

# IHS Advancements in Diabetes Webinar

## Evaluation and Management of Pediatric Obesity: An Overview of the AAP Clinical Practice Guideline

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# Learning Objectives

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Upon completion of this session, participants will improve their competence and performance by being able to:

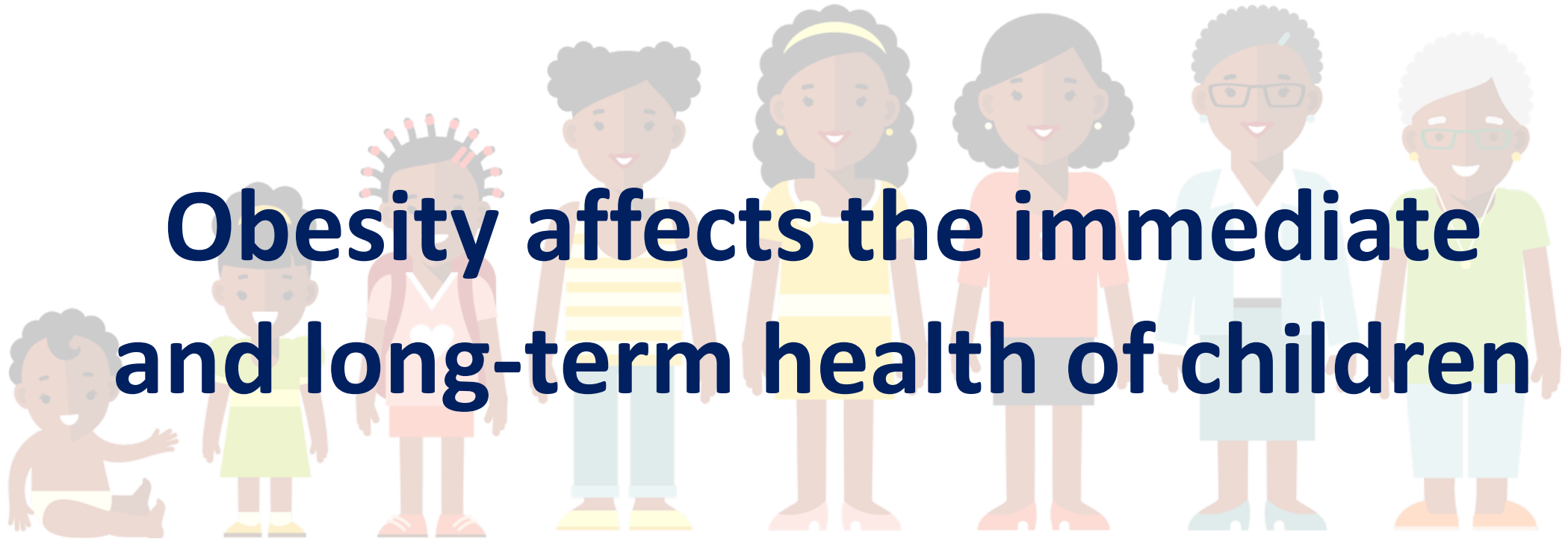
1. Recognize that obesity is a complex and chronic disease that requires longitudinal care to decrease susceptibility of acquiring diabetes.
2. Identify components of a comprehensive evaluation and summarize the four recommended treatment options.
3. Identify AAP resources for implementation of the pediatric obesity guideline into practice for the interprofessional team.



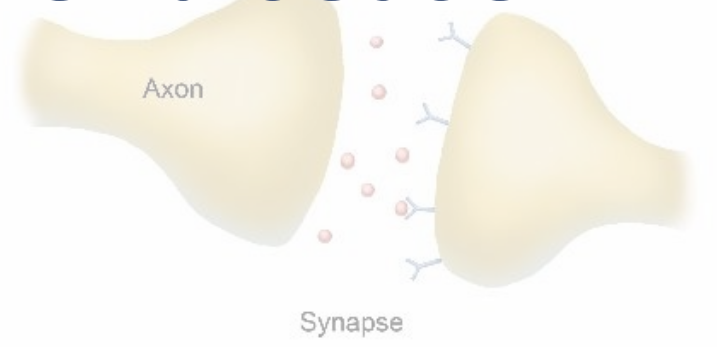
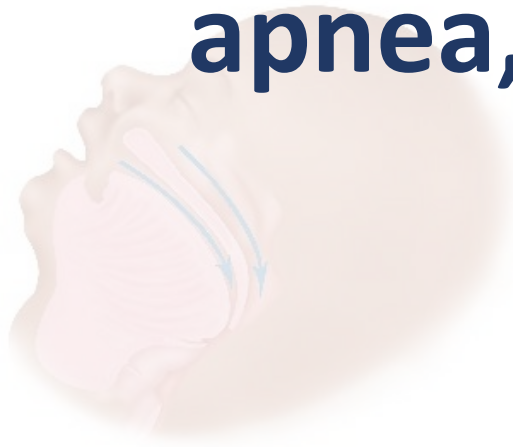
**14.1**

**Million children and  
adolescents in the  
United States are  
affected by obesity**

**Obesity affects the immediate  
and long-term health of children**



**Children with overweight and obesity are susceptible to many diseases like type 2 diabetes, hypertension, sleep apnea, nonalcoholic fatty liver disease and depression**



# Evaluation and Treatment of Children and Adolescents with Obesity



CLINICAL PRACTICE GUIDELINE Guidance for the Clinician in Rendering Pediatric Care

American Academy  
of Pediatrics



DEDICATED TO THE HEALTH OF ALL CHILDREN™

## Clinical Practice Guideline for the Evaluation and Treatment of Children and Adolescents With Obesity

Sarah E. Hampf, MD, FAAP,<sup>a</sup> Sandra G. Hassink, MD, FAAP,<sup>b</sup> Asheley C. Skinner, PhD,<sup>c</sup> Sarah C. Armstrong, MD, FAAP,<sup>d</sup> Sarah E. Barlow, MD, MPH, FAAP,<sup>e</sup> Christopher F. Bolling, MD, FAAP,<sup>f</sup> Kimberly C. Avila Edwards, MD, FAAP,<sup>g</sup> Ihuoma Eneli, MD, MS, FAAP,<sup>h</sup> Robin Hamre, MPH,<sup>i</sup> Madeline M. Joseph, MD, FAAP,<sup>j</sup> Doug Lunsford, MEd,<sup>k</sup> Eneida Mendonca, MD, PhD, FAAP,<sup>l</sup> Marc P. Michalsky, MD, MBA, FAAP,<sup>m</sup> Nazrat Mirza, MD, ScD, FAAP,<sup>n</sup> Eduardo R. Ochoa, Jr, MD, FAAP,<sup>o</sup> Mona Sharifi, MD, MPH, FAAP,<sup>p</sup> Amanda E. Staiano, PhD, MPP,<sup>q</sup> Ashley E. Weedn, MD, MPH, FAAP,<sup>r</sup> Susan K. Flinn, MA,<sup>s</sup> Jeanne Lindros, MPH,<sup>t</sup> Kymika Okechukwu, MPA<sup>u</sup>

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# New guidelines for treating childhood obesity include medications and surgery for first time

The American Academy of Pediatrics updated its recommendations on childhood obesity for the first time in 15 years.

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healthline

HEALTH NEWS

✓ Fact Checked

## Criticism Emerges Over New AAP Guidelines for Childhood Obesity





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HEALTH

Obesity

Add Topic +

## Weight loss drugs and surgery – for kids? Why new obesity guidance is drawing scrutiny.



**Adrianna Rodriguez**

USA TODAY

Published 6:00 a.m. ET Jan. 19, 2023 | Updated 7:43 a.m. ET Jan. 24, 2023



### Key Points

- The American Academy of Pediatrics recommends early and proactive treatment for children who have obesity, including surgery or weight loss drugs.
- The guidance has drawn scrutiny from advocates who say it contributes to weight stigma and could fuel disordered eating.
- They also argue it's impossible to know the long-term effects of these weight loss interventions on young children.

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CHILDREN'S HEALTH

## New childhood obesity guidance raises worries over the risk of eating disorders

Updated February 22, 2023 · 8:15 PM ET

By Kaitlyn Radde

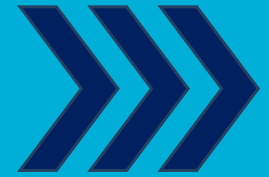


Children share apples in Sydney, Australia.  
Natalie Board/Getty Images/Getty Images



“Pediatricians and other PHCPs play a crucial role in providing comprehensive obesity treatment as primary treatment providers, in coordinating care with subspecialists and in the community, and in advocating for obesity treatment resources and elimination of weight bias and stigma. – CPG”

# CPG Development



## Comprehensive Process

**2017**

Evidence Review & Technical Reports

Subcommittee Examines TRs & Confirms CPG Outline

Evidence Grading and KAS recs along with narrative

Internal and External Review



**2023**

# Methodology – Scope of the Review

## Key Question 1

What are clinic-based, effective treatments for obesity?

## Key Question 2

What is the risk of comorbidities among children with obesity?

Original search period ended April 6, 2018.  
An additional search was conducted covering the time period April 7, 2018 - February 15, 2020.


- 15 988 Articles screened
- 1642 Full text articles reviewed
- 382 Studies included

# CPG By the Numbers



**15**  
Years Since Last  
Comprehensive  
Guidance

16K Abstracts  
Reviewed



**1642**  
Full Text  
Articles



**382**  
Studies  
Included



**13**  
CPG Key Action  
Statements



**11**  
CPG Consensus  
Recommendations



**2**  
Technical  
Reports

# CPG in a nutshell



- 13 Key Action Statements
- 11 Consensus Recommendations
- Key Topics:
  - ✓ Assessment & evaluation
  - ✓ Comorbidities
  - ✓ Multiple evidence-based treatment options

# Evidence Grading for Key Action Statement (KAS) Development

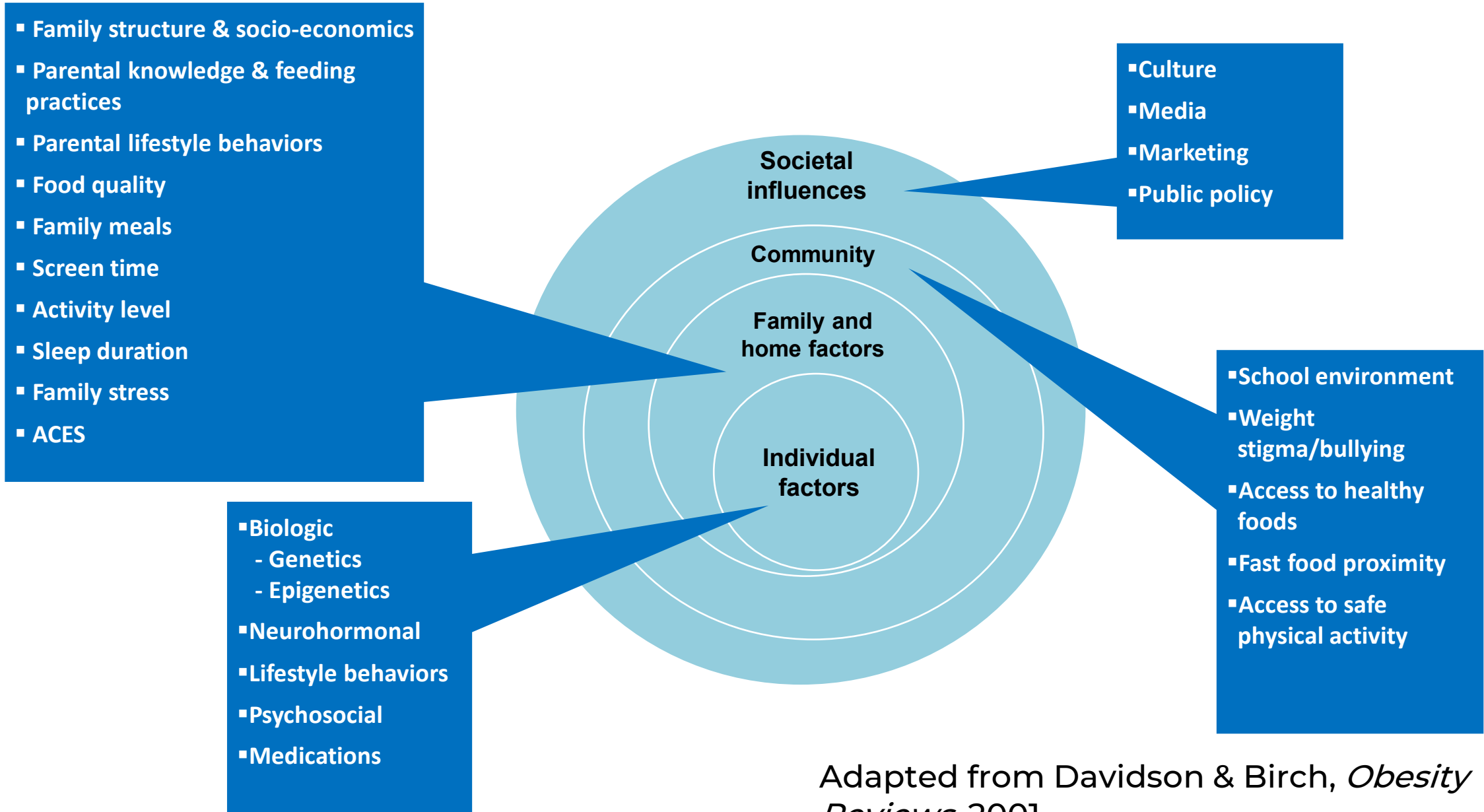
| AGGREGATE EVIDENCE QUALITY  | BENEFIT OR HARM PREDOMINATES                        | BENEFIT AND HARM BALANCED                                  |
|---|---|--|
| <b>LEVEL A</b><br>Intervention: Well designed and conducted trials, meta-analyses on applicable populations<br>Diagnosis: Independent gold standard studies of applicable populations | STRONG RECOMMENDATION                               | WEAK RECOMMENDATION (based on balance of benefit and harm) |
| <b>LEVEL B</b><br>Trials or diagnostic studies with minor limitations; consistent findings from multiple observational studies  | MODERATE RECOMMENDATION                             | WEAK RECOMMENDATION (based on balance of benefit and harm) |
| <b>LEVEL C</b><br>Single or few observational studies or multiple studies with inconsistent findings or major limitations.  | WEAK RECOMMENDATION (based on low quality evidence) | WEAK RECOMMENDATION (based on balance of benefit and harm) |
| <b>LEVEL D</b><br>Expert opinion, case reports, reasoning from first principles   | WEAK RECOMMENDATION (based on low quality evidence) | No recommendation may be made.                             |
| <b>LEVEL X</b><br>Exceptional situations where validating studies cannot be performed and benefit or harm clearly predominates  | STRONG RECOMMENDATION<br>MODERATE RECOMMENDATION    | WEAK RECOMMENDATION (based on balance of benefit and harm) |



# The Use of “Should” Within the KAS

- The words "should" and "may" used in the KAS statements in the CPG:
  - are based on the level of associated evidence
  - reflect the action that is meant to be taken based on the evidence, under what circumstances to take that action and the level of obligation to follow the evidence-based recommendation
- The use of “should” is meant to represent an **intermediate** level of obligation:
  - NOT a required action
  - an evidence-based recommendation that allows for some variation based on the circumstances
- Clinical decision making is undertaken in partnership with the patient/family:
  - based on a comprehensive evaluation and understanding the components of evidence-based treatment to create an individualized and tailored treatment plan that includes longitudinal care

# Obesity is a Complex Disease



Adapted from Davidson & Birch, *Obesity Reviews*, 2001

# Whole Child Approach

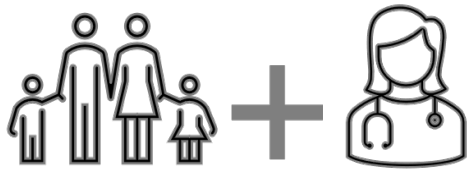
Underlying **genetic, biological, environmental, and social determinants** that are risks for obesity is the foundation of evaluation and treatment.

- AAP Clinical Practice Guideline

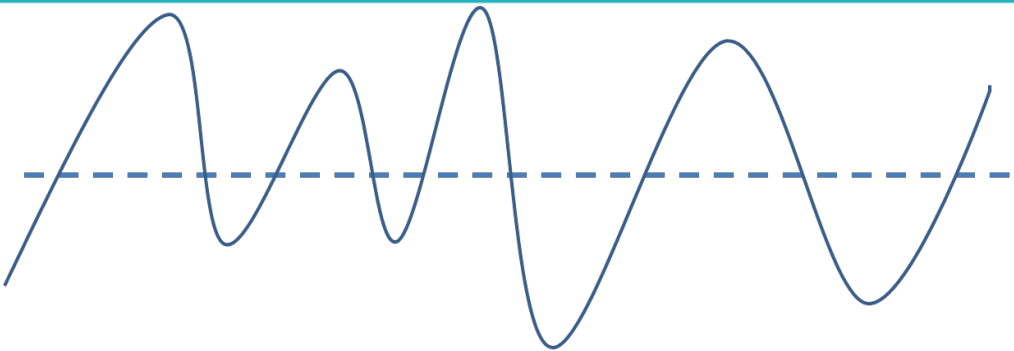
# Treatment Experience of Obesity as a Chronic Disease

## Longitudinal Non-Stigmatizing Care Coordinated Patient-Centered Treatment Across Lifespan

- Shared decision making with patient & family
- Culturally competent care
- Treatment coordinated in the medical home
- Transition planning



Patient & Family & PCP/PHCP Partnership



Treatment intensity & support vary to address relapsing & remitting nature of obesity as a chronic disease

## Structural and Contextual Factors

- Access to Care
- Weight Bias and Stigma
- Obesogenic Environments
- Adverse Child Experiences
- Racism
- Health Inequities

That Impede & Influence Health & Treatment

# New from previous recommendations

**NEW**

- We understand more fully the implications of obesity as a chronic disease
- We understand the physiological impacts of social determinants of health on obesity more completely
- We know more fully that weight bias and stigma is pervasive and harmful and can be a barrier to treatment

# New from previous recommendations

NEW

- Offer treatment early and immediately – there is no benefit to watchful waiting
- Treat obesity and comorbid conditions concurrently
- There are multiple evidence-based strategies that can be used collectively to deliver intensive & tailored obesity treatment
- Structured, supervised weight management interventions decrease current & future eating disorder symptoms

# Assessment & Evaluation



BMI Measurement



Comprehensive Evaluation  
(PE, ROS, Hx, etc)



Risk Assessment  
(Whole child)



Comorbidity Evaluation  
(labs, tests)

# Assessment & Evaluation



BMI Measurement



Comprehensive Evaluation  
(PE, ROS, Hx, etc)

**KAS.** Pediatricians and other PHCPs should measure height and weight, calculate BMI, and assess BMI percentile using age- and sex-specific CDC growth charts or growth charts for children with severe obesity at least annually for all children 2 to 18 y of age to screen for overweight (BMI  $\geq$ 85th percentile to  $<$ 95th percentile), obesity (BMI  $\geq$ 95th percentile), and severe obesity (BMI  $\geq$ 120% of the 95th percentile for age and sex).



# Why BMI percentile?

## Validity in children

- Correlates with adiposity<sup>1</sup>
- Correlates with adult adiposity<sup>2</sup>
- Correlates with cardiovascular risk factors<sup>3</sup> and long-term mortality<sup>4</sup>

<sup>1</sup> Field AE, *Obes Res*, 2003

<sup>2</sup> Freedman DS, *Pediatrics*, 2005

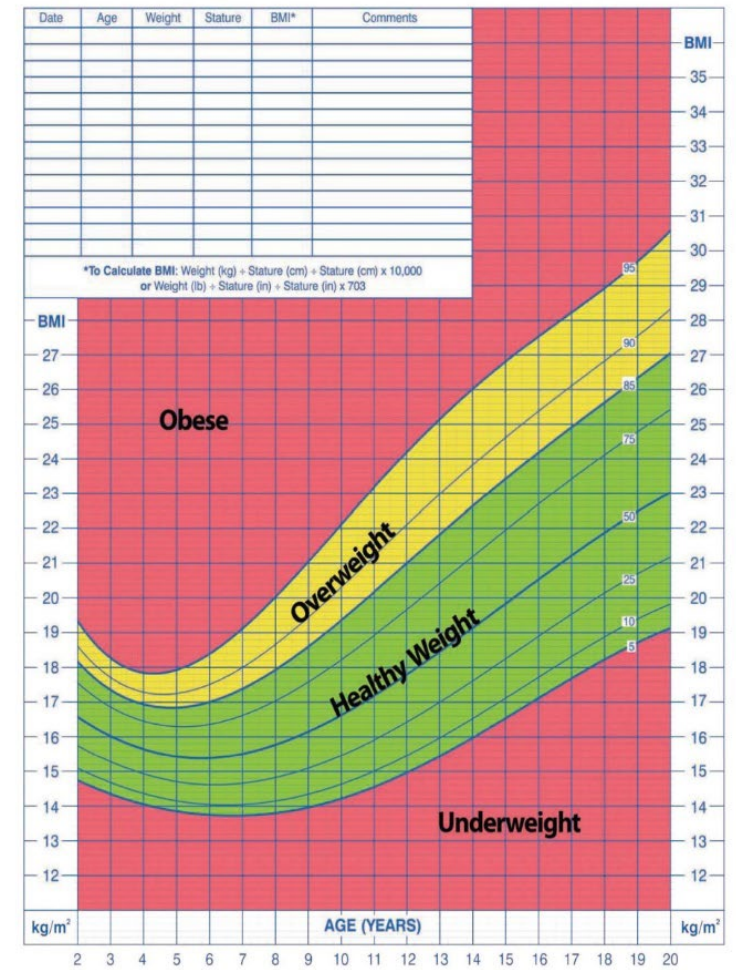
<sup>3</sup> Freedman DS, *J Pediatr*, 2007

<sup>4</sup> Skinner AC, *Pediatrics* 2023

2 to 20 years: Boys  
Body mass index-for-age percentiles

NAME \_\_\_\_\_

RECORD # \_\_\_\_\_



Published May 30, 2000 (modified 10/16/00).

SOURCE: Developed by the National Center for Health Statistics in collaboration with the National Center for Chronic Disease Prevention and Health Promotion (2000). <http://www.cdc.gov/growthcharts>



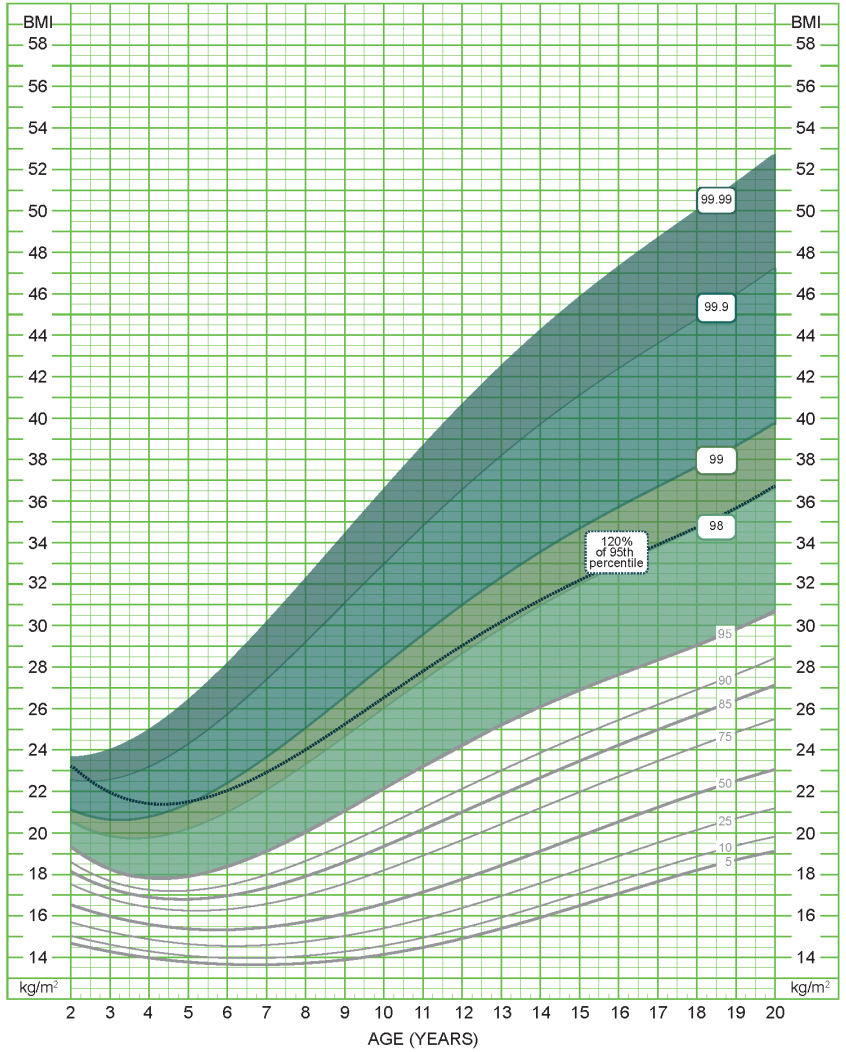
SAFER • HEALTHIER • PEOPLE™

## Boys: Ages 2–20 years

Body mass index-for-age percentiles

NAME \_\_\_\_\_

RECORD # \_\_\_\_\_



December 15, 2022  
 Data source: National Health Examination Survey and National Health and Nutrition Examination Survey.  
 Developed by: National Center for Health Statistics in collaboration with National Center for Chronic Disease Prevention and Health Promotion, 2022.

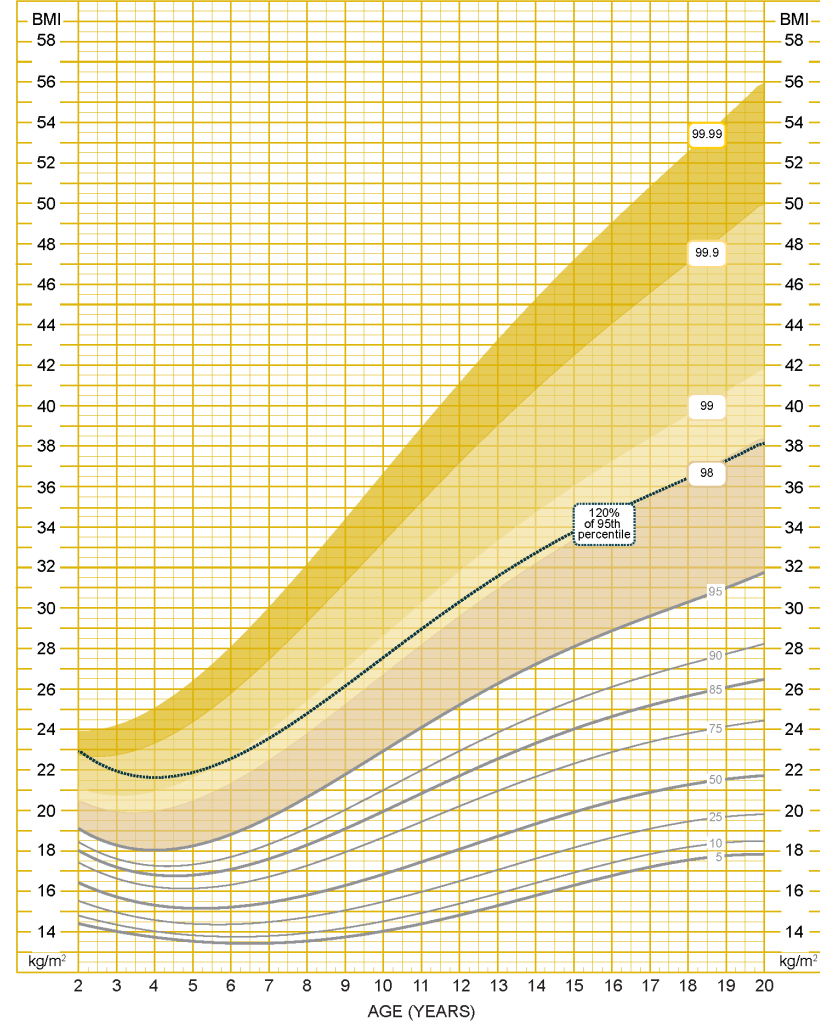


## Girls: Ages 2–20 years

Body mass index-for-age percentiles

NAME \_\_\_\_\_

RECORD # \_\_\_\_\_



December 15, 2022  
 Data source: National Health Examination Survey and National Health and Nutrition Examination Survey.  
 Developed by: National Center for Health Statistics in collaboration with National Center for Chronic Disease Prevention and Health Promotion, 2022.

CS330334



# New CDC Extended BMI- for-Age Growth Curves

# Assessment & Evaluation



BMI Measurement



Comprehensive Evaluation  
(PE, ROS, Hx, etc)



Risk Assessment  
(Whole child)



Comorbidity Evaluation  
(labs, tests)

# Evaluation Sets the Stage for Treatment

## Socioecological Model

Child

Family

Community

Society



Iceberg Model

# Assessment & Evaluation



BMI Measurement



Comprehensive Evaluation  
(PE, ROS, Hx, etc)



Risk Assessment  
(Whole child)

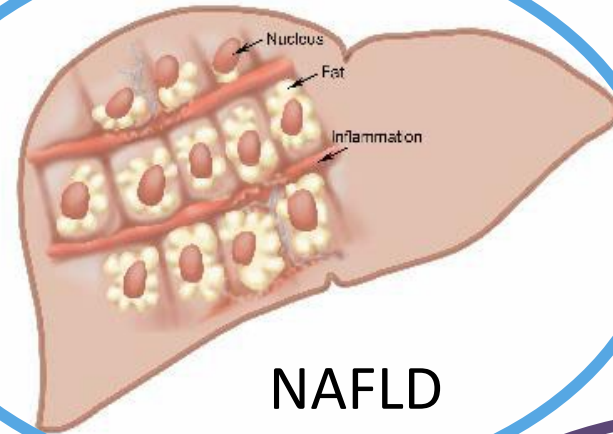


Comorbidity Evaluation  
(labs, tests)

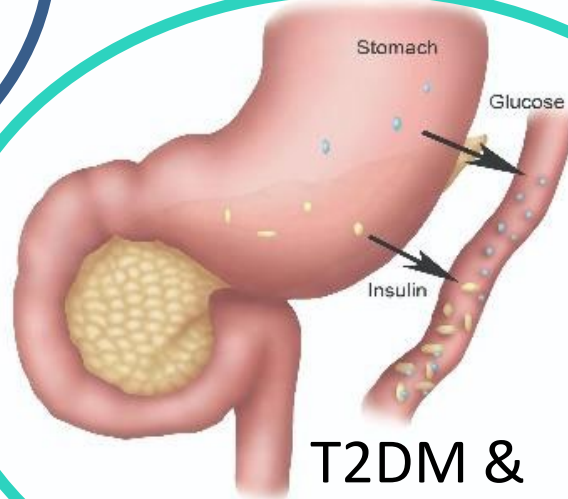
# Comorbidities Addressed Include



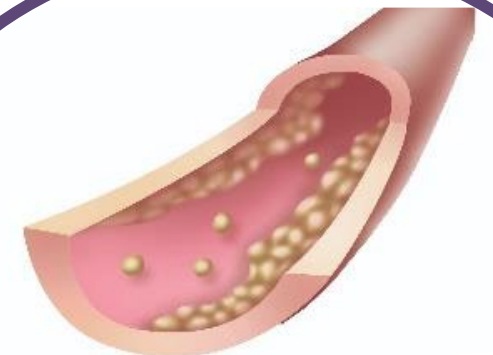
Hypertension



NAFLD



T2DM &  
Prediabetes

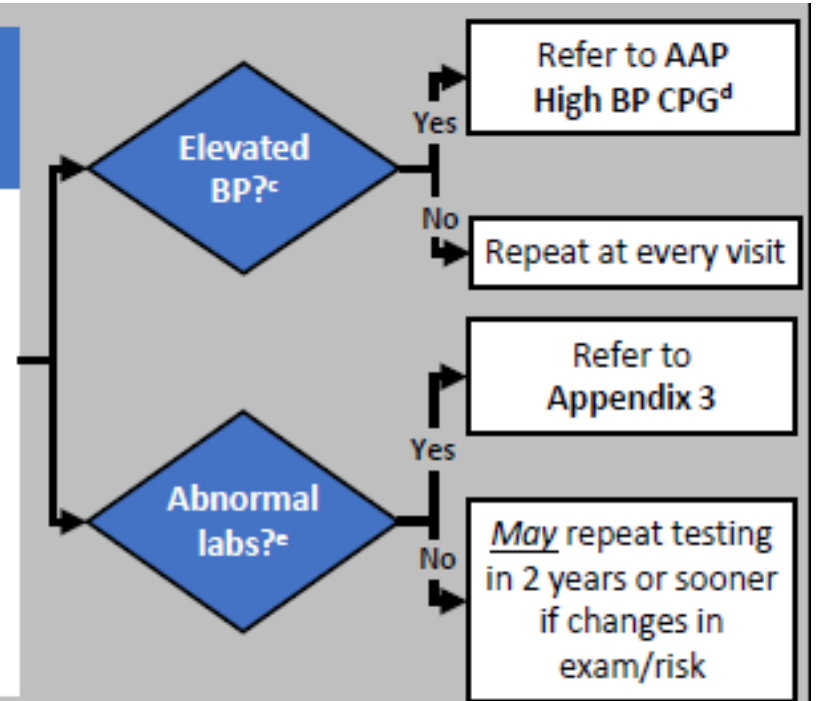


Dyslipidemia

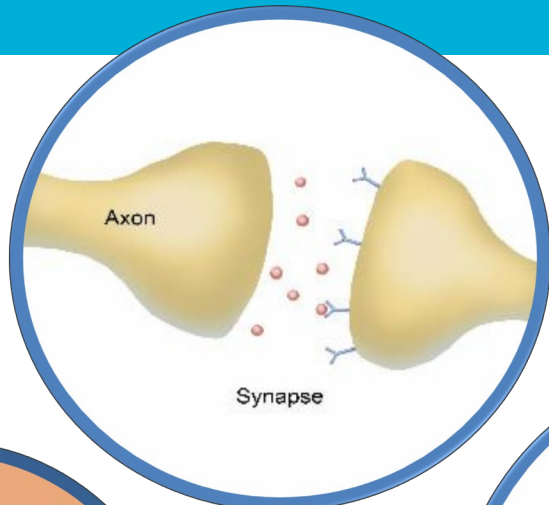
# Evaluation

## EVALUATION

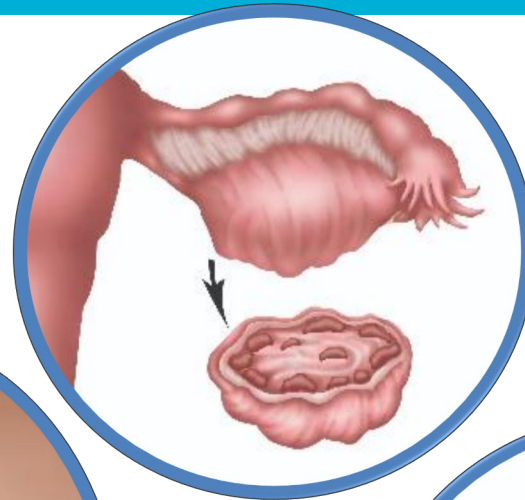
| Components of Comprehensive Evaluation  | Overweight     |                 | Obesity        |      |
|---|----------------|-----------------|----------------|------|
|   | <10y           | ≥10y            | <10y           | ≥10y |
| Comprehensive history, MBH screening, SDOH evaluation, physical examination, & diagnostic studies (KAS 2) | ✓              | ✓               | ✓              | ✓    |
| Blood pressure (KAS 8)  | ✓ <sup>a</sup> | ✓               | ✓ <sup>a</sup> | ✓    |
| Fasting lipid panel (KAS 3, 3.1, 5)   |                | ✓               | ⚖️             | ✓    |
| FPG, OGTT, or HgbA1C (KAS 3, 3.1, 6) & ALT (KAS 3, 3.1, 7)  |                | ⚖️ <sup>b</sup> |                | ✓    |



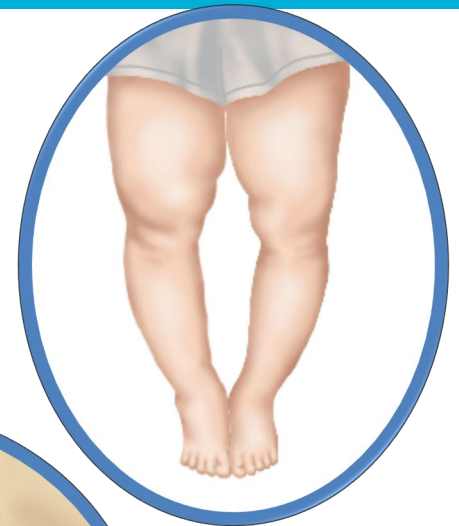
# Comorbidities Addressed Include



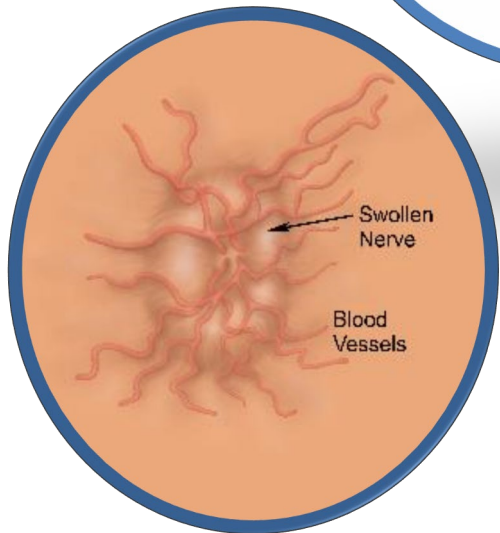
Depression



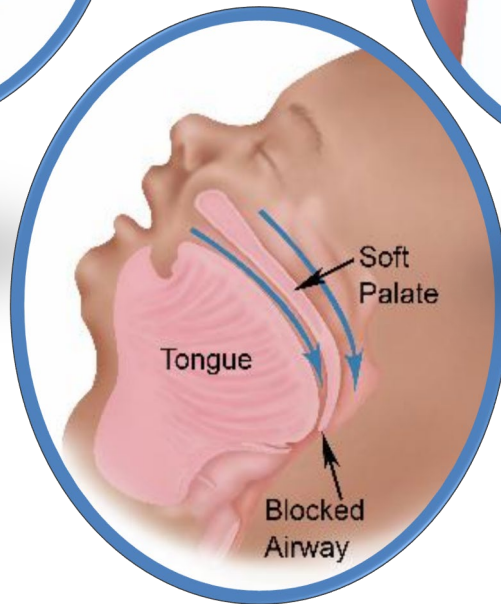
PCOS



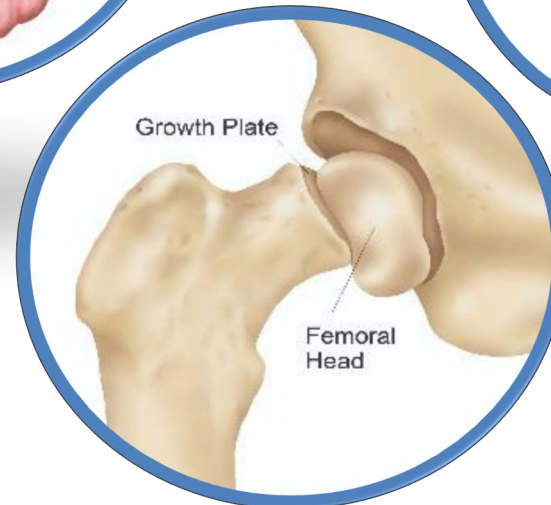
Blount disease



Idiopathic Intracranial Hypertension



Obstructive Sleep Apnea



SCFE



# Comorbidities

“There is compelling evidence that obesity increases the risk for comorbidities, and that weight loss interventions can improve comorbidities. - CPG ”



# Concurrent Treatment

KAS: Pediatricians and other PHCPs should treat children and adolescents for overweight (BMI  $\geq$ 85th percentile to  $<$ 95th percentile) or obesity (BMI  $\geq$ 95th percentile) and comorbidities concurrently.



# CPG

Evaluation & Treatment  
of Pediatric Obesity

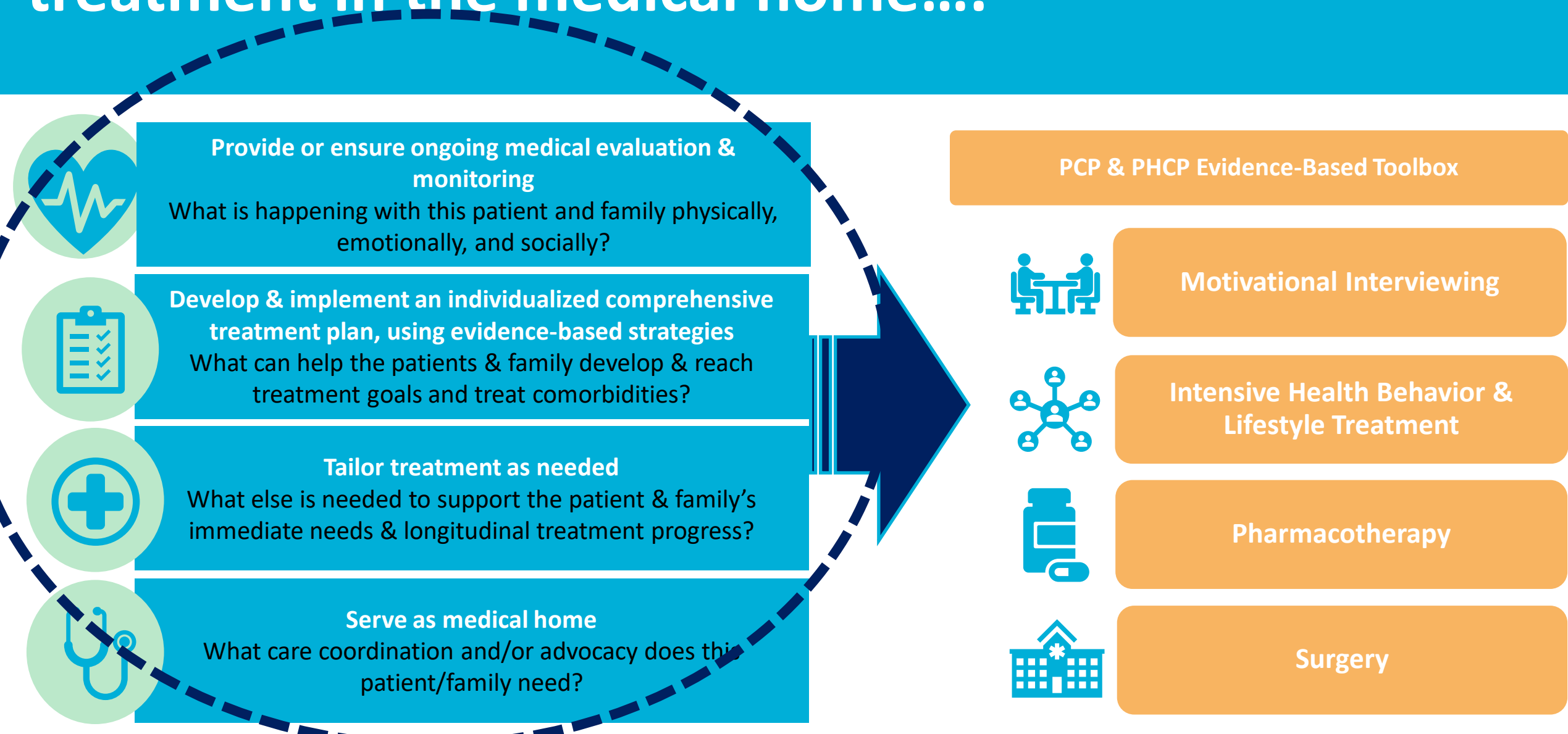
## Treatment

## Recommendations

# Comprehensive Obesity Treatment

KAS: Pediatricians and other PHCPs should treat overweight (BMI  $\geq$ 85th percentile to <95th percentile) and obesity (BMI  $\geq$ 95th percentile) in children and adolescents, following the principles of the medical home and the chronic care model, using a family-centered and nonstigmatizing approach that acknowledges **obesity's biologic, social, and structural drivers.**

# Provide the most intensive longitudinal treatment in the medical home....



# Motivational Interviewing

KAS: Pediatricians and other PHCPs should use motivational interviewing (MI) to engage patients and families in treating overweight (BMI  $\geq$ 85th percentile to <95th percentile) and obesity (BMI  $\geq$ 95th percentile).

# Motivational Interviewing Process



*Motivational Interviewing: Use MI to engage patients and families in treating overweight and obesity.*

MI is a tool used aimed at encouraging nutrition and physical activity behavior change. MI can be effective even in low-intensity settings. The table below summarizes ways to use MI processes to evaluate and respond to patient *readiness to change*.

| MI Process | Goal  | Possible MI Tool  |
|------------|---|---|
| Engaging   | Establishing collaborative role, understanding patient issues             | Open-ended questions, affirmations, nonjudgmental graphics, empathic reflections  |
| Focusing   | Identifying appropriate and productive strategies to change weight status | Readiness ruler, elicit-provide-elicite, healthy habits survey, identifying and responding to change talk and sustain talk            |
| Evoking    | Triggering internal motivation, empowering change                         | Values statement, double-sided and amplified reflections  |
| Planning   | Carrying out effective change plan, dealing with relapse                  | Readiness ruler, action reflections, summarization, teach back, SMART goals (specific, measurable, achievable, realistic, and timely) |

Source: Obesity treatment and approach in the primary care office, Institute for Healthy Childhood Weight, 2023

# Motivational Interviewing Resource

**Change Talk:** Interactive training program provided by the American Academy of Pediatrics to provide simulated patients to learn MI techniques to counsel families on childhood obesity.

Available at: <https://go.kognito.com/changetalk>

<https://kognito.com/solution/change-talk-childhood-obesity/>



Snapshot of the Virtual Role-Play Conversation



# Intensive Health Behavior and Lifestyle Treatment

KAS: Pediatricians and other PHCPs should provide or refer children 6 y and older (Grade B) and may provide or refer children 2 through 5 y of age (Grade C) with overweight (BMI  $\geq$ 85th percentile to  $<$ 95th percentile) and obesity (BMI  $\geq$ 95th percentile) to intensive health behavior and lifestyle treatment. Health behavior and lifestyle treatment is more effective with greater contact hours; the most effective treatment includes 26 or more hours of face-to-face, family-based, multicomponent treatment over a 3- to 12-mo period

# More about IHBLT

## WHEN

- Upon diagnosis



## WHAT

- Health education
- Skill building
- Behavior modification & counseling



## FORMAT

- Group
- Individual, or
- Both



## WHO:

- Patient & family
- Multidisciplinary treatment team



## WHERE

- Healthcare setting
- Community –based setting with linkage to medical home



## DOSAGE

- Longitudinal (3-12 months long)
- At least 26 contact hours







## CHANNEL

- Face-to-face or
- Virtual

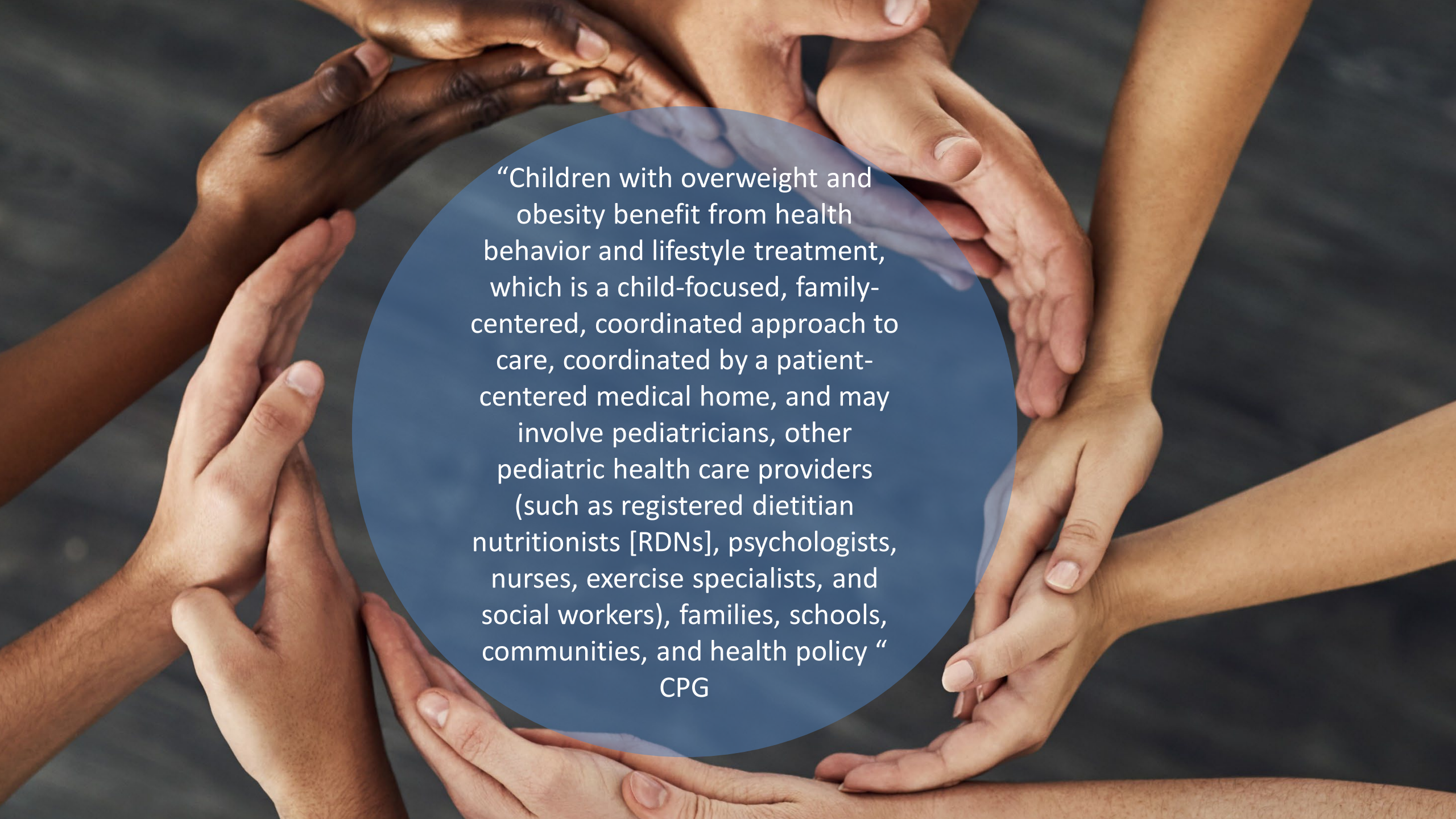


# Strategies to intensify care

| Strategies to Intensify Care<br>(when no pediatric weight management specialty program or IHBLT is available)  |   |   |  |
|--|---|---|--|
| <b>Frequency &amp; Dosage#</b> <ul style="list-style-type: none"><li>• Increase number of touchpoints</li><li>• Decrease time between contacts</li></ul> |  <b>Community-clinic Connections#</b> <p>Partner with community or other healthcare entities to adopt evidence-based IHBLT programs, or connect patients with existing community resources</p>  | <b>Multiple Formats +</b> <p>Explore:</p> <ul style="list-style-type: none"><li>• Group visits</li><li>• Telehealth</li><li>• Virtual touchpoints</li></ul>  | <b>Multi-disciplinary Approach#</b> <p>Integrate additional providers (Dietitian, Physical Therapist, Health Educator, Behavioral Health Specialist, etc.)</p>  |

## Evidence-based Behavioral Strategies to Explore with MI & IHBLT

- Reduction in sugar-sweetened beverages
- Nutrition education and counseling
- 60 minutes of moderate to vigorous physical activity daily
- Reduction in sedentary time
- Age-appropriate amount of sleep



“Children with overweight and obesity benefit from health behavior and lifestyle treatment, which is a child-focused, family-centered, coordinated approach to care, coordinated by a patient-centered medical home, and may involve pediatricians, other pediatric health care providers (such as registered dietitian nutritionists [RDNs], psychologists, nurses, exercise specialists, and social workers), families, schools, communities, and health policy “

CPG

# Pharmacotherapy

KAS: Pediatricians and other PHCPs should offer adolescents 12 years and older with obesity (BMI  $\geq$ 95th percentile) weight loss pharmacotherapy, according to medication indications, risks, and benefits, as an adjunct to health behavior and lifestyle treatment.

***"No current evidence supports weight loss medication use as a monotherapy; thus, pediatricians and other PHCPs who prescribe weight loss medication to children should provide or refer to intensive behavioral interventions for patients and families as an adjunct to medication therapy."***

**- CPG**

# Medications

Pediatricians and other PHCPs who prescribe weight loss medications should have knowledge of:

- the patient selection criteria,
- medication efficacy,
- adverse effects, and
- follow-up monitoring guidelines
- injectable medications may require additional teaching for families that is not available in all primary care offices

**Weight Loss Medication Use & Mechanism<sup>#</sup>**

PHCPs who prescribe weight loss medications should have knowledge of the patient selection criteria, medication efficacy, adverse effects, and follow-up monitoring guidelines. Injectables may require additional teaching. PHCPs may choose to refer to pediatric obesity experts or treatment centers for prescribing weight loss medication. There is no evidence to support the use of weight loss medications alone. Medication should be used in conjunction with IHBLT.

| Drug                               | Function/Background  | Age Approved   | Dosage/Type   | Impact  | Side Effects   |
|------------------------------------|--|--|---|---|--|
| <b>Metformin</b>                   | <ul style="list-style-type: none"> <li>• Originally to treat T2DM</li> <li>• Mechanism is to improve insulin sensitivity by increasing peripheral tissue uptake of glucose and by inhibiting hepatic glycogenesis</li> </ul> | <ul style="list-style-type: none"> <li>• 10 and older</li> <li>• Some safety info down to age 8</li> </ul>   | <ul style="list-style-type: none"> <li>• Recommended starting dose is 500 mg 1 or 2x daily</li> <li>• Gradual increase up to 2500mg</li> <li>• Extended release recommended for fewer side effects</li> </ul> | <ul style="list-style-type: none"> <li>• 2/3 of studies show BMI reduction</li> <li>• 1/3 of studies show no benefit</li> <li>• Successful BMI reduction is more common in older children and adolescents</li> </ul>                                | <ul style="list-style-type: none"> <li>• Lactic acidosis is a rare but serious side effect</li> <li>• Side effects are dose dependent and include bloating, nausea, flatulence, &amp; diarrhea</li> </ul>          |
| <b>Orlistat</b>                    | <ul style="list-style-type: none"> <li>• Intestinal lipase inhibitor that blocks fat absorption through inhibition of pancreatic and gastric lipase</li> </ul>   | <ul style="list-style-type: none"> <li>• Age 12 and older</li> </ul>   | <ul style="list-style-type: none"> <li>• 120 mg 3X per day</li> </ul>   | <ul style="list-style-type: none"> <li>• 2-3% BMI reduction</li> </ul>  | <ul style="list-style-type: none"> <li>• Steatorrhea</li> <li>• Fecal urgency</li> <li>• Flatulence</li> </ul>   |
| <b>Liraglutide &amp; exenatide</b> | <ul style="list-style-type: none"> <li>• Glucagon-like peptide-1 (GLP-1) receptor agonists</li> <li>• Decrease hunger by slowing gastric emptying as well as through targets in CNS</li> </ul>                               | <ul style="list-style-type: none"> <li>• Age 12 and older</li> </ul>   | <ul style="list-style-type: none"> <li>• Starting dose is 0.6 mg/day up to a maximum dose of 3.0 mg/day</li> </ul>  | <ul style="list-style-type: none"> <li>• About 1/2 of patients will achieve a 5% BMI reduction</li> <li>• About 20% will achieve a 10% BMI reduction</li> </ul>   | <ul style="list-style-type: none"> <li>• Nausea</li> <li>• Vomiting</li> <li>• Increased risk of medullary thyroid cancer among patients with family history of multiple endocrine neoplasia</li> </ul>            |
| <b>Phentermine</b>                 | <ul style="list-style-type: none"> <li>• A central norepinephrine inhibitor</li> <li>• Nonselectively inhibits serotonin and dopamine</li> <li>• Suppresses appetite</li> </ul>  | <ul style="list-style-type: none"> <li>• 16 and older</li> <li>• Short term use only (3 months)</li> </ul>   | <ul style="list-style-type: none"> <li>• 7.5 mg, 15 mg, 30 mg or 37.5 mg</li> </ul>   | <ul style="list-style-type: none"> <li>• Effectiveness does not always increase with increased dosage</li> </ul>  | <ul style="list-style-type: none"> <li>• Side effects are dose dependent</li> <li>• Elevated BP</li> <li>• Dizziness</li> <li>• Headache</li> <li>• Tremor</li> <li>• Dry mouth</li> <li>• Stomach ache</li> </ul> |
| <b>Lisdexamphetamine</b>           | <ul style="list-style-type: none"> <li>• Stimulant</li> <li>• Approved for ADHD</li> </ul>   | <ul style="list-style-type: none"> <li>• 6 and older with ADHD</li> </ul>  | <ul style="list-style-type: none"> <li>• Dose increments of 10mg, no clear effective dose for BMI reduction</li> </ul>  | <ul style="list-style-type: none"> <li>• Limited evidence of effectiveness</li> </ul>   | <ul style="list-style-type: none"> <li>• Elevated blood pressure</li> <li>• Insomnia</li> <li>• Irritability</li> </ul>  |
| <b>Topiramate</b>                  | <ul style="list-style-type: none"> <li>• Carbonic anhydrase inhibitor</li> <li>• Suppresses appetite</li> </ul>  | <ul style="list-style-type: none"> <li>• 2 and older for epilepsy</li> <li>• 12 and older for headache</li> </ul>  | <ul style="list-style-type: none"> <li>• Start 25mg qam/50mg qhs</li> <li>• Max dose 100mg/day</li> </ul>   | <ul style="list-style-type: none"> <li>• Limited evidence of effectiveness</li> </ul>   | <ul style="list-style-type: none"> <li>• Cognitive slowing</li> </ul>  |
| <b>Setmelanotide</b>               | <ul style="list-style-type: none"> <li>• Recently approved for obesity caused by mutations in the MC4R pathway &amp; leptin deficiency or leptin receptor deficiency</li> </ul>  | <ul style="list-style-type: none"> <li>• &gt;= 6 years of age with POMC deficiency, PSK1 deficiency, LEPR deficiency confirmed by genetic testing</li> </ul>   | <ul style="list-style-type: none"> <li>• 1-3 mg/day given subcutaneously</li> </ul>   | <ul style="list-style-type: none"> <li>• Weight loss of 12-25%</li> </ul>   | <ul style="list-style-type: none"> <li>• Injection site reaction</li> <li>• Nausea</li> </ul>  |
| <b>Phentermine and Topiramate</b>  | <ul style="list-style-type: none"> <li>• See above for mechanisms of action</li> </ul>   | <ul style="list-style-type: none"> <li>• Combination medication is approved for weight loss in adults.</li> <li>• Recent data support BMI reduction in adolescents 12-17 years of age with documented history of failure to lose sufficient weight or maintain weight loss in a lifestyle modification program. (mean age = 14 years; mean BMI=37.8 kg/m<sup>2</sup>)</li> </ul> | <ul style="list-style-type: none"> <li>• Starting dose; 3.75mg/23mg</li> <li>• Mid-dose; 7.5mg/46mg</li> <li>• High dose; 15 mg/92mg</li> </ul>   | <ul style="list-style-type: none"> <li>• BMI percent change at 56 weeks was -10.44 (high dose; 15mg/92mg) and -8.11 (mid-dose; 7.5 mg/46 mg) as compared with placebo</li> <li>• Treatment also improved HDL and TG cholesterol profiles</li> </ul> | <ul style="list-style-type: none"> <li>• Adverse event reports in the high- to mid-dose range were no more common than placebo.</li> </ul>   |

Obesity Treatment & Approach Page 3

Source: Obesity treatment and approach in the primary care office, Institute for Healthy Childhood Weight, 2023

# Metabolic and Bariatric Surgery

KAS: Pediatricians and other PHCPs should offer referral for adolescents 13 years and older with severe obesity (BMI  $\geq$ 120% of the 95th percentile for age and sex) for evaluation for metabolic and bariatric surgery to local or regional comprehensive multidisciplinary pediatric metabolic and bariatric surgery centers.



# Criteria for Pediatric Metabolic & Bariatric Surgery

**TABLE 20**

Criteria for Pediatric Metabolic and Bariatric Surgery<sup>733</sup>

| Weight Criteria   | Criteria for Comorbid Conditions   |
|---|--|
| Class 2 obesity, BMI $\geq 35$ kg/m <sup>2</sup> or 120% of the 95th percentile for age and sex, whichever is lower | Clinically significant disease; examples include but are not limited to T2DM, IIH, NASH, Blount disease, SCFE, GERD, obstructive sleep apnea (AHI >5), cardiovascular disease risks (HTN, hyperlipidemia, insulin resistance), depressed health-related quality of life. |
| Class 3 obesity, BMI $\geq 40$ kg/m <sup>2</sup> or 140% of the 95th percentile for age and sex, whichever is lower | Not required but commonly present.   |

AHI, apnea-hypopnea index.

# Treatment Take-Aways: “As soon as possible, as intensive as available”

## PCP & PHCP Evidence-Based Toolbox



Motivational Interviewing



Intensive Health Behavior & Lifestyle Treatment



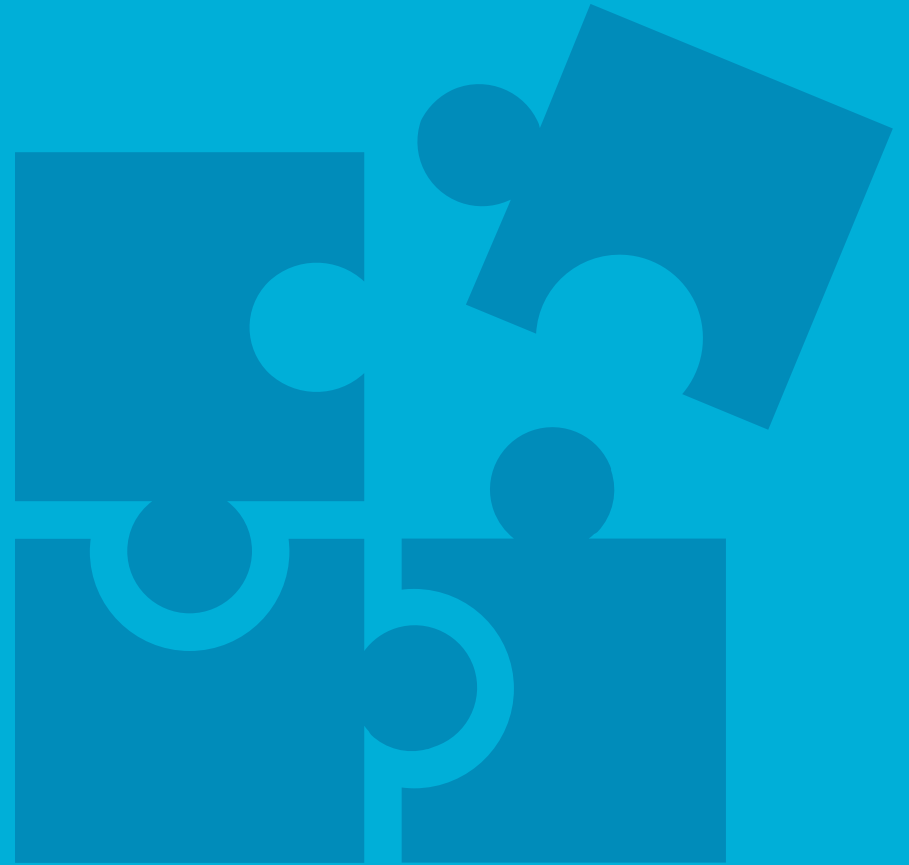
Pharmacotherapy



Surgery



Putting it all  
together



Longitudinal comprehensive patient-centered obesity treatment coordinated in the medical home

Adjunct tools to leverage where appropriate and in conjunction with foundational elements

Pharmacotherapy

Surgery



Provision or referral to intensive Health Behavior and Lifestyle (HB&L) treatment ( $\geq 26$  contact hours over 2-12 months)

Use of MI for shared decision making & ongoing behavioral counseling

Ongoing assessment of individual, social and contextual risk factors and evaluation for comorbidities & comorbidity treatment

Layer in multidisciplinary care & community resources as available and tailored to patient/family strengths and needs.



Medical Home

Foundational  
(Concurrent Core Elements)



*“Because obesity is a chronic disease with escalating effects over time, a life course approach to identification and treatment should begin as early as possible and continue longitudinally through childhood, adolescence, and young adulthood, with transition into adult care. – CPG”*

# Challenges

## Implementation barriers

- Healthcare infrastructure and capacity limitations, especially facing primary care pediatricians
- Coverage
- Burden on family to participate in IHBLT
- Skill set of providers who use medications



# CPG

Evaluation & Treatment  
of Pediatric Obesity

# Implementation Supports

# AAP Resources & Website

[www.aap.org/obesitycpg](http://www.aap.org/obesitycpg)



This collage features several key resources from the AAP obesity CPG:

- Algorithm for Screening, Diagnosis, Evaluation, and Treatment of Pediatric Overweight and Obesity:** A complex flowchart detailing the clinical pathway from initial assessment to treatment.
- Obesity Assessment and Evaluation (Final Script):** A document created by the Institute of Medicine (IOM) and AAP, detailing the assessment process.
- Obesity Comorbidities:** A section highlighting conditions such as Metabolic Syndrome, Depression, Anxiety, Low Self-Esteem, Obstructive Sleep Apnea (OSA), Cardiovascular Disease, Asthma, Type 2 Diabetes (T2DM), Dyslipidemia, and Polycystic Ovary Syndrome (PCOS).
- Non-alcoholic Fatty Liver Disease (NAFLD):** A section detailing risk factors and diagnosis, including male sex, age >10 years, family history, and other metabolic conditions.
- Severe Disease/Progression:** A section detailing adolescent criteria for severe disease, such as BMI ≥ 34.9, higher/lower alanine aminotransferase, and elevated baseline aspartate.
- Obesity Treatment:** A page with a video of a healthcare professional and a section on "Comprehensive Obesity Treatment" which emphasizes a "patient-centered, holistic and longitudinal" approach.

The image displays the AAP website for the obesity CPG across three devices:

- Tablet:** Shows the top navigation bar with the AAP logo, a search bar, and links for Professional Education, Clinical Supports, Policy Opportunities Tool, Parent and Patient Resources, Results, and Featured Resources. The main heading reads "Clinical Practice Guideline for the Evaluation and Treatment of Pediatric Obesity".
- Laptop:** Shows the same website layout, highlighting the "CPG" logo and a call to action: "Visit this page to access the Clinical Practice Guideline on Evaluation and Treatment of Obesity when it is published as well as the related resources to support training, dissemination, and implementation."
- Smartphone:** Shows the mobile-optimized version of the website, with the title "Clinical Practice Guideline for the Evaluation and Treatment of Pediatric Obesity" and social media icons.



# Types of AAP Implementation



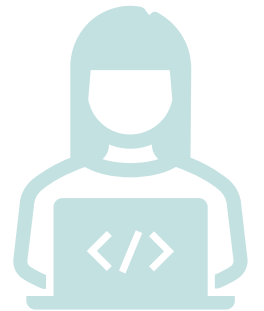
**Self-Paced CME  
Modules**



**Quality  
Improvement  
Opportunities**



**Clinical Decision  
Support Tools**



**Coding  
Reference  
Card**



**FHIR Resource**

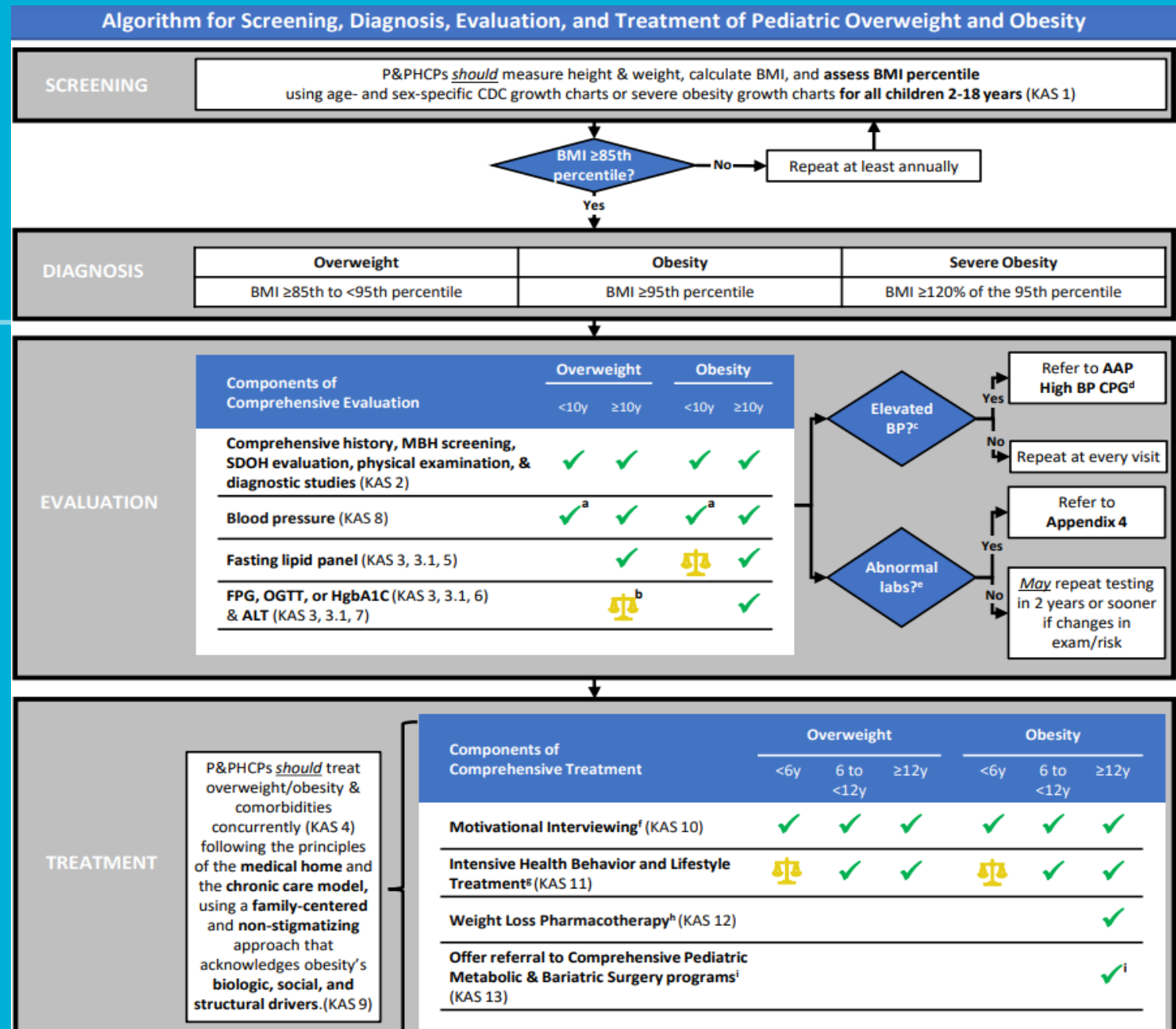


**Multimedia  
Assets**



**Family  
Resources**

# CPG Algorithm



# Clinical Flow: Assessment and Evaluation

Consistent with the 2023 AAP Clinical Practice Guideline for the Evaluation and Treatment of Children and Adolescents with Overweight & Obesity.

**Screen for Overweight/Obesity**  
Accurately weigh, measure and chart BMI\* trajectory based on age and sex. If obesity, also determine severity.  
\*Consider possible diagnostic limitations.

**BMI ≥85th Percentile (overweight & obesity)**  
Conduct obesity-specific evaluation

**Communicate Diagnosis to Patient**

- Ask permission to discuss BMI/weight
- Avoid labeling by using person-first language
- Use words that are perceived as neutral by parents, adolescents, and children (e.g., unhealthy weight, gaining too much weight for age/height/health)

## Obtain Comprehensive Obesity-specific Patient History

Assess individual, structural, and contextual risk and protective factors related to healthy behavior and healthy weight, including: medical history (chief complaint/history of present illness, review of systems, medication history, family history), social determinants of health, individual/family lifestyle behavior history, and mental and behavioral health.

| Review of Systems - Relevant Findings       |   | History Components & Possible Tools   |  |            |       |                                      |  |   |  |  |                                       |   |  |
|---|---|---|--|------------|-------|--------------------------------------|--|---|--|--|---------------------------------------|---|--|
| System                                      | Symptoms of Obesity-related Conditions  | Chief Complaint/History of Present Illness: To determine if obesity is of concern and understand its trajectory   |  |            |       |                                      |  |   |  |  |                                       |   |  |
| <b>General</b>                              | Poor/slowed linear growth velocity, hyperphagia from early childhood, developmental delay, obesity onset <age 5 years or syndromic features   | <b>Family History (Obtain all for 1st &amp; 2nd degree relatives):</b> Obesity, type 2 diabetes, cardiovascular disease, hyperlipidemia, hypertension, NAFLD  |  |            |       |                                      |  |   |  |  |                                       |   |  |
| <b>Respiratory</b>                          | Shortness of breath, snoring, apnea, disordered sleep   | <b>Medication History:</b> Evaluate for obesogenic medications and possible alternatives  |  |            |       |                                      |  |   |  |  |                                       |   |  |
| <b>Gastrointestinal</b>                     | Asymptomatic vague abdominal pain, heartburn, dysphagia, chest pain, regurgitation, abdominal pain, enuresis, encopresis, anorexia, right upper quadrant pain; hyperphagia  | <table border="1"> <thead> <tr> <th>Components</th> <th>Tools</th> </tr> </thead> <tbody> <tr> <td><b>Social Determinants of Health</b></td> <td> <ul style="list-style-type: none"> <li>• Food security, economic security, &amp; other social determinants of health (e.g., ACES)</li> <li>• Safe Environment for Every Kid (SEEK)</li> <li>• Accountable Health Communities (AHC)</li> <li>• Health-Related Social Needs (HRSN) Screening Tool</li> </ul> </td> </tr> <tr> <td><b>Individual/Family Lifestyle Behavior</b></td> <td> <ul style="list-style-type: none"> <li>• Nutrition: eating out, sugar-sweetened beverages, portions, snack habits</li> <li>• Physical activity: motivation/knowledge/competence to engage in physical activity</li> <li>• Recreational screen time</li> <li>• Sleep</li> </ul> </td> <td> <ul style="list-style-type: none"> <li>• Overall: MaineHealth Let's Go! 5-2-1-0-Healthy-Habits-Questionnaires</li> <li>• Nutrition: Written, electronic, or phone/text-prompted food diaries, 24-hour recall, smartphone tracking applications</li> <li>• Physical Activity: Pedometers or other wearable activity monitors</li> </ul> </td> </tr> <tr> <td><b>Mental &amp; Behavioral Health</b></td> <td> <ul style="list-style-type: none"> <li>• Depression: Monitor for symptoms; if ≥12 years old evaluate annually using a formal self-report tool</li> <li>• Other mental health: bullying, anxiety, abuse, ADHD</li> <li>• Disordered eating: skipping meals, using diet pills/laxatives, inducing vomiting, restricting intake, binge-eating, etc.</li> </ul> </td> <td> <ul style="list-style-type: none"> <li>• Overall: Pediatric Symptom Checklist</li> <li>• Depression: Patient Health Questionnaire (PHQ 2 or 9)</li> <li>• Anxiety: General Anxiety Disorder (GAD-7) or Screen for Child Anxiety Related Disorders (SCARED) assessments</li> <li>• ADHD: Vanderbilt ADHD Rating Scales (VADRS)</li> <li>• Disordered eating: Table 2, AAP Clinical report, "Identification and Management of Eating Disorders in Children and Adolescents"</li> </ul> </td> </tr> </tbody> </table> |  | Components | Tools | <b>Social Determinants of Health</b> | <ul style="list-style-type: none"> <li>• Food security, economic security, &amp; other social determinants of health (e.g., ACES)</li> <li>• Safe Environment for Every Kid (SEEK)</li> <li>• Accountable Health Communities (AHC)</li> <li>• Health-Related Social Needs (HRSN) Screening Tool</li> </ul> | <b>Individual/Family Lifestyle Behavior</b> | <ul style="list-style-type: none"> <li>• Nutrition: eating out, sugar-sweetened beverages, portions, snack habits</li> <li>• Physical activity: motivation/knowledge/competence to engage in physical activity</li> <li>• Recreational screen time</li> <li>• Sleep</li> </ul> | <ul style="list-style-type: none"> <li>• Overall: MaineHealth Let's Go! 5-2-1-0-Healthy-Habits-Questionnaires</li> <li>• Nutrition: Written, electronic, or phone/text-prompted food diaries, 24-hour recall, smartphone tracking applications</li> <li>• Physical Activity: Pedometers or other wearable activity monitors</li> </ul> | <b>Mental &amp; Behavioral Health</b> | <ul style="list-style-type: none"> <li>• Depression: Monitor for symptoms; if ≥12 years old evaluate annually using a formal self-report tool</li> <li>• Other mental health: bullying, anxiety, abuse, ADHD</li> <li>• Disordered eating: skipping meals, using diet pills/laxatives, inducing vomiting, restricting intake, binge-eating, etc.</li> </ul> | <ul style="list-style-type: none"> <li>• Overall: Pediatric Symptom Checklist</li> <li>• Depression: Patient Health Questionnaire (PHQ 2 or 9)</li> <li>• Anxiety: General Anxiety Disorder (GAD-7) or Screen for Child Anxiety Related Disorders (SCARED) assessments</li> <li>• ADHD: Vanderbilt ADHD Rating Scales (VADRS)</li> <li>• Disordered eating: Table 2, AAP Clinical report, "Identification and Management of Eating Disorders in Children and Adolescents"</li> </ul> |
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| <b>Endocrine</b>                            | Polyuria, polydipsia  |   |  |            |       |                                      |  |   |  |  |                                       |   |  |
| <b>GYN</b>                                  | Oligomenorrhea, dysfunctional uterine bleeding  |   |  |            |       |                                      |  |   |  |  |                                       |   |  |
| <b>Orthopedic</b>                           | Hip, thigh or groin pain, painful or uneven gait, knee pain, foot pain, back pain, proximal muscle wasting  |   |  |            |       |                                      |  |   |  |  |                                       |   |  |
| <b>Mental health</b>                        | Sadness, depression, anhedonia, body dissatisfaction, school avoidance, poor self-image, impulse eating, distractibility, hyperactivity, purging, restricting intake, binge-eating, night eating, flat affect   |   |  |            |       |                                      |  |   |  |  |                                       |   |  |
| <b>Urinary</b>                              | Nocturia, enuresis  |   |  |            |       |                                      |  |   |  |  |                                       |   |  |
| <b>Dermatologic</b>                         | Rash, darkened skin on flexural surfaces, pustules, abscesses, hirsutism in females, flesh-colored striae, purplish striae, skin fold irritation  |   |  |            |       |                                      |  |   |  |  |                                       |   |  |
| <b>Neurologic</b>                           | AM headache, daytime sleepiness, persistent headache  |   |  |            |       |                                      |  |   |  |  |                                       |   |  |

## Conduct a Focused Physical Exam & Obtain Labs

| Relevant Physical Exam Findings   |  | Recommended Labs |         |
|---|--|------------------|---------|
|   |  | Overweight       | Obesity |
|   |  | <10y             | ≥10y    |
| <b>Vital signs</b>  | <b>Anthropometric</b>  |                  |         |
| <ul style="list-style-type: none"> <li>• Hypertension</li> <li>• Increased heart rate</li> </ul>                          | <ul style="list-style-type: none"> <li>• Changes in height velocity</li> <li>• Changes in weight gain</li> </ul> |                  |         |
| <b>Gastrointestinal</b>   | <b>Genitourinary</b>   |                  |         |
| <ul style="list-style-type: none"> <li>• Hepatomegaly</li> </ul>  | <ul style="list-style-type: none"> <li>• Buried penis</li> </ul>   |                  |         |
| <b>HEENT</b>  | <b>Chest</b>   |                  |         |
| <ul style="list-style-type: none"> <li>• Papilledema</li> <li>• Dental caries</li> <li>• Tonsillar hypertrophy</li> </ul> | <ul style="list-style-type: none"> <li>• Gynecomastia</li> <li>• Cervicodorsal hump</li> </ul>                   |                  |         |
| <b>Musculoskeletal</b>  | <b>Skin</b>  |                  |         |
| <ul style="list-style-type: none"> <li>• Gait</li> <li>• Lordosis</li> </ul>  | <ul style="list-style-type: none"> <li>• Acanthosis</li> <li>• Hirsutism/acne</li> </ul>                         |                  |         |

### Talking Points: Engaging Family in Diagnostics & Treatment

- There is nobody more important to the health of your child than you; I want to partner with you to help (patient name) work towards improved health
- I am concerned that (patient's name) weight might be having an impact on their physical body and their emotional well-being.

**Common Obesity-related Comorbidities**

| Blount Disease                              | Risk Factors: Family history of Blount Disease  |
|---|---|
|   | Disparities in Prevalence: non-Hispanic   |
|   | Presentation: Leg or knee pain, abnormal and procurvatum  |
|   | Diagnostic work-up: Obtain plain film and investigate of the deformity.   |
| Depression                                  | Risk Factors: Personal or family history of mental health conditions.   |
|   | Presentation: Irritability, fatigue, depression, anhedonia, body dissatisfaction  |
|   | Diagnostic work-up: Screen for depression should also include school and peer settings and safety assessment                                |
| Dyslipidemia                                | Risk Factors: Cigarette use, 1st & 2nd degree relative (≤55 years)  |
|   | Presentation: Nothing specific  |
|   | Diagnostic work-up: Obtain lipids   |
| Hypertension (HTN)                          | Risk Factors: ACES, sodium intake   |
|   | Disparities in Prevalence: Higher in non-Hispanic   |
|   | Presentation: Nothing specific  |
|   | Diagnostic work-up: Obtain blood pressure   |
| Idiopathic Intracranial Hypertension (IIH)* | Risk Factors: Female sex, e.g., systemic lupus erythematosus  |
|   | Presentation: Periorbital edema, if new-onset headache  |
|   | Diagnostic work-up: Obtain MRI  |
| Nonalcoholic Fatty Liver Disease (NAFLD)    | Risk Factors (Diet, Physical Activity, Genetics)  |
|   | Disparities in Prevalence: Higher in non-Hispanic   |
|   | Presentation: Nothing specific  |
|   | Diagnostic work-up: Obtain liver enzymes  |
| Obstructive Sleep Apnea (OSA)               | Risk Factors: Tonsillar hypertrophy, enlarged adenoids  |
|   | Presentation: Frequent snoring, daytime sleepiness, inattention and/or learning problems, morning headache, enlarged palate and elevated BP |
|   | Diagnostic work-up: For patients with obesity and ≥1 symptom of disordered breathing, obtain polysomnography                                |



# Clinical Flow: Assessment and Evaluation Screening, Diagnosis, and Evaluation (How – Part 1)



# Clinical Flow: Treatment and Approach in Primary Care Office Treatment (How – Part 2)

- Suggested treatment approaches
- Strategies to intensify treatment
- Pediatrician's' toolbox of treatment options
- Medication considerations
- Support on interpreting lab results

### Interpretation of Test Results<sup>d</sup>

| NHBLI Criteria for Lipid Testing Results <sup>a</sup> |             |                    |                         |              |
|---|-------------|--------------------|-------------------------|--------------|
| Lipid Category  | Low (mg/dL) | Acceptable (mg/dL) | Borderline High (mg/dL) | High (mg/dL) |
|   |             |                    |                         | ≥200         |
|   |             |                    |                         | ≥130         |
|   |             |                    |                         | -            |
|   |             |                    |                         | ≥100         |
|   |             |                    |                         | ≥130         |
|   |             |                    |                         | ≥145         |

#### Weight Loss Medication Use & Mechanism<sup>a</sup>

PHCPs who prescribe weight loss medications should have knowledge of the patient selection criteria, medication efficacy, adverse effects, and follow-up monitoring guidelines. Injectables may require additional teaching. PHCPs may choose to refer to pediatric obesity experts or treatment centers for prescribing weight loss medication. There is no evidence to support the use of weight loss medications alone. Medication should be used in conjunction with IHBLT.

#### PHCP Evidence Based Toolbox<sup>b</sup>

##### Motivational Interviewing: Use MI to engage patients and families in treating overweight and obesity.

MI is a tool used aimed at encouraging nutrition and physical activity behavior change. MI can be effective even in low-intensity settings. The table below summarizes ways to use MI processes to evaluate and respond to patient readiness to change.

#### Obesity Treatment & Approach in the Primary Care Office

Consistent with the 2023 AAP Clinical Practice Guideline for the Evaluation and Treatment of Children and Adolescents with Overweight & Obesity (CPG) & associated algorithm. <sup>d</sup> Denotes content directly quoted or paraphrased from the CPG. <sup>a</sup> Denotes expert opinion.

**Obesity Treatment Principles<sup>a</sup>**

- Evidence based obesity treatment is effective and does not cause harm.
- Treat patients with overweight and obesity promptly, using the most intensive comprehensive obesity treatment available.
- Treat obesity concurrently with any comorbidities.
- Use a non-stigmatizing approach to treatment and shared decision making, following principles of the medical home and chronic care model.
- Evidence-based treatment strategies include: motivational interviewing (MI), intensive health behavior and lifestyle treatment (IHBLT), pharmacotherapy and surgery. (See additional information on Page 2.)

**Key Aspects of Comprehensive Obesity Treatment<sup>a</sup>**

Obesity is a complex chronic disease that requires a holistic patient-centered approach. Ensure that these elements are happening for your patient either within your office or via referrals you coordinate.

**Provide or ensure ongoing medical evaluation & monitoring**

- What is happening with this patient and family physically, emotionally, and socially?

**Develop & implement an individualized comprehensive treatment plan, using evidence-based strategies (Refer to Page 2).**

- What can help the patient & family develop & reach treatment goals and treat comorbidities?

**Tailor treatment as needed (See below & page 2).**

- What else is needed to support the patient & family's immediate needs & longitudinal treatment progress?

**Serve as medical home**

- What care coordination and/or advocacy does this patient/family need?

**Role of the Pediatric Healthcare Provider (PHCP) +**

The PHCP plays a critical role in supporting all patients and families in comprehensive obesity treatment and ensuring ongoing continuity of care, regardless of treatment scenario.

| Treatment Scenarios   | Role of PHCP                            |  |                       |
|---|---|--|-----------------------|
|   | Provide Medical Evaluation & Monitoring | Deliver, Support & Refine Obesity Treatment Plan | Serve as Medical Home |
| Patient provided with most intensive obesity treatment possible within primary care | ✓*                                      | ✓*   | ✓                     |
| Patient referred to community or healthcare partner for IHBLT                       | ✓                                       | ✓  | ✓                     |
| Patient referred to pediatric weight management specialty program                   |   |  | ✓                     |

\* Consider seeing patient again at the midpoint and conclusion of the IHBLT program or a minimum of every 3 months unless taking weight loss medication or has comorbid condition that requires more frequent visits  
\* Ideally see at least monthly. Increase as needed or desired by patient or if more intensive medical monitoring is required.

**Suggested Approach to Treatment in Your PCP Office +**

Below are example treatment visit structures that align with CPG recommendations. Note: they are not the only ways to implement CPG recommendations.

| Initial Overweight & Obesity Treatment Visit  | Ongoing Overweight & Obesity Treatment Visit   |
|---|--|
| <p><b>Goals: Finish gathering important information, assess motivation &amp; develop tailored treatment plan</b></p> <ul style="list-style-type: none"> <li>• Cover any items missed in well visit and/or address concerns</li> <li>• Assess any changes in patient history or medical status</li> <li>• Review labs &amp; diagnostic test results</li> <li>• Discuss comorbid conditions, if relevant</li> <li>• Assess readiness and motivation</li> <li>• Collaboratively develop individualized treatment plan (using evidence-based tools: MI, IHBLT, pharmacotherapy, &amp; surgery)</li> <li>• Agree to meet again in a month &amp; connect to relevant community resources</li> </ul> <p><b>Operational Tips:</b></p> <ul style="list-style-type: none"> <li>• Plan for at least a 45-60 minute visit. Consider time-based billing codes: 99204-99205 (new patient) and 99215 (established patient).</li> <li>• Schedule within 1 month of well visit.</li> </ul> | <p><b>Goals: Support family in their treatment plan, continue medical monitoring &amp; refine treatment plan as needed</b></p> <ul style="list-style-type: none"> <li>• Monitor BMI</li> <li>• Assess any changes in patient history or medical status</li> <li>• Treat comorbid conditions</li> <li>• Use MI to support behavioral goals</li> <li>• Monitor progress with IHBLT</li> <li>• Monitor pharmacotherapy &amp; surgery if applicable</li> <li>• Refine treatment plan as needed</li> <li>• Coordinate care &amp; connect to relevant community resources</li> </ul> <p><b>Operational Tips:</b></p> <ul style="list-style-type: none"> <li>• Plan for at least a 20-25 minute visit at least monthly if providing IHBLT. Consider time-based billing codes: 99213-99215 (established patients).</li> <li>• If IHBLT is external, consider seeing every 3 months or at midway &amp; conclusion of program unless patient is on medication or has comorbid conditions.</li> </ul> |

Strategies to Intensify Care  
(when no pediatric weight management specialty program or IHBLT is available)

12/9/2022

# Evaluation and Treatment of Children and Adolescents with Overweight & Obesity: Coding Quick Reference Card



## Algorithm for Evaluation and Treatment of Children and Adolescents with Overweight & Obesity

**SCREENING** P&PHCPs should measure height & weight, calculate BMI, and assess BMI percentile using age- and sex-specific CDC growth charts or severe obesity growth charts for all children 2-18 years (KAS 1)



| DIAGNOSIS | Overweight                    | Obesity              | Severe Obesity                   |
|-----------|-------------------------------|----------------------|----------------------------------|
|           | BMI ≥85th to <95th percentile | BMI ≥95th percentile | BMI ≥120% of the 95th percentile |

| EVALUATION | Components of Comprehensive Evaluation   |      | Overweight |      | Obesity |      | Essential BP? | Abnormal Labs?  |
|------------|--|------|------------|------|---------|------|---------------|---|
|            | <10y   | ≥10y | <10y       | ≥10y | <10y    | ≥10y |               |   |
|            | Comprehensive history, MBIH screening, SDOH evaluation, physical examination, & diagnostic studies (KAS 2) | ✓    | ✓          | ✓    | ✓       | ✓    | Yes           | Refer to AAP High BP CPG  |
|            | Blood pressure (KAS 8)   | ✓    | ✓          | ✓    | ✓       | ✓    | No            | Repeat at every visit   |
|            | Fasting lipid panel (KAS 3, 3.1, 5)  | ✓    | ✓          | ✓    | ✓       | ✓    | Yes           | Refer to Appendix 4   |
|            | FPG, OGTT, or HgbA1C (KAS 3.3.1, 8) & ALT (KAS 5.3.1, 7)   | ✓    | ✓          | ✓    | ✓       | ✓    | No            | Add/repeat testing in 2 years or sooner if changes in exam/risk |

| TREATMENT | Components of Comprehensive Treatment   |      | Overweight |      | Obesity |      |
|-----------|---|------|------------|------|---------|------|
|           | <10y  | ≥10y | <10y       | ≥10y | <10y    | ≥10y |
|           | Motivational Interviewing (KAS 10)  | ✓    | ✓          | ✓    | ✓       | ✓    |
|           | Intensive Health Behavior and Lifestyle Treatment (KAS 11)                                | ✓    | ✓          | ✓    | ✓       | ✓    |
|           | Weight Loss Pharmacotherapy   | ✓    | ✓          | ✓    | ✓       | ✓    |
|           | Other referral to Comprehensive Pediatric Metabolic & Bariatric Surgery programs (KAS 13) | ✓    | ✓          | ✓    | ✓       | ✓    |

## Current Procedural Terminology

**Screening:** BMI Screening during routine well visit:  
 • 99381-99385 (initial, age appropriate);  
 • 99391-99395 (reevaluation, age appropriate)

**Diagnosis:** If a significant amount of time is spent on Overweight, Obesity, Severe Obesity or related comorbidities, the appropriate time-based code should also be reported with a separate diagnosis and modifier (refer to page 2, Diagnosis Codes & page 3, Outpatient Modifiers):

**Primary -** If primary, must be paired with E66 codes -  
 • E66.8 (obesity, other) • Z68.53 (85th %tile to <95th%ile for age)  
 • E66.01 (severe obesity) • Z68.54 (≥95th %ile for age)  
 • E66.3 (overweight)

**Evaluation:** Obesity specific visit incorporating the components of a comprehensive evaluation:  
 • Time-based interactions that occur outside of the standard well visit\*:  
 • New patients: 99203 (30-44 mins); 99204 (45-59 mins); 99205 (60-74 mins)  
 • Established patients: 99213 (20-29 mins); 99214 (30-39 mins); 99215 (40-54 mins)

\*For any time-based interactions, be sure to consider time spent charting, reviewing tests and labs, educating/counseling, care coordination, making referrals and/or ordering additional services, etc.  
 • Emotional/Behavioral Health Assessment: 96127 (adolescent depression and related screenings)  
 • SDOH Evaluation: 96160 (patient-focused); 96161 (caregiver-focused)  
 • Common Comorbidities & Abnormal Labs: Refer to page 2 (Diagnosis Codes)

**Treatment:** Ongoing, comprehensive obesity treatment specific visits:  
 • Most relevant diagnosis code to the visit, as determined previously (Refer to page 2, Diagnosis Codes)  
 • Time base interactions: 99212-99215 (established patients)\*; see above for associated times  
 \*For any time-based interactions be sure to consider time spent charting, reviewing tests and labs, educating/counseling, care coordination, making referrals and/or ordering additional services, etc.

### Current Procedural Terminology

**Screening:** BMI Screening during routine well visit:  
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 \*For any time-based interactions be sure to consider time spent charting, reviewing tests and labs, educating/counseling, care coordination, making referrals and/or ordering additional services, etc.



# Coding Quick Reference Card: maps billing codes to the CPG algorithm for easier integration

**ICD -10 Diagnosis Codes: Obesity, Comorbidities & Lab Abnormalities**

| Obesity as a Primary Diagnosis | BMI Specification                           | Code   | Description                               | Code   | Description                                 |
|--------------------------------|---|--------|---|--------|---|
| E66.3 Overweight               |   | E28.2  | Polycystic Ovarian Syndrome (PCOS)        | K59.00 | Constipation                                |
| E66.8 Obesity, other           | Z68.53 (85th %tile to <95th%ile for age)    | E55.9  | Vitamin D Deficiency                      | F50.9  | Eating Disorder, unspecified                |
| E66.01 Severe Obesity          | Z68.54 (≥95th %ile for age)                 | R73.03 | Other abnormal glucose; prediabetes       | F41.9  | Anxiety Disorder                            |
| Code                           | Description                                 | R73.01 | Impaired Fasting Glucose                  | F32.9  | Depression, single episode                  |
| I10                            | Hypertension                                | E03.8  | Hypothyroidism, other unspecified         | G47.33 | Obstructive Sleep Apnea                     |
| E78.5                          | Dyslipidemia aka Hyperlipidemia             | K76.0  | Non-Alcoholic Fatty Liver Disease (NAFLD) | G93.2  | Idiopathic Intracranial Hypertension (I IH) |
| E78.0-                         | Hypercholesterolemia (elevated LDL or VLDL) | R74.01 | Elevated ALT                              | M92.51 | Blount Disease                              |

## My Goal Sheet

|         |                  |
|---------|------------------|
| NAME    | TODAY'S DATE     |
| MY GOAL | IDEAS TO HELP ME |

### WHAT IS INTENSIVE HEALTH BEHAVIOR AND LIFESTYLE TREATMENT (IHBLT)?

Intensive health behavior and lifestyle treatment (IHBLT) is a safe and proven approach for adolescents with overweight and obesity. IHBLT recognizes that each child has unique needs. It aims to address those needs for the child as well as their family in a holistic way. IHBLT also provides supports to navigate common barriers to healthy active living in a way that respects a family's cultural heritage and values.



Other names for IHBLT include intensive behavioral intervention or family healthy weight programs.

#### What is the goal of IHBLT?

While IHBLT works toward lowering the primary goal of

#### Many IHBLT programs involve:

- Non-judgmental and inclusive activities that boost your child or teen's self-esteem and that focus on health, not weight.
- Activities that focus on physical activity and healthy nutrition. Each program has a unique way to achieve this. Some may provide in-person exercise classes or host cooking demonstrations.
- Attention to the whole household to help your child thrive in a healthy environment. A focus on changes that families can enjoy and keep up after the program has ended.
- Plenty of time! Changing routines and habits can't happen overnight, and IHBLT programs work best when they offer plenty of time—26 hours or more, over 3 to 12 months—to help families succeed.

#### How do we get started in an IHBLT program?

Work with your pediatrician to find options that work for your child and your family. Your doctor may know of a comprehensive program near you. If there are none nearby, you and your doctor can work together to address different lifestyle and behavior topics. This can be done in step-by-step at the office. Your doctor may refer you to other specialists nearby who can provide coordinated care.

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from the American Academy of Pediatrics

Ages & Stages Healthy Living Safety & Prevention Family Life Health Issues News Tips & Tools Our Mission shopAAP

### Health Issues

#### Conditions

Abdominal  
ADHD  
Allergies & Asthma  
Autism  
Cancer  
Chest & Lungs  
Chronic Conditions  
Cleft & Craniofacial  
COVID-19  
Developmental Disabilities  
Ear Nose & Throat  
Emotional Problems  
Eyes  
Fever

## Childhood Obesity: A Complex Disease

By: Sandra Hassink, MD, FAAP  
& Sarah Hampl, MD, FAAP

As a parent, you want the best possible health for your child. So does your pediatrician. When your child comes to see a pediatrician, for either a well visit or a sick one, we are always asking ourselves what we can do to keep your child healthy. An important step in understanding your child's health is checking if they have excess weight. That's because excess weight—overweight or obesity—can impact their overall health.



This resource was developed with a healthychildren.org article written by Dr Sarah Barlow, MD, FAAP and Sarah Armstrong, MD, FAAP. The article is based on the 2023 American Academy of Pediatrics Clinical Practice Guideline on Evaluation and Treatment of Children and Adolescents with Overweight & Obesity. For the latest information, please visit [www.healthychildren.org](http://www.healthychildren.org).



## Patient & Family Resources:

- Updated content for HealthyChildren.org and fact sheet formats
- Goal sheets

Source: <https://www.aap.org/en/patient-care/institute-for-healthy-childhood-weight>

# Office Resource

## Capacity Considerations for Obesity Evaluation and Treatment

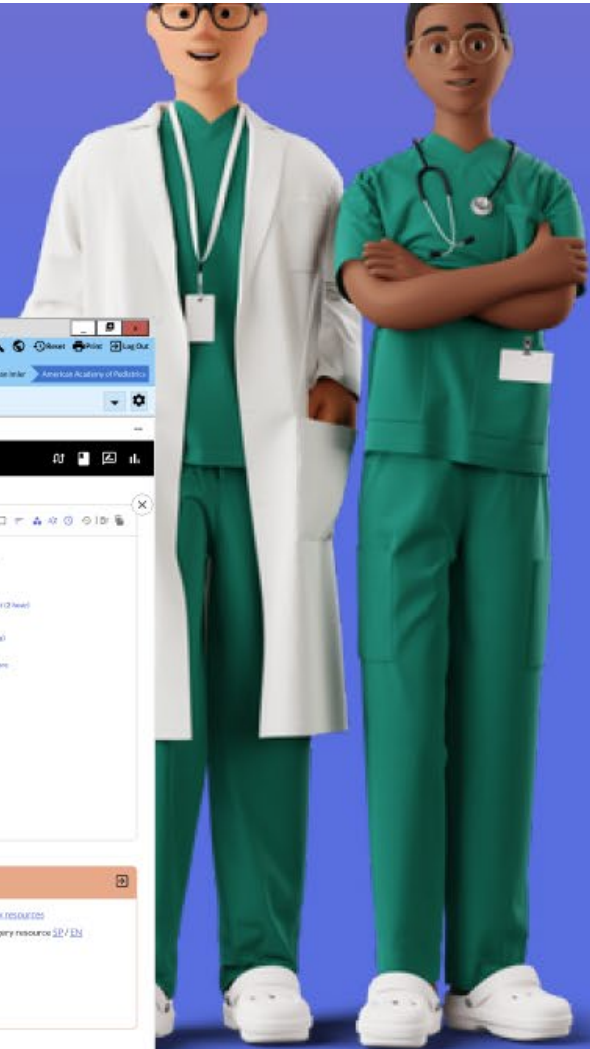
This tool was designed to help you and your care team reflect on your current practice capacity related to obesity treatment that is consistent with the AAP CPG on Evaluation and Treatment of Pediatric Obesity and identify areas to continually assess and work on as a team. The information is based on the CPG, implementation science and characteristics of sustainable programs and clinics.

| <b>Your care team has had staff training on:</b>   | <b>Your office environment/physical space has:</b>   |
|--|--|
| <ul style="list-style-type: none"><li><input type="checkbox"/> The clinical recommendations in the CPG</li><li><input type="checkbox"/> Weight bias and stigma, including the use of non-stigmatizing language</li><li><input type="checkbox"/> Motivational interviewing</li><li><input type="checkbox"/> Appropriate billing and coding recommendations for obesity-related visits</li></ul> | <ul style="list-style-type: none"><li><input type="checkbox"/> Respectful and private opportunities for height and weight measurements</li><li><input type="checkbox"/> Appropriately sized equipment, furniture, gowns, etc.</li><li><input type="checkbox"/> Non-stigmatizing imagery in the practice/clinic environment and on family education materials</li></ul> |

| <b>Define roles &amp; responsibilities</b>   | <b>Consider EHR documentation &amp; capacity</b>  |
|--|---|
| <ul style="list-style-type: none"><li><input type="checkbox"/> Your staff team has clearly defined roles and responsibilities for the key functions/components of obesity assessment &amp; evaluation (see back side) and obesity treatment (see back side).</li></ul> | <ul style="list-style-type: none"><li><input type="checkbox"/> Your electronic health record has designated, readily available space for documentation for key components of obesity assessment &amp; evaluation (see back side) and obesity treatment (see back side).</li></ul> |

# EMR Integration

Empower your clinicians with access to patient specific logic directly derived from the 2023 AAP Obesity CPG with the Institute for Healthy Childhood Weight and Curbside Health!



CLINICAL PRACTICE GUIDELINE: Guidance for the Clinician In Rendering Pediatric Care

American Academy of Pediatrics  
DEDICATED TO THE HEALTH OF ALL CHILDREN™

## Clinical Practice Guideline for the Evaluation and Treatment of Children and Adolescents With Obesity

Sarah E. Hantel, MD, FAAP<sup>1</sup>; Sandra G. Hales, MD, FAAP<sup>2</sup>; Ashley C. Sliemers, PhD<sup>3</sup>; Sarah C. Armstrong, MD, FAAP<sup>4</sup>; Sarah E. Barlow, MD, MPH, FAAP<sup>5</sup>; Christopher F. Bellizzi, MD, FAAP<sup>6</sup>; Kimberly C. Avila Ferguson, MD, FAAP<sup>7</sup>; Pamela Frank, MD, MS, FAAP<sup>8</sup>; Robin Harris, MPH<sup>9</sup>; Melissa M. Joseph, MD, FAAP<sup>10</sup>; Doug Lundford, MD<sup>11</sup>; Drexia Mendonca, MD, PhD, FAAP<sup>12</sup>; Marc P. Michalek, MD, MBA, FAAP<sup>13</sup>; Naama Mirza, MD, ScD, FAAP<sup>14</sup>; Eduardo H. Ochoa, Jr, MD, FAAP<sup>15</sup>; Mona Shari, MD, MPH, FAAP<sup>16</sup>; Amanda E. Spaine, PhD, MPH<sup>17</sup>; Ashley G. Wisco, MD, MPH, FAAP<sup>18</sup>; Susan K. Stone, MD<sup>19</sup>; Joana Lourenco, MPH<sup>20</sup>; Agnieszka Brackiszewska, MPH<sup>21</sup>

**Goals**  
You have in your hands, or at your fingertips, the first edition of the American Academy of Pediatrics clinical practice guideline for evaluation and management of children and adolescents with overweight and obesity. Putting together this guideline was no small task, and the Academy is grateful to the efforts of all the professionals who contributed to the production of this document. This work is a true testament to their passion and dedication to ensuring childhood and adolescent overweight and obesity.

The Subcommittee responsible for developing this guideline comprises a diverse group of professionals from a variety of disciplines representing both governmental entities and private institutions. Experts all, they are united by a common desire to provide the finest, most effective care and treatment to children and adolescents with overweight and obesity. Over the course of several months, the members of the Subcommittee reviewed the technical reports produced from the study review, then worked to concert to develop the Key Action Statements and Expert Consensus Recommendations contained within this guideline. These were crafted with meticulous care by the Subcommittee members, to align with current literature and to place appropriate emphasis on each statement.

While representing such a broad spectrum of perspectives, the members of this committee are all keenly aware of the multitude of barriers to treatment that patients and their families face. These barriers impact not only their access to treatment, but their ability to follow prescribed treatment plans. Whereas some patients are able to adopt the lifestyle changes and individualize elements of their prescribed treatment plans, so many others struggle to do so for a wide variety of reasons. The members of the Subcommittee understood all of this. To assist with optimizing health equity and overcoming these barriers, guidance on a number of multilevel factors related to barriers to treatment have been included in this guideline. During the course of their work, members of the Subcommittee acknowledged that, although an search has been learned to advance the treatment of children and adolescents with overweight and obesity, there is still so much we have yet

**Notice:** Hantel SE, Hales SG, Sliemers AC, et al. Clinical Practice Guideline for the Evaluation and Treatment of Children and Adolescents With Obesity. Pediatrics. 2023; 151(2): e202206946.

FROM THE AMERICAN ACADEMY OF PEDIATRICS



American Academy of Pediatrics | PROO | Dan Inler

EMR | ED Manager | Track Board | Chart | In Basket | Patient Lists | My Reports | References

Ortega-Escobar, Pedro

ED06

Ortega-Escobar, Pedro  
12 year/2014-02-19  
MRN: 56156276  
CODE FULL

Total Time: 0:06:11

PCP: Dr. Alex Chavez

Insurance Coverage: Blue Cross

COVID-19 Vaccine: Overdue 2 Months

Isolation: None

Hickey, April RN  
Registered Nurse

Allergies: No known allergies  
Chart Complete: N/A

Chief Complaints  
Diabetes mellitus (CMS/HCC), Environmental allergies,

Past Medical History:  
Asthma,

BMI percentile calculator

Sex: Female  
Age: 13 year  
Height: 90 cm  
Weight: 34 kg

Results  
42 BMI, 99.6% Severe Obesity

BMI Percentile Graph

Evaluation

- Measure BP at every visit if >2 years old
- Evaluate obesity-related comorbidities
- Obtain comprehensive history and physical exam
- Review appropriate medications
- Evaluate normal laboratory values

Treatment

- Family-centered counseling on Evidence-based Lifestyle Goals
- Refer/provide Intensive Health Behavior and Lifestyle Treatment
- Family-centered course
- Discuss referral to Bariatric Surgery Center at affiliated local centers
- If BP elevated use the AAP HTN CPG (Review Video)

Orders

- Referred to dietitian
- ALT
- Diagnose diabetes test (2 hour)
- lipASIC
- FOOT (Shoe wear) (Pending)
- Measure blood pressure
- Fasting lip panel

Tools

- Dietary and PA assessment calculators
- ICD-10 code E66.01 - Severe Obesity Calculatorsheet
- Referral for common comorbidities
- Extended BMI-for-age charts: (Male) (Female)
- Common physical examination findings
- Genetic syndromes associated with obesity
- Provider focused video from the AAP
- Accurate weight and height measurement

Education

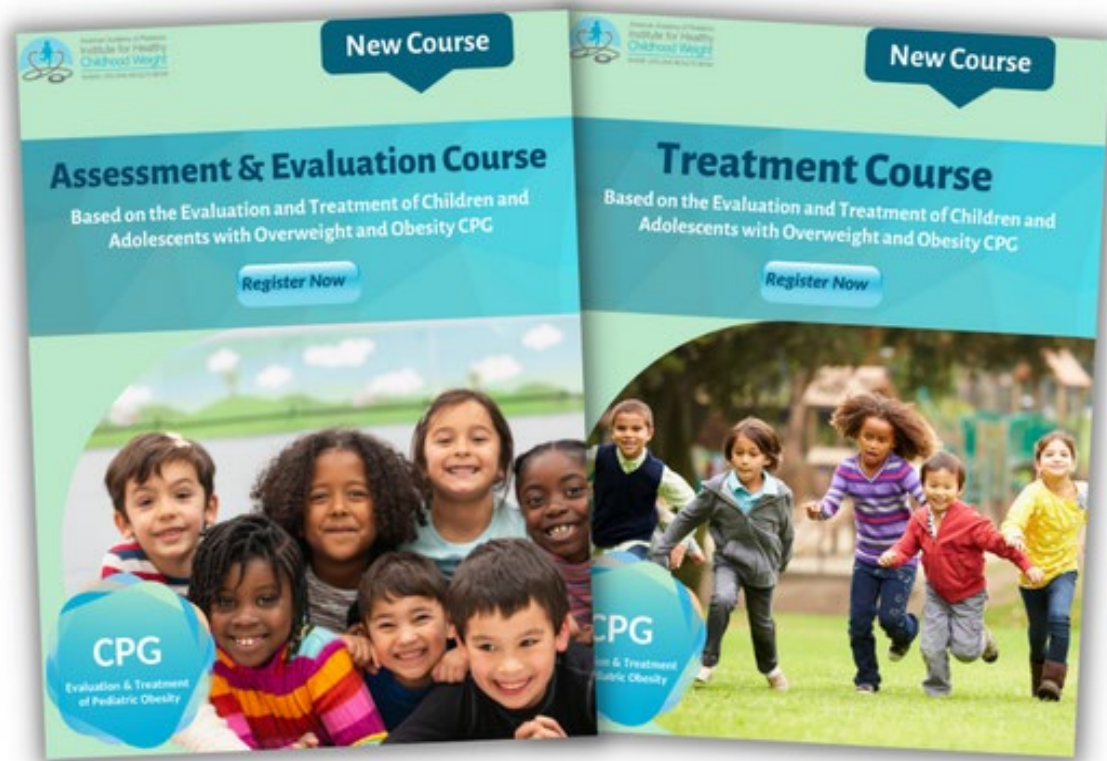
- AAP obesity family resources
- AAP bariatric surgery resource (PDF)

Share | SEND ORDERS

100 pages of expert literature

One click patient specific recommendations at the point-of-care





## Self-paced CME Modules:

- Assessment & Evaluation
- Treatment

★ **Now Integrated with PediaLink!**



# Multi-media Assets:

- Explainer videos (4)

# Institute for Healthy Childhood Weight Conversations About Care Podcast 2023 Episode Recap



Host, Dr. Sandy Husvink  
IHCW Medical Director



**Reflections On The New Clinical Practice Guidelines For Obesity Treatment** with Dr. Sarah Hampf



**Integrating Obesity Treatment into your Clinic** with Dr. Chris Bollig



**Patient Experiences with Obesity Treatment**, a patient panel



**Community-Clinic Linkages** with Dr. Sarah Armstrong



**Evaluating the use of Pharmacotherapy** with Dr. Claudia Fox



**A Parent's Outlook on Obesity Treatment** with Doug Lausford



**Perspectives on Metabolic and Bariatric Surgery** with Dr. Marc Michalchy



**Partnering with a Health Educator for Obesity Treatment** with Dr. Natalie Muth & Cassandra Padgett



**Building Capacity for Obesity Treatment** with Dr. Kattie Green



**A Community-Based Multi-Disciplinary Team Approach** with Dr. Angela Fuls



**Comorbidities** with Dr. Ashley Weedn



**Using BMI and the Extended Growth Charts** with Dr. Alysse Goodman



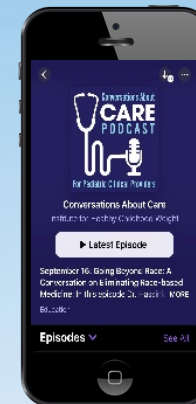
**Ouramp to Interoperability and Clinical Decision Support for Obesity Treatment** with Dr. Mona Shariff and Dr. Dana Isler



**Quality Improvement, Advocacy, and Obesity Care** with Dr. Tahira Siddiqua

Available On:

## Multi-media Assets: Podcasts (14)



# Key Takeaways

- Obesity is a complex chronic disease
- Comprehensive whole child evaluations are important
- Obesity treatment is safe and effective
- There are effective evidence-based strategies for treatment
- Treating obesity also means treating comorbidities
- Children with overweight or obesity should be offered treatment upon diagnosis



“This CPG supports early treatment at the highest level of intensity appropriate for and available to the child. It is hoped that pediatricians and other PHCPs, health systems, community partners, payers, and policy makers will recognize the significance and urgency outlined by this CPG to advance the equitable and universal provision of treatment of the chronic disease of obesity in children and adolescents. – CPG”

# Roster & Acknowledgements

## Obesity CPG Subcommittee

- Sarah Hampl, MD - Chair
- Sandra Hassink, MD - Vice-chair
- Sarah Armstrong, MD
- Sarah Barlow, MD
- Brook Belay, MD
- Chris Bolling, MD
- Kimberly Edwards, MD
- Ihuoma Eneli, MD
- Aly Goodman, MD
- Robin Hamre, MHP, RDN
- Madeline Joseph, MD
- Doug Lunsford (Family Representative)
- Marc Michalsky, MD
- Nazrat Mirza, MD
- Eduardo Ochoa, MD
- Mona Sharifi, MD
- Asheley Cockrell Skinner, PhD
- Amanda Staiano, PhD
- Ashley Weedn, MD, MPH

# Roster & Acknowledgements

## AAP Staff and Consultants

### Division/Dept of Quality

- Kymika Okechukwu
- Pia Daniels
- Joseph Flynn, MD, Coach

### Consultant

- Susan K. Flynn, MA, Medical Writer

### Institute for Healthy Childhood Weight

- Jeanne Lindros
- Jan Liebhart
- Jeremiah Salmon
- Stephanie Womack
- Savanna Torres

# References

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Hampel SE, Hassink SG, Skinner AC, Armstrong SC, Barlow SE, Bolling CF, Avila Edwards KC, Eneli I, Hamre R, Joseph MM, Lunsford D, Mendonca E, Michalsky MP, Mirza N, Ochoa ER, Sharifi M, Staiano AE, Weedn AE, Flinn SK, Lindros J, Okechukwu K. Clinical Practice Guideline for the Evaluation and Treatment of Children and Adolescents with Obesity. *Pediatrics*. 2023 Feb 1;151(2):e2022060640. doi: 10.1542/peds.2022-060640. PMID: 36622115.

Skinner AC, Staiano AE, Armstrong SC, Barkin SL, Hassink SG, Moore JE, Savage JS, Vilme H, Weedn AE, Liebhart J, Lindros J, Reilly EM. Appraisal of Clinical Care Practices for Child Obesity Treatment. Part I: Interventions. *Pediatrics*. 2023 Feb 1;151(2):e2022060642. doi: 10.1542/peds.2022-060642. PMID: 36622110.

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# Thank you



Website: <https://ihcw.aap.org>  
[www.aap.org/obesitycpg](http://www.aap.org/obesitycpg)



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