



Responsible Use of Edible Reinforcement:

Guidance for Professionals Working with Youth with Intellectual and Developmental Disabilities (I/DD)

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Disclosure

- Nothing to disclose

Objectives

1. Learn about the Let's Go! Obesity Prevention Program.
2. State the challenges to healthy habits faced by Children with I/DD.
3. Discuss how edible reinforcement contributes to the risk of developing obesity.
4. Apply recommended guidelines for the responsible use of edible reinforcement when developing behavior intervention plans.
5. Provide recommendations for additional ways to promote the health of children with I/DD.

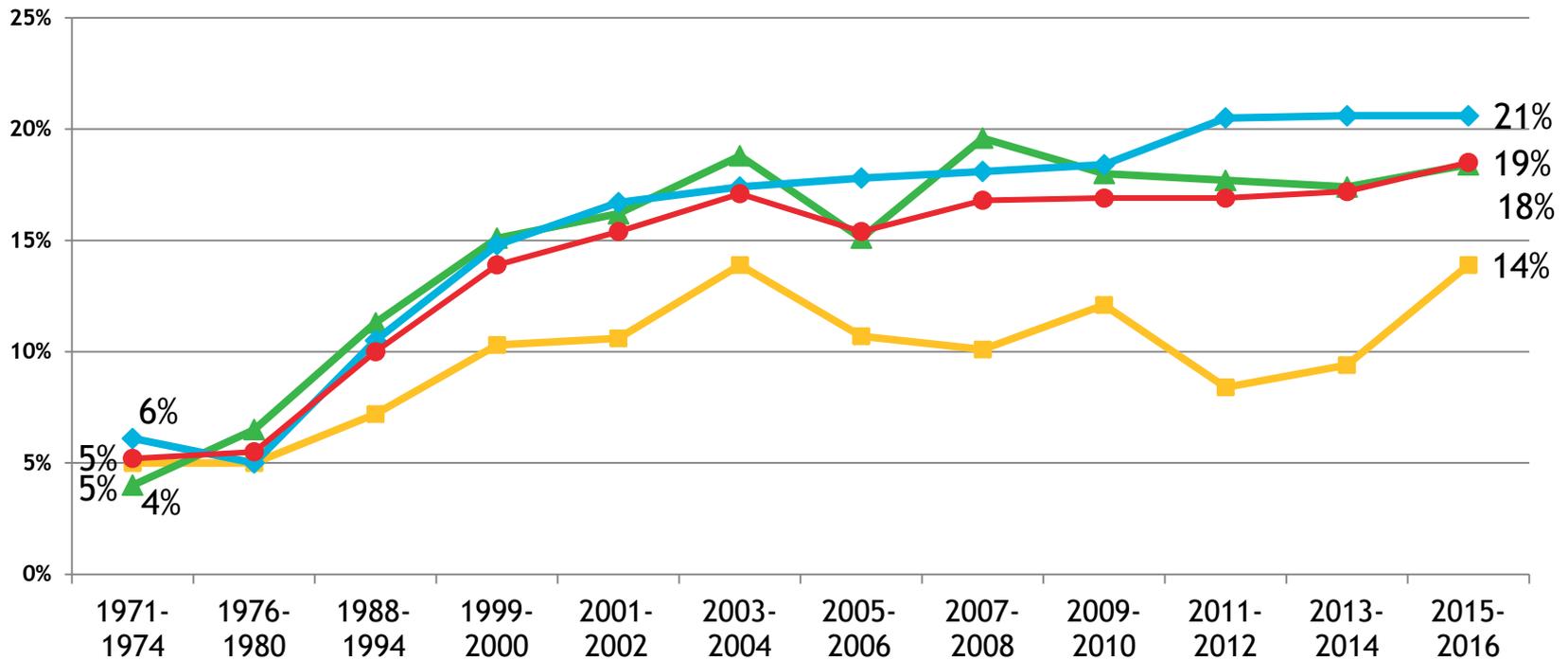
What is obesity and how is it measured?

- **Obesity refers to excess body fat**
 - Often impractical to measure
- **Proxy measure: Excess weight for height**
 - Easy to obtain
 - Various indices
- **Index of choice: Body Mass Index (BMI)**
 - Ratio of height to weight
 - Recommended for adults, adolescents, and children
 - Not perfect; Does not distinguish between fat and muscle

Obesity Prevalence in U.S. Children and Adolescents 2-19 years

National Health and Nutrition Examination Survey (NHANES)

■ Age 2-5
 ▲ Age 6-11
 ◆ Age 12-19
 ● Age 2-19



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How Did We Get Here?



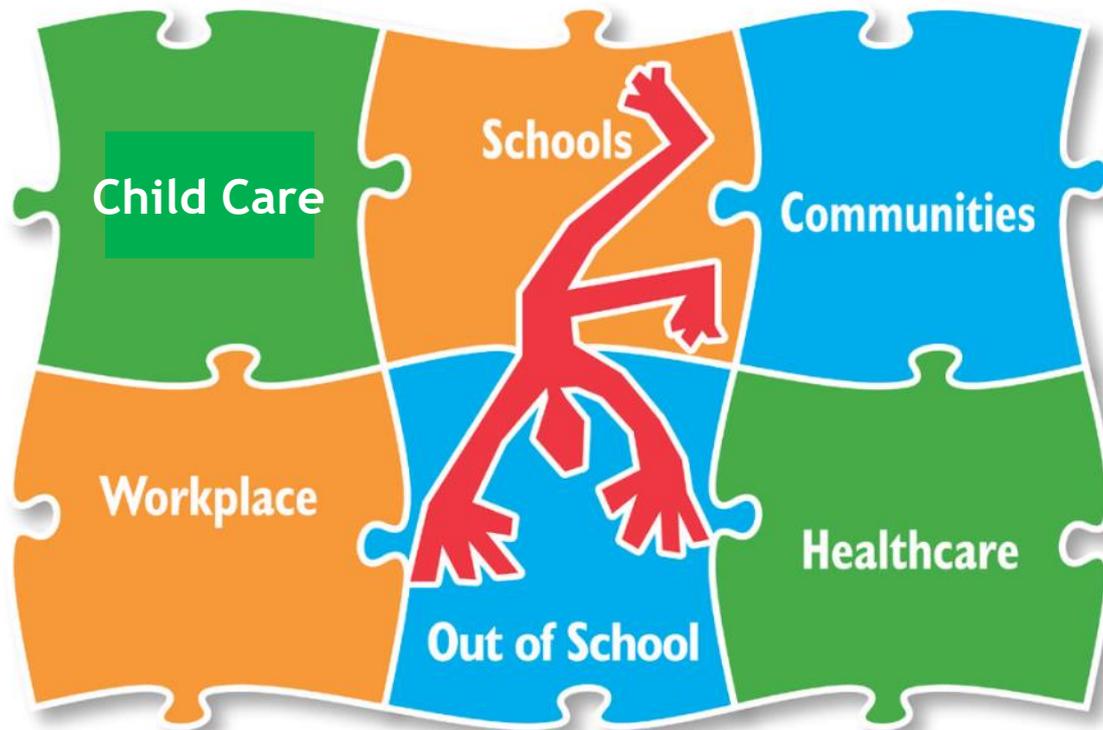
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It's About Changing Environments

Let's Go! focuses on changing environments and policies wherever children and families live, learn, work, and play. The program works in six settings.



5 Priority Strategies

1. Limit unhealthy choices for snacks and celebrations; provide healthy choices.
2. Limit or eliminate sugary drinks; provide water.
3. Prohibit the use of food as a reward.
4. Provide opportunities for physical activity everyday.
5. Limit recreational screen time.

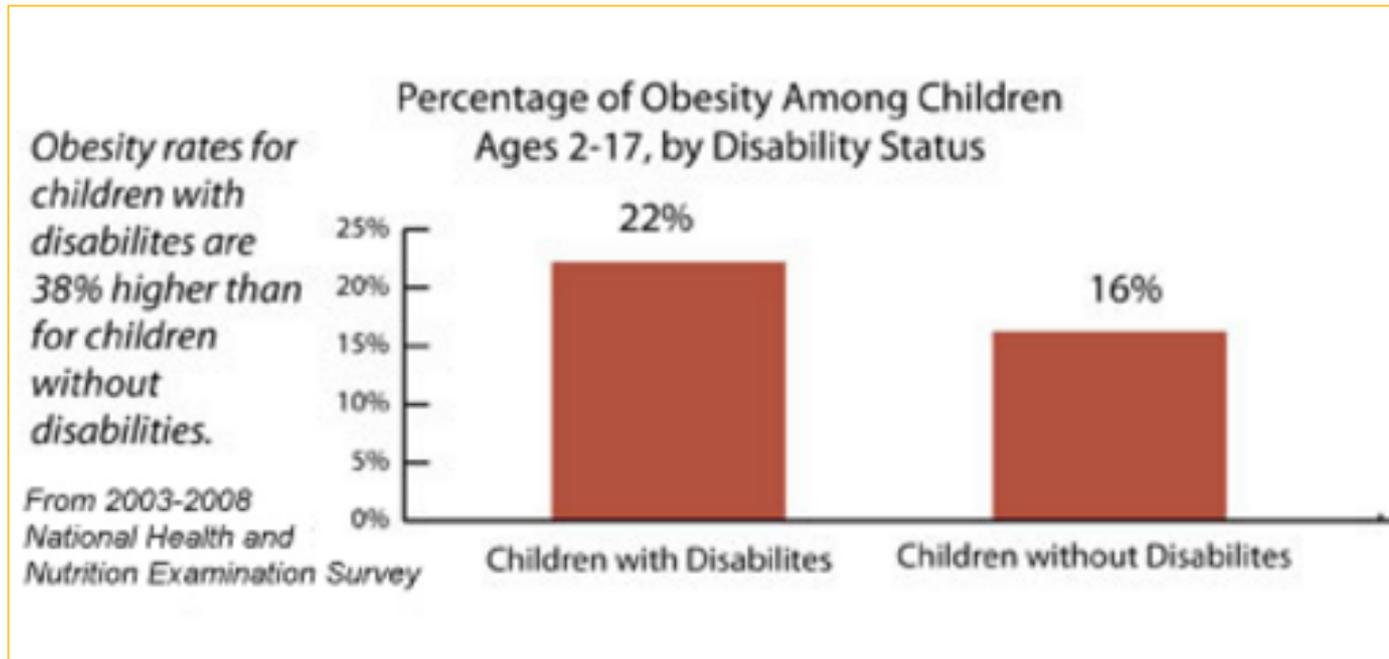
Why Let's Go! expanded its program to include children with I/DD



Feedback from health care providers and educators that the Let's Go! 5-2-1-0 message and 5 priority strategies didn't always seem to apply to children with I/DD.

Prevalence of Obesity Among Individuals with Disabilities

- **Obesity rates are approximately 38% higher for children with disabilities than for children without disabilities.**



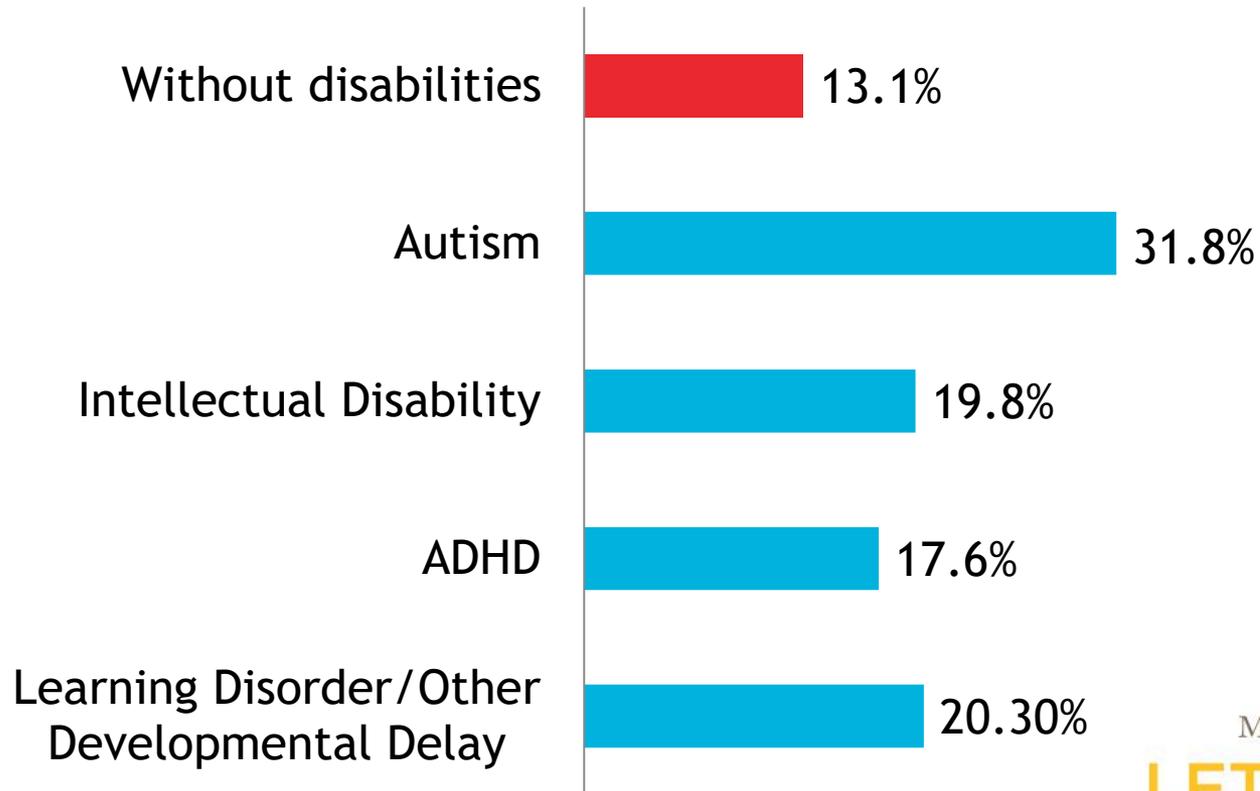
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Prevalence of Obesity in the U.S. Among Adolescents with Specific Conditions

Research results of a study involving 9,600 adolescents 12-17 years old (2014):



Why should we be concerned?



- Increased health problems
- Less independence
- Higher cost of care

Health effects of obesity

Health problems in childhood

- Type II diabetes
- Joint problems
- High blood pressure
- High cholesterol
- Asthma
- Sleep apnea
- Depression
- Low self-esteem
- Fatty liver disease
- Skin problems
- Early puberty in girls



Potential increased risk as adult

- Heart attack and stroke
- Cancer
- Gallbladder disease
- Kidney stones
- Osteoarthritis
- Pregnancy complications

Why is obesity more prevalent among Individuals with I/DD?

They face the same challenges as their peers:

- Poor nutrition
- Inadequate exercise
- Obesity promoting environments

They also face additional challenges:

- Disability
- Genetics
- Lack of Preventive Health
- Inadequate support



Healthy Eating Challenges



- Selective eating (up to 90%)
 - Sensitivity to texture, color, smell, temperature, brands of certain foods
 - Unusual and ritualistic eating patterns
 - Preference for energy dense foods
- Disruptive family mealtimes
- **Rewarded with preferred food for desired behavior**



Raises risk for nutritional deficiencies and/or obesity

Impact of psychotropic medication on body mass and appetite

Treating anxiety, mood and ADHD can improve functioning, but some medications can increase appetite and weight

- SSRIs (citalopram)
- Atypical neuroleptics (risperidone, aripiprazole)
- Mirtazapine
- Guanfacine

Some medications can decrease appetite

- Psychostimulants (methylphenidate, amphetamines), wellbutrin
- May learn unhealthy eating habits due to efforts to maintain weight and growth

Medications can interfere with eating schedules/timing of hunger

- Skipping lunch can contribute to irritability
- Binge eating, getting up to eat at night

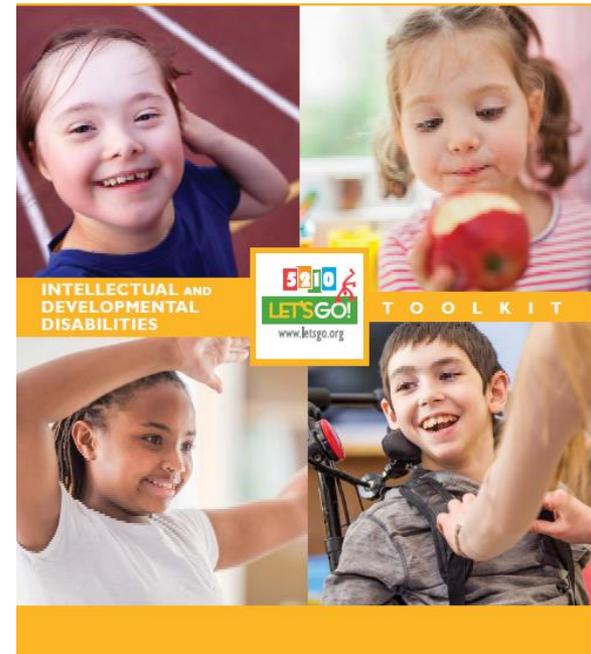
The Complex World of a Child with I/DD



Let's Go! Toolkit for Children with I/DD

To raise awareness and provide resources for health care providers and educators

- Getting Started
- Healthy Eating
- **Non-Food Rewards**
- Physical Activity
- Health Care



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Definitions

Food Reward

A term to describe food used to reward desirable behavior. Research links food rewards with an increased risk for unhealthy eating habits and obesity.

Edible Reinforcer

A technical term to describe a category of consequences used to increase the future likelihood of a specific behavior.

Correlation

As both food rewards and edible reinforcers are used to promote desirable behavior and as both tend to be unhealthy, Let's Go! argues that edible reinforcers can contribute to unhealthy eating habits and increase risk for obesity.

Roles and Responsibilities

1. Raise awareness of risks of using edible reinforcers
 - Unhealthy eating habits and obesity risk
 - Behavioral risks
 - Misuse/overuse
2. Provide training on effective and appropriate use of reinforcement.
3. Ensure interventions adhere to ethical and professional practice guidelines.
4. Review school district wellness plans regarding responsible use of edible reinforcers.

Ethical and Professional Practice

BACB Compliance Code (BACB, 2014)

- 4.03 Individualized Behavior-Change Programs
- 4.09 Least Restrictive Procedures
- 4.10 Avoiding Harmful Reinforcers



Ethical and Professional Practice

- CEC Code of Ethics (2015)
 - #1: Maintaining challenging expectations for individuals with exceptionalities
 - #5: Developing relationships with families...and actively involving families and individuals with exceptionalities in educational decision making
 - #7: Protecting and supporting the physical and psychological safety of individuals with exceptionalities
 - #8: Neither engaging in nor tolerating any practice that harms individuals with exceptionalities
 - #12: Participating in the growth and dissemination of professional knowledge and skills

What we know: food rewards contribute to obesity

- Rewarding children with food, even healthy foods, encourages children to eat outside of meal and snack times when they may not be hungry, and can lead to poor eating habits.^{1,2}
- **Additional risk for I/DD population: Medications may already interfere with ability to regulate appetite.**
- Using food, such as candy, cookies, doughnuts, sugary drinks and pizza, as a reward for good behavior and academic performance is a common practice with children and puts them at risk for excess weight gain and obesity.^{3,4}
- **Additional risk for I/DD population: High % of children with I/DD are already overweight.**

What we know: food rewards contribute to obesity

- Encouraging children to eat healthy foods, but at the same time rewarding good behavior with unhealthy foods sends a mixed message and confuses children.¹
- **Additional risk for I/DD population: Level of cognitive functioning can make it harder to understand healthy vs unhealthy choices.**
- Foods that are used as rewards are typically high in sugar, fat and salt with little nutritional value and can play a role in establishing children's preference for unhealthy foods.^{1,2}
- **Additional risk for I/DD population: A majority children are selective eaters.**
- Other health risks include: dental cares, blood sugar, hyperactivity/lethargy.

Behavioral Risks of Edible Reinforcers

- Emotional responding in absence of access to edible (momentary and long-term)
- Adjunctive/irrelevant behavior between reinforcer delivery
- Interfering behaviors (e.g., approaching, reaching, food stealing, aggression) incompatible with target behavior
- Interactions with others may be suppressed
- Balsam & Bondy (1983)



Other Risks of Edible Reinforcers

- Imbalanced response allocation (matching law)
- Misunderstanding and misuse by caregivers
- Social side effects
- Lack of skill generalization in absence of specific reinforcer
- Consumption may extend inter-trial interval → fewer learning opportunities per session
- Balsam & Bondy (1983)



Guidelines for Using Edible Reinforcers

- Conduct formal preference and reinforcer assessments (include non-edibles)
- Ensure medical clearance and/or parental consent has been obtained
- Use only the amount necessary to be effective
- Always pair edible with praise/other natural positive feedback
- Outline and follow plan to fade use of edible



Helping Others Transition to Non-Food Rewards

Use the Tools in the I/DD Toolkit:

- **Food Reward Tracker**
- Preference Assessments
- Use Non-Food Rewards
- **Use Physical Activity as a Reward**
- Transitioning to Non-Food Rewards
- Everyone Plays A Role



Start out small. Prioritize. Limit. Reduce.

Use Physical Activity As A Reward

- Extra outdoor time
- Setting up an obstacle course
- Access to special toys and games that promote movement
- Access to active video games (Wii, Dance Dance Revolution)



How to Make Physical Activity More Reinforcing

- Use teacher attention as reinforcement
- Make preferred seated activities contingent on physical activity
- Incorporate child's interests into movement
- Rotate outdoor play equipment



Review District Wellness Plans

You can advocate for policies that support effective and appropriate use of edible reinforcers in special education .

An Example of a Wellness Policy:

- Food or beverages shall not be used as a reward or incentive for students' behavior or performance. Schools are encouraged to use physical activity as rewards or incentives for students' behavior or performance and as alternatives to food celebrations. Schools are encouraged to avoid the use of food as reinforcement for desirable behavior in student's behavior intervention plans.
- [NOTE: Districts should ensure the Wellness Policy and the Student Discipline Policy align with each other.]

Next Steps

- Ask BCBA's & special educators in your districts to assess their caseloads:
 - Review behavior intervention plans
 - » How current are the FBAs? Do the results match the intervention procedures (i.e., function-based)?
 - » Are preference assessments up to date? Were some conducted w/o edibles?
 - » Is physical activity used as reinforcement?
 - How many intervention procedures include the use of edibles?
 - Were other factors considered in their decisions to use edibles (e.g., current medications, current weight/obesity issues, etc.)?

Next Steps

- Goal setting: Reduce use of edible reinforcement by 25% within 3 months
- Review your district wellness policy and compare to a sample of behavior support plans for congruence

For more information or to request a training from Let's Go! please contact us.

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The tools in the I/DD Toolkit can be download for free at:

<https://mainehealth.org/lets-go/childrens-program/developmental-disabilities>