MedStar Health

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

Clinical Practice Guideline

MedStar Health

"*These guidelines are provided to assist physicians and other clinicians in making decisions regarding the care of their patients. They are not a substitute for individual judgment brought to each clinical situation by the patient's primary care provider-in collaboration with the patient. As with all clinical reference resources, they reflect the best understanding of the science of medicine at the time of publication but should be used with the clear understanding that continued research may result in new knowledge and recommendations".*

MedStar Health has adopted the recommendations from:

1. The American Academy of Pediatrics 2007 Expert Committee Recommendations Regarding the Prevention, Assessment and Treatment of Child and Adolescent Overweight and Obesity http://www.pediatrics.org/cgi/content/full/120/Supplement_4/S164
2. The Pediatric Endocrine Society 2017 Practice Guideline; Pediatric Obesity—Assessment, Treatment, and Prevention: An Endocrine Society Clinical Practice Guideline https://doi.org/10.1210/jc.2016-2573
3. AAP Institute for Healthy Weight Management Childhood Obesity Algorithm https://ihcw.aap.org/Documents/Assessment%20%20and%20Management%20of%20Childhood%20Obesity%20Algorithm_FINAL.pdf
4. Obesity Medicine Association Pediatric Obesity Algorithm: http://obesitymedicine.org/wp-content/uploads/2019/07/Pediatric-Obesity-Algorithm-2018-2020.pdf
5. US Preventive Services Task Force. Screening for Obesity in Children and Adolescents US Preventive Services Task Force Recommendation Statement. *JAMA.* 2017;317(23):2417–2426. doi:10.1001/jama.2017.6803 https://jamanetwork.com/journals/jama/fullarticle/2632511

Additional helpful tools and articles:

1. AAP Institute for Healthy Weight Professional Resources and Training Modules https://ihcw.aap.org/Pages/Resources_ProEd.aspx
2. AAP Bright Futures: Promoting Healthy Weight https://brightfutures.aap.org/Bright%20Futures%20Documents/BF4_HealthyWeight.pdf
3. Let's Go Motivational Interview Guide https://mainehealth.org/-/media/lets-go/files/childrens-program/pediatric-family-practices/letsgomotivationalinterviewingguide.pdf?la=en
4. Prevalence of Obesity and Severe Obesity in US Children, 1999–2016, Skinner et al Pediatrics March 2018, VOLUME 141 / ISSUE 3 http://pediatrics.aappublications.org/content/141/3/e20173459
5. Skinner AC, Perrin EM, Moss LA, Skelton JA. Cardiometabolic risks and severity of obesity in children and young adults. *N Engl J Med*. 2015;373(14):1307–1317 http://www.nejm.org/doi/full/10.1056/NEJMoa1502821
6. ChoseMyPlate https://www.choosemyplate.gov/

Key components of these recommendations:
Primary care providers should universally assess children for obesity risk to improve early identification and management of increased Body Mass Index (BMI), co-morbidities, and unhealthy eating and physical activity habits.

Background:

1. The prevalence of obesity in children in the US has been increasing since 1988, with particularly sharp increases in adolescents and 2 to 5-year-olds.
2. Disparities exist in obesity prevalence with Hispanic and African American children having the highest rates.
3. Definitions
    a. Underweight: Age-and sex-specific BMI <5th percentile
    b. Healthy weight: Age-and sex-specific BMI 5% - <85th percentile
    c. Overweight: Age-and sex-specific BMI ≥85th percentile
    d. Obesity: Age-and sex-specific BMI ≥95th percentile
        i. Class I Obesity: Age- and sex-specific BMI ≥95th percentile but <120% of the 95th percentile
        ii. Class II Obesity: BMI ≥120% of the 95th percentile or a BMI of ≥35 (whichever is lower)
        iii. Class III Obesity: BMI ≥140% of the 95th percentile or a BMI of ≥40 or greater (whichever is lower)
4. Obesity during childhood is associated with high blood pressure, dyslipidemia, insulin resistance, asthma, obstructive sleep apnea, orthopedic difficulties, early maturation, polycystic ovarian syndrome (PCOS), and hepatic steatosis.
5. Risk Class II and III obesity have the strongest association with greater cardiovascular and metabolic disease risk.
6. Childhood obesity increases the risk of adult obesity.

Assessment:

Biometrics:

- BMI to screen for obesity for all children for obesity at all well care visits 2-18 years
    - Accurately measure height & weight
    - Plot BMI on growth chart
    - Make a weight category diagnosis using BMI percentile

    BMI Calculator:
    https://www.cdc.gov/healthyweight/bmi/calculator.html

- Measure blood pressure beginning at age 3 years old
    - Use appropriate cuff size
    - Identify and manage hypertension
    - References

    BP Norms:
    http://www.nhlbi.nih.gov/files/docs/guidelines/child_tbl.pdf

    Pediatric Hypertension Calculator:

    https://www.mdcalc.com/aap-pediatric-hypertension-guidelines

    AAP Blood Pressure Management Guidelines:

Flynn JT, Kaelber DC, Baker-Smith CM, et al. Clinical Practice Guideline for Screening and Management of High Blood Pressure in Children and Adolescents. *Pediatrics.* 2017;140(3):E20171904 http://pediatrics.aappublications.org/content/early/2017/11/28/peds.2017-3035

History:

1. **Behaviors and attitudes and access**

Nutrition (daily consumption/behaviors)

- Fruit and vegetable consumption
- Eating out and family meals
- Consumption of excessive portion sizes
- Breakfast consumption
- Sugar-sweetened beverage or juice consumption
- Portion size and proportions of food types (My Plate as model)
- Access to healthy food

Physical activity behaviors

- Amount of moderate physical activity; 60 minutes per day recommended
- Level of screen time and other sedentary activities, <2 hours recommended
- Access to physical activity

Attitudes

- Self-perception or concern about weight
- Readiness to change
- Successes, barriers, and challenges

Psychosocial assessment including family dynamics, environmental stressors, enrollment in food assistance programs

2. **Focused family history**

1. Obesity
2. Type 2 diabetes
3. Cardiovascular disease (hypertension, hyperlipidemia)
4. Early death from heart disease or stroke

ROS and Physical Exam: looking for co-morbidities and obesity-related conditions**:**

Prediabetes/Diabetes: fatigue, polyuria, polydipsia, acanthosis nigricans

PCOS: irregular menses, hirsutism, excessive acne, striae

Hypothyroid: attenuated height velocity

Genetic Syndromes: developmental delay

a. extreme hyperphagia (Prader-Willi)

b. syndactyly/brachydactyly/polydactyly (Bardet/Biedl), leptin deficiency

Precocious puberty

Gastrointestinal: cholelithiasis, constipation, GERD

Neurologic: headaches, facial numbness (pseudotumor cerebri)

Orthopedic: mild knee pain, in-toeing, leg bowing (Blount's Disease), hip or knee pain (slipped capital femoral epiphysis)

Psychological/Behavioral Health: anxiety, binge eating disorder, depression, teasing/bullying, family

interaction

Obstructive Sleep Apnea: snoring, daytime sleepiness, witnessed apneic episodes

Laboratory tests (fasting or non-fasting):

- 85th-94th percentile (overweight) **without** risk factors
  - Lipid profile
- 85th-94th percentile (overweight) **with** risk factors OR ≥95th percentile (obese)
  - Lipid profile and ALT, AST, HgbA1c
- Other lab tests per clinical indications
  - Thyroid studies (TSH, free T4) for attenuated growth velocity
  - PCOS studies (free and total testosterone, SHBG) if signs/symptoms
  - Genetic testing as indicated

Additional Screening: Mental Health Screening using a standardized tool (SDQ or PHQ9-A preferred)

Management Principles:

Staged Approach

Stage 1 Prevention Plus: Develop an office based approach for management of overweight and obese children:

- Intensive, age-appropriate, culturally sensitive, family centered
- Family visits with provider preferably who has some training in pediatric weight management/behavioral counseling.
- Can be individual or group visits.
- Frequency – individualized to family needs and risk factors, consider monthly if improved outcomes with frequent visits.
- Goals for management:
  1. Positive behavior change.
  2. Weight maintenance or a decrease in BMI velocity.

Note: Children age 2 – 5 years who have obesity should not lose more than 1 pound/month; older children and adolescents with obesity should not lose more than an average of 2 pounds/week.

Stage 2: Structured Weight management: Structured monthly follow-up to the health supervision visit for families who do not respond to Prevention Plus after 3-6 months

Stage 3: Comprehensive Multi-Disciplinary Intervention Involves multi-disciplinary intervention (RD, mental health, exercise physiologist) that may be beyond the scope of the primary care pediatrician unless for families who do show improvement in BMI to Stage 2 after 3-6 months. Weekly for 8-12 weeks then monthly.

Stage 4: Tertiary Care Intervention: If no improvement after 6 months, refer to Pediatric Weight Management Center for consideration of more aggressive approaches.

Evidence-based counseling:

Identify and set behavioral goals with child and family

Identify barriers, motivation, and confidence in reaching goals

Content:

- Consume at least 5 servings of fruits and vegetables daily.
- Avoid calorie-dense, nutrient poor foods.
- Eliminate sugar-sweetened beverages and minimize juice intake.

- Choose water when thirsty.
- Minimize refined carbohydrates.
- Eliminate trans fats; limit saturated fat; include healthy fats such as olive and canola oils.
- Prepare more meals at home as a family (goal of 5-6 times week).
- Limit meals outside of the home and choose healthy options.
- Eat a healthy breakfast daily.
- Avoid constant snacking and choose healthy snacks.
- Be mindful of eating patterns related to emotions or boredom.
- Healthy self-esteem and body image
- Involve the whole family in lifestyle changes and positive modeling.
- Positive family communication
- Be physically active 1 hr or more each day.
- Decrease screen time to 2 hrs/day or less.
- Ensure adequate sleep (8-11 hours for children and adolescents).

Motivational interviewing:

Empathize/elicit – provide – elicit to improve the effectiveness of counseling

- *Empathize/elicit*: Assess self-efficacy and readiness to change
  - Reflect
  - What is your understanding?
  - What do you want to know?
  - How ready are you to make a change (1-10 scale)?
- *Provide*
  - Advice or information
  - Choices and/or options
- *Elicit*
  - What do you make of that?
  - Where does that leave you?

Referrals, community-clinical linkages and advocacy

- Refer/consult with behavioral health providers, cardiologist, nutritionist, endocrinologist, or geneticist as needed for underlying or co-morbid concerns.
- Refer to community resources as indicated for improved access to healthy food, fresh fruits and vegetables, and safe physical activity (WIC, SNAP, etc).
- Work with community partners to advocate for increased activity and access to healthy nutrition in schools and the community.

Initial Approval Date and Reviews: *Effective March 2012, revised April 2014, 4/16, 4/18, 3/22 By Pediatric Ambulatory Workgroup*	**Most Recent Revision and Approval Date:** *March 2022*	**Next Scheduled Review Date:** *March 2024 by Pediatric Ambulatory Workgroup* Condition: **Overweight/Obesity**