

## Children and Excess Sodium Intake

### **Ninety percent of U.S. children aged 6 to 18 years consume too much sodium every day.<sup>1</sup>**

- The average daily sodium intake for children is 3,300 milligrams before salt is added at the table.<sup>1</sup> The 2015-2020 Dietary Guidelines for Americans recommends that children between the ages of 1 and 13 years of age consume less than 2,300 milligrams of sodium daily, and that children between 14 and 18 years of age consume 2,300 milligrams per day.<sup>2</sup>
- The problem starts among the youngest children: 79 percent of children aged 1-3 years and 87 percent of children aged 4-5 years exceed daily sodium intake levels.<sup>3,4</sup>
- High school-aged children (14-18 years) have the highest average intake of dietary sodium compared to other age groups of children.<sup>5</sup>

### **One in six children aged 8 to 17 years has high blood pressure, which increases risk of heart disease, stroke, and adult hypertension.<sup>1</sup>**

- Higher sodium is associated with increased risk of high blood pressure in children. This association is even greater among children who are overweight or obese.<sup>1</sup>
- Up to 77 percent of children ages 3 to 18 with hypertension are undiagnosed, and only 10 percent of children with symptoms of prehypertension are diagnosed.<sup>6</sup>
- High blood pressure developed in childhood can carry through to adulthood.<sup>4</sup>

### **Ten common types of food consumed by children contribute to more than 40 percent of children's daily sodium intake.<sup>1</sup>**

- Pizza, bread and rolls, cold cuts or cured meats, sandwiches, savory snacks, cheese, chicken patties or nuggets, Mexican mixed dishes, soup, and pasta mixed dishes are the leading sources of sodium for children.<sup>1</sup>
- One study conducted in New York City found that 25 percent of 272 different types of toddler foods available in New York City supermarkets had high sodium contents.<sup>7</sup> High sodium is defined as having greater than 20 percent of the daily recommended intake of sodium, according to the Food and Drug Administration's guidelines.<sup>8</sup> The sodium content was particularly high for toddlers' side dishes and entrées.<sup>7</sup>

### **The primary source of sodium intake is from store bought processed food.<sup>1</sup> Dinner is the meal in which children get the largest percentage of their daily sodium intake.<sup>1</sup>**

- Children get 58 percent of their daily intake of sodium from processed food, 16 percent from fast food restaurant foods, and 10 percent from school cafeteria foods.<sup>5</sup>
- Children consume 39 percent of their daily sodium intake at dinner time, 31 percent at lunch, 16 percent from snack foods, and 14 percent at breakfast.<sup>5</sup>
- Children consume the majority of their daily sodium intake away from home and consume salt in foods not prepared at home.<sup>1</sup>

**Sports drinks, which are regularly marketed towards children and adolescents, contribute to the increasing sodium intake among youths.<sup>9</sup>**

- Sodium is one of the electrolytes most commonly found in sports drinks. Per 8-ounce serving, the sodium content in sports drinks varies from 35 milligrams to 200 milligrams.<sup>9,10</sup>
- Sports drinks are marketed to children and adolescents as healthier beverages compared to soft drinks and as an important source of nutrient replenishment. The consumption of sports drinks during the school day contributes to excess consumption of sodium among students.<sup>9</sup>
- Sports drinks are increasingly available at schools and were the third fastest growing category of beverage in the U.S. in 2006.<sup>10</sup>
- In the 2010 National Youth Physical Activity and Nutrition Study, 16.1 percent of high school students drank a serving of a sports drink within a seven day timeframe.<sup>11</sup>
- Water is the best choice for children exercising or playing sports.<sup>9,12,13</sup>

**It is important to reduce sodium intake early because preference for sodium develops at a young age and according to exposure levels.<sup>1,7</sup>**

- Children who are exposed to excess sodium at a young age can form a palate for salty foods, which increases the likelihood that they will have a high sodium intake through life.<sup>7</sup>
- The economic and health benefits of reducing sodium intake in children can carry through a lifetime. A 9.5 percent reduction in sodium intake among children is estimated to prevent 1 million cardiac events and save over \$32 billion.<sup>6</sup>

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<sup>1</sup> Centers for Disease Control and Prevention. (2014). Vital signs: reducing sodium in children's diets. Available at <http://www.cdc.gov/vitalsigns/children-sodium/>.

<sup>2</sup> U.S. Department of Health and Human Services and U.S. Department of Agriculture. (2015). 2015–2020 Dietary Guidelines for Americans. 8th Edition. Available at <http://health.gov/dietaryguidelines/2015/guidelines>.

<sup>3</sup> Tian N, Zhang Z, Loustalot F, et al. (2013). Sodium and potassium intakes among U.S. infants and preschool children, 2003-2010. *Am J Clin Nutr.* 98(4): 1113-1112.

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- <sup>4</sup> Maalouf J, Cogswell ME, Yuan K, et al. (2015). Top sources of dietary sodium from birth to age 24 mo, United States, 2003-2010. *Am J Clin Nutr*, 101(5): 1021–1028.
- <sup>5</sup> Quader ZS, Gillespie C, Sliwa SA, et al. Sodium intake among US school-aged children: National Health and Nutrition Examination Survey, 2011-2012. (2017). *J Acad Nutr Diet*, 117(1): 39-47.
- <sup>6</sup> Kaelber DC, Liu W, Ross M, et al. (2016).. Diagnosis and medication treatment of pediatric hypertension: a retrospective cohort study. *Pediatrics*, 138(6): e20162195.
- <sup>7</sup> Samuel L, Ehtan D, Basch CH, et al. (2014). A comparative study of sodium content and calories in sugar in toddler foods sold in low and high income New York City supermarkets. *Glob J Health Sci*, 6(5): 22–9.
- <sup>8</sup> U.S. Food and Drug Administration. (2012). Food facts: sodium in your diet, using the Nutrition Facts Label to reduce your intake. Available at <http://www.fda.gov/downloads/Food/IngredientsPackagingLabeling/UCM315471.pdf>.
- <sup>9</sup> Story M and Klein L. (2012). Consumption of sports drinks by children and adolescents. *Robert Wood Johnson Foundation*. Available at <http://healthyeatingresearch.org/wp-content/uploads/2013/12/HER-Sports-Drinks-Research-Review-6-2012.pdf>.
- <sup>10</sup> American Academy of Pediatrics: Committee on Nutrition and the Council on Sports Medicine and Fitness. (2011). Clinical report—sports drinks and energy drinks in children and adolescents: are they appropriate? *Pediatrics*, 137(6): 1182-1189.
- <sup>11</sup> Centers for Disease Control and Prevention. (2011). Physical activity levels of high school students—United States, 2010. *Morbidity and Mortality Weekly Report*, 60(23): 778-780.
- <sup>12</sup> American Academy of Pediatrics. (2011). Kids should not consume energy drinks, and rarely need sports drinks, says AAP. Available at <https://www.aap.org/en-us/about-the-aap/aap-press-room/pages/kids-should-not-consume-energy-drinks,-and-rarely-need-sports-drinks,-says-aap.aspx>.
- <sup>13</sup> Centers for Disease Control and Prevention. (2014). Increasing access to drinking water and other healthier beverages in early care and education settings. Available at <http://www.cdc.gov/obesity/downloads/early-childhood-drinking-water-toolkit-final-508reduced.pdf>.