

CT Children's CLASP Guideline

Obesity & Screening for Co-Morbidities

INTRODUCTION

Childhood obesity has risen steeply in the last several decades and is now the most common chronic disease of childhood. The impacts to children experiencing obesity are extensive and highly impactful – metabolic and cardiovascular disease, psychosocial, emotional, educational, and financial. Updated AAP guidelines published in January 2023 highlight that obesity is a chronic disease and requires support and guidance in areas of nutrition, physical activity, and change management. It is recommended that patients with BMI \geq 95th percentile be offered intensive and comprehensive behavioral interventions to improve his/her weight trajectory and to address future setbacks.

Identification of genetic or endocrine causes of pediatric obesity is very important. In addition to rare obesity syndromes such as Prader-Willi Syndrome, there are monogenic causes of obesity to be on the lookout for. Genetic evaluation should be entertained when a child presents with obesity along with syndromic features, or an onset of severe obesity (BMI at or greater than 120% of the 95th percentile) especially along with hyperphagia. On the endocrine front, failure of linear growth along with abnormal weight gain is a tip off to consider thyroid or Cushing's disease.

DEFINITIONS

Age 0-2 year olds, use Weight for Length; 2yo and older use BMI

Overweight between 85th and 95th percentile

Obese \geq 95th percentile and/or BMI 30 for older children

Relative BMI Measure:

- Can be visualized on BMI percentile curves if available in the Electronic Health Record, or utilize BMI Calculator [here](#).
- Use both percentile and BMI and classify based on LOWER value.
 - BMI \geq 95th percentile or BMI 25-30 -- Class I Obesity
 - BMI \geq 120% of the 95th percentile or BMI 30-35 -- Class II Obesity
 - BMI \geq 140% of the 95th percentile or BMI 40 and greater -- Class III Obesity

Note: Class II and III obesity are considered “severe obesity” and are strongly associated with greater cardiovascular and metabolic risk.

INITIAL EVALUATION AND MANAGEMENT

INITIAL SCREENING EVALUATION should include the following:

- Fasting insulin, TSH levels, and comprehensive metabolic panels are **NOT** recommended for routine obesity screening.
- Screening Evaluation should be targeted:

	Age	Lab Evaluation
Patients in the 85th – 94th percentile are NOT appropriate for Weight Management Referral; see algorithm for recommendations		
85th - 94th percentile	2-9 yr	Fasting lipid panel
	10 yr +	Fasting lipid panel ALT if family history of steatotic liver disease Fasting glucose and A1c if risk factors for Type II diabetes*
\geq 95th percentile	2-9 yr	Fasting lipid panel Fasting glucose and A1c if risk factors for Type II diabetes* ALT if severe obesity (BMI >120% of the 95 th percentile) or family history of steatotic liver disease
	10 yr +	Fasting lipid panel, Fasting glucose, Hemoglobin A1c, ALT

***Risk Factors for Prediabetes/Type II diabetes:** family history of diabetes, history of gestational diabetes, signs of insulin resistance or presence of conditions associated with insulin resistance (acanthosis nigricans, hypertension, dyslipidemia, polycystic ovarian syndrome or small for gestational age birth weight) or use of obesogenic psychotropic medications

Additional Recommended Screening:

- Food insecurity screening
- Blood pressures for all 3 y.o. and up with obesity or overweight status at every visit
- Sleep history for patients with obesity (persistent, loud, snoring; witnessed pauses in nighttime breathing, nocturnal gasping, daytime somnolence, nocturnal enuresis, morning headaches, inattention).
 - Untreated sleep apnea is a significant cause to weight gain
- Evaluate for polycystic ovarian syndrome in patients born female with obesity who have menstrual irregularity or signs of hyperandrogenism
- Depression: monitor for symptoms and conduct annual formal screening for all patients 12 yo and up
- Physical exam and history looking for SCFE, Blount's
- High index of suspicion for increased intracranial hypertension

INITIAL MANAGEMENT should provide long-term and intensive strategies to treat obesity and co-morbid conditions in a chronic care model with attention to patient and family centered needs using a Motivational Interviewing framework.

- Implement behavioral changes using motivational interviewing (See **APPENDIX B: Weight Management Resources**)

WHEN TO REFER
(See Appendix A: Referral Algorithm)

We recommend a routine referral to CT Children's Weight Management Program for:

- Any patient with a **BMI $\geq 95^{\text{th}}$ percentile**, particularly when a child is not responding to treatment in the Medical Home Setting, serious co-morbidities, BMI Class II or above, suspicion of genetic obesity, or family preference

Exclusions to referral:

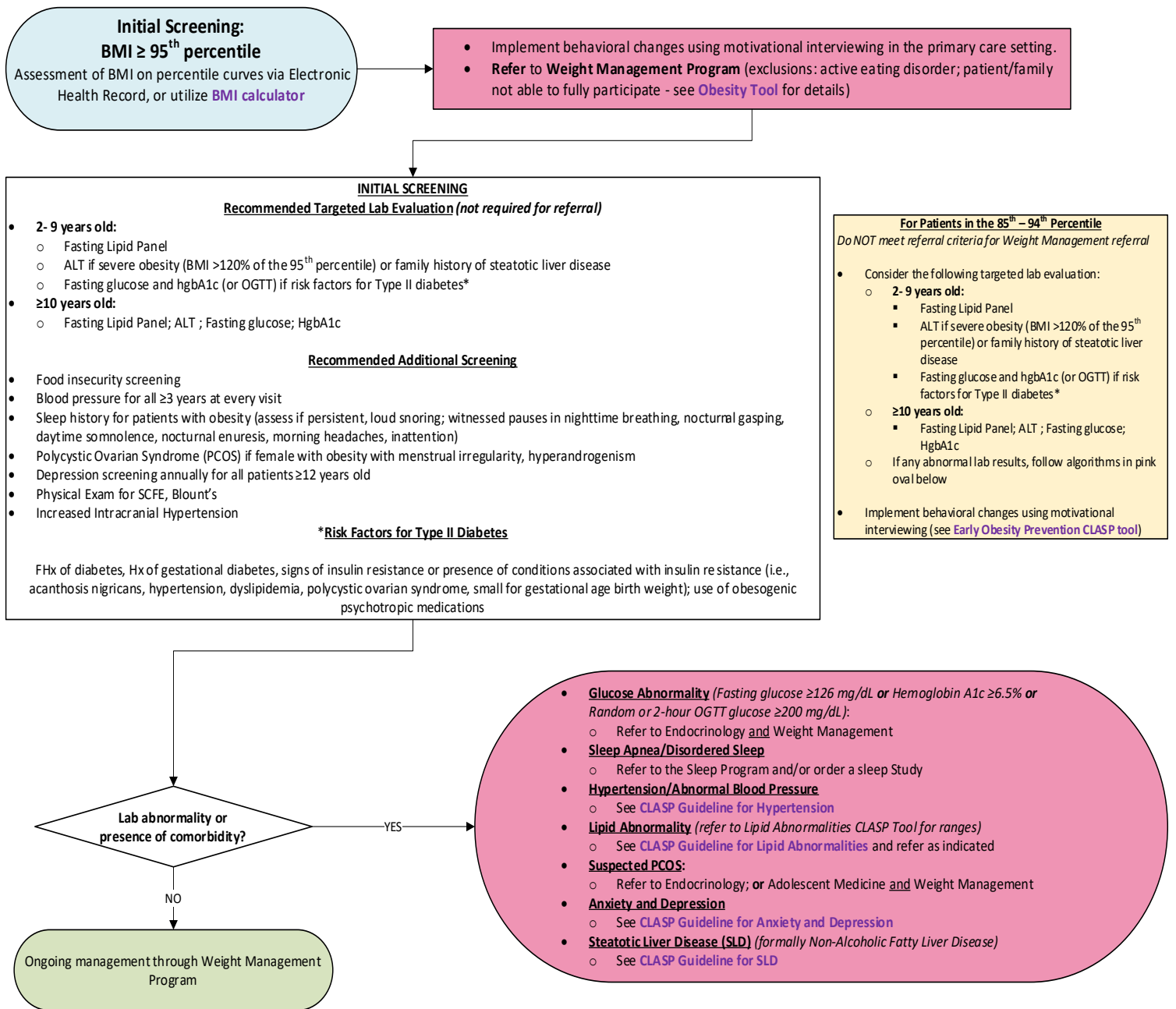
- While we *do* accept patients with binge eating, we *do not* care for patients who have active eating disorder symptoms such as significant caloric restriction, purging, compulsive excessive exercising, or avoidant restrictive food intake disorder (ARFID). A referral to Weight Management in this situation may worsen outcomes.
 - In these cases, refer to Adolescent Medicine.
- Patient/family not able to fully participate in intensive program at this time – continue to revisit at each visit (see **What to Expect**)

When to make an ADDITIONAL referral:

- Diabetes (fasting glucose ≥ 126 mg/dL **OR** Hemoglobin A1c $\geq 6.5\%$ **OR** Random or 2-hour OGTT glucose ≥ 200 mg/dL) – Refer to Endocrinology
- PCOS – Refer to Endocrinology or Adolescent Medicine
- Lipid -- See **CLASP guideline for Lipid Abnormalities** and refer as indicated
- Steatotic liver disease – See **CLASP guideline for Steatotic Liver Disease**
- Hypertension/abnormal blood pressure – **See CLASP guideline for Hypertension**
- Sleep apnea/disordered sleep (at least 1 symptom) (Refer to the Sleep Program or for polysomnogram)
- Anxiety & Depression – See **CLASP guideline for Anxiety & Depression**

HOW TO REFER	<p>Referral to Weight Management via CT Children’s One Call Access Center Phone: 833.733.7669 Fax: 833.226.2329 For more information on how to place referrals to Connecticut Children’s, click here.</p> <p><i>Information to be included with the referral:</i> With referral, please send relevant laboratory studies and growth charts (including height, weight and BMI)</p>
WHAT TO EXPECT	<p>What to expect from CT Children’s Weight Management Visit:</p> <ul style="list-style-type: none"> ▪ Intensive longitudinal care for a minimum of 12 months (minimum of 16 visits – a few can be combined into single day, some can be virtual but not exclusively) ▪ Comprehensive history and physical exam with screening for obesity etiologies and co-morbidities, with additional studies and specialist referrals as indicated ▪ Psychologist evaluation for ongoing assistance with behavior changes and mood management ▪ Dietician to help create dietary changes for a healthier lifestyle ▪ Physical therapist evaluation for fitness assessment and to create home exercise program <p><u><i>Patients will be assessed for appropriateness for medication therapy and/or Bariatric surgery.</i></u> Medications will not be prescribed until the patient has completed an intake with all disciplines in Weight Management and has begun participation in programming.</p>

APPENDIX A: Obesity Referral Algorithm



APPENDIX B: Weight Management Resources

Internal Resources:

- **Weight Management Program at CT Children's:** (www.connecticutchildrens.org/obesity)
- **Nutritional counseling with CT Children's Nutrition** (click [here](#) or call 860-837-6286)

Resource Handouts:

- See [handout](#) for tips on Motivational Interviewing
- See [handout](#) for Healthy Eating & Lifestyle tips

Other Resources:

- **Child Development Infoline**
The United Way of Connecticut's [Child Development Infoline](#) provides education on development, behavior management strategies and programs, makes referrals to services, and provides advocacy and follow-up as needed. For more information, call **1.800.505.7000**.
- **American Academy of Pediatrics**
The [American Academy of Pediatrics](#) is a professional membership organization of 60,000 primary care pediatricians, pediatric medical sub-specialists and pediatric surgical specialists dedicated to the health, safety, and well-being of infants, children, adolescents and young adults.
- **Let's Move!**
[Let's Move!](#) is a comprehensive initiative dedicated to solving the problem of obesity within a generation, so that children born today will grow up healthier and able to pursue their dreams.
- **Nourish Interactive**
[Nourish Interactive](#) offers fun nutrition games for kids, interactive nutrition tools and tips for parents and health educators to use to promote healthy living for the whole family.
- **EatRight.org**
The Academy of Nutrition and Dietetics is the United States' largest organization of food and nutrition professionals, and represents over 100,000 credentialed practitioners — registered dietitian nutritionists, dietetic technicians, registered, and other dietetics professionals holding undergraduate and advanced degrees in nutrition and dietetics. [EatRight.org](#) is its go-to resource for providing nutrition information to the public. On the site you can find articles with quick tips to improve nutrition, overall health and stay updated on changes related to nutrition and food. This site also provides a gateway to find Registered Dietitians and other nutrition professionals in your area.
- **ChooseMyplate.gov**
Curious about how to build a healthy plate? [ChooseMyplate.gov](#) provides healthy solutions for everyday life. It provides resources to improve your plate and increase physical activity through different online tools and activities. Provides tips for children, students, adults, seniors and professionals.
- **Kids Eat Right** <https://www.eatright.org/for-kids>
Academy of Nutrition and Dietetics Foundation developed the Kids Eat Right campaign dedicated to promoting healthy today and tomorrow for kids and families. This is a great reference for nutritional information and recipes. There are subsections targeted to age ranges from babyhood through teen years.