# Algorithm for the Assessment and Management of Childhood Obesity in Patients 2 Years and Older

This algorithm is based on the 2007 Expert Committee Recommendations, 1 new evidence and promising practices.

### **Assess Behaviors**

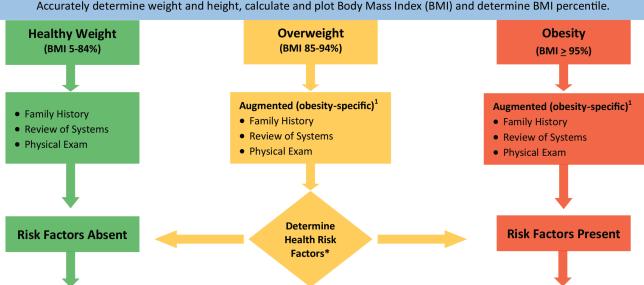
Assess healthy eating and active living behaviors

### **Provide Prevention Counseling**

5 (fruits & 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.



#### **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
  - Reassess annually
- Follow up at every well-child visit.

#### Lab Screening

- The 2007 Expert Committee Recommendations<sup>1</sup> 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.<sup>6</sup>

#### 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

<sup>\*</sup>Based on behaviors, family history, review of systems, and physical exam, in addition to weight classification.