

# Childhood Obesity: Separating **Fact** from **Fiction**

A national composite index developed by the Foundation for Childhood Development indicates that the overall health and well-being of children is 37% lower today than it was during the mid-1970s. One of the largest contributors to children's declining health is obesity.<sup>1</sup> Although many of the challenges posed by childhood obesity are well-known, it is important to be able to separate facts from fiction, as well as to know the definitions, statistics and key causes of the obesity epidemic.

Below is a list of statements about childhood obesity. Each is identified as either "fact" or "fiction," with an explanation of the evidence for the statement.

## The U.S. now has the highest percentage of overweight youth in our nation's history.<sup>2</sup>

**FACT** This is true. Over the past 30 years, the prevalence of childhood obesity has nearly tripled.<sup>3</sup> Today, nearly 15% of American children and adolescents aged 2 to 19 years are considered overweight and an additional 16% are considered obese.<sup>2</sup> This amounts to approximately 24 million children and adolescents who are struggling with unhealthy amounts of excess weight.<sup>4</sup>

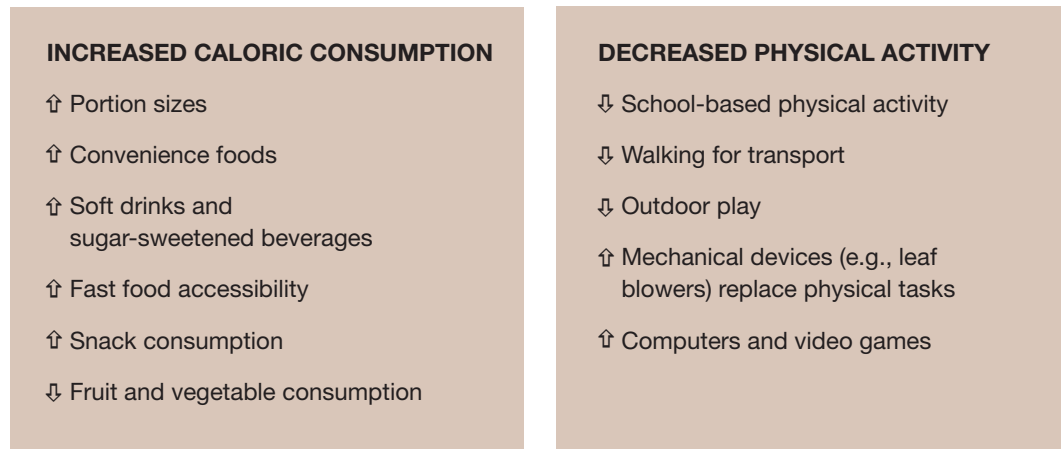
## There are many factors that have contributed to the dramatic rise in childhood obesity.

**FACT** This is true. Changes in the eating and exercise habits of children over the last several decades are generally considered the major factors contributing to childhood obesity.<sup>5</sup> Increased reliance on vehicles for transportation and televisions or computers for entertainment has resulted in few children meeting physical activity guidelines. The increased availability of high calorie foods with low nutritional value has resulted in even fewer youth meeting daily dietary guidelines:<sup>6</sup>

- ❖ 65% of high school students do not meet daily physical activity guidelines, and 10% engage in no physical activity;
- ❖ 35% of high school students watch 3 or more hours of television each day;
- ❖ 25% of high school students play video games or use a computer recreationally for more than 3 hours each day; and
- ❖ 80% do not eat enough fruits and vegetables.



**Figure 1: How Eating and Exercise Habits Contribute to Obesity**

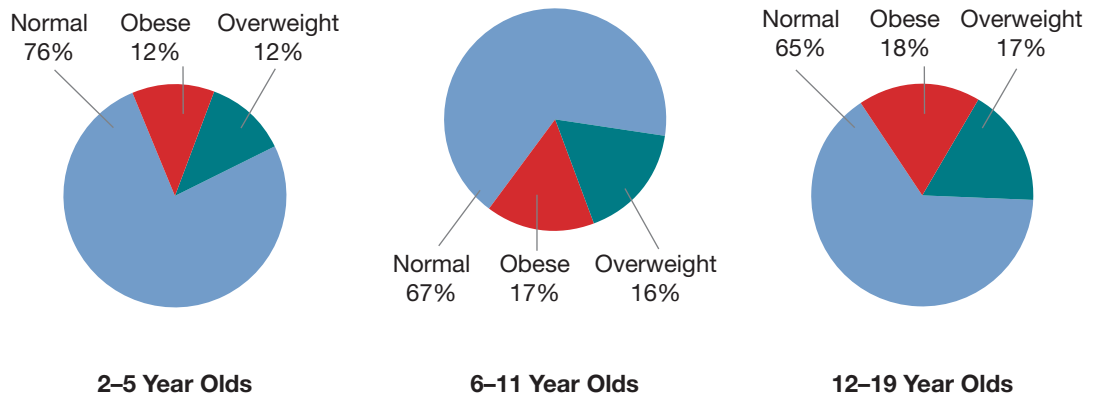


### **The proportion of overweight and obesity is the same regardless of age, gender or ethnicity.**

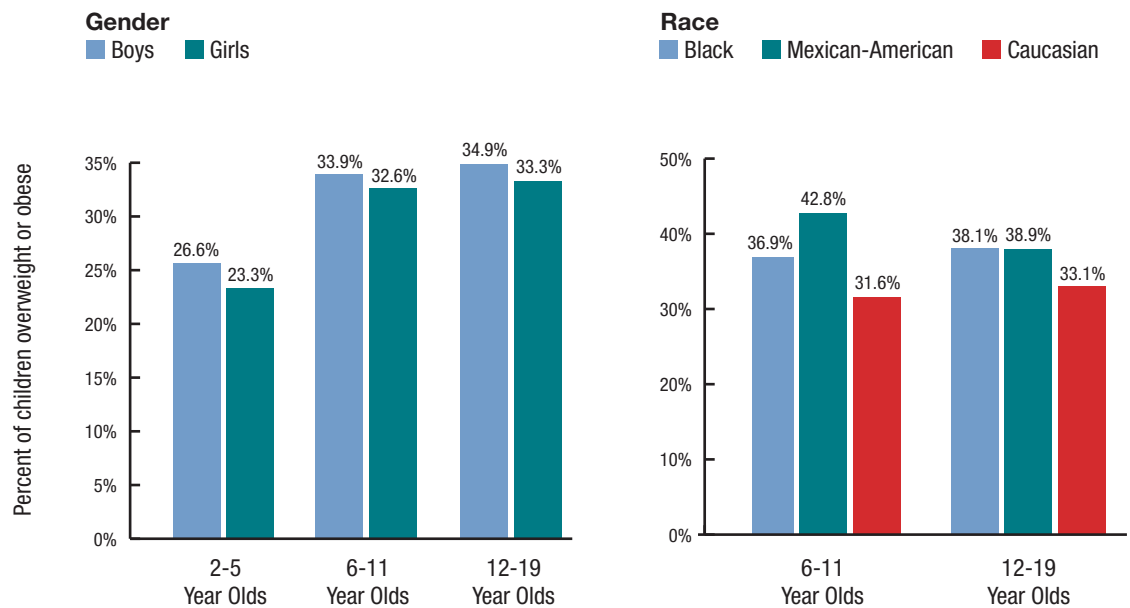
**FICTION** This statement is not true. While the prevalence of overweight and obesity is nearly equal for boys and girls,<sup>2</sup> the prevalence does vary by age and ethnicity.

- ❖ Childhood obesity is more prevalent among 6-to-19-year-olds (34%) than 2-to-5-year-olds (24%)<sup>2</sup> (Fig. 2).
- ❖ More Mexican-American (38%) and African-American (35%) youth are overweight than white youth (30.7%)<sup>2</sup> (Fig.3).

**Figure 2: Childhood Obesity by Age<sup>2</sup>**



**Figure 3: Childhood Obesity by Race and Gender<sup>2</sup>**



## Childhood obesity is the same no matter where a child lives.

**FICTION** This statement is not true. According to a 2009 report prepared by the Robert Wood Johnson Foundation, childhood obesity varies by state for a variety of reasons, including differences in the local environment and state and federal policies. For example, Mississippi has the highest rate of obese and overweight children (44.4%). Other southern states, including Georgia, Alabama, Tennessee and Kentucky, also have high rates of obese and overweight children compared to the rest of the country. Minnesota, Utah and Oregon have the lowest rates, with 20%-25% of children identified as overweight and obese.<sup>7</sup>

## Parents often cannot tell if their child is overweight or obese.

**FACT** This is true. Over the course of normal growth and development, a child's body weight and height changes, so it is not always easy to tell if a child is overweight.

## Parents should weigh their children on the bathroom scale to determine if they are overweight.

**FICTION** This statement is not true. Weighing a child on a bathroom scale is not a good idea. A scale does not accurately account for a child's height, age or gender.

The best way to find out if a child (between the ages of 2 and 20 years old) is overweight is to have a physician measure body mass index-for-age (BMI-for-age). A child's BMI is a relative measure of body weight based upon his or her gender, age and height.

### To calculate BMI-for-age, a doctor will—

1. Obtain height and weight measurements.
2. Calculate BMI.
3. Plot BMI on appropriate BMI-for-Age Growth Charts.
4. Determine the percentile within which the BMI falls.
5. Find the weight category for the percentile.

-OR-

Utilize BMI Calculators Online

**Table 1: Definitions of Body Mass Index (BMI) Percentiles\***

IF A CHILD'S BMI IS...	IT MEANS THE CHILD...	AND IS CONSIDERED...
< 5th Percentile	...weighs less than 95 of 100 children	Underweight
5th –84th Percentile	...weighs less than 84 of 100 children	Healthy weight
85th Percentile	...weighs more than 85 of 100 children	Overweight
>95th Percentile	...weighs more than 95 of 100 children	Obese

*\*The BMI weight percentiles have been created by the U.S. Centers for Disease Control and Prevention and are based on a reference population using data from surveys and physical measurements that lag the current population statistics.*

*Source: Age & Gender Specific Reference Population BMI Growth Charts from U.S. Centers for Disease Control and Prevention (<http://www.cdc.gov/growthcharts>)*

**Example: An 8-year-old girl who stands 4 feet 2 inches tall and weights 70 pounds would have a BMI of 19.7. This girl would be in the 91st percentile of all girls her age. This means she weighs more than 91% of her peers (based upon a reference population) and is considered overweight.**

## Illnesses associated with overweight and obese children occur in the short- and long-term.

**FACT** This is true. Many health conditions once considered adult problems are now being diagnosed among children. For example, Type II diabetes was once considered adult-onset diabetes. Today 8%-46% of new pediatric diabetes cases (Type I and Type II) are Type II.<sup>8</sup>

In one study, 70% of obese children 5 to 17 years old were already diagnosed with at least one cardiovascular risk factor (e.g., high blood pressure, high cholesterol) and 39% had two or more risk factors.<sup>9</sup>

Long-term, overweight and obese children and adolescents are at increased risk for the following illnesses and conditions:

- ❖ high blood pressure;
- ❖ Type II diabetes;
- ❖ elevated cholesterol;

- ❖ asthma;
- ❖ sleep apnea;
- ❖ menstrual irregularities;
- ❖ polycystic ovarian syndrome; and
- ❖ muscle and joint conditions.

### **Childhood obesity mainly impacts a child's physical health.**

**FICTION** This statement is not true. Overweight and obesity have been shown to increase depression, anxiety and low self-esteem among children and adolescents.<sup>10</sup> Furthermore, obesity has been found to greatly impact the quality of life (QOL) among children. In one study, physical, emotional, social and school functioning were assessed among obese children, healthy children and children with cancer. As suspected, obese children had a lower QOL in all areas compared to healthy children. The QOL for obese children was found equivalent to that of children undergoing chemotherapy.<sup>11</sup>

### **Childhood obesity is not associated with adult obesity.**

**FICTION** This statement is not true. Childhood obesity is both associated with and impacted by adult obesity.

Overweight and obese children are more likely to become obese adults. Among overweight and obese children 3 to 5 years old, there is a 40% chance of becoming an obese adult; overweight and obese adolescents 10 to 17 years old have a 74% chance of becoming an overweight adult.

Adult obesity can also increase the likelihood for child obesity. A child under the age of 5 is at least 3 times more likely to become an obese adult if one parent is obese; if both parents are obese, the likelihood increases to 13 to 15 times. Among older children, parental obesity can increase the likelihood of becoming an obese adult by 2 to 5 times.<sup>12</sup>

### **School policies and practices have a great impact on childhood obesity.**

**FACT** This statement is true. Schools are a powerful force in children's lives. Ninety-seven percent of American children between the ages of 5 and 17 years old are enrolled in school.<sup>13</sup> No other institution has as much

continuous and intensive contact with children during their first two decades of life. Not only do children spend the majority of their day in school, 19%-50% of their daily food intake is consumed there.<sup>14</sup>

Over the last several years, significant improvements have been made to school nutrition and physical activity policies and practices. However, the most recent available statistics (2007) leave room for further improvement.

- ❖ 69% of elementary schools require some physical education classes, as do 84% of middle schools and 95% of high schools;<sup>15</sup> but *only 4% of elementary schools, 8% of middle schools and 2% of high schools provide daily physical education for all students.*<sup>15</sup>
- ❖ In 13% of elementary schools, 29% of middle schools and 58% of high schools, students could purchase soda or fruit drinks that are not 100% juice during lunch.<sup>16</sup>
- ❖ 12% of elementary schools, 25% of middle schools and 48% of high schools allow students to purchase foods or beverages high in fat, sodium or added sugars during lunch.<sup>16</sup>
- ❖ 33% of elementary schools, 72% of middle schools and 90% of high schools have vending machines, snack bars or other sources of snack foods outside the school meal programs.<sup>16</sup>

## Conclusion

Childhood obesity is a growing problem in the United States, and its causes and consequences are extensive. Schools, child care facilities, communities and families have all contributed to the problem and all must contribute to its resolution. Health care providers and employers also have roles to play as part of a comprehensive solution. Therefore, it is clear that **childhood obesity is everyone's business!**

## References

- <sup>1</sup> Foundation for Child Development. 2007 report: *The foundation for child development child and youth well-being index (CWI), 1975-2005, with projections for 2006*. Available at: [http://www.fcd-us.org/usr\\_doc/2007CWIRReport-Embargoed.pdf](http://www.fcd-us.org/usr_doc/2007CWIRReport-Embargoed.pdf). Accessed June 25, 2009.
- <sup>2</sup> Ogden CL, Carroll MD, Flegal KM. High body mass index for age among US children and adolescents, 2003-2006. *JAMA*. 2008;299(20):2401-2405.
- <sup>3</sup> Centers for Disease Control and Prevention. National Center for Health Statistics. *Prevalence of overweight among children and adolescents: United States, 2003-2006*. April 2006. Available at: [http://www.cdc.gov/nchs/products/pubs/pubd/hestats/overweight/overwght\\_child\\_03.htm](http://www.cdc.gov/nchs/products/pubs/pubd/hestats/overweight/overwght_child_03.htm). Accessed July 15, 2009.
- <sup>4</sup> U.S. Census Bureau, Population Division. *Annual estimates of the resident population by sex and selected age groups for the United States: April 1, 2000 to July 1, 2008 (Table 2)*. Release date: May 14, 2009. Available at: <http://www.census.gov/popest/national/asrh/NC-EST2008/NC-EST2008-02.xls>. Accessed June 10, 2009.
- <sup>5</sup> Centers for Disease Control and Prevention. Division of Nutrition, Physical Activity and Obesity, National Center for Chronic Disease Prevention and Health Promotion. Childhood overweight and obesity: contributing factors. Available at: <http://www.cdc.gov/obesity/childhood/causes.html>. Accessed June 25, 2009.
- <sup>6</sup> Centers for Disease Control and Prevention. Youth risk behavior surveillance—United States, 2007. *Morbidity & Mortality Weekly Report*. 2008; 57(SS-4):1-131.
- <sup>7</sup> Robert Wood Johnson Foundation. *F as in fat: how obesity policies are failing in America*. Washington, DC; 2009.
- <sup>8</sup> Fagot-Campagna A, Venkat Narayan KM, Imperatore G. Type 2 diabetes in children. *BMJ*. 2001;322(7283):377-378.
- <sup>9</sup> Freedman DS, Mei Z, Srinivasan SR, Berenson GS, Dietz WH. Cardiovascular risk factors and excess adiposity among overweight children and adolescents: the Bogalusa Heart Study. *J Pediatr*. 2007; 150(1):12-17.
- <sup>10</sup> BeLue R, Francis LA, Colaco B. Mental health problems and overweight in a nationally representative sample of adolescents: effects of race and ethnicity. *Pediatrics*. 2009;23:697-702.
- <sup>11</sup> Schwimmer JB, Burwinkle TM, Varni JW. Health-related quality of life of severely obese children and adolescents. *JAMA*. 2003; 289(14):1813-1819.

- <sup>12</sup> Whitaker RC, Wright JA, Pepe MS et al. Predicting obesity in young adulthood from childhood and parental obesity. *NEJM*. 1997; 37(13):869-873.
- <sup>13</sup> U.S. Census Bureau, Housing and Household Economic Statistics Division, Education & Social Stratification Branch. School enrollment—social and economic characteristics of students: October 2007. Available at: <http://www.census.gov/population/www/socdemo/school/cps2007.html>. Accessed June 4, 2009.
- <sup>14</sup> U.S. Department of Agriculture, Food and Nutrition Service, Office of Analysis, Nutrition and Evaluation. Children's diets in the mid-1990s: dietary intake and its relationship with school meal participation. Alexandria, VA: 2001. USDA CN-01-CD1.
- <sup>15</sup> Lee SM, Burgeson CR, Fulton JE, Spain CG. Physical education and physical activity: results from the school health policies and programs study 2006. *Journal of School Health*. 2007; 77(8):435-463.
- <sup>16</sup> O'Toole TP, Anderson S, Miller C, Guthrie J. Nutrition services and foods and beverages available at school: results from the school health policies and programs study 2006. *Journal of School Health*. 2007; 77(8):500-521.