Healthy Weight in Children and Teens

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FAST FACTS

At Cincinnati Children's, during the COVID-19 pandemic:

36.4–39.7%

increase in overweight and obesity rates in kids 2 to 19 years

The rate of type 2 diabetes doubled.

WHEN TO REFER

- If child is obese and refractory to first-line treatment
- Concern about co-morbidities
- If the patient may be better managed in a weight-loss program (BMI >85%)

Children with any of the HPE red flags should be followed closely or referred to the Cincinnati Children's Center for Better Health and Nutrition (Healthworks!) or specific subspecialty clinics.

For treatment questions or to refer a patient for weight management, call 513-636-4305 or email healthworks@cchmc.org to reach the Cincinnati Children's Center for Better Health and Nutrition (Healthworks!).

Obesity is the most common worldwide health problem in children and adults.

ASSESSMENT

At well-child visits for every patient age two and older, perform physical exam and family history. Assess healthy eating and active living behaviors. Provide "5-2-1-0" prevention counseling for daily behavior: five fruits or vegetables, two hours or less of screen time, one hour or more of physical activity and zero sugary drinks (including juice).

Acurately determine height and weight and calculate/plot body mass index (BMI). See next page for guidance. For children age three and older, take blood pressure.

Lab Evaluation

If patient is obese, consider a lab evaluation that includes glucose and lipid profiles (fasting, if possible); AST and serum ALT; and hemoglobin A1C.

If patient is overweight, obtain a lipid profile. Determine health risk factors based on behaviors, family history, review of systems and physical exam.

- If risk factors are present, consider labs as described above for patients who are obese
- If risk factors are absent, follow management guidelines below for healthy weight patients

HPE (HISTORY AND PHYSICAL EXAM) RED FLAGS

- ALT or AST >40 units/L
- Fasting LDL >130 mg/dl (normal is up to 100 mg/dl)
- Fasting triglycerides >130 mg/dl
- HgA1C >5.6%
- Elevated blood pressure
- Signs of disordered eating
- Concerns for possible abuse
- Concern for poor body image, depression or anxiety

MANAGEMENT/TREATMENT

If patient is overweight or obese:

- Plan 15–20 minute follow-up focusing on behaviors that resonate with patient, family and PCP
- Consider partnering with dietician, social worker, athletic trainer or physical therapist for added support and counseling
- For children ≥ 12, consider anti-obesity medication
- For children ≥ 13 at > 120% of the 95th percentile for sex and age, consider referral to bariatric surgery

Goal is two-fold: to achieve positive behavior change regardless of BMI change and to achieve weight maintenance or a decrease in BMI velocity. Monthly follow-up is appropriate. After 3–6 months, if the BMI/weight status has not improved, consider referral to the Cincinnati Children's Center for Better Health and Nutrition (Healthworks!), or CBHN. For mental health concerns, consider referral to behavioral medicine in addition to CBHN referral.

If healthy weight:

- Provide ongoing positive reinforcement for healthy behaviors
- Screen for genetic dyslipidemia by obtaining a non-fasting lipid profile between the ages of 9–11 and again between 18–21

If you would like additional copies of this tool, or would like more information, please contact the Physician Outreach and Engagement team at Cincinnati Children's.

Tool developed by Cincinnati Children's physician-hospital organization (known as Tri-State Children's Health Services, Inc.) and staff in the James M. Anderson Center for Health Systems Excellence. Developed using expert consensus and informed by Best Evidence Statements, Care Practice Guidelines, and other evidence-based documents as available. For Evidence-Based Care Guidelines and references, see www.cincinnatichildrens.org/evidence.

Healthy Weight in Children and Teens

Inclusion Criteria

Patients age 2 and older

Patient Presents

Standard Workup

- Family History
- Physical History
- Assess healthy eating and active living behaviors

Provide 5-2-1-0 Prevention Counseling

- **5** Fruits or vegetables
- **2** Hours or less of screen time
- **1** Hour or more of physical activity
- **0** Sugary drinks every day

Determine Weight Classification

Accurately determine weight and height, calculate and plot Body Mass Index (BMI) and determine BMI percentile.

Healthy Weight (BMI 5–84%)

Overweight (BMI 85–94%)

Obesity (BMI >95%)

Risk Factors Absent

Determine Health Risk Factors*

Risk Factors Present

Routine Care

- Provide ongoing positive reinforcement for healthy behaviors.
- For patients in the **healthy weight** category, screen for genetic dyslipidemia by obtaining a non-fasting lipid profile for all children between the ages of 9–11 and again between 18–21.[2]
- For patients in the **overweight** category, obtain a lipid profile.
- Maintain weight velocity:
  - Crossing 2 percentile lines is a risk for obesity[4]
  - Reassess annually
- Follow up at every well-child visit.

Lab Screening

- The 2007 Expert Committee Recommendations[1] state that a fasting glucose and fasting lipid profile along with ALT and AST should be obtained.
- Additionally, guidelines from the ADA and Endocrine Society recommend using A1C, fasting glucose or oral glucose tolerance to test for diabetes or pre-diabetes. The ADA notes that there are presently limited data supporting A1C for diagnosing diabetes in children and adolescents; however, they are continuing to recommend A1C at this time.[3]
- For patient convenience, some providers are obtaining non-fasting labs.
- Clinical judgment, local preferences and availability of testing should be used to help determine the timing of follow up of abnormal labs.
- Of note, some subspecialty clinics are screening for Vitamin D deficiency and insulin resistance by obtaining labs for Vitamin D and fasting insulin. The clinical utility and cost effectiveness of such testing is yet to be determined.
- Currently, there are no guidelines on when to start laboratory testing for patients with obesity. Based upon the patient's health risk, some experts may start screening patients at 2 years of age.

Obesity-related Conditions

The following conditions are associated with obesity and should be considered for further work-up. Additional lab tests may be warranted if indicted by the patient's clinical condition.[5] In 2014, consensus statements from The Children's Hospital Association described the management of a number of these conditions.[6,7]

Dermatologic:
- Acanthosis nigricans
- Hirsutism
- Intertrigo

Endocrine:
- Polycystic ovarian syndrome (PCOS)
- Precocious puberty
- Prediabetes: Impaired fasting glucose and/or impaired glucose tolerance as demonstrated during a GTT
- Premature adrenarche
- Type 2 Diabetes

Gastrointestinal:
- Cholelithiasis
- Constipation
- GERD
- Nonalcoholic fatty liver disease or steatohepatitis

Neurologic:
- Pseudotumor cerebri

Orthopedic:
- Blount's Disease
- Slipped capital femoral epiphysis (SCFE)

Psychological/Behavioral Health:
- Anxiety
- Binge eating disorder
- Depression
- Teasing/bullying

*Based on behaviors, family history, review of systems, and physical exam, in addition to weight classification.

Source: Diagram adapted from American Academy of Pediatrics Institute for Healthy Childhood weight. This algorithm is based on the 2007 Expert Committee Recommendations, new evidence and promising practices. Find full list of references here .

For urgent issues, or to speak with the specialist on call 24/7, call the Physician Priority Link® at 1-888-987-7997.