

# 113 Obese (Children 2-5 Years of Age)

## Definition/Cut-off Value

Obesity for children 2-5 years of age is defined as follows:

Age	Cut-Off Value
2-5 years	$\geq 95^{\text{th}}$ percentile Body Mass Index (BMI) or weight-for-stature as plotted on the 2000 Centers for Disease Control and Prevention (CDC) 2-20 years gender specific growth charts (1,2) (available at: <a href="http://www.cdc.gov/growthcharts">www.cdc.gov/growthcharts</a> ).*

\*The cut off is based on standing height measurements. Therefore, recumbent length measurements may not be used to determine this risk. See Clarification for more information.

## Participant Category and Priority Level

Category	Priority
Children (2-5 years of age)	III

## Justification

The rapid rise in the prevalence of obesity in children and adolescents is one of the most important public health issues in the United States today. The National Health and Nutrition Examination Survey (NHANES) from the mid-1960s to the early 2000s document a significant increase in obesity among children from preschool age through adolescence. These trends parallel a concurrent increase in obesity among adults, suggesting that fundamental shifts occurring in dietary and/or physical activity behaviors are having an adverse effect on overall energy balance (3).

The causes of increased obesity rates in the United States are complex. Both genetic make-up and environmental factors contribute to the obesity risk. Important contributors include a large and growing abundance of calorically dense foods and an increased sedentary lifestyle for all ages. Although obesity tends to run in families, a genetic predisposition does not inevitably result in obesity. Environmental and behavioral factors can influence the development of obesity in genetically at-risk people (3).

BMI is a measure of body weight adjusted for height. While not a direct measure of body fatness, BMI is a useful screening tool to assess adiposity (3). Children  $\geq 2$  years of age, with a BMI-for-age  $\geq 85^{\text{th}}$  and  $< 95^{\text{th}}$  percentile are considered *overweight* and those at or above the  $95^{\text{th}}$  percentile, *obese* (4). Research on BMI and body fatness shows that the majority of children with BMI-for-age at or above the  $95^{\text{th}}$  percentile have high adiposity and less than one-half of the children in the  $85^{\text{th}}$  to  $< 95^{\text{th}}$  percentiles have high adiposity (4). Although an imperfect tool, elevated BMI among children most often indicates increased risk for future adverse health outcomes and/or development of diseases (5). BMI should serve as the initial screen and as the starting point for classification of health risks (3).

Use of the  $95^{\text{th}}$  percentile to define obesity identifies those children with a greater likelihood of being obese as adolescents and adults, with increased risk of obesity-related disease and mortality. It is recommended

that an obese child ( $\geq 95^{\text{th}}$  percentile) undergo a medical assessment and careful evaluation to identify any underlying health risks or secondary complications (3). Obesity can result from excessive energy intake, decreased energy expenditure, or a medical condition that impairs the regulation of energy metabolism. In addition, obesity in early childhood may signify problematic feeding practices or evolving family behaviors that, if continued, may contribute to health risks in adulthood related to diet and inactivity.

### Implications for WIC Nutrition Services

The WIC Program plays an important role in public health efforts to reduce the prevalence of obesity by actively identifying and enrolling young children who may be obese or at risk of overweight/obesity in later childhood or adolescence. When identifying this risk, it is important to communicate with parents/caregivers in a way that is supportive and nonjudgmental, and with a careful choice of words that convey an empathetic attitude and minimize embarrassment or harm to a child's self-esteem (4). In recognition of the importance of language, the 2007 American Medical Association Expert Committee Report recommends the use of the terms *overweight* and *obese* for documentation and risk assessment **only** and the use of more neutral terms (e.g., *weight disproportional to height*, *excess weight*, *BMI*) when discussing a child's weight with a parent/caregiver (3).

BMI is calculated and plotted on growth charts at each WIC certification. However, growth charts are meant to be used as a screening tool and comprise only one aspect of the overall growth assessment. A clinical assessment to determine if a child is at a healthy weight is more complex. Weight classification (derived from the growth chart) should be integrated with the growth pattern, familial obesity, medical risks, and dietary and physical activity habits to determine the child's obesity risk (1, 5).

The goal in WIC nutrition counseling is to help the child achieve recommended rates of growth and development. WIC staff can frame the discussion to make achieving normal growth a shared goal of the WIC Program and the parent/caregiver and make clear that obesity is a medical condition that can be addressed (4). Parents/caregivers of children may need education on recognition of satiety cues and other physiological needs that lead to crying, and ways to comfort a child (holding, reading, rocking) other than by feeding. The foods provided by the WIC Program are scientifically-based and intended to address the supplemental nutritional needs of the Program's target population and can be tailored to meet the needs of individual participants. Emphasis can be placed on promoting food choices of high nutritional quality while avoiding unnecessary or excessive amounts of calorie rich foods and beverages, and reducing inactivity (like decreasing sedentary TV viewing).

Beliefs about what is an attractive or healthy weight, the importance of physical activity, what foods are desirable or appropriate for parents to provide to children, family mealtime routines, and many other lifestyle habits are influenced by different cultures, and should be considered during the nutrition assessment and counseling (6). The following resources for obesity prevention can be found at:

- Fit WIC Materials: [http://www.nal.usda.gov/wicworks/Sharing\\_Center/gallery/foodfunfamilies.htm](http://www.nal.usda.gov/wicworks/Sharing_Center/gallery/foodfunfamilies.htm).
- MyPryramid for Preschoolers: <http://www.mypyramid.gov/preschoolers/index.html>

In addition, WIC staff can greatly assist families by providing referrals to medical providers and other services, if available, in their community. Such resources may provide the recommended medical assessments, in order to rule out or confirm medical conditions, and offer treatment when necessary and/or in cases where growth improvement is slow to respond to dietary interventions.

## References

1. Kuczumarski RJ, Ogden CL, Grummer-Strawn LM, et al. CDC growth charts: United States. Advance data from vital and health statistics; no. 314. Hyattsville (MD): National Center for Health Statistics. 2000.
2. Grummer-Strawn LM, Reinold C, Krebs NF. Use of World Health Organization and CDC growth charts for children aged 0-59 Months in the United States. CDC Morbidity and Mortality Weekly Report (September 2010); no 59(rr09); 1-15. Available at: [http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5909a1.htm?s\\_cid=rr5909a1\\_w](http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5909a1.htm?s_cid=rr5909a1_w). Accessed September 2010.
3. Barlow SE, Expert Committee. Expert committee recommendations regarding the prevention, assessment, and treatment of child and adolescent overweight and obesity: Summary report. Pediatrics. 2007; 120; S164-S192.
4. Ogden CL, Flegal KM. Changes in Terminology for childhood overweight and obesity. National health statistics reports; no. 25. Hyattsville (MD): National Center for Health Statistics. 2010.
5. U.S. Department of Health and Human Services. The Surgeon General's vision for a healthy and fit nation. Rockville (MD): U.S. Department of Health and Human Services, Office of the Surgeon General. 2010.
6. Krebs NF, Himes JH, Jacobson D, Nicklas TA, Guilday P, Styne D. Assessment of child and adolescent overweight and obesity. Pediatrics 2007; 120 Suppl 4:S103-S228.

## Clarification

The 2000 CDC Birth to 36 months growth charts cannot be used as a screening tool for the purpose of assigning this risk because these charts are based on recumbent length rather than standing height data. However, these charts may be used as an assessment tool for evaluating growth in children aged 24-36 months who are not able to be measured for the standing height required for the 2000 CDC 2-20 years growth charts.