

Healthy Beverage Consumption in Early Childhood: Recommendations from Key National Health and Nutrition Organizations: Summary of Oral Health Considerations

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The American Academy of Pediatric Dentistry (AAPD), in its efforts to promote optimal health for children, supports the 2019 technical report and consensus statement on beverage consumption by young children (aged 0-5 years). These guidelines were developed as part of a collaboration of the Academy of Nutrition and Dietetics (AND), the AAPD, the American Academy of Pediatrics (AAP), and the American Heart Association (AHA). This cooperative effort transpired under the leadership of Healthy Eating Research (HER), a leading nutrition research organization, through funding from the Robert Wood Johnson Foundation.

To develop the technical report and recommendations, HER conducted a review of scientific literature, gathering existing guidelines from national and international bodies and reports on early childhood beverage consumption. It also convened an expert panel of representatives from the AND, AAPD, AAP, AHA, and a scientific advisory committee. This policy brief is intended to summarize key findings, especially as related to oral health considerations.

Establishing healthy dietary patterns in early childhood is important to help prevent future diet-related chronic diseases and support optimal growth and development and overall health. Healthy beverage intake is critical in early childhood because beverages can make a significant contribution to dietary intake during this period and, thus, may serve as important sources of essential nutrients. However, many beverages contain added sugars and saturated fats, which can be harmful when consumed in excess. Overconsumption of unhealthy beverages along with inadequate consumption of healthy beverages in early childhood can contribute to chronic diseases, including dental caries.

Despite the importance of healthy beverages in early childhood, the beverage intake of many young children diverges from evidence-based recommendations. For example, many infants consume cow's milk and 100 percent juice before their first birthday, which can increase their risk for such nutrient deficiencies as anemia. Among two- and three-year

olds, close to half (45 percent) consume a sugar-sweetened beverage (SSB) daily, and the prevalence of SSB consumption increases throughout childhood. Significant differences in beverage intake by race/ethnicity and income groups in early childhood have been noted.

Leading medical and nutrition organizations recommend breast milk, infant formula, water, and plain milk as part of beverage guidelines for children under age five. They caution against beverages that are sources of added sugars in young children's diets, including flavored milks (e.g., chocolate, strawberry) and sugary and low-calorie sweetened beverages. In addition, they advise against a wide variety of new beverages on the market targeted to children, such as toddler formulas, caffeinated beverages, and plant-based/non-dairy milks (e.g., almond, rice, oat) that provide no unique nutritional value.

The recommendations outlined on the next pages by age are intended for healthy children in the United States and do not address medical situations in which specific nutrition guidance is needed to manage a health condition.

Summary of considerations related to oral health:

- The overconsumption of unhealthy beverages coupled with the underconsumption of healthy beverages during early childhood can lead to the development of chronic diet-related diseases including diabetes, obesity, and dental caries.
- Establishing healthy beverage patterns in the first five years can promote adequate intake of healthy nutrients while reducing excess consumption of sugars and saturated fats.

ABBREVIATIONS

AAPD: American Academy of Pediatric Dentistry. **AAP:** American Academy of Pediatrics. **AHA:** American Heart Association. **AND:** Academy of Nutrition and Dietetics. **HER:** Healthy Eating Research. **LCS:** Low-calorie sweeteners. **SSB:** Sugar-sweetened beverage.

- Early life is an important period for the development of flavor and food preferences. Thus, minimizing children’s exposure to sweet-tasting beverages during their early years may help reduce their preference for sweetened food and beverages at older ages.
- Strong evidence demonstrates the adverse health effects of SSBs, which include, but are not limited to, soft drinks/soda, fruit drinks, fruit-flavored drinks, sports drinks, energy drinks, sweetened waters, and sweetened coffee and tea beverages. Children from birth to five years old should not consume sugar-sweetened beverages.
- For children ages six to 12 months who are eating solid foods, a small amount (e.g., approximately four to eight ounces total per day) of plain drinking water may be offered in an open, sippy, or strawed cup to help familiarize the infant with plain water. The early introduction of water may help children become accustomed to its taste.
- Children ages one to five years are encouraged to consume plain drinking water (i.e., unflavored, unsweetened,

uncarbonated, fluoridated drinking water), particularly for beverages consumed outside of meals and snacks. Fluoridated drinking water is a beneficial and inexpensive strategy for reducing dental caries. The vast majority of bottled waters do not contain optimal levels of fluoride, and some do not contain any fluoride.

- Between one and five years of age, plant milks may be particularly useful for children with allergies or intolerances to cow’s milk (about 2.5 percent of children under three years old are allergic to milk) or to accommodate vegan or certain vegetarian dietary preferences. Children should consume only unsweetened varieties in order to avoid additional added sugar in the diet.
- Little research has examined low-calorie sweeteners (LCS) intake and sweet taste preferences among young children. Given that early childhood is a critical developmental period and that there is a lack of evidence regarding the long-term health impact of LCS consumption in young children, children from birth to five years old should not consume beverages with LCS.

Table. Summary of Beverage Recommendations for Children, Ages 0-5 years^a

	0-6 months	6-12 months	12-24 months	2-5 years		Notes
				2-3 years	4-5 years	
Plain drinking water	No supplemental drinking water needed	Approximately 0.5-1.0 cups (4-8 oz.)/day in a cup. Begin offering during meals once solid foods are introduced.	1-4 cups (8-32 oz.) per day	1-4 cups (8-32 oz.) per day	1.5-5 cups (12-40 oz.) per day	Where an individual child falls within these ranges for 12 months to 5 years will depend on the amounts of other beverages consumed during the day.
Plain, pasteurized milk	Not recommended	Not recommended	2-3 cups (16-24 oz.) per day whole milk	Up to 2 cups (16 oz.) per day skim (fat-free) or low-fat (1%) milk	Up to 2.5 cups (20 oz.) per day skim (fat-free) or low-fat (1%) milk	For 12-24 months, reduced-fat (2%) or low-fat (1%) milk may be considered in consultation with a pediatrician, especially if weight gain is excessive or family history is positive for obesity, dyslipidemia, or other cardiovascular disease; the total amount of milk consumed during this age will depend on how much solid food is being eaten.
100% juice	Not recommended	Not recommended	Whole fruit preferred. No more than 0.5 cup (4 oz.) per day 100% juice.	Whole fruit preferred. No more than 0.5 cup (4 oz.) per day 100% juice.	Whole fruit preferred. No more than 0.5-0.75 cup (4-6 oz.) per day 100% juice.	Amounts listed for ages 12 months to 5 years are upper limits (not minimum requirements) that may be consumed only if fruit intake recommendations cannot be met with whole fruit.

^a The expert panel did not address breast milk or infant formula as recommendations in these areas vary by the infant’s age, weight, and developmental milestones and are generally well understood and widely accepted.

Table. Continued					
	0-6 months	6-12 months	12-24 months	2-5 years	Notes
Plant milk/Non-dairy beverages	Not recommended	Not recommended	Not recommended for exclusive consumption in place of dairy milk; consume only when medically indicated (e.g., cow's milk allergy or intolerance) or to meet specific dietary preferences (e.g., vegan)	Consume only when medically indicated (e.g., allergy or intolerance) or to meet specific dietary preferences (e.g., vegan)	Consumption of these beverages as a full replacement for dairy milk should be undertaken in consultation with a health care provider so that adequate intake of key nutrients commonly obtained from dairy milk can be considered in dietary planning.
Flavored milk	Not recommended	Not recommended	Not recommended	Not recommended	Added sugars intake should be avoided in children <2 years old and minimized in children 2-5 years old to avoid contributing to early establishment of a preference for sweet taste as well as potential negative impacts on nutrient intake and diet quality.
Toddler milk	Not recommended	Not recommended	Not recommended	Not recommended	These products offer no unique nutritional value beyond what a nutritionally adequate diet provides and may contribute added sugars to the diet and undermine sustained breastfeeding.
Sugar-sweetened beverages (SSB)	Not recommended	Not recommended	Not recommended	Not recommended	Strong evidence demonstrates the adverse health effects of SSB, which include, but are not limited to, soft drinks/soda, fruit drinks, fruit-flavored drinks, fruitades, sports drinks, energy drinks, sweetened waters, and sweetened coffee and tea beverages.
Beverages with low-calorie sweeteners (LCS)	Not recommended	Not recommended	Not recommended	Not recommended	This recommendation is based on expert opinion given that early childhood is a critical developmental period, and there is a lack of evidence regarding the long-term health impact(s) of LCS consumption in young children.
Caffeinated beverages	Not recommended	Not recommended	Not recommended	Not recommended	Caffeinated beverages are not appropriate for young children.

Notes: All amounts listed are per day, unless otherwise noted; 1 cup = 8 fluid ounces.

- It is ideal for young children to achieve fruit intake recommendations primarily by eating whole fruits without added sugars or low-calorie sweeteners. However, a combination of fruit plus 100 percent fruit juice is preferred to the alternative of falling short of fruit intake

goals. The recommendations for juice consumption are considered upper limits for daily servings, not minimum requirements. If consumed, 100 percent juice should be part of a meal or snack, not sipped throughout the day.

- Frequent consumption of between-meal snacks and beverages containing sugars, whether added or naturally-occurring, increases the risk for dental caries due to prolonged contact between sugars in the consumed food or liquid and cariogenic bacteria on the teeth. To reduce the risk of caries:
 - Avoid consumption of sugar sweetened beverages from a sippy cup or other training cup.
 - Wean young children from a bottle by age one.
 - Do not put children to bed with a bottle containing anything but water.

For the complete consensus statement, visit:

- <https://healthyeatingresearch.org/wp-content/uploads/2019/09/HER-HealthyBeverage-ConsensusStatement.pdf>

For the complete technical report, visit:

- <https://healthyeatingresearch.org/research/technical-scientific-report-healthy-beverage-consumption-in-early-childhood-recommendations-from-key-national-health-and-nutrition-organizations/>

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