

Table 5: Evidence for Documentation of BMI Percentile and Weight Classification for Children

Type of Evidence	Key Findings	Level of Evidence (USPSTF Ranking*)	Citations
Expert recommendation	<p>In 2007, the AAP, AMA, and CDC collaborated to form an expert committee to update recommendations on the prevention, assessment, and treatment of child and adolescent overweight and obesity.</p> <p>The committee recommended that physicians and allied health care providers perform, at a minimum, a yearly assessment of weight status for all children. This assessment should include calculation of height, weight (measured appropriately), and BMI for age and plotting of those values on standard growth charts (p. 186). Electronic health record programs may be used to calculate BMI values, report percentiles, and automatically plot a child’s BMI values over time on a BMI curve. (p. 168)</p> <p>With regard to classification, the expert committee recommends that individuals 2 to 18 years of age with BMI of $\geq 95^{\text{th}}$ percentile for age and gender or BMI of ≥ 30 (whichever is smaller) should be considered obese and individuals with BMI of $\geq 85^{\text{th}}$ percentile but $< 95^{\text{th}}$ percentile for age and gender should be considered overweight. (p. 186) The committee further recommends the use of the clinical terms overweight and obesity for documentation and risk assessment. (p. 168)</p>	III	Barlow SE. Expert committee recommendations regarding the prevention, assessment, and treatment of child and adolescent overweight and obesity: Summary report. <i>Pediatrics</i> 2007; 120(Suppl 4):S164-192
Consensus statement	<p>The justification of any screening program is to improve important health outcomes with benefits that outweigh inconvenience, cost, and direct risk for those being screened. While firm evidence for the success of any particular prevention strategy is lacking, the consensus committee still recommends that primary care providers screen all children for overweight and obesity. Resources permitting, BMI indicating overweight status would trigger weight management counseling; obesity would prompt screening for comorbidities and appropriate referrals. (p 1879) Recording and graphical plotting of height, weight, BMI, and waist circumference should be done at each visit. (p. 1872)</p>	III	Speiser PW, Rudolf MC, Anhalt H, et al. Childhood obesity. <i>J Clin Endocrinol Metab</i> 2005; 90(3):1871-1887

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Task force Recommendation	<p>The USPSTF recommends that clinicians screen children aged 6 years and older for obesity and offer them or refer them to intensive counseling and behavioral interventions to promote improvements in weight status. This is a Grade B recommendation: The USPSTF recommends the service. There is moderate certainty that the net benefit is moderate for screening for obesity in children aged 6 years and older and for offering or referring children to moderate- to high-intensity interventions to improve weight status. (p. 362-363)</p> <p>Screening consists of BMI calculated from the weight in kilograms divided by the square of the height in meters. BMI percentile can be plotted on a chart or obtained from online calculators. The definition of overweight is age- and gender-specific BMI at the $\geq 85^{\text{th}}$ to 94^{th} percentile; obesity is age- and gender-specific BMI at the $\geq 95^{\text{th}}$ percentile. BMI percentile for age and gender is the preferred measure for detecting overweight in children and adolescents because it is feasible and reliable and because it tracks with adult obesity measures. (p 364) Based on results, patients should be referred to comprehensive moderate- to high-intensity programs that include dietary, physical activity, and behavioral counseling components. (p. 365)</p>	III	US Preventive Services Task Force. Screening for obesity in children and adolescents: US Preventive Services Task Force recommendation statement. <i>Pediatrics</i> 2010; 125(2):361-367
Observational study	<p>In a study of 1,216 children, Dilley et al. found that documentation of overweight status increased the chances of overweight children being referred for screening or referral for evaluation of comorbidities. Findings showed that 54% of children identified as overweight in the medical record received screening or referral for evaluation of comorbidities, compared with 17% of overweight children who were not identified as overweight in the medical record.</p>	II	Dilley KJ, Martin LA, Sullivan C, Seshadri R, Binns HJ. Identification of overweight status is associated with higher rates of screening for comorbidities of overweight in pediatric primary care practice. <i>Pediatrics</i> 2007; 119(1):e148-155

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Scientific statement	Evaluation of obesity begins with the calculation of BMI, which has clinical validity because it correlates with adiposity, adult adiposity, cardiovascular risk, and long-term mortality. No perfect cutpoint exists that identifies all children with elevated body fat. Absolute BMI is an inappropriate screen for children because BMI norms shift with age and sex. Instead, BMI should be plotted on the CDC's percentile curves to identify the appropriate BMI percentile category. (p 2115)	III	Daniels SR, Jacobson MS, McCrindle BW, Eckel RH, McHugh Sanner B. American Heart Association Childhood Obesity Research Summit: Executive Summary. <i>Circulation</i> 2009; 119:2114-2123
Scientific statement	According to a scientific statement from the American Heart Association, children <85th percentile with no other health risk factors should be screened (weight, height, and BMI percentile calculated and plotted) every year. (p. 2007)	III	Daniels SR, Arnett DK, Eckel RH, et al. Overweight in children and adolescents: Pathophysiology, consequences, prevention, and treatment. <i>Circulation</i> ; 2005; 111(15):1999-2012
Task Force recommendation	The White House Task Force on Childhood Obesity states there is a critical need for health providers to engage in BMI measurement. The task force recommends that pediatricians be encouraged to routinely calculate children's BMI and provide information to parents about how to help their children achieve a healthy weight. (p. 35) According to the Surgeon General, "people access the health care system through multiple channels, and medical care settings are an important avenue for preventing and controlling overweight and obesity. Clinicians are often the most trusted source of health information and can be powerful role models for healthy lifestyle habits." p. 34	III	White House Task Force on Childhood Obesity. Solving the Problem of Childhood Obesity Within a Generation 2010

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HHS recommendation	Improving access to obesity-related services is a priority for the federal government. CMS will reference and encourage states to implement the USPSTF recommendations on prevention and treatment of obesity, including guidance that health care providers use age- and sex-specific BMI to screen for obesity and refer patients to comprehensive, intensive behavioral interventions to promote improvements in weight status. The increasing prevalence of BMI among children makes it important that attention be given to assure that screening and services are provided to children when medically necessary. CMS guidance will encourage States to remind providers to include diet and exercise advice in the comprehensive well-child examinations. The Affordable Care Act includes a range of provisions that will help promote obesity-related preventive efforts and coverage. (pp 8-10)	III	Report to Congress. Preventive and Obesity-Related Services Available to Medicaid Enrollees. Kathleen Sebelius. Secretary of Health and Human Services; 2010, pp 1-13

Note: USPSTF criteria for assessing evidence at the individual study level are as follows: I) Properly powered and conducted randomized controlled trial (RCT); well-conducted systematic review or meta-analysis of homogeneous RCTs. II) Well-designed cohort or case-control analytic study. III) Opinions of respected authorities, based on clinical experience; descriptive studies or case reports; reports of expert committees.