As many as one in five teens age 12 – 19 can be considered obese (BMI >95th percentile) or severely obese (BMI ≥120% of the 95th percentile, or >35). Obesity can be the cause of serious health problems, including diabetes and hypertension (HTN), and can prevent teens from enjoying life to the fullest. Adolescents with obesity have a high probability of becoming obese adults. Treating obesity in teens is challenging because of the multifactorial nature of the chronic disease coupled with the physical and cognitive changes inherent in adolescent development.

Weight loss surgery resolves multiple obesity co-morbidities, including:
- **Type 2 diabetes mellitus** — 95% resolved
- **HTN** — 80% resolved
- **Dyslipidemia** — 66% resolved

**ASSESSMENT**

To identify and diagnose obesity, assess and track body mass index (BMI) at each visit:
- **Overweight** — BMI in the 85th to 95th percentile for sex and age
- **Obesity** — BMI >95th percentile for sex and age
- **Severe obesity** — BMI ≥120% of the 95th percentile for age and sex, or BMI >35

Conduct a thorough history and physical exam for obesity causes and common co-morbidities.

**HPE RED FLAGS**

- Severe obesity combined with cardiovascular disease risk factors, including hyperlipidemia, elevated inflammation markers, HTN, insulin resistance
- Severe obesity combined with Type 2 Diabetes
- Severe obesity combined with obstructive sleep apnea
- Severe obesity combined with idiopathic intracranial HTN failing management
- Severe obesity combined with NASH

**MANAGEMENT/TREATMENT**

- Treat obese/severely obese patient with comprehensive, intensive lifestyle modification. Higher intensity interventions have greater weight loss and improvement of co-morbidities. See patient a minimum of 26 contact hours over 6 to 9 months. Ideally involve an interdisciplinary team that includes medical care, nutrition therapy, exercise physiology, and behavioral health. Target the home environment and involve the family in treatment.

When appropriate, prescribe medications approved by the US FDA for teens:
- **Orlistat** (lipase inhibitor) for long-term use (ages 12+)
- **Phentermine** (norepinephrine reuptake inhibitor) for short-term use (ages 17+)

Patient should take medication for 6-9 months before surgery is considered.

**NOTE**: Many insurance plans do not cover bariatric surgery — it is important to review this topic with your patient prior to referral.

If you have clinical questions about obese patients, call the Physician Priority Link at 1-888-636-7997.

**FAST FACTS**

- **Nearly 1 in 5**
  - 12 – 19 year-olds meet the clinical definition of obesity (20.6%)

- **BMI >120% at the 95th percentile**
  - defines severe obesity, which is growing in prevalence at a faster rate than obesity

**WHEN TO REFER**

Refer to Cincinnati Children’s Weight Loss for Teens program for initial weight loss surgery evaluation:
- Adolescent with severe obesity interested in weight loss surgery
- Any Red Flags (as shown above) are present
- Interventions are unsuccessful in compliant patients

When you refer your patient to Cincinnati Children’s, have the family call 513-636-9215 directly to initiate the process.
Bariatric Surgery Referral

Assess BMI at each visit; track and monitor BMI

OVERWEIGHT: BMI = 85th to 95th percentile for age and sex

OBESE: BMI ≥ 95th percentile for age and sex

OVERWEIGHT: BMI ≥ 120% of 95th percentile for age and sex OR BMI > 35

HPE RED FLAGS

Severe obesity combined with:
- Cardiovascular disease risk factors, including hyperlipidemia, elevated inflammation markers, HTN, insulin resistance
- Type 2 Diabetes

- Obstructive sleep apnea
- Idiopathic intracranial HTN failing management
- Non-alcoholic steatohepatitis (NASH)

Red Flags Present?

Yes

- Implement comprehensive, intensive lifestyle modifications (ideally 26 contact hours over 6 – 9 months)
- Include family and home environment in treatment
- Prescribe only medications approved by US FDA for teens:
  - Orlistat (lipase inhibitor) for long-term use (ages 12+)
  - Phentermine (norepinephrine reuptake inhibitor) for short-term use (ages 17+)
- Patient should take medication for 6 – 9 months before surgery is considered.

BMI or co-morbidities improved

Yes

Next step varies and may or may not include:
- Continued monitoring
- Continued medications
- Considering surgery

No

No

Patient compliant

Yes

Consider referral for surgery

No

Repeat lifestyle modification cycle shown above, if patient interested, consider referral for surgery

For urgent issues, or to speak with the specialist on call 24/7, call the Physician Priority Link at 1-888-636-7997.