proper manual dexterity until approaching the age of 8 years to perform effective oral hygiene practices.

A typical concern by parents is that infants and toddlers cannot spit. This concern can be ameliorated with parental control of the recommended fluoride toothpaste amount and caregiver brushing. This approach assures minimal fluoride ingestion and diminished risk for fluorosis.<sup>34</sup> Any risk of fluorosis should be weighed against the benefits of caries prevention.

## **Bedtime Routines**

Sleep is an important part of overall health, with sleep disruption or insufficient sleep associated with deleterious cognitive development and behavioral disturbances.<sup>35</sup> Good sleep begins with regular and consistent nighttime routines that begin at two to four months and are established by seven to nine months of age. Pre-bedtime routines should include oral health practices, such as wiping gums in an edentulous baby or tooth brushing once teeth are present. The AAP has partnered with "Reach Out and Read," a national early literacy program to promote combining preventive bedtime messages. Children who are read to during infancy and preschool years have improved language skills and are better prepared to begin school.<sup>36</sup> The AAP campaign encourages "Brush, Book, and Bed."37 Other pre-bedtime routines can include bathing and breastfeeding or bottle use, with the latter occurring before tooth brushing. Inquiring about bedtime routines can be one of the single most valuable questions a provider can ask a caregiver, as it quickly provides a window into the family's lifestyle and oral hygiene practices.

## Fluoride Exposure

Fluoride remains the cornerstone of modern non-invasive dental caries management, with its greatest effect after tooth eruption. Optimal fluoride sources can be achieved from topical or systemic exposure. Topical modalities in early childhood include toothpaste (see oral hygiene section), in-office varnish application, and silver diamine fluoride.38 Fluoride varnish is a very effective in-office preventive modality for children at risk for dental disease. The literature suggests a 37% caries reduction in the primary dentition when fluoride varnish is applied semi-annually.39 Proper application techniques, including placing a thin layer after drying the teeth surfaces with gauze, is critical to minimize any risk. Fluoride rinses should be avoided prior to age 6 years, as children learn to effectively expectorate between ages 3 to 5 years.

Systemic fluoride exposure focuses on liquid intake. The ADA examined the question regarding fluoride intake from reconstituted infant formula and risk of enamel fluorosis. The report indicates that caregivers should continue using infant formula with optimally fluoridated drinking water while being cognizant of the potential and mild risk for enamel fluorosis.<sup>40</sup> The report further suggests that these recommendations should be integrated with the provider's judgment, patient needs, and preferences. Parents concerned with the effects of mixing infant formula with fluoridated water can lessen this exposure by mixing with lower fluoride level water.<sup>41</sup>

Dietary fluoride supplementation can be an alternative to drinking fluoridated water for children at high risk for developing caries where the water source is sub-optimal.<sup>42</sup> Supplementation should begin after 6 months of age and after testing fluoride content in the drinking water. Fluoride drops can be prescribed during infancy, with the transition to chewable tablets once the primary molars have emerged.

#### **Oral Habits**

Non-nutritive habits are common among young children and include pacifiers and thumb/digit sucking. Pacifiers should be avoided in the first month of life to promote the establishment of proper feeding routines, including breastfeeding. Pacifier use in the first year of life has been associated with a reduction in Sudden Infant Death Syndrome (SIDS), but with an increased risk of ear infections after 12 months of age.43-44 Prolonged non-nutritive habits can produce significant dento-alveolar changes including narrowing of maxillary arches, increased overjet and anterior open bites.45 These changes, however, can be resolved if the habit is discontinued prior to age 3 and before the permanent teeth emerge. Assisting caregivers to disrupt thumb/digit habits is difficult. However, a strategy of having the child bring (or mail) their pacifier to the dental office, where it is "replaced" with a reward (book or toy), can be successful. Instructing the caregiver to cut the tip of the pacifier so it no longer has the suction effect can also be successful. The dental team should not miss any opportunity to discuss safety tips for pacifier use, including avoiding strings/cords around the neck and proper cleaning.45-46

## **Injury Prevention**

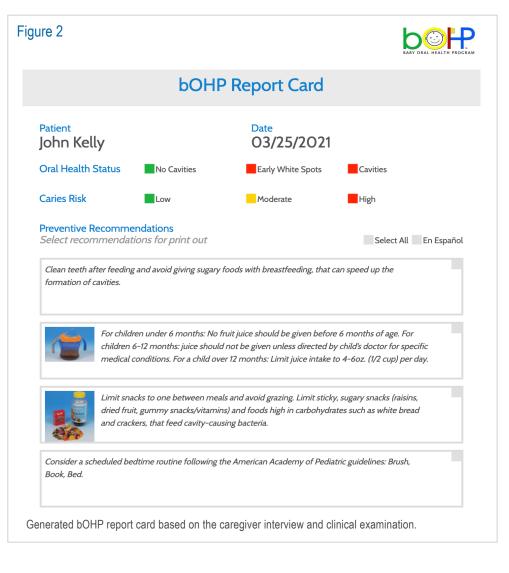
In addition to the goal of preventing dental disease,

the early establishment of a dental home\*\* provides a place to address traumatic dental injuries. With dental trauma in the primary dentition ranging in frequency from 30-40% and peaking at 18-30 months of age, a dental home can be an important component of a child's comprehensive health care network.47 Preventive messages to minimize injuries for infants and toddlers include: using protective table coverings or removing tables from play areas, covering electric outlets and bathtub nozzles, and car-seat safety. Always supervising infants and toddlers in carriers, cribs, and strollers will prevent traumatic dental injuries associated with these nursery-related products.48 Assisting the caregiver to develop a plan should a dental emergency occur can alleviate concerns during acute situations.

\*\* "The dental home is the ongoing relationship between the dentist and the patient, inclusive of all aspects of oral health care delivered in a comprehensive, continuously accessible, coordinated, and family-centered way. The dental home should be established no later than 12 months of age to help children and their families institute a lifetime of good oral health." - AAPD, 2018<sup>49</sup>

#### Family History

The relationship between maternal and infant oral health is well established, and dental providers should not miss the opportunity to promote maternal oral health in their practices, especially during pregnancy. Pregnant women with periodontal disease have been shown to be at increased risk for adverse prenatal events such as preterm birth. There is recent evidence



of the presence of maternal oral microbiome in the intrauterine environment, and the thought is that oral pathogenic bacteria may participate in broader systemic inflammatory processes and signaling and have the potential to contribute to these adverse prenatal events.50 Preterm birth has also been associated with a greater prevalence of developmental defects of enamel in children, which is a risk factor for ECC.51-53 The current literature suggests that the establishment of an infant's oral microbiome is multifactorial.54 However, we know on the population level, women with untreated dental caries are twice as likely to have children who experience ECC; sociodemographic and cultural determinants largely drive this by influencing maternal health behaviors, values, and parenting.8 Overall, given the relationship between maternal and child oral health, oral health messaging is of prime importance during pregnancy. A free web resource with information on prenatal oral care is www.prenataloralhealth.org.53

## Breastfeeding and Infant Frenotomy Considerations

Challenges with breastfeeding are common and can range from insufficient latching, poor infant sucking, sore nipples, low milk supply, and mastitis. These problems may pose risk to the infant for insufficient weight gain and to the mother-child dyad losing the opportunity for exclusive breastfeeding (AAPD).55 Symptoms of ankyloglossia or "tongue-tie" can overlap with breastfeeding issues in infants, leading some families to seek guidance from their dental provider. The American Academy of Pediatrics recently published a clinical report offering best practices for a team approach to identify and manage ankyloglossia. There are currently no validated tools for assessing the severity of ankyloglossia and there is limited quality evidence validating the benefit of surgical intervention.56-57 The best available evidence suggests that a team of professionals should evaluate and treat other possible causes of breastfeeding problems prior to introducing the risk of surgical intervention

## (frenotomy).56

It is important to note that the presence of labial and buccal frenae are normal anatomical features unrelated to breastfeeding mechanics.<sup>56</sup> It is important to observe whether these introduce anatomical barriers to optimal oral hygiene. For example, prominent maxillary labial frenae may contribute to challenging or uncomfortable oral hygiene. Surgical intervention is not indicated, but tailored oral hygiene instruction is important. Gentle sweeping of the toothbrush bristles directionally away from the prominent frenum attachment is the recommended technique for comfort.

## **Teething**

Teething can lead to intermittent, localized discomfort in the areas of emerging primary teeth, irritability, and excessive salivation; however many children have no apparent difficulties.58 The AAPD recommends using chilled rings to treat symptoms.<sup>5</sup> Topical analgesics, including over-the-counter teething gels, are no longer recommended given the potential toxicity and development of methemoglobinemia.59 Upon reviewing these preventive messages, the bOHP website allows for the charting of this information that, in turn, develops a bOHP report card for the family. The report card provides the opportunity to use motivational interviewing and ask caregivers about their level of commitment to change (Figure 2).

## Early Childhood Developmental Milestones and Their Relationship to Clinical Practice

Performing a pediatric dental examination should be considered in the context of each child's development. **Tables 1** and **2** review developmental stages and clinical considerations for infants and toddlers.<sup>19,62</sup> This information can help the dental team contextualize the visit and address one of the greatest challenges identified by providers caring for young children - a lack of comfort interacting with the child patient.<sup>62</sup>

## Figure 3



Knee-to-knee examination.

## Considering Development When Examining and Applying Fluoride in Young Children

General dentists report that they and their staff are most uncomfortable when presented with "crying" children.<sup>61</sup> This section provides strategies for performing a clinical examination and applying fluoride varnish on a spirited or strong-willed toddler. The three-minute video on the "Spirited Toddler," located under the training panel on the bOHP website, offers helpful guidance.<sup>19,62</sup>

## 1. Prepare the caregiver

Let the caregiver know that it is typical for young children to cry during an examination. Try to use "positive" words in your explanation. You may consider spelling out the word "cry" to the caregiver as you indicate that this is a common behavior.

Children are highly attuned and listen to what providers and caregivers discuss. Review with the caregiver proper knee-to-knee positioning and the need for the caregiver to stabilize their child's legs and hands in a "hugging" position (**Figure 3**). A 60 second video on knee-to-knee examinations is available in English and Spanish on the final slide of the bOHP website's caregiver presentation.

## 2. Prepare yourself and your staff

Have all necessary instruments and materials arranged and within reach before you begin.

Do not lay the child back until your gloves, mask and protective eyewear are on.

## 3. Distractive interactions

Interact with the child prior to laying them back into the knee-to-knee position. Consider counting their fingers with your mirror or toothbrush. If you have them hold the toothbrush, ensure it remains in the package. Counting a parent's fingers or pretending to count a stuffed animal's teeth to demonstrate teeth counting can also be helpful. Using your mask in a playful manner, play "peeka-boo" by putting your mask over your mouth and then over your chin, making the situation less intimidating for the child. Finally, avoid using the air water syringe as toddlers' reactions to this can be unpredictable. You may wish to use the disposable multi-color plastic mirrors for the child to hold and use for pretend play at home. (Injury prevention anticipatory guidance should include no running around with plastic mirrors or toothbrushes at home.)

#### 4. Knee-to-knee exam vs. sitting up

It is tempting for providers to look in the mouth while the child is simply sitting in the caregiver's lap if the child is not keen on leaning back. While the general rule of "not ruining happiness to get to perfection" is a good pediatric mantra, a sitting-up examination precludes the dentist from performing a more accurate assessment of the child's oral health. It also limits the ability to demonstrate proper oral hygiene techniques for the child and does not allow for the safe application of fluoride varnish.

## 5. A moving and "spirited" child

Proper child stabilization is vital to a successful knee-to-knee examination and fluoride application. When the child is moving, stop to ensure that the caregiver has his or her body stabilized - the child's legs should be around the caregiver's waist, with the caregiver holding the child's hands. Assure that you, your dental assistant (DA) or hygienist (DH) has a gentle but firm hold of the child's head. The DA or DH should

position themselves at 5:00 or 7:00 o'clock and use the child's thick plastic handle toothbrush to hold the mouth open while holding the side of the cheek (See **Figure 4**). Complete your exam on the opposite side (maxilla and mandible). Prior to placing the fluoride varnish, use the toothbrush to clean the teeth. This provides a great opportunity to demonstrate the brushing technique.

## 6. Fluoride varnish application

If the provider determines the child has risk factors for ECC, it is appropriate to proceed with fluoride varnish application. Use the same oral examination strategy to stabilize the child's body and head. To apply varnish (assuming the provider is right-handed), place a pea-size amount of varnish on your left glove. Using a brush applicator, place a small amount of varnish onto the brush, wipe the teeth with gauze, and apply the varnish as the gauze cleans the tooth surface - "Dip, Wipe and Apply". Hold the gauze the entire time. Avoid removing the gauze from the mouth before applying the fluoride, as it helps maximize moisture control and ease of application. Apply a thin layer of varnish on all tooth surfaces. After completing the first and fourth quadrants, proceed with the second and third, or viceversa. Remember to provide the post-application instructions (soft foods for the rest of the day and no brushing until the next morning).

## 7. Praise the child's spirited nature

While spirited children can present challenges to the dental team and make a caregiver's job trickier, focusing on the positive accomplishments of the visit, if channeled correctly, can serve a child well for life.

Upon completion of the caregiver interview and clinical assessment, a caries risk assessment should be performed. This assessment can help determine disease management, periodicity of recalls, and tailored messaging to the caregiver. These recommendations are included in a bOHP report card that is given to the caregiver and can be personalized by uploading your office logo so it is displayed on the print-out (**Figure 2**).

## Summary

Establishing a dental home early in child development shows promise in decreasing disease and promoting a lifetime of healthy habits.<sup>3,14</sup> The bOHP is a model that can facilitate this process and improve early childhood oral health behaviors for the dental team. It provides a systematic and evidence-based approach for delivering preventive oral health services to infants and young children and serves as a suitable guide for providers desiring to adhere to current infant oral health guidelines.

## Figure 4



Staff member helping to stabilize the child's head during the examination (5:00 o'clock).

	Socio-emotional and Developmental Milestones	Dental Practice Considerations					
0-3 Months	<ul> <li>Early manifestations of temperament.</li> <li>Newborn exhibits two emotions: Contentment &amp; Distress: <ol> <li>Relies on the caregiver to comfort/relieve distress.</li> <li>Learns to trust caregiver - reads and responds to their signals.</li> </ol> </li> <li>Onset of a social smile (~6 weeks) - focus on developing attachment is emerging.</li> </ul>	<ul> <li>Provide guidance about the response to crying.</li> <li>Difficult temperament as a risk factor in the possible future use of: <ol> <li>Bottle to aid the transition to sleep.</li> <li>Food as a calming distraction.</li> <li>Candy as a reward for behavioral response</li> </ol> </li> <li>Explore emotional developmental milestones if a social smile absent.</li> <li>Promote pacifier use after 1 month of age.</li> <li>Wipe the baby's mouth with a moist cloth once daily.</li> </ul>					
3-6 Months	<ul> <li>Infant increasingly exhibits 'loving' behaviors: <ol> <li>Joyfully smiles and vocalizes to the caregiver.</li> <li>Importance of warm/contingent responding.</li> <li>Prototype for sensitive relationships.</li> </ol> </li> <li>Emerging reciprocal and interactive 'Communicative Dance': <ol> <li>'Synchrony' in face-to-face play.</li> <li>Adjusting expectations to a temperamental style minimizes stress and/or conflict.</li> </ol> </li> <li>Starting to develop a more regular eating and sleeping schedule.</li> </ul>	<ul> <li>Overall goal is to promote early, positive routines that may reduce future caregiver-child struggles and prevent habit patterns that may affect dentition.</li> <li>'Back to Sleep' while awake by 6-8 months, with 'back to sleep' promoted by pacifier use.</li> <li>Organized feedings, without between meal 'grazing'.</li> <li>Encourage B's before bedtime - Bath, Breast/Bottle, Brush (if teeth present), Book, Bed - in any order as long as oral hygiene is after feeding.<sup>37</sup></li> </ul>					
6-9 Months	<ul> <li>Readiness after 6 months for development of care routines: <ol> <li>Sleep</li> <li>Feeding</li> <li>Brushing teeth</li> </ol> </li> <li>Active with increasing body control and can sit upright.</li> <li>Babble with vowel-consonant combinations.</li> <li>Development of focused attachment.</li> </ul>	<ul> <li>Overall goal is to promote early, positive routines that may reduce future caregiver-child struggles and prevent habit patterns that may influence oral health.</li> <li>'Back to Sleep' while awake by 6-8 months, with 'back to sleep' promoted by pacifier use.</li> <li>Organized feedings, without between meal 'grazing'.</li> <li>Encourage B's before bedtime - Bath, Breast/Bottle, Brush (if teeth present), Book, Bed – In any order as long as oral hygiene is after feeding.</li> </ul>					
9-12 Months	<ul> <li>Secure vs. insecure attachment patterns become established. Primary caregivers as a 'safe haven' for comforting and confidence and a secure base for exploration.</li> <li>Emerging development of object permanence: <ol> <li>Growing signs of stranger wariness</li> <li>Normal 'separation anxiety'</li> </ol> </li> <li>Speak a few single words in 12 months.</li> <li>Onset focus on behavioral organization: <ol> <li>Locomotion (crawling to standing)</li> <li>Exploration</li> <li>Focus on mastery (wish to 'do it myself')</li> </ol> </li> </ul>	<ul> <li>Practitioner awareness of attachment.</li> <li>Emotional value of 'knee-to-knee' examinations with caregiver presence and close proximity to the child - infants may not tolerate separation from caregiver well.</li> <li>Infant may cry when leaning back for knee-to-knee position <ol> <li>Demonstrating an age appropriate response</li> <li>Crying typically resolves when the infant is seated back towards the parent</li> </ol> </li> <li>Presence of transitional object/security blanket is encouraged.</li> </ul>					

## Table 1 - Infant (0-12 months) Developmental Milestones and Practice Considerations<sup>20,56</sup>

	Socio-emotional and Developmental Milestones	Dental Practice Considerations					
12-18 Months	<ul> <li>Behavioral Organization: moving, exploring, showing, initiating, imitating.</li> <li>Walking well by 15 months.</li> <li>Increasing use of receptive and expressive communication - growth in language with the acquisition of few meaningful words.</li> <li>Emotional separation/individuation from caregiver: <ol> <li>Tantrums</li> <li>Potential for control struggles</li> <li>Emerging sense of 'Self'</li> </ol> </li> </ul>	<ul> <li>Recommendations from 9-12 months continue.</li> <li>Set a matter-of-factly 'playful' tone from onset - Happy visits! - Avoid struggles by catching the child doing well and minimize efforts of control.</li> <li>Toddlers may ride to the exam room in a wagon.</li> <li>Engage the toddler playfully.</li> <li>Encourage active (participatory) mastery.</li> <li>Respond to child-initiated behaviors and promote a secure relationship with dental practice staff.</li> <li>Obtain a Polaroid photo of the child with the caregiver and provider Consider holding a puppet with teeth and a toothbrush during the photo - It provides a great oral health reminder for the family - Encourage displaying this on a refrigerator or bathroom.</li> <li>Develop a dental emergency plan with family.</li> <li>Pacifier use after one year should be discouraged to decrease the risk of developing ear infections.</li> </ul>					
18-24 Months	<ul> <li>Emergence of representational thinking:         <ol> <li>Symbolic language with 2-word phrases that indicate actions desired or observed.</li> <li>Imagination and pretend play:                 <ul></ul></li></ol></li></ul>	<ul> <li>Prior recommendations continue.</li> <li>Another opportunity for higher level mastery - Use stuffed animal or doll to represent the child - Demonstrate oral hygiene (brushing) and exam sequence - Use of puppets with teeth and disposable mirrors as an adjunct.</li> <li>Let the willing child engage as much as desired (squirt water from the exam chair or blow air [wind] on the arm).</li> <li>Don't ruin happiness to get to perfection!</li> </ul>					
24-36 Months	<ul> <li>Rapidly growing language skills; by the end of the period, language expression functional speaking in sentences of at least 4 to 5 words, a vocabulary of ~300 words at 24 months.</li> <li>Complex pretend play.</li> <li>Enjoys social interactions with peers.</li> <li>Parallel play with peers: <ol> <li>Sharing abilities emerging, but not ready for prime time</li> <li>By end of the period, friends are very important</li> </ol> </li> <li>Child provides evidence of secure: <ol> <li>Emotional individuation from caregiver</li> <li>Individual competence</li> <li>Drive to master new situations</li> <li>Capacity to develop own relationships</li> </ol> </li> <li>Relies on caregivers for scaffolding when stressed - Importance of 'Safe Haven - Secure Base'.</li> </ul>	<ul> <li>Prior recommendations continue.</li> <li>Respond to greater competence and confidence.</li> <li>Build a separate relationship with the child during examination - Some toddlers will want to sit in the dental chair, allowing the establishment of groundwork for future dental events.</li> <li>Introduce families to Sesame Street oral health online videos and websites.</li> <li>Revisit dental emergency plan given the increased risk of dental trauma between ages 2 - 3 years.</li> </ul>					

# Table 2 - Toddler (12-36 months) Developmental Milestones and Practice Considerations<sup>20,50</sup>

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# POST-TEST

Internet Users: This page is intended to assist you in fast and accurate testing when completing the "Online Exam." We suggest reviewing the questions and then circling your answers on this page prior to completing the online exam.

(1.0 CE Credit Contact Hour) Please circle the correct answer. 70% equals passing grade.

## 1. Early Childhood Caries is:

- a. the second most common chronic disease in children and 3 times more common that asthma.
- b. the second most common chronic disease in children and 3 times more common than reflux.
- c. the most common chronic disease in children and 5 times more common than vision problems.
- d. the most common chronic disease in children and 5 times more common than asthma.
- 2. The American Academy of Pediatrics (AAP) recommends breast milk or infant formula as the only nutrient given to infants until the age of 4-6 months. The AAP approves the offering of 100% fruit juice thereafter.
  - a. First statement is true, second statement is true.
  - b. First statement is true, second statement is false.
  - c. First statement is false, second statement is true.
  - d. First statement is false, second statement is false.
- 3. The American Academy of Pediatrics recommends plain milk and water as the go-to beverages for children ages 2 to 5 years old.
  - a. True
  - b. False
- 4. In-office topical fluoride varnish applications are \_\_ % effective in reducing caries in the primary dentition.
  - a. 25%
  - b. 37%
  - c. 45%
  - d. 73%
- 5. Regarding preparation of infant formula, the American Dental Association recommends:
  - a. Mix formula with non-fluoridated water.
  - b. Mix formula with optimally fluoridated water.
  - c. Mix formula with non-fluoridated water while being cognizant of the risk of caries.
  - d. Mix formula with optimally fluoridated water while being cognizant of the mild risk for fluorosis.

## 6. Pacifier use is protective for:

- a. Reactive airway disease
- b. Sudden Infant Death Syndrome
- c. Malocclusion
- d. Reflux
- 7. A benefit, besides caries prevention, associated with establishment of a dental home is the development of a dental emergency plan.
  - a. True
  - b. False
- 8. Teething gels are no longer recommended for use in children given the risk for:
  - a. Lead poisoning
  - b. High fevers
  - c. Methemoglobinemia
  - d. Bleeding
- 9. When assisting with a knee-to-knee examination, your dental assistant or hygienist should stand at:
  - a. 3:00 o'clock position
  - b. 5:00 o'clock position
  - c. 8:00 o'clock position
  - d. 12:00 o'clock position

## 10. Instructions after fluoride placement includes:

- a. Brush tonight and crunchy foods for the rest of the day.
- b. Brush tomorrow morning and crunchy foods for the rest of the day.
- c. Brush tonight and soft foods for the rest of the day.
- d. Brush tomorrow and soft foods for the rest of the day.

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# **Evaluation - Early Childhood Oral Health in the General Dentistry Office 4th Edition**

Providing dentists with the opportunity for continuing dental education is an essential part of MetLife's commitment to helping dentists improve the oral health of their patients through education. You can help in this effort by providing feedback regarding the continuing education offering you have just completed.

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