LISTENING FIRST

Shared Decisions that Build Trust in Pediatric Obesity Care

This activity is supported by an educational grant from Lilly.

Faculty

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Activity Overview

Target Audience
This activity is designed for pediatricians who are involved in the care of children and adolescents with obesity in the United States.

Learning Objectives
After completing this activity, the participant should be better able to:

- Select evidence-based, guideline-recommended screening strategies to diagnose pediatric patients with obesity
- Apply strategies to discuss weight management with pediatric patients and/or their caregivers in a culturally, linguistically, and developmentally appropriate manner
- Develop individualized, evidence-based treatment plans for pediatric patients with obesity

Agenda
Identifying Obesity in Children and Adolescents
Communicating Need for Weight Management
Developing Individual Treatment Plans

This Activity is Provided By

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Let's start with a polling question!

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Polling Question #1

If you could instantly master one "superpower" in your pediatric practice, which would you choose?

A) Convince any toddler to take medication without a fight

B) Decode exactly what a crying infant needs within 5 seconds

C) Get every caregiver to follow discharge instructions perfectly

D) Keep a perfectly on-time clinic schedule, no matter what

E) Translate "toddler language" into full, clear sentences

Mentimeter

Downloadable Practice Aids

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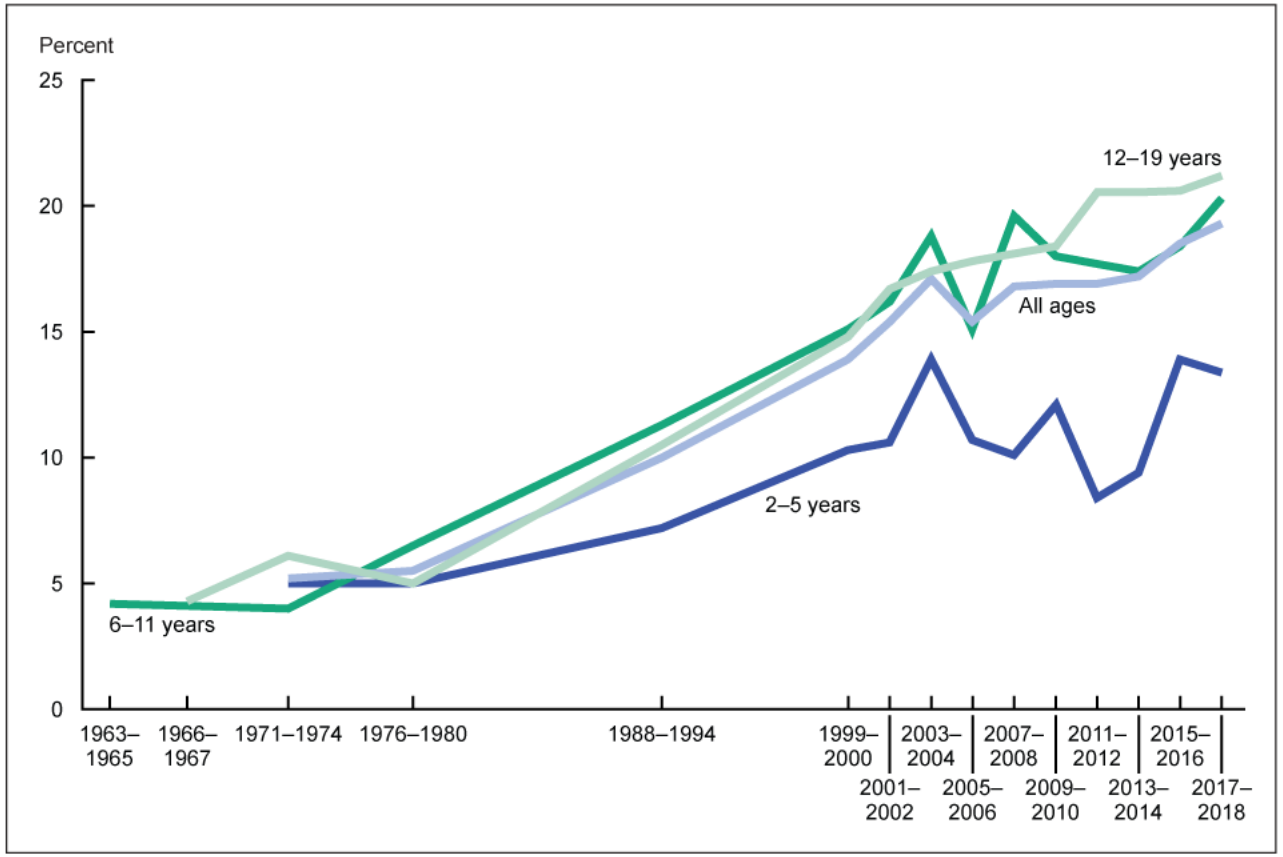
NEOS
New England Obesity Society

Identifying Obesity in Children and Adolescents

Prevalence and Epidemiology of Pediatric Obesity

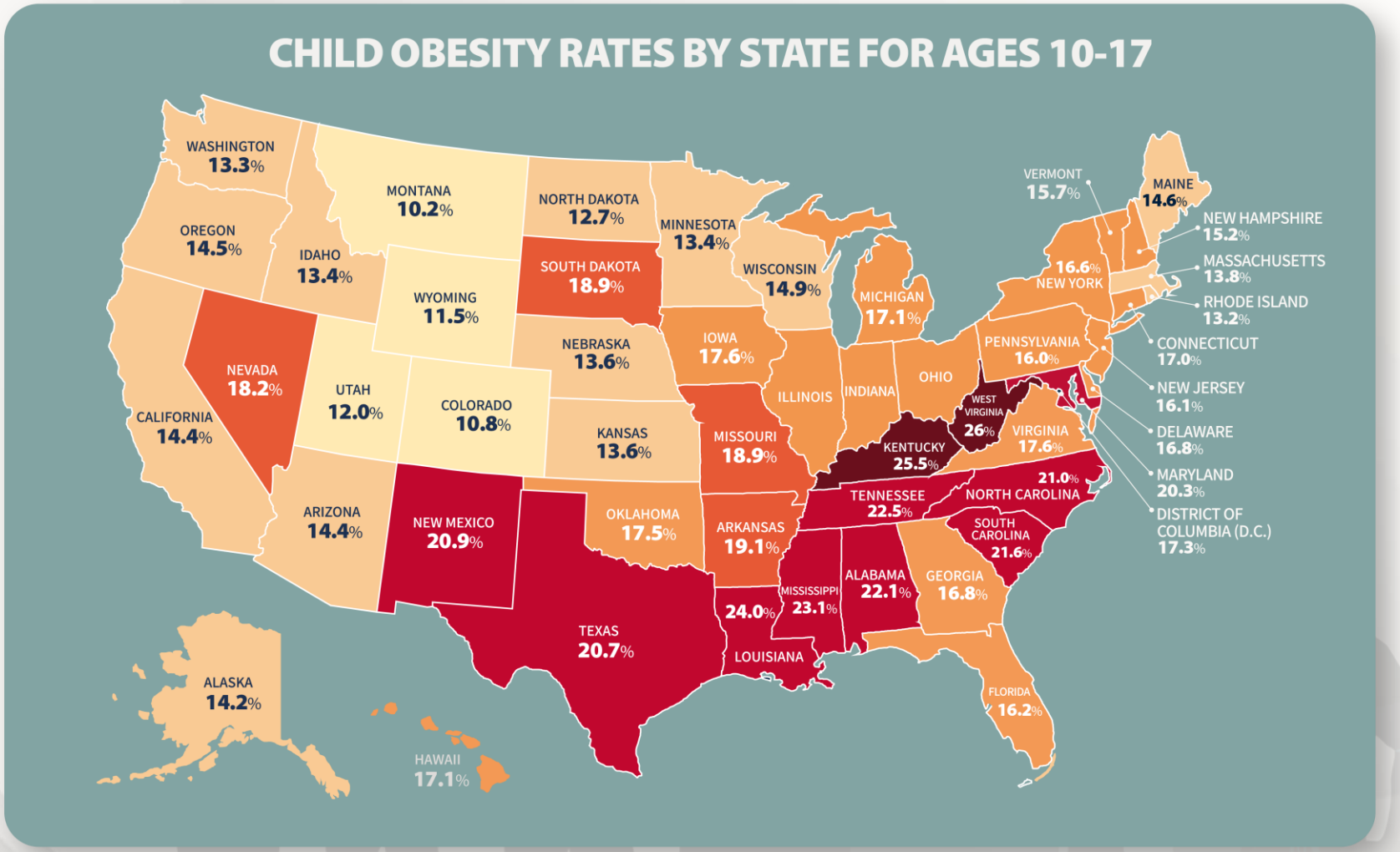
- Prevalence continues to rise:
  - Has more than tripled from ~5% in 1963-1965 to ~20% in 2017-2018.
  - Obesity prevalence increases with age.



NOTE: Obesity is body mass index (BMI) at or above the 95th percentile from the sex-specific BMI-for-age 2000 CDC Growth Charts.
SOURCES: National Center for Health Statistics, National Health Examination Surveys II (ages 6–11), III (ages 12–17); and National Health and Nutrition Examination Surveys (NHANES) I–III, and NHANES 1999–2000, 2001–2002, 2003–2004, 2005–2006, 2007–2008, 2009–2010, 2011–2012, 2013–2014, 2015–2016, and 2017–2018.

Hampl SE, et al. *Pediatrics*. 2023;151(2):e2022060640; Childhood Obesity Facts. CDC. April 2, 2024. Accessed July 2, 2025. https://www.cdc.gov/obesity/childhood-obesity-facts/childhood-obesity-facts.html; Fryar CD, et al. National Center for Health Statistics Health E-Stats. 2020. https://www.cdc.gov/nchs/data/hestat/obesity-child-17-18/obesity-child.htm; Ward ZJ, et al. *N Engl J Med.* 2017;377(22):2145-2153.

Prevalence and Epidemiology of Pediatric Obesity



Explore Data by Demographic — Ages 6-17. State of Childhood Obesity. Accessed July 2, 2025. https://stateofchildhoodobesity.org/demographic-data/ages-6-17.

Physical/Psychological Burden of Pediatric Obesity

- More likely to have obesity and related comorbidities as adults.
  - Adults with obesity who had obesity in childhood have a **higher risk** of comorbidities vs adults with obesity who were at a healthy weight in childhood.
- Risk for short- and long-term adverse health outcomes:
  - GERD, early puberty, reduced physical fitness, exercise intolerance, reduced lung function.
  - CVD including hypertension, dyslipidemia, insulin resistance, type 2 diabetes, MASLD, PCOS, and sleep apnea.

GERD, gastroesophageal reflux disease; CVD, cardiovascular disease; T2D, type 2 diabetes; MASLD, metabolic dysfunction-associated steatotic liver disease; PCOS, polycystic ovary syndrome.

Hampl SE, et al. *Pediatrics*. 2023;151(2):e2022060640; Borgeraas H, et al. *Obes Sci Pract*. 2018;4(5):427-436; Wabitsch M et al. *JAMA Pediatr*. 2026;180(3):227–228; Wiedemann UCH et al. *Obes Facts*. Published online November 14, 2025.

Psychological Burden of Pediatric Obesity

- Linked to poor mental health (stress, depression, low self-esteem).
- Weight stigma, victimization, and teasing/bullying contribute to binge eating, social isolation, avoidance of healthcare and decreased physical activity.

Hampl SE, et al. *Pediatrics*. 2023;151(2):e2022060640.

Pre-Assessment

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Pre-Test Assessment #1

Which of the following factors has been most directly implicated in the persistent underdiagnosis of obesity among pediatric patients, despite the availability of BMI data in clinical settings?

A) Clinicians' reliance on anthropometric measurements rather than BMI for classifying weight status in children.

B) Inconsistent use of age- and sex-specific BMI percentile cutoffs, leading to misclassification of obesity as overweight.

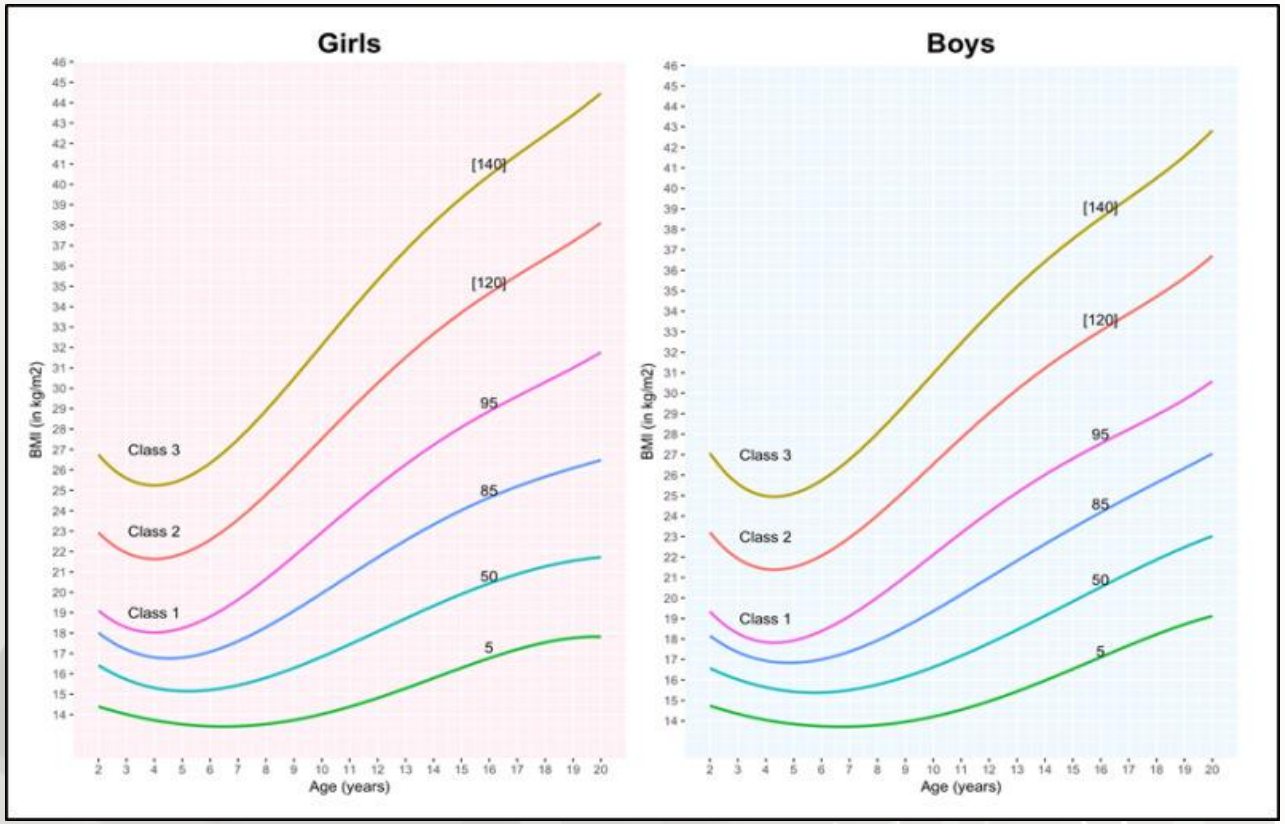
C) Lack of consensus among major medical organizations regarding the BMI percentile that defines pediatric obesity.

D) Parental/caregiver reluctance to discuss weight-related concerns during pediatric visits, reducing opportunities for pediatricians to document obesity.

Mentimeter

Identifying Pediatric Obesity — Body Mass Index

- Body mass index (BMI) — a validated proxy measure of adiposity.
- BMI tracks growth over time and helps assess response of obesity interventions.
- Use BMI growth charts/curves to visualize BMI trends.
- Limitations: High specificity, low sensitivity for excess adiposity.
- Gap: ethnicity often not considered in pediatric BMI interpretation.



Normative BMI growth curves for boys and girls. Extended BMI curves for youth aged 2 to 20 years of age. Class 1 obesity defined as BMI between 95% to 120% of 95th percentile; Class 2 between 120% to140% of 9th percentile; Class 3 ≥140% of 95th percentiles.

Hampl SE, et al. *Pediatrics*. 2023;151(2):e2022060640; Rosenbaum M, Thaker VV. Special considerations relevant to pediatric obesity. In: Feingold KR, Ahmed SF, Anawalt B, et al., editors. *Endotext [Internet]*. MDText.com, Inc.; 2000-. Accessed July 3, 2025. https://www.ncbi.nlm.nih.gov/sites/books/NBK279060/.

Identifying Pediatric Obesity — Body Composition

- Measure fat mass vs non-fat mass (eg, muscle, bone, etc.).
  - More accurate than BMI in pediatric patients.
- Patients with high non-fat mass may have a high BMI.
- Dual-energy X-ray absorptiometry (DXA) is the gold standard for measurement but is expensive and difficult to implement.
- Bioelectrical impedance measurement may be a more convenient method and has been demonstrated to be accurate relative to DXA.

Hampl SE, et al. *Pediatrics*. 2023;151(2):e2022060640.

Pre-Assessment

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Pre-Test Assessment #2

A 15-year-old varsity soccer athlete presents for their annual visit. Her BMI is calculated and falls at the 92nd percentile for age and sex using standard CDC growth charts. The pediatrician discusses healthy lifestyle changes and schedules a follow-up, considering the patient overweight. Which of the following represents a key limitation in the pediatrician's assessment of this patient's weight status?

A) The pediatrician did not assess the patient's dietary intake.

B) The pediatrician did not consider differentiating for lean mass and fat mass.

C) The pediatrician did not consider the patient's pubertal stage.

D) The pediatrician did not incorporate waist-to-hip ratio in the assessment.

Risk Factors

- **Modifiable risk factors:**
  - Diet
  - Physical activity
  - Sleep
  - Screen time
  - Medications
  - Socioeconomic and/or environmental determinants
- **Non-modifiable risk factors:**
  - Genetics
  - Family history

Hampl SE, et al. *Pediatrics*. 2023;151(2):e2022060640.

AAP Clinical Practice Guideline:

- Pediatricians should screen for overweight and obesity at least annually by calculating BMI and assessing BMI percentile.
  - ≥ 95th percentile is considered a diagnosis of obesity in children aged ≤ 18 years.

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Executive Summary: Evaluation and Treatment of Pediatric Obesity S. E. Hampl et al.

The Hospitalized Adolescent C. C. Breuner et al; COMMITTEE ON ADOLESCENCE, COMMITTEE ON HOSPITAL CARE

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AAP, American Academy of Pediatrics.

Hampl SE, et al. *Pediatrics*. 2023;151(2):e2022060640.

Barriers to Identifying Obesity

- Only **25% to 56%** of children and adolescents who meet criteria for obesity receive a formal diagnosis.
- Underdiagnosis of obesity due to:
  - Clinician hesitation/lack of confidence (stigma, discomfort).
  - Incorrect BMI percentile cut offs.
  - Routine visit barriers (time constraints, competing demands).
  - Difficulty engaging caregivers/family.
  - Clinician concern about course of action following diagnosis.

Lydecker JA, Grilo CM. *Psychother Psychosom*. 2017;86(3):173-174; Belay B, et al. *J Pediatr*. 2019;211:78-84.e2; Rhee KE, et al. *BMC Health Serv Res*. 2018;18(1):55.

Risks in Delaying an Obesity Diagnosis

- **Chronic conditions:**
  - Abnormal lipids, glucose dysregulation and other endocrinopathies, abnormal liver enzymes, and blood pressure lead to short- and long-term adverse health outcomes.
- **Expediting diagnosis:**
  - Acknowledge caregiver hesitancy.
  - Provide a pathway for early, empathetic steps in treatment plan.
  - Facilitate a nonstigmatizing conversation about weight with patients and families.

Hampl SE, et al. *Pediatrics*. 2023;151(2):e2022060640.

Case Study #1 - Group Discussion Questions

Sophia, a 13-year-old girl, presents for her annual check-up accompanied by her mother. Her mother expresses concern about her fatigue and reduced physical activity. Due to limited access to safe outdoor play area, Sophia spends much of her free time on screens. She has gained about 18 lbs. in the past year.

- For what other diseases does Sophia's weight gain increase her risk, and what are the consequences of delaying intervention?
- Why do we hesitate to diagnose obesity in children, even when clinical data supports early intervention?
- What challenges (eg, clinical, systemic, implicit biases, etc.) contribute to underdiagnosis of pediatric obesity in routine care?
- How can we discuss weight with Sophia and her caregivers in a way that builds trust, minimizes stigma, and supports self-esteem?

Insights from Group Discussion

Communicating Need for Weight Management

Let's start with a polling question!

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Polling Question #2

At what age is it appropriate to begin directly addressing obesity with a child and their family?

A) ≤3 years old

B) 4-6 years old

C) 7-9 years old

D) ≥10 years old

Here's What the Data Say

At what age is it appropriate to begin directly addressing obesity with a child and their family?

According to the American Academy of Pediatrics, it is appropriate to begin directly addressing obesity with a child and their family at **2 years old**.

If we know that obesity is more likely to persist the longer it goes unaddressed, why are we often waiting until after **age 11** to act?

Muth ND, et al. *Pediatrics*. 2024;153(3):e2023065480.

Pre-Assessment

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Pre-Test Assessment #3

Which of the following approaches is most consistent with current evidence-based recommendations for reducing weight bias and improving patient engagement?

A) Center the conversation on obesity-related health complications.

B) Emphasize caregiver responsibility and suggest physical activity and changing dietary rules at home.

C) Explain the complexity of obesity and incorporate discussions that explore the patient's feelings about their weight.

D) Focus on weight loss goals, using charts and BMI percentiles, to motivate behavior change.

Initiate Discussions About Obesity Management

- While potentially uncomfortable for pediatricians, avoiding obesity-related discussions delays evidenced-based care.
  - In a recent study, 63% of pediatric PCPs indicated not being confident in their ability to provide motivational interviewing to children with obesity.

PCP, primary care physician.

Hampl SE, et al. *Pediatrics*. 2023;151(2):e2022060640; Biggs BK, et al. *J Pediatr Nurs*. 2025;81:e57-e64; Gutin I. *Soc Sci Med*. 2022;294:114714.

Ask Permission

When opening the conversation, it is important to ask for permission, because talking about weight can be a sensitive topic

Once you have permission, ensure you use positive, motivational, and patient-first language at all times:

- ✓ **Best practice**: *"Would you mind if we discuss your (your child's) growth?"*
- ✗ **Avoid:** *"According to your BMI, you are obese, I want you to lose weight"*

If a patient does not give permission, do not push the topic, and let them know you will be available to discuss if they change their mind

"Would it be alright to discuss your weight today?"

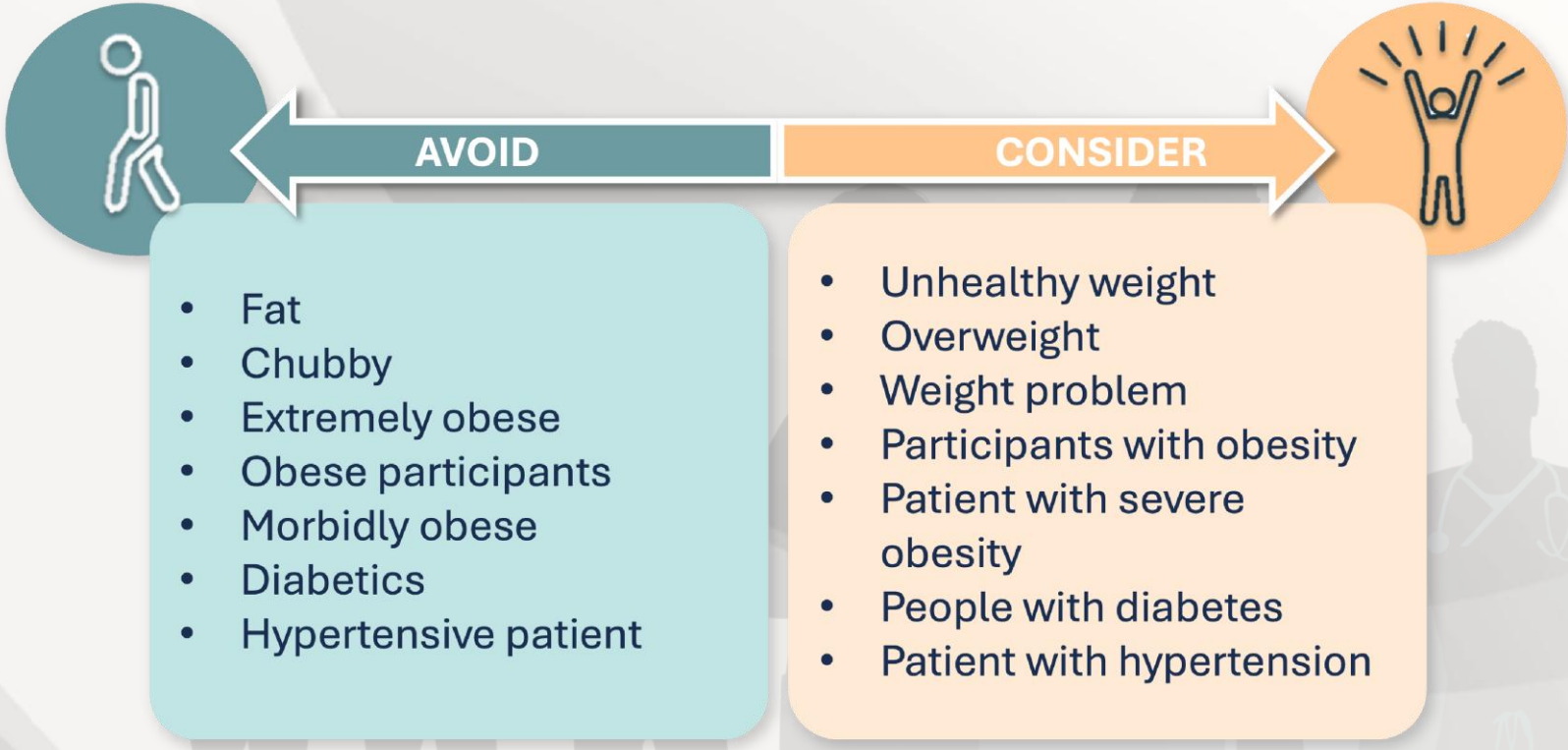
"Carrying excess weight can cause other health concerns — would you like to discuss how your (or your child's) weight might be affecting your (their) health?

"If we can review your previous test results for a moment, I think it may be beneficial to discuss how your health can be improved by losing weight and how it will help improve some of these results in the future"

Adapted with permission from Dr. James McConnell.
Caterson ID, et al. *Diabetes Obes Metab*. 2019:21(8):1914-1924; Puhl RM, et al. *Pediatrics*. 2022;150(6):e2022058204; Vallis M, et al. *Can Fam Physician*, 2013;59(1):27-31; Wadden TA, Didie E. *Obes Res* 2003;11(9):1140-1146.

Nonstigmatizing Strategies

- Use person-first language (eg, "child with obesity") to avoid labeling
- Use words perceived as neutral (eg, "unhealthy weight").



Hampl SE, et al. *Pediatrics*. 2023;151(2):e2022060640.

Pre-Assessment

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Pre-Test Assessment #4

A 10-year-old girl presents for a routine well-child visit, and her BMI is at the 97th percentile for age and sex. Her parents report that she enjoys playing outside but often snacks on high-calorie foods and struggles with screen time limits. The family expresses concern about her weight but also worries about making her feel stigmatized. Which of the following approaches is most appropriate to use during this visit to help build and maintain a supportive relationship?

A) Avoid discussing the child's BMI to prevent discomfort and focus on general health behaviors.

B) Emphasize the medical risks of obesity to encourage behavior change.

C) Provide the BMI and weight information and incorporate motivational interviewing to guide goal setting.

D) Shift the conversation from the current diagnosis to the child's prognosis, in order to maintain the clinician-family relationship.

Mentimeter

Motivational Interviewing

- Collaborative, patient-centered, goal-directed communication.
- Guide patients and caregivers toward positive behavior change, which promotes a healthier body weight and a healthier body composition.
- A communication style and counseling technique.
- Focuses on enhancing intrinsic motivation.

Tondt J, et al. *Obesity Algorithm eBook*. Obesity Medicine Association; 2023. https://obesitymedicine.org/obesity-algorithm-powerpoint/. Accessed July 9, 2024.

CH

Obesity as a Chronic Disease

- Obesity should be treated with long-term care strategies, and management should include evaluation and monitoring of obesity-related medical and psychological comorbidities.
- Practice regular follow-up and monitoring.

Weight loss can prevent or ameliorate comorbidities

T2D and other cardiometabolic disorders	Hypertension	PCOS	Male hypogonadism	Urinary stress incontinence
Dyslipidemia	MASLD	Female infertility	OSA	GERD

OSA, obstructive sleep apnea.

American Diabetes Association Professional Practice Committee. *Diabetes Care*. 2024;47(Suppl 1):S43-S51; Garvey WT, et al. *Endocr Pract.* 2016;22(Suppl 3):1-203; Hampl SE, et al. *Pediatrics*. 2023;151(2):e2022060640.

Case Study #2 – Group Discussion Questions

Jada, a 9-year-old girl, is accompanied by her grandmother, who reports that she has been "doing well" and growing fast. Her growth chart shows that she is 54 inches tall and weighs 106 lbs., corresponding to a BMI of approximately 23.5—above the 97th percentile for her age and sex. Jada's grandmother expresses concern about teasing from classmates but says, "I don't want her to feel bad about her body. I never use the word 'weight'. Jada, quiet during the visit, shrugs when asked about sports or outdoor activity, saying, "I don't really like gym."

- What are the trade-offs of addressing weight now versus waiting (e.g., impact on long-term outcomes vs short-term discomfort)?
- How can we involve caregivers, especially when attitudes or behaviors are barriers, without blame or stigma?
- How can we discuss health with Jada in a way that supports autonomy, avoids shame, and emphasizes positive, non–weight-focused goals?

Insights from Group Discussion

Developing Individualized Treatment Plans

Treatment Options

- Intensive health behavior and lifestyle treatment (IHBLT)
- Pharmacotherapy
  - Phentermine, phentermine/topiramate, orlistat*, setmelanotide#, liraglutide, semaglutide
  - Currently in clinical trials: tirzepatide, orforglipron
- Metabolic/Bariatric surgery
- Mental and emotional health counseling

*** Recent systematic review and meta-analysis shows no significant reduction in adolescents being treated with orlistat.**
 # Setmelanotide is FDA-approved for adults and kids ≥2 yrs with BBS, POMC deficiency, PCSK1 deficiency, and LEPR deficiency (as of 2022). FDA-approved for the treatment of patients ≥4 yo with acquired hypothalamic obesity on 3/19/2026!

BBS, Bardet-Biedl Syndrome; POMC, proopiomelanocortin neuron; PCSK1, proprotein convertase subtilisin/kexin type 1; LEPR, leptin receptor.

Hampl SE, et al. *Pediatrics*. 2023;151(2):e2022060640; Dutton WP, et al. *Pediatr Clin North Am.* 2024;71(5):957-980; Nikniaz, Z, et al. *BMC Endocr Disord*. 2023;23(1):142.

Pre-Assessment

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Pre-Test Assessment #5

Which of the following statements is most accurate regarding the timing and approach to intensive health behavior and lifestyle treatment (IHBLT) referral for children/adolescents with obesity?

A) Counseling and watchful waiting is appropriate for at least 6-12 months before considering IHBLT.

B) Referral to IHBLT at the time of an obesity diagnosis is recommended.

C) Referral to IHBLT should be considered only for adolescents who demonstrate readiness to change.

D) Referral to IHBLT should be delayed until the patient presents with obesity-related comorbidities.

IHBLT

- Foundational approach to achieve body mass reduction and attenuation of excessive weight gain.

Intensive Health Behavior and Lifestyle Treatment (IHBLT)

WHO:	WHEN:	WHAT:	WHERE:	DOSAGE:	FORMAT:	CHANNEL:
Patient and family in partnership with a multidisciplinary treatment team*	Promptly for child or adolescent with overweight or obesity	Health education and skill building on multiple topics Behavior modification and counseling	Healthcare setting Community-based setting with linkage to medical home	Longitudinal treatment across 3-12 months with ideally ≥ 26 contact hours	Group, Individual, or Both	Face-to-face (strongest evidence) Virtual (growing evidence)

* PCPs and/or PHCPs with training in obesity as well as other professionals trained in behavior and lifestyle fields such as dietitians, exercise specialists and behavioral health practitioners

PHCP, primary health care provider.
Hampl SE, et al. *Pediatrics*. 2023;151(2):e2022060640.

Pre-Assessment

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Pre-Test Assessment #6

A 14-year-old boy presents for a routine visit, and his BMI is 36 kg/m². He has participated in an intensive lifestyle modification program for 12 months with minimal BMI reduction. He now has prediabetes and is seeking additional therapy to improve his weight and metabolic health. Which of the following pharmacotherapy options is most appropriate to initiate in this patient, considering age, obesity severity, FDA approval, and evidence for efficacy in pediatric populations?

A) Appetite suppressant

B) Incretin

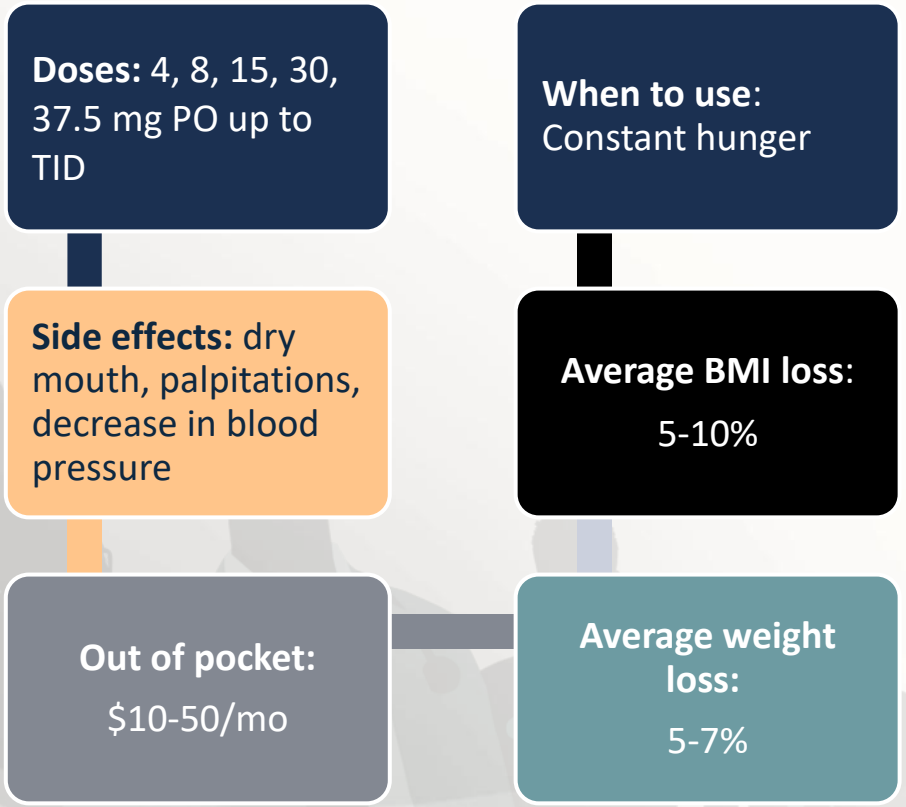
C) Lipase inhibitor

D) MC4R agonist

Mentimeter

Pharmacotherapy - Phentermine

- FDA-approved to treat obesity in adults and children ≥17 yrs (1959).
  - Norepinephrine reuptake inhibitor.

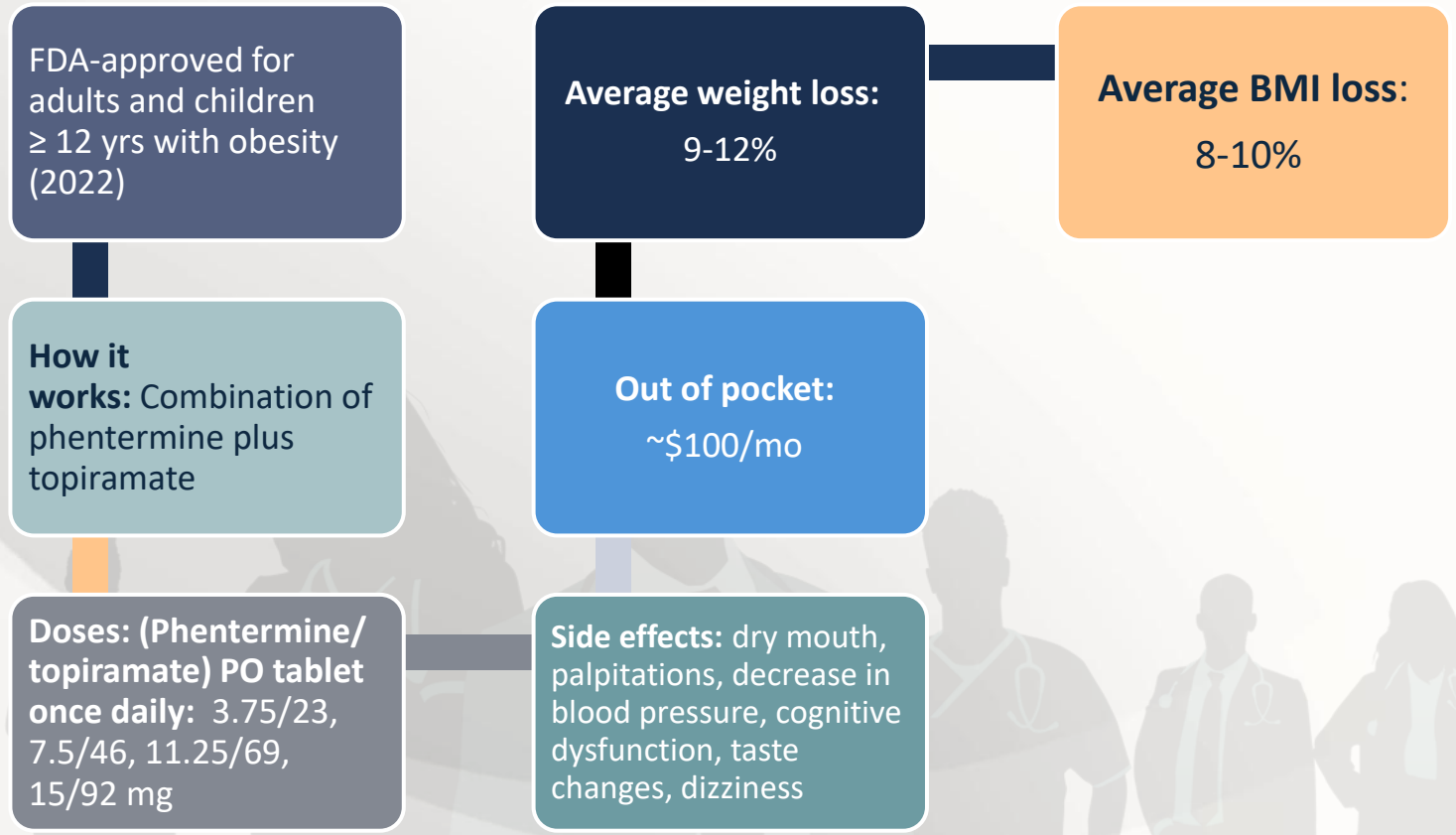


NE, norepinephrine; NET, norepinephrine reuptake inhibitor; NER, norepinephrine receptor; PO, per os ("by mouth"); TID, tir in die ("three times a day").

Hampl SE, et al. *Pediatrics*. 2023;151(2):e2022060640; Dutton WP, Paddu N, et al. *Pediatr Clin North Am.* 2024;71(5):957-980.

Pharmacotherapy – Phentermine + Topiramate

- FDA-approved combination therapy for adolescents (≥ 12 yrs) with a documented history of failure to lose sufficient weight or failure to maintain weight loss (2022).

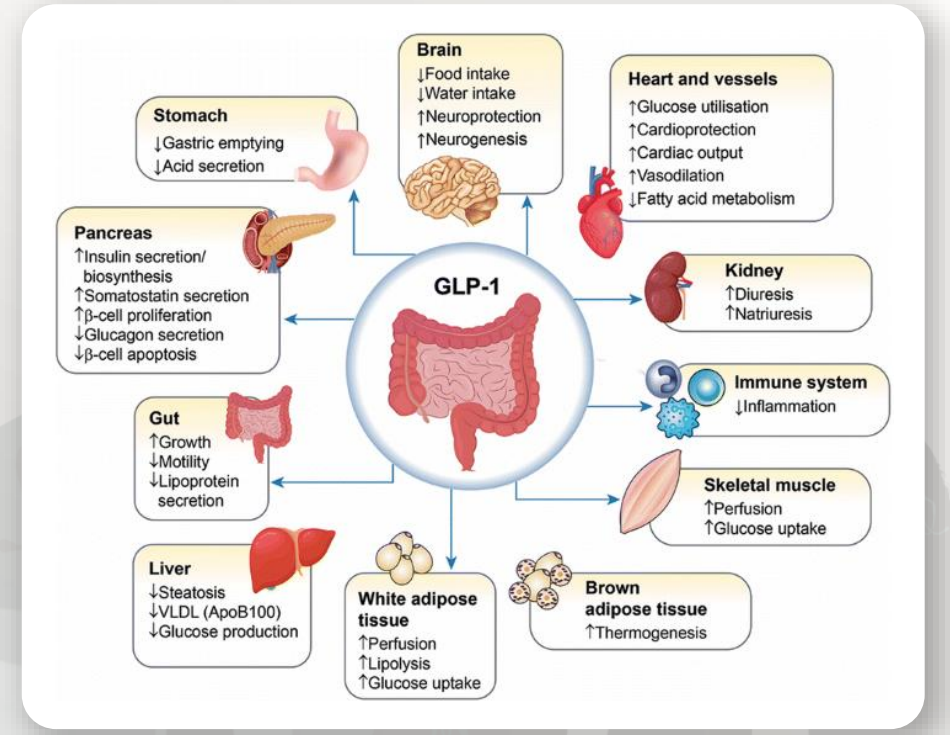


Hampl SE, et al. *Pediatrics*. 2023;151(2):e2022060640; Dutton WP, Paddu N, et al. *Pediatr Clin North Am.* 2024;71(5):957-980; Kelly AS, et al. *NEJM Evid.* 2022;1(6):10.1056/evidoa2200014.

Pharmacotherapy: Liraglutide and Semaglutide

- GLP-1 RAs that are FDA-approved to treat obesity and type 2 diabetes in children ≥ 12 yrs (Liraglutide - 2020; Semaglutide - 2022).
  - Increases MC4R stimulation and decreases gastric emptying.
  - Side effects: nausea, vomiting, constipation, diarrhea.
  - Average BMI loss: 5-16%

Medication	Dosing and Frequency	Average Weight Loss	FDA Approval
Liraglutide	0.6, 1.2, 1.8, 2.4, 3 mg SQ daily	+/- 8-10%	Obesity ≥ 12 yrs (2020)
Semaglutide	0.25, 0.5, 1, 1.7, 2.4 mg SQ weekly	+/- 14-16%	Obesity ≥ 12 yrs (2022)



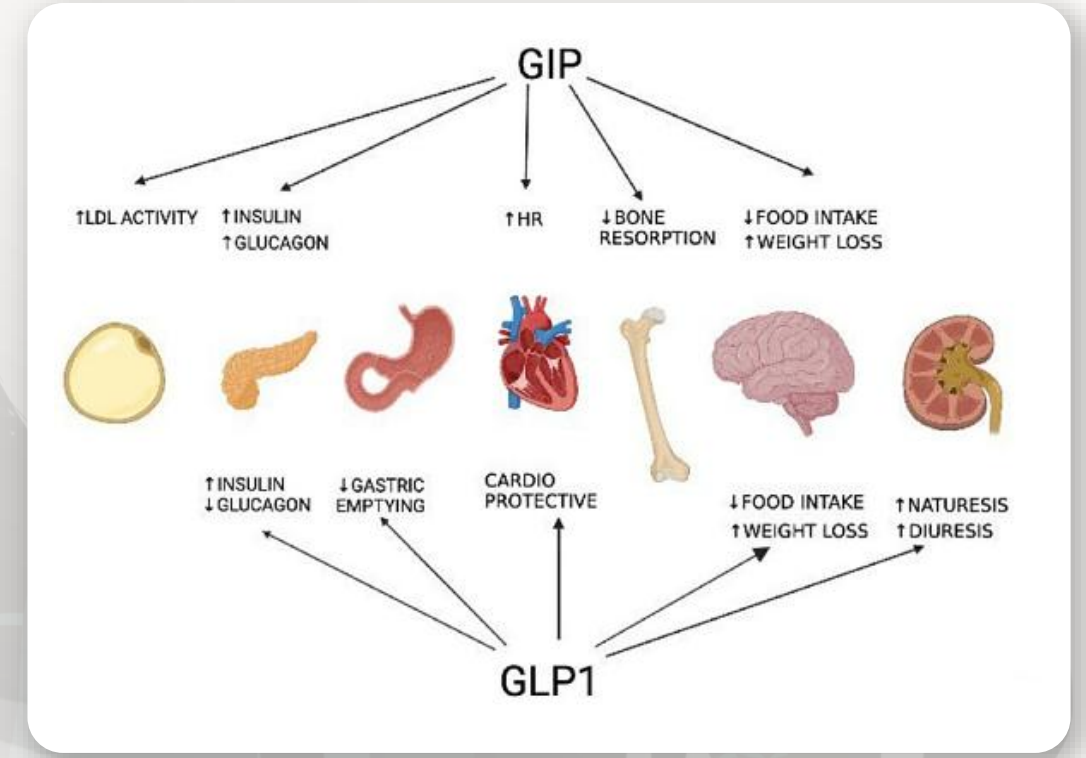
GLP-1 RA, glucagon-like peptide-1 receptor agonists; MC4R, melanocortin-4 receptor; BMI, body mass index; SQ, subcutaneous.

Hampl SE, et al. *Pediatrics*. 2023;151(2):e2022060640; Dutton WP, et al. *Pediatr Clin North Am*. 2024;71(5):957-980; Kalra S, et al. *Diabetes Ther*. 2019;10(5):1645-1717; Fox CK et al. *N Engl J Med*. 2025;392(6):555-565. doi:10.1056/NEJMoa2407379

Pharmacotherapy — Tirzepatide and Orforglipron

Both are **NOT** yet FDA-approved to treat obesity in children and adolescents (< 18 years old).

- **Tirzepatide:**
  - Investigational dual agonist of GIP and GLP-1 RA
  - Approved for use in adults for weight management and treatment of T2D and OSA.
- **Orforglipron:**
  - Investigational oral GLP-1 RA
  - Currently being studied in adults and recruiting pediatrics.

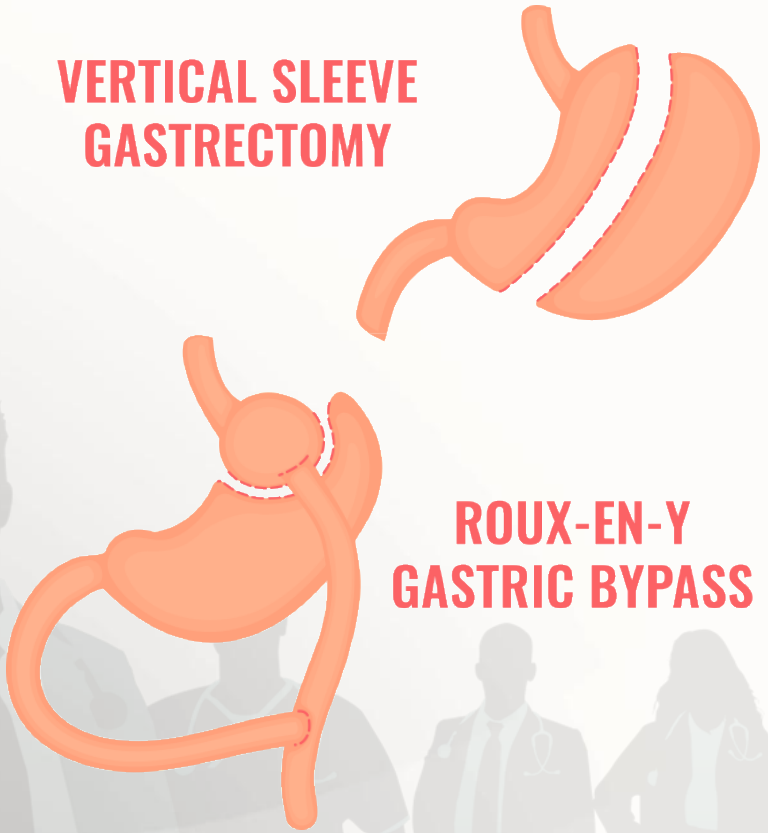


GIP, Glucose-dependent insulinotropic polypeptide.

Hampl SE, et al. *Pediatrics*. 2023;151(2):e2022060640; Dutton WP, et al. *Pediatr Clin North Am*. 2024;71(5):957-980.

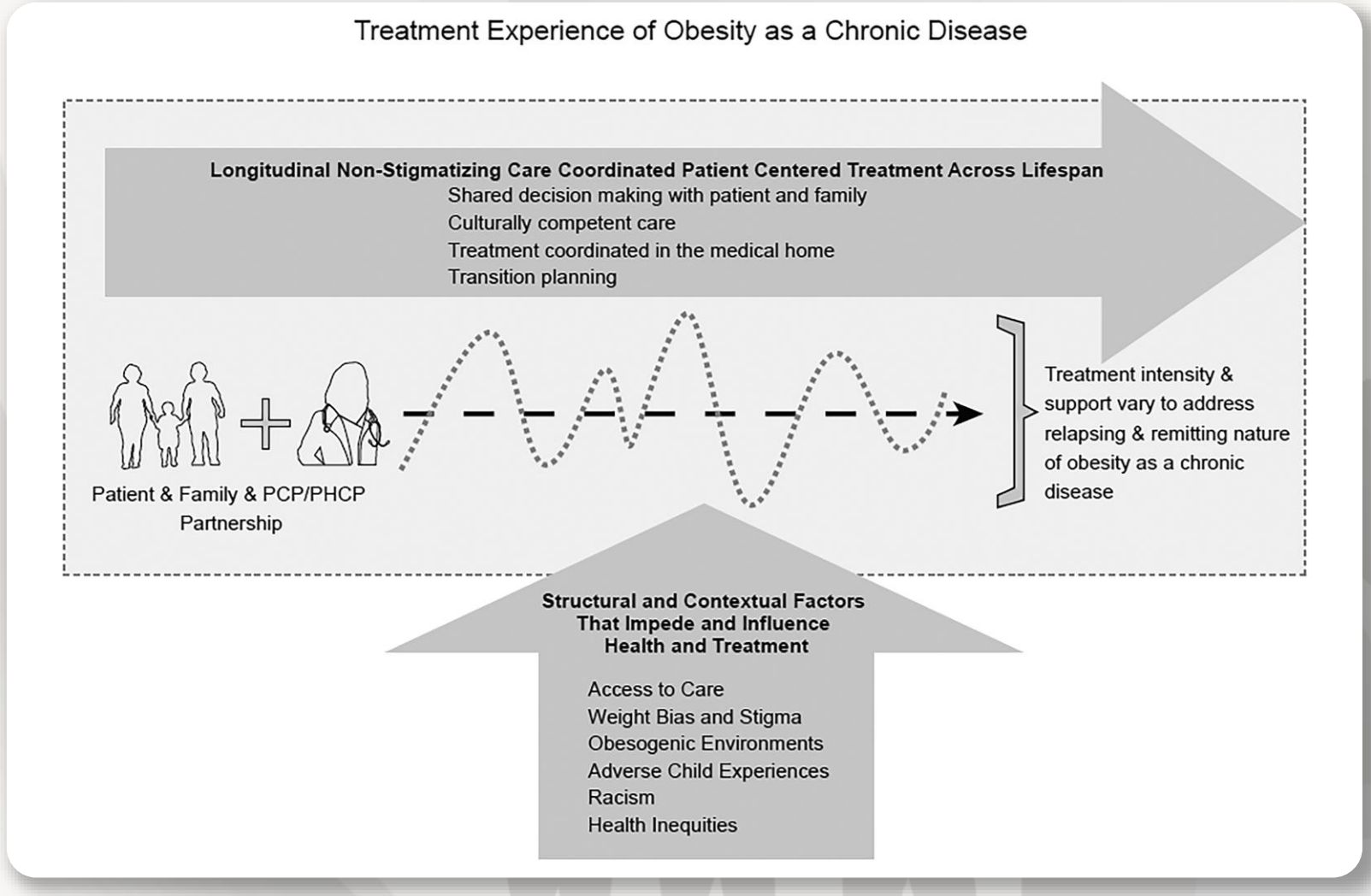
Metabolic/Bariatric Surgery

- Weight loss procedures in pediatric populations have been used for the last 20-30 years.
  - For ≥ class 2 obesity + a clinically significant obesity related comorbidity; BMI ≥ 35 kg/m^2, or 120% of the 95th percentile for age and sex, whichever is lower.
  - Or class 3 obesity, BMI ≥ 40 kg/m^2, or 140% of the 95th percentile for age and sex, whichever is lower.
- Weight loss surgery is safe and effective for this population – especially laparoscopic Roux-en-Y gastric bypass and vertical sleeve gastrectomy.



Hampl SE, et al. *Pediatrics*. 2023;151(2):e2022060640.

Coordinated Care Across the Lifespan



May also consider using the Readiness and Motivation Interview for Families tool (RMI-Family).

Hampl SE, et al. *Pediatrics*. 2023;151(2):e2022060640; Ball GD, et al. *BMC Health Serv Res*. 2017;17(1):261.

Case Study #3 – Group Discussion Questions

Marcus, a 15-year-old boy, presents for his annual check-up with his grandmother and his younger sister. He is in the 98th percentile for age and sex and has mild, intermittent asthma, with a strong family history of T2D. He lives in a multigenerational household in an urban neighborhood, with both parents working fulltime. His family prefers not to use the term "obesity," citing cultural stigma.

- How do we assess Marcus and his caregiver's readiness for change while navigating cultural beliefs about weight and health?
- How can we tailor his treatment plan to reflect medical risk, cultural context, and social determinants of health?
- What efficient counseling strategies and community or school-based resources can support sustainable change beyond the clinic?
- Can someone be culturally 'healthy' and medically 'unhealthy' at the same time? How do you address that tension in a clinical conversation?

Insights from Group Discussion

Key Takeaways and Resources

- **Thank you for participating!**
- **Remember to:**
  - Identify and diagnose pediatric obesity early
  - Discuss weight management in a culturally, linguistically and developmentally appropriate manner
  - Individualize evidence-based treatment
- **Resources will be available on MLI's website** (mlieducation.org)
- **Please provide any feedback for this format.**

Thank You!

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