

A comparison of 34 countries revealed that the United States had the second highest rate of childhood obesity (Janssen & others, 2005). Childhood obesity contributes to a number of health problems in young children (Eno Persson & others, 2018). For example, physicians are now seeing type 2 (adult-onset) diabetes (a condition directly linked with obesity and a low level of fitness) in children as young as age 5 (Baskaran & Kandemir, 2018). Many aspects of children's lives can contribute to becoming overweight or obese (Labayen Goñi & others, 2018; Sun & others, 2018). Recently, the following 5-2-1-0 obesity prevention guidelines have been established for young children: 5 or more servings of fruits and vegetables, 2 hours or less of screen time, minimum of 1 hour of physical activity, and 0 sugar-sweetened beverages daily (Khalsa & others, 2017). Prevention of obesity in children also includes helping children, parents, and teachers see healthy food as a way to satisfy hunger and meet nutritional needs, not as proof of love or as a reward for good behavior. Routine physical activity should be a daily occurrence (Powers & Howley, 2018). One research study found that viewing as little as one hour of television daily was associated with an increase in body mass index (BMI) between kindergarten and first grade (Peck & others, 2015).

## Malnutrition

Poor nutrition affects many young children from low-income families (Lucas, Richter, & Daelmans, 2018; Schiff, 2019). Many of these children do not obtain essential amounts of iron, vitamins, or protein. Poor nutrition is a particular concern for infants from low-income families (Petty & others, 2017).

To address this problem in the United States, the WIC (Women, Infants, and Children) program provides federal grants to states for healthy supplemental foods, health-care referrals, and nutrition education for women from low-income families beginning in pregnancy, and to infants and young children up to 5 years of age who are at nutritional risk (Chang, Brown, & Nitzke, 2017; Gilmore & others, 2017). WIC serves approximately 7,500,000 participants in the United States. Positive influences on infants' and young children's nutrition and health, as well as mothers' health, have been found for participants in WIC (Black & Armstrong, 2017; Chen & others, 2018; Gross & others, 2017; Lee & others, 2017; Martinez-Brockman & others, 2018; McCoy & others, 2018). For example, a multiple-year literacy intervention with Spanish-

speaking families in the WIC program in Los Angeles increased literacy resources and activities at home, which in turn led to a higher level of school readiness in children (Whaley & others, 2011). And in longitudinal studies, when mothers participated in WIC programs prenatally and during their children's first five years, young children showed short-term cognitive benefits and longer-term reading and math benefits (Jackson, 2015).



### How Would You...?

As a health-care professional, how would you advise parents who want to get their talented 4-year-old child into a soccer league for preschool children?

## Exercise

Young children should engage in physical activity every day (Insel & Walton, 2018; Lintu & others, 2017; Walton-Fisette & Wuest, 2018). Expert panels from Australia, Canada, the United Kingdom, and the United States have issued physical activity guidelines for young children that are quite similar (Pate & others, 2015). The guidelines recommend that young children get an average of 15 or more minutes of physical activity per hour over a 12-hour period, or about 3 hours per day total. These guidelines reflect an increase from earlier guidelines (National Association for Sport and Physical Education, 2002). The child's life should center on activities, not meals (Powers & Howley, 2018; Rowland, 2016).



*How much physical activity should preschool children engage in per day?*  
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