Expert Committee Recommendations Regarding the Prevention, Assessment, and Treatment of Child and Adolescent Overweight and Obesity: Summary Report

TARGET POPULATION
Eligibility
Inclusion Criterion
Exclusion Criterion

KNOWLEDGE COMPONENTS

DEFINITIONS

RECOMMENDATION: The Role of the Provider's Office

Imperative:	The expert committee endorses the following office practices. routine documentation of BMI. {Rec_1: Imp_1 }
	Directive: Document BMI routinely
	Description: Although clinicians visually recognize obesity in many children without seeing the plotted BMI values, they may overlook excess body fat in children in the overweight (85th-94th percentile BMI) category and miss an opportunity to guide the family toward healthier behaviors. To document BMI consistently and accurately, offices need reliable scales for infants and children, recumbent infant length boards, and wall-mounted stadiometers. This equipment needs regular calibration. Staff members must know how to measure weight and height accurately, how to calculate BMI, and how to plot the measures on the growth curves;
Imperative:	The expert committee endorses the following office practice establishment of procedures to deliver obesity prevention messages to all children. When the patient's individual risk of obesity is low, these messages can promote appropriate general health or wellness, rather than weight control. {Rec_1: Imp_2 }
	Directive: establish procedures to deliver obesity prevention messages
	Description: 5210 message
	Description: establishment of procedures to address children who are overweight (85th–94th percentile BMI) and obese (95th percentile BMI). For instance, when a child is overweight, a practice may plan to review the family history, child's blood pressure, child's cholesterol level, and BMI percentile over time and

then assess health risks on the basis of that information. Offices should flag charts of overweight and obese children, so that all providers at all visits are aware and can monitor growth, risk factors, and social/emotional issues; involvement and training of interdisciplinary teams, including nurses, physicians, and administrative staff members, regarding their respective responsibilities and skills; chart audits to establish baseline practices, to help set goals for practice improvement, and then to measure the improvement over time. Offices can use the techniques for continuous quality improvement from the rapid-cycle improvement method described above.

RECOMMENDATION: Medical Assessment

Imperative: The BMI percentile, although imperfect, is the recommended screen for body fat in routine office practice. {Rec_2: Imp_3 }

Directive: Use BMI percentile to screen for body fat

Description: The BMI percentile, although imperfect, is the recommended screen for body fat in routine office practice. Offices should use the 2000 CDC BMI charts, rather than the International Obesity Task Force standards, because the CDC charts provide the full array of percentile levels (which makes them more appropriate for assessment of individual children), whereas the International Obesity Task Force charts provide only overweight and obesity categories.

Imperative: Skinfold thickness measurements are not recommended. {Rec_2: Imp_4 }

Directive: Do not perform Skinfold thickness measurements

Reason: hey are difficult to perform accurately without careful training and experience and reference data are not readily available.

Imperative: waist circumference measurements are not recommended currently. {Rec_2: Imp_5 }

Directive: Do not measure waist circumference

Benefit: provide indirect information about visceral adiposity, which tracks with cardiovascular and metabolic risk factors, and are more easily performed than skinfold thickness measurements

Reason: reference values for children that identify risk over and above the risk from BMI category are not available

Imperative: Parental obesity is a strong risk factor for a child's obesity persisting into adulthood, especially for young children. {Rec_2: Imp_6 }

Imperative: Offices should review and regularly update the family history regarding first-and second-degree relatives {Rec_2: Imp_7 }

Directive: review and regularly update the family history

	Reason: several obesity-related medical conditions are familial. Family history predicts type 2 diabetes mellitus or insu lin resistance, and the prevalence of childhood diabetes is especially high among several ethnic and racial backgrounds common in the United States, including Hispanic, black, and North American Indian.53 Cardiovascular disease and cardiovascular disease risk factors (hyperlipidemia and hypertension) are also more common when family history is positive.5
Imperative:	A review of systems and a physical examination represent an inexpensive way to screen for many of these conditions, although some conditions are without symptoms or signs. {Rec_2: Imp_8 }
Imperative:	Blood pressure should be assessed at all health supervision visits, and offices should have large cuffs, including thigh cuffs, which allow accurate assessment of blood pressure for severely obese youths. {Rec_2: Imp_9 }
	Directive: Assess blood pressure at all health supervision visits **Description:** . The National Heart, Lung, and Blood Institute has updated tables defining elevated blood pressure levels according to age, gender, and height percentile, which offices should have available for easy reference.70 Three or more readings above the 95th percentile for either systolic or diastolic blood pressure indicate hypertension. Information on the National Heart, Lung, and Blood Institute Web site (www.nhlbi.nih.gov/health/ prof/heart/hbp/hbp_ped.htm) includes recommendations for evaluation, which may include ambulatory blood pressure monitoring to identify "white coat" hypertension or abnormal diurnal blood pressure patterns. Primary care providers can follow these detailed recommendations for evaluation and treatment or can refer patients to a specialist. **Reason:** Approximately 13% of overweight children have elevated systolic blood pressure, and 9% have elevated diastolic blood pressure.
Imperative:	the expert committee recommends a focused assessment of behaviors that have the strongest evidence for association with energy balance and that are modifiable. {Rec_2: Imp_10 }
	Directive: asses behaviors that have the strongest evidence for association with energy balance and that are modifiable. **Reason:** Because comprehensive dietary and physical activity assessments, such as diet or physical activity diaries, are impractical in a typical office setting
Imperative:	For eating behavior assessment, the following behaviors should be addressed frequency of eating food prepared

	outside the home, including food in restaurants, school and work cafeterias, and fast food establishments and food purchased for “take out”; • ounces, cups, or cans of sugar-sweetened beverages consumed each day; portions that are large for age (qualitative assessment); • ounces or cups of 100% fruit juice consumed each day; frequency and quality of breakfast; consumption of foods that are high in energy density, such as high-fat foods; number of fruit and vegetable servings consumed each day; and number of meals and snacks consumed each day and quality of snacks. {Rec_2: Imp_11 }
	Directive: Address frequency of eating food prepared outside the home, **Directive:** Address ounces, cups, or cans of sugar-sweetened beverages consumed each day **Directive:** Address portion size **Directive:** Address ounces or cups of 100% fruit juice consumed each day; **Directive:** Address frequency and quality of breakfast **Directive:** Address consumption of foods that are high in energy density, such as high-fat foods; **Directive:** Address number of fruit and vegetable servings consumed each day
Imperative:	For physical activity assessment, the following behaviors should be addressed: time spent in moderate physical activity each day (including organized physical activity and unstructured activity, including play), to estimate whether the goal of 60 minutes of moderately vigorous activity each day is achieved; routine activity patterns, such as walking to school or performing yard work; sedentary behavior, including hours of television, videotape/DVD, and video game viewing and computer use to determine whether viewing is andgt;2 hours per day. {Rec_2: Imp_12 }
	Directive: Address time spent in moderate physical activity each day **Description:** including organized physical activity and unstructured activity, including play), to estimate whether the goal of 60 minutes of moderately vigorous activity each day is achieved **Directive:** Address routine activity patterns **Description:** walking to school or performing yard work **Directive:** Address sedentary behavior **Description:** hours of television, videotape/DVD, and video game viewing and compute

RECOMMENDATION: Prevention Plus

Imperative:	involve the whole family in lifestyle changes {Rec_3: Imp_13 }
	Directive: involve the whole family in lifestyle changes

	Evidence Quality: (CE)
Imperative:	help families tailor behavior recommendations to their cultural values {Rec_3: Imp_14 }
	Directive: help families tailor behavior recommendations to their cultural values **Recommendation Strength:** (suggest)

RECOMMENDATION: Assessment Recommendations

Conditional:	the expert committee recommends that individuals 2 to 18 years of age with BMI of 95th percentile for age and gender or BMI of 30 (whichever is smaller) should be considered obese and individuals with BMI of 85th percentile but 95th percentile for age and gender should be considered overweight; this term replaces “at risk of overweight.” {Rec_4: Cond_1 }
	Decision Variable: 2 to 18 years of age **Decision Variable:** BMI of 95th percentile for age and gender **Decision Variable:** BMI of 30 **Action:** consider obese
Conditional:	the expert committee recommends individuals with BMI of 85th percentile but 95th percentile for age and gender should be considered overweight; this term replaces “at risk of overweight.” {Rec_4: Cond_2 }
	Decision Variable: BMI of 85th percentile **Decision Variable:** 95th percentile for age and gender **Action:** consider overweight; this term replaces “at risk of overweight.”
Conditional:	The expert committee recommends that a thorough physical examination be performed and that, for a child identified as overweight or obese, the following measurements be included, in addition to the aforementioned recommendations on BMI: (a) pulse, measured in the standard pediatric manner; (b) blood pressure, measured with a cuff large enough that 80% of the arm is covered by the bladder of the cuff; and (c) signs associated with comorbidities of overweight and obesity (see the assessment report).2 Waist circumference is not recommended for routine use. Although high waist circumference can indicate insulin resistance and other comorbidities of obesity and may be useful to characterize risks for obese children, measurement is difficult and appropriate cutoff values are uncertain. {Rec_4: Cond_3 }
	Decision Variable: identified as overweight or obese **Action:** Measure pulse **Action:** Blood pressure **Description:** measured with a cuff large enough that 80% of the arm is covered by the bladder of the cuff; **Action:** signs associated with comorbidities of overweight and obesity

Conditional:	If the BMI is 85th to 94th percentile for age and gender with no risk factors, then a fasting lipid profile should be obtained. {Rec_4: Cond_4 }
	Decision Variable: BMI is 85th to 94th percentile for age and gender **Decision Variable:** no risk factors **Action:** Obtain a fasting lipid profile
Conditional:	If the BMI is 85th to 94th percentile for age and gender with risk factors in the history or physical examination, then AST, ALT, and fasting glucose levels should also be measured. {Rec_4: Cond_5 }
	Decision Variable: BMI is 85th to 94th percentile for age and gender **Decision Variable:** risk factors in the history or physical examination **Action:** Measure fasting lipid profile, AST, ALT, and fasting glucose levels
Conditional:	If the BMI is andgt;95th percentile for age and gender, even in the absence of risk factors, then all of the tests listed for 85th to 94th percentile BMI with risk factors should be performed. {Rec_4: Cond_6 }
	Decision Variable: BMI is andgt;95th percentile for age and gender **Action:** Measure fasting lipid profile, AST, ALT, and fasting glucose levels
Imperative:	The expert committee recommends that physicians and allied health care providers perform, at a minimum, a yearly assessment of weight status for all children and that this assessment include calculation of height, weight (measured appropriately), and BMI for age and plotting of those measures on standard growth charts. {Rec_4: Imp_15 }
	Scope: for all children **Directive:** Assess at a minimum yearly height, weight and BMI for age **Directive:** Plot those measures on standard growth charts
Imperative:	the expert committee recommends that individuals 2 to 18 years of age with BMI of 95th percentile for age and gender or BMI of 30 (whichever is smaller) should be considered obese and individuals with BMI of 85th percentile but 95th percentile for age and gender should be considered overweight; this term replaces “at risk of overweight.” {Rec_4: Imp_16 }
Imperative:	The expert committee recommends the use of 99th percentile BMI values for age as cutoff points (indicated by using a table with cutoff points for the 99th percentile BMI according to age and gender), to allow for improved accessibility of the data in the clinical setting and for additional study. {Rec_4: Imp_17 }
	Directive: use 99th percentile BMI values for age as cutoff

	points to allow for improved accessibility of the data in the clinical setting and for additional study **Description:** indicated by using a table with cutoff points for the 99th percentile BMI according to age and gender **Reason:** use of 99th percentile BMI values for age as cutoff points (indicated by using a table with cutoff points for the 99th percentile BMI according to age and gender), to allow for improved accessibility of the data in the clinical setting and for additional study
Imperative:	The expert committee recommends that qualitative assessment of dietary patterns for all pediatric patients be conducted at each well child visit for anticipatory guidance and readiness to change and identification of the following specific dietary practices, which may be targets for change: frequencyy of eating outside the home, excessive consumption of sweetened beverages, consumption of excessive portion sizes for age {Rec_4: Imp_18 }
	Scope: all pediatric patients **Directive:** qualitatively assess dietary patterns at a minimum, at each well-child visit for anticipatory guidance **Description:** assessment include self-efficacy and readiness to change and identification of the following specific dietary practices, which may be targets for change: frequency of eating outside the home at restaurants or fast food establishments, excessive consumption of sweetened beverages, and consumption of excessive portion sizes for age. Additional practices to be considered for evaluation during the qualitative dietary assessment include excessive consumption of 100% fruit juices, breakfast consumption (frequency and quality), excessive consumption of foods that are high in energy density, low consumption of fruits
Imperative:	The expert committee recommends that physicians and allied health care providers obtain a focused family history for obesity, type 2 diabetes mellitus, cardiovascular disease (particularly hypertension), and early deaths resulting from heart disease or stroke, to assess the risks of current or future comorbidities associated with a child's overweight or obese status. {Rec_4: Imp_19 }
	Directive: obtain a focused family history for obesity, type 2 diabetes mellitus, cardiovascular disease (particularly hypertension), and early deaths resulting from heart disease or stroke **Reason:** to assess the risks of current or future comorbidities associated with a child's overweight or obese status

RECOMMENDATION: RECOMMENDATIONS FOR PREVENTION OF CHILDHOOD OBESITY: Patient-Level Interventions

Conditional:	1. The expert committee recommends that physicians and allied health care providers counsel the following for children 2 to 18 years of age whose BMI is 5th to 84th percentile: (a) limiting consumption of sugar-sweetened beverages (consistent evidence); (b) encouraging diets with recommended quantities of fruits and vegetables (mixed evidence); (c) limiting television and other screen time by allowing no more than 2 hours per day, as advised by the American Academy of Pediatrics (consistent evidence), and removing television and computer screens from children's primary sleeping areas (consistent evidence); {Rec_5: Cond_7 }
	Decision Variable: 2 to 18 years of age **Decision Variable:** BMI is 5th to 84th percentile **Action:** Counsel: limiting consumption of sugar-sweetened beverages (consistent evidence) **Action:** Counsel: encouraging diets with recommended quantities of fruits and vegetables (mixed evidence) **Action:** Counsel: limiting television and other screen time by allowing no more than 2 hours per day **Action:** Counsel: removing television and computer screens from children's primary sleeping areas (consistent evidence) **Action:** Counsel: eating breakfast daily (consistent evidence **Action:** Counsel: limiting eating at restaurants, particularly fast food restaurants (consistent evidence) **Action:** Counsel: encouraging family meals in which parents and children eat together (consistent evidence) **Action:** Counsel: limiting portion sizes (consistent evidence)
Imperative:	2. The expert committee also suggests that providers counsel families to engage in the following behaviors: (a) eating a diet rich in calcium; (b) eating a diet high in fiber; (c) eating a diet with balanced macronutrients (energy from fat, carbohydrates, and protein in proportions appropriate for age, as recommended by Dietary Reference Intakes); (d) initiating and maintaining breastfeeding; (e) participating in 60 minutes of moderate to vigorous physical activity per day for children of healthy weight (the 60 minutes can be accumulated throughout the day, rather than in single or long bouts; ideally, such activity should be enjoyable to the child); and (f) limiting consumption of energy-dense foods. {Rec_5: Imp_20 }
	Directive: Counsel: eating a diet rich in calcium **Directive:** Counsel: eating a diet high in fiber **Directive:** Counsel: eating a diet with balanced macronutrients **Description:** (energy from fat, carbohydrates, and protein in proportions appropriate for age, as recommended by Dietary Reference Intakes); **Directive:** Counsel: initiating and maintaining breastfeeding

Directive: Counsel: participating in 60 minutes of moderate to vigorous physical activity per day

Description: the 60 minutes can be accumulated throughout the day, rather than in single or long bouts; ideally, such activity should be enjoyable to the child);

Directive: Counsel: limiting consumption of energy-dense foods.

Recommendation Strength: suggests

RECOMMENDATION: RECOMMENDATIONS FOR PREVENTION OF CHILDHOOD OBESITY: Practice-and Community-Level Interventions

Imperative: 1. The expert committee recommends that physicians, allied health care professionals, and professional organizations (a) advocate for the federal government to increase physical activity at schools through intervention programs from grade 1 through the end of high school and college and through the creation of school environments that support physical activity in general and (b) support efforts to preserve and to enhance parks as areas for physical activity, inform local development initiatives regarding the inclusion of walking and bicycle paths, and promote families' use of local physical options by making information and suggestions about physical activity alternatives available in doctors' offices. {Rec_6: Imp_21 }

Directive: advocate for the federal government to increase physical activity at school

Description: through intervention programs from grade 1 through the end of high school and college and through the creation of school environments that support physical activity in general a

Directive: support efforts to preserve and to enhance parks as areas for physical activity, inform local development initiatives regarding the inclusion of walking and bicycle paths, and promote families' use of local physical options by making information and suggestions about physical activity alternatives available in doctors' offices

Imperative: 2. The expert committee recommends the use of the following techniques to aid physicians and allied health care providers who may wish to support obesity prevention in clinical, school, and community settings: (a) actively engaging families with parental obesity or maternal diabetes, because these children are at increased risk for developing obesity even if they currently have normal BMI; (b) encouraging an authoritative parenting style (authoritative parents are both demanding and responsive) in support of increased physical activity and reduced sedentary behavior, providing tangible and motivational support for children; (c) discouraging a restrictive parenting style (restrictive parenting involves heavy monitoring and controlling of a child's behavior) regarding child eating; (d) encouraging parents to model

healthy diets and portions sizes, physical activity, and limited television time; and (e) promoting physical activity at school and in child care settings (including after-school programs) by asking children and parents about activity in these settings during routine office visits. {Rec_6: Imp_22 }

Directive: actively engaging families with parental obesity or maternal diabetes,

Directive: encouraging an authoritative parenting style

Description: authoritative parents are both demanding and responsive) in support of increased physical activity and reduced sedentary behavior, providing tangible and motivational support for children;

Directive: discouraging a restrictive parenting style regarding child eating

Description: restrictive parenting involves heavy monitoring and controlling of a child's behavior)

Directive: encouraging parents to model healthy diets and portions sizes, physical activity, and limited television time;

Directive: promoting physical activity at school and in child care settings

Reason: because these children are at increased risk for developing obesity even if they currently have normal BMI;

ALGORITHM:

BACKGROUND INFORMATION: The technique of motivational interviewing, which also takes into account patients' readiness to change, uses nonjudgmental questions and reflective listening to uncover the beliefs and values of a parent or patient. By eliciting the concerns of patients, the clinician can evoke motivation, rather than try to impose it, and then help patients formulate a plan that is consistent with their own values. This approach avoids the defensiveness created by a more-directive style. nondirective questions about the parent's or patient's attitude should be used (“Your child's BMI is above the 95th percentile. What concerns, if any, do you have about her weight?”) The clinician's next steps depend on the parent's response. This approach differs from a directive style, in which the clinician informs the family of the seriousness of the condition (“Your child's BMI is very high, and it is important that your child gets control of her weight before it becomes a bigger problem.”); reflective listening, in which the clinician summarizes the parent's comments without judging them, should be used (“If I heard you correctly, you are concerned 3. values and current health practices should be comabout how much television your child is watching, pared; if a parent values her child being healthy and but you know your child is safe and happy watching a good student, then the clinician can help the parent television when he is home alone.”) Reflections help examine how activities other than television could build rapport and allow the patient to understand and improve the child's health and academic perforto resolve ambivalence; mance;