

Body Mass Index Assessment and Diabetes Prevention

April 24th, 2025

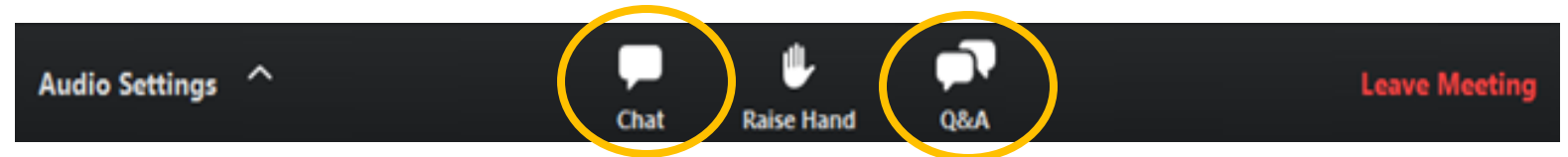
2pm Eastern Standard Time



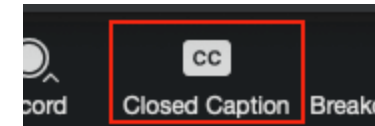
REMINDERS

✂️ **All attendees are in listen-only mode.**

✂️ To ask a question during the session, use the “Chat” or “Q&A” icon that appears at the bottom of your Zoom control panel.



✂️ To turn on closed captioning, click on the “CC” button.



✂️ **Please complete evaluation poll questions at the end of the presentation.**

✂️ The recording, slides, and resources will be shared via email.

Learning objectives

Participants will be able to...

- Explain the relationship between BMI, obesity, and Type 2 Diabetes risk in children.
- Identify key risk factors and early warning signs of prediabetes in children.
- Discuss prevention strategies, including lifestyle changes that reduce diabetes risk.

Today's Speakers



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Body Mass Index (BMI)

- A screening tool used to assess weight status
- Calculated using weight and height, assessed with percentiles in children
- Helps track growth trends, but is **not a diagnostic tool**



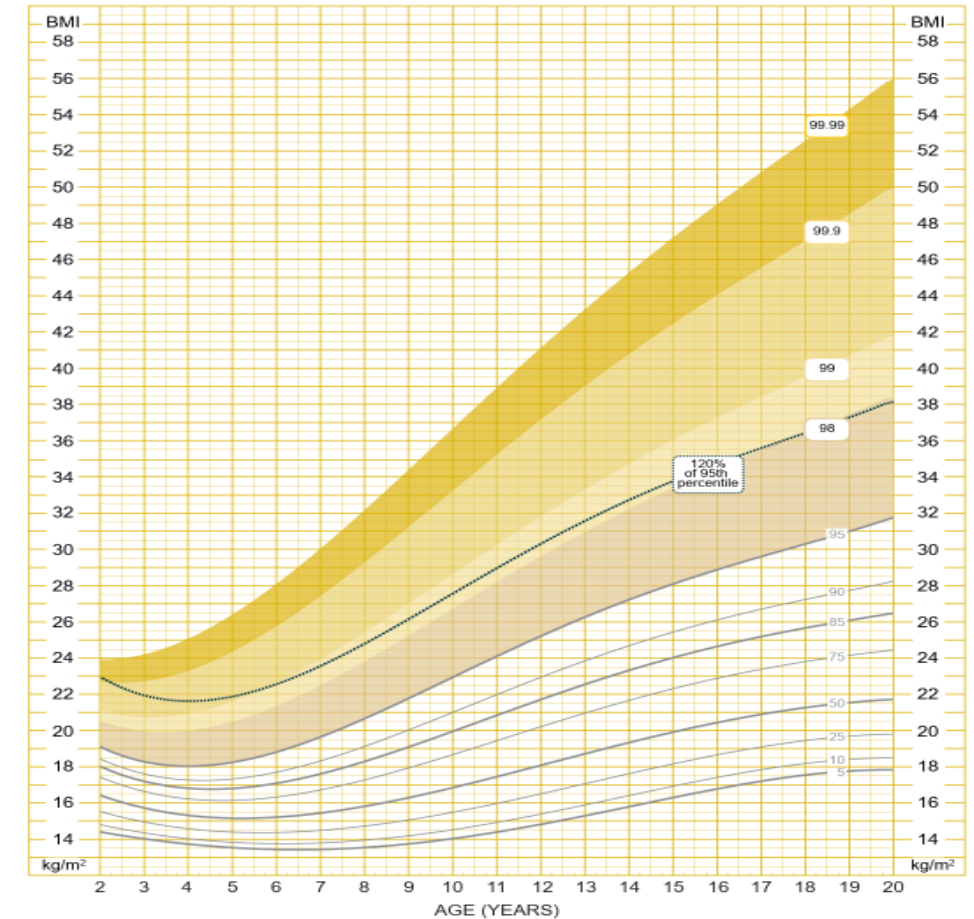
School-Based Health Alliance. Quality Counts: Clinical Performance Measures QI Toolkit. Sbh4all.org. <https://tools.sbh4all.org/quality-counts/quality-counts-home/>
Center for Disease Control. Screening for Child Obesity. CDC - Obesity. Published May 13, 2024. <https://www.cdc.gov/obesity/child-obesity-screening/index.html>
Center for Disease Control. Child and Teen BMI Categories. CDC - BMI. Published July 1, 2024. <https://www.cdc.gov/bmi/child-teen-calculator/bmi-categories.html>

BMI Percentiles for Children

- 5th percentile = Underweight
- 5th - 85th percentile = Healthy weight
- 85th - 95th percentile = Overweight
- ≥ 95 th percentile = Obesity
- $\geq 120\%$ of 95th percentile = Severe Obesity

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.



What is Prediabetes

- Prediabetes occurs when blood sugar levels are higher than normal but not high enough to be classified as Type 2 Diabetes.
- It is a warning sign that the body is struggling with insulin regulation.
- Reversible with lifestyle changes – without intervention, up to 70% of children with prediabetes develop Type 2 Diabetes.



Children's Hospital of Philadelphia (CHOP). Prediabetes: What You Should Know. Available at: <https://www.chop.edu/news/health-tip/prediabetes-what-you-should-know>
U.S. Preventive Services Task Force. Prediabetes and Type 2 Diabetes in Children and Adolescents: Screening. Available at:
<https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/prediabetes-type2-diabetes-children-adolescents-screening>

What is Diabetes

- Type 2 Diabetes (T2D) is a chronic condition where the body either doesn't make enough insulin or doesn't use it properly, leading to high blood sugar levels.
- Used to be considered an adult disease, but rates in children have increased dramatically due to rising obesity rates.
- Can cause serious complications (heart disease, kidney problems, nerve damage) if not managed.
- Unlike Type 1 Diabetes, which is an autoimmune disease, T2D is largely preventable with healthy lifestyle choices.
- Not reversible, but manageable

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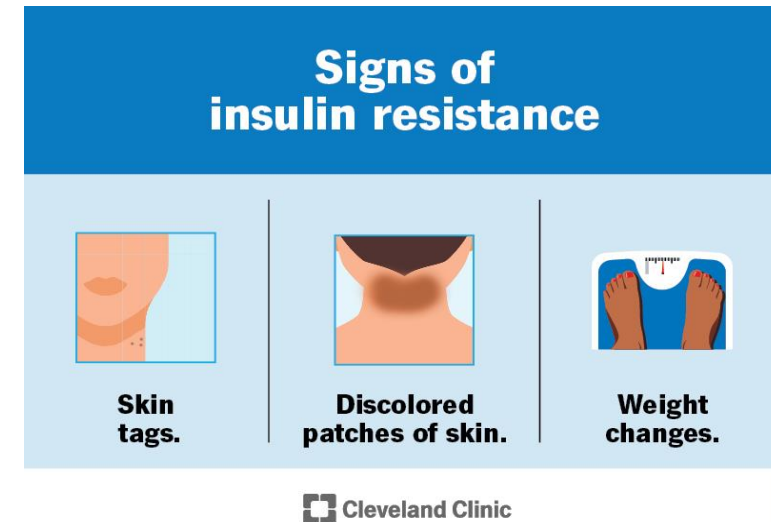
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American Diabetes Association (ADA). Standards of Care in Diabetes—2025. Available at: https://diabetesjournals.org/care/article/48/Supplement_1/S283/157559

American Academy of Family Physicians (AAFP). Type 2 Diabetes Mellitus in Children. Available at: <https://www.aafp.org/pubs/afp/issues/2018/1101/p590.html>

BMI and Type 2 Diabetes Risk

- Excess weight → Insulin resistance → Higher risk of Type 2 Diabetes
 - Obesity (BMI \geq 95th percentile) = High risk
 - Severe Obesity (BMI \geq 120% of 95th) = Very high risk
- Key risk factors beyond BMI:
 - Family history of diabetes
 - Physical inactivity & poor nutrition
 - High blood pressure & abnormal cholesterol
 - Acanthosis Nigricans (dark skin patches on neck/armpits)
 - Frequent thirst, urination, fatigue
- Progression: Obesity → Prediabetes → Type 2 Diabetes



Pediatric Endocrine Society. Prediabetes in Children and Adolescents: A Guide for Families. Available at: <https://pedsendo.org/patient-resource/type-2-prediabetes-in-children-and-adolescents-a-guide-for-families>

Centers for Disease Control and Prevention (CDC). Preventing Type 2 Diabetes in Kids. Available at: <https://www.cdc.gov/diabetes/prevention-type-2/type-2-diabetes-in-kids.html>

U.S. Preventive Services Task Force. Prediabetes and Type 2 Diabetes in Children and Adolescents: Screening. Available at: <https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/prediabetes-type2-diabetes-children-adolescents-screening>

<https://www.prevention.com/health/health-conditions/a21764231/type-2-diabetes-definition/>

<https://my.clevelandclinic.org/health/diseases/22206-insulin-resistance>



Identifying At-Risk Patients

- BMI \geq 85th percentile(annual screening recommended)
- Family history of diabetes(parent/sibling with T2D)
- Signs of insulin resistance (Acanthosis nigricans, PCOS)
- Other metabolic risk factors(hypertension, high cholesterol)
- Sedentary lifestyle & poor diet patterns

Early screening & prevention are critical!

- ✓ BMI \geq 85th percentile? Screen annually!
- ✓ Promote physical activity, healthy eating & family engagement



Intervention Strategies: Supporting At-Risk Children and Teens

- Effective counseling:
 - Balanced nutrition (less sugar, more fiber & whole foods)
 - Daily physical activity (≥ 60 minutes of movement)
 - Healthy sleep habits (≥ 9 hours for school-age children)
 - Limit screen time (< 2 hours daily for non-school use)
- Engage the whole family (habit changes work better together)
- Individualized care plans for weight management
- Coordinate with specialists (nutritionists, endocrinologists, behavioral counselors)



Fostering Healthy Habits Through Thoughtful Dialogue



- Discuss weight/health and diabetes risk without shame.
- Encouraging positive, sustainable behavior changes.

Shift the Conversation

Let's talk about your BMI→
Let's talk about your weight→
Let's talk about your health

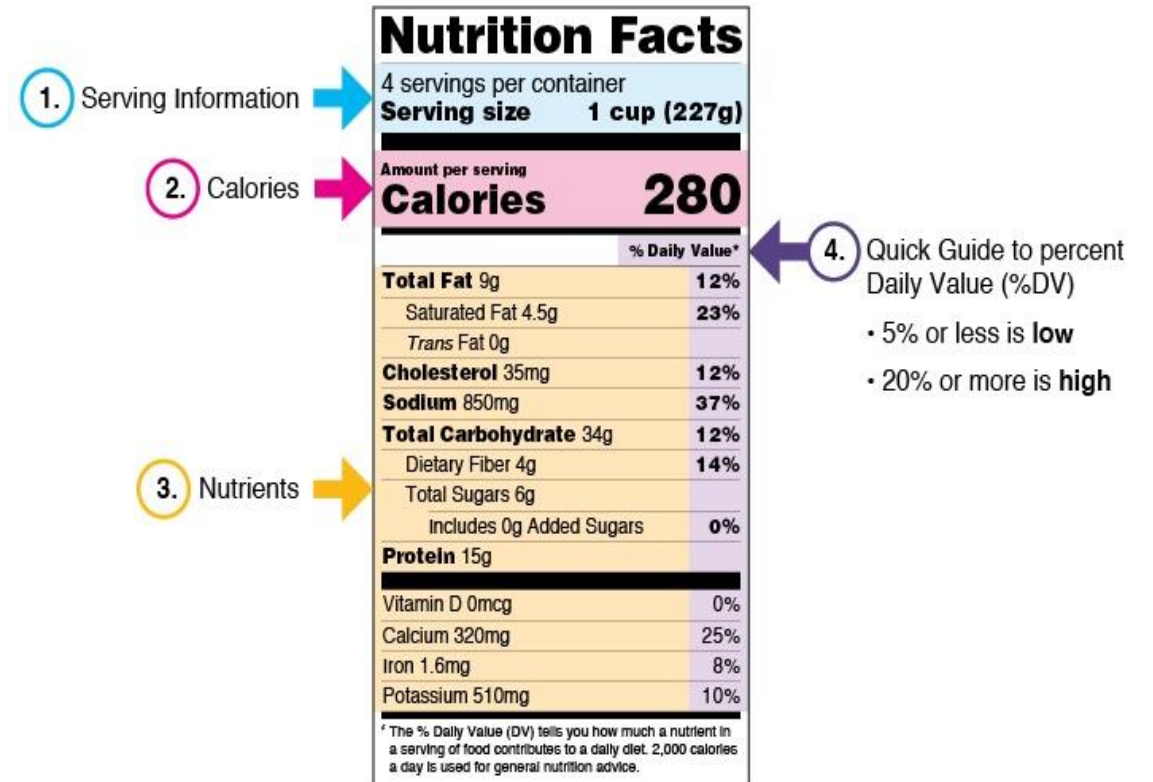
Motivational Interviewing

- Engage: Making a connection
- Guide: Jointly finding a focus
- Evoke: Using internal forces to bring about change
- Plan: Devise a strategy for change collaboratively



Nutrition & Physical Activity Recommendations

- Age-appropriate dietary guidelines for diabetes prevention.
- Encouraging daily physical activity and movement.
- Resources for families (meal planning, exercise programs, community support).



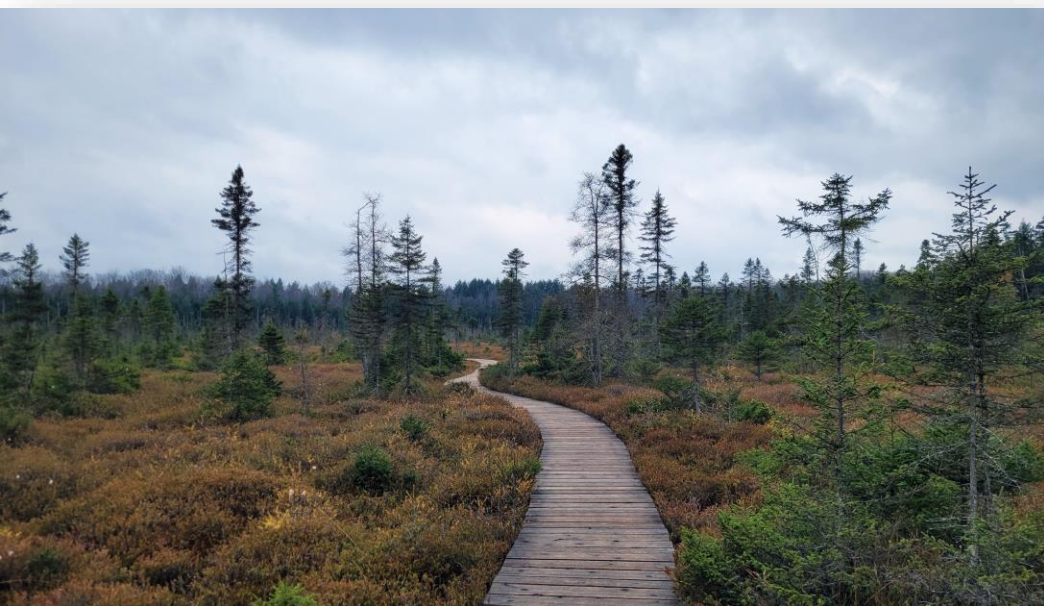
<https://www.heart.org/en/healthy-living/healthy-eating/eat-smart/nutrition-basics/understanding-food-nutrition-labels>
<https://www.fda.gov/food/nutrition-facts-label/how-understand-and-use-nutrition-facts-label>



Setting realistic, achievable daily health goals:

- Aiming for five servings of fruits and vegetables per day
- Less than two hours of screen time
- One hour of physical activity per day
- Zero sugary drinks

Learn More: <https://5210.psu.edu/>



Leveraging Community & Clinical Resources

- Referral pathways for high-risk patients.
- School and community-based prevention programs.
- Technology and apps for tracking progress.



School & Community Prevention

- Healthier school meals & snacks promote better choices.
- Physical activity during school improves long-term health.
- Community resources can provide access to recreation & nutrition support.
- SBHC partnerships help integrate screening & prevention efforts.

Hallways to Health

- Building a Wellness Team
- Engaging Community-Based Organizations and Businesses
- Build Buy-in and Engage Partners
- Engage Youth
- Engage Parents and Guardians
- Engage School Partners
- Assess Conditions for Wellness
- Create and Implement Your Action Plan
- Tell Your Story
- Sustain Your Efforts
- Resources and Tools



Additional Resources

- <https://sbh4all.org/wp-content/uploads/2023/07/AddressingDiabetesFactors.pdf>
- <https://www.sbh4all.org/resources/e-library/>
- <https://snaped.fns.usda.gov/library/intervention/mind-exercise-nutrition-do-it>

Pause for a Poll

Please let us know in the chat: Does your health center currently have a diabetes prevention program/ lifestyle change program for elementary school-aged children?

☐ Yes ☐ No ☐ Unsure



Finding the Balance Between Prevention & Intervention

- **Prevention:** Encouraging healthy habits before weight-related risks develop.
- **Intervention:** Identifying and supporting at-risk individuals early.
- How to integrate both into clinical practice.

Key Takeaways

- BMI is a screening tool, not a diagnosis.
- Higher BMI is a predictor of diabetes risk.
- Early intervention prevents long-term health issues.
- Schools, families and SBHCs collaborating can improve health outcomes.
- Prevention starts early—before symptoms appear.



Prevention Strategies for Patients & Families



- Promoting balanced nutrition and portion control.
- Encouraging physical activity and movement.
- Importance of sleep and stress management.

References

- Centers for Disease Control and Prevention (CDC). National Diabetes Statistics Report. Available at: <https://www.cdc.gov/diabetes/php/data-research/index.html>
- American Academy of Family Physicians (AAFP). Type 2 Diabetes Mellitus in Children. Available at: <https://www.aafp.org/pubs/afp/issues/2018/1101/p590.html>
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**We look forward to your
feedback.**

Please complete our Zoom poll.



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