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 ≥ 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 Cushings disease.

DEFINITIONS

Age 0-2 years old, use Weight for Length; 2yo and older use BMI
Overweight between 85th and 95th percentile
Obese ≥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
- Use both percentile and BMI and classify based on LOWER value.
  - BMI ≥95th percentile or BMI 25-30 -- Class I Obesity
  - BMI ≥120% of the 95th percentile or BMI 30-35 -- Class II Obesity
  - BMI ≥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**
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*
≥ 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 95th 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 and other Weight Management resources available on **Weight Management Clinic Page**

For patients with BMI <120%

Not appropriate for referral to Weight Management

- See **Appendix A: Referral Algorithm** for additional recommendations
- See **Appendix B: PT Referral Questions** to determine candidacy for Physical Therapy Referral

WHEN TO REFER (See Appendix A: Referral Algorithm)

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

- Patients 3-18 years of age
- With a **BMI 120% or higher (Class 2 Obesity)**
- 18+ Bariatric Patients

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 ≥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***
- Refer to Physical Therapy if >1 year wait for weight management appointment if screening in Appendix C is positive
- Refer to general nutrition if intake appt to WM is >6-9 months out for initial screening visit. Patients will receive general nutrition counseling and then transition to a weight management dietitian after the initial screening visit.

HOW TO REFER	**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**. ***Information to be included with the referral:*** With referral, please send relevant laboratory studies and growth charts (including height, weight and BMI)
WHAT TO EXPECT	**What to expect from CT Children's Weight Management Visit:** ▪ 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 *Patients will be assessed for appropriateness for medication therapy and/or Bariatric surgery.* Medications will **not** be prescribed until the patient has completed an intake with all disciplines in Weight Management and has begun participation in programming.

APPENDIX A: Obesity Referral Algorithm

Initial Screening:
Age: 3-18 years old
BMI 120% or higher (Class 2 Obesity)
Assessment of BMI on percentile curves via Electronic Health Record, or utilize BMI calculator

- Implement behavioral changes using motivational interviewing in the primary care setting.
- **Refer** to **Weight Management Program** (exclusions: active eating disorder; patient/family not able to fully participate - see Obesity Tool for details)

INITIAL SCREENING

Recommended Targeted Lab Evaluation ***(not required for referral)***

- **3- 9 years old:**
  - Fasting Lipid Panel
  - ALT if severe obesity (BMI >120% of the 95th percentile) or family history of steatotic liver disease
  - Fasting glucose and hgbA1c (or OGTT) if risk factors for Type II diabetes*
- **≥10 years old:**
  - Fasting Lipid Panel; ALT ; Fasting glucose; HgbA1c

Recommended Additional Screening

- Food insecurity screening
- Blood pressure for all ≥3 years at every visit
- Sleep history for patients with obesity (assess if persistent, loud snoring; witnessed pauses in nighttime breathing, nocturnal gasping, daytime somnolence, nocturnal enuresis, morning headaches, inattention)
- Polycystic Ovarian Syndrome (PCOS) if female with obesity with menstrual irregularity, hyperandrogenism
- Depression screening annually for all patients ≥12 years old
- Physical Exam for SCFE, Blount's
- Increased Intracranial Hypertension

***Risk Factors for Type II Diabetes**

FHx of diabetes, Hx of gestational diabetes, signs of insulin resistance or presence of conditions associated with insulin resistance (i.e., acanthosis nigricans, hypertension, dyslipidemia, polycystic ovarian syndrome, small for gestational age birth weight); use of obesogenic psychotropic medications

- **For Patients BMI > 84th percentile and <120%**
- *Do NOT meet referral criteria for Weight Management referral*
- Consider the following targeted lab evaluation:
  - **2- 9 years old:**
    - Fasting Lipid Panel
    - ALT if severe obesity (BMI >120% of the 95th percentile) or family history of steatotic liver disease
    - Fasting glucose and hgbA1c (or OGTT) if risk factors for Type II diabetes*
  - **≥10 years old:**
    - Fasting Lipid Panel; ALT ; Fasting glucose; HgbA1c
  - **If any abnormal lab results, follow algorithms in pink oval below**
- Implement behavioral changes using motivational interviewing (see Early Obesity Prevention CLASP tool)
- **Utilize** Appendix B: PT Referral Questions to determine if PT referral is appropriate
- **If BMI ≥ 95% and no other comorbidities**, a routine referral to General Outpatient Nutrition is indicated

Lab abnormality or presence of comorbidity?

YES

- **Glucose Abnormality** *(Fasting glucose ≥126 mg/dL* ***or*** *Hemoglobin A1c ≥6.5%* ***or*** *Random or 2-hour OGTT glucose ≥200 mg/dL)*:
  - Refer to Endocrinology and Weight Management
- **Sleep Apnea/Disordered Sleep**
  - Refer to the Sleep Program and/or order a sleep Study
- **Hypertension/Abnormal Blood Pressure**
  - See CLASP Guideline for Hypertension
- **Lipid Abnormality** *(refer to Lipid Abnormalities CLASP Tool for ranges)*
  - See CLASP Guideline for Lipid Abnormalities and refer as indicated
- **Suspected PCOS:**
  - Refer to Endocrinology; **or** Adolescent Medicine and Weight Management
- **Anxiety and Depression**
  - See CLASP Guideline for Anxiety and Depression
- **Steatotic Liver Disease (SLD)** *(formally Non-Alcoholic Fatty Liver Disease)*
  - See CLASP Guideline for SLD

NO

Ongoing pediatric care and yearly labs/screening

APPENDIX B: PT Referral Questions

Should I refer this child to Physical Therapy?

These are some good questions to ask yourself as you are seeing your patients with obesity to determine if they may benefit from a PT referral.

1. Do they have any musculoskeletal pain?
2. Do they lead a sedentary lifestyle with limited participation in physical activity?
3. Do they have difficulty keeping up with their peers? (in gym class, when playing outside or during sports)
4. Do they fatigue quickly with activities like going up and down the stairs?
5. Do they display age appropriate gross motor skills?
6. Is there limited access to community resources that promote physical activity?
7. Are there any concerns about balance? Does family report frequent tripping and falling at home?
8. Are there concerns about their ability to safely navigate home, school and community environments?

If you are answering yes to most of these questions, then consider referring to PT. You can send a Physical Therapy Evaluation and Treatment referral to CT Children's PT. Our Fax number is 860-545-8604.