Weight Matters

SLIDE 2 MODULE ONE

To better understand childhood overweight, this section will explain how *overweight* and *at risk of overweight* is determined in children. It will show the increasing number of children who are becoming overweight every year and show that many overweight children do not grow out of it just by getting older.

The causes and health concerns of overweight will be addressed and some of the areas where Head Starts can make a difference will be highlighted. There will also be information to help Head Start staff interpret growth charts and share growth chart information with parents.

SLIDE 3 MODULE ONE

Body Mass Index, or BMI, is a number calculated from a person's weight and height. BMI is a good indicator of body fatness in most people. BMI does not measure body fat directly, but research has shown that BMI correlates to direct measures of body fat.

HEIGHT IN INCHES

WEIGHT IN POUNDS	5′	5′1″	5′2″	5′3″	5′4″	5′5″	5′6″	5′7″	5′8″	5′9″	5′10″	5′11″	6′0″	6′1″	6′2″	6′3″	6′4″
100	20	19	18	18	17	17	17	16	15	15	14	14	14	13	13	12	12
105	21	20	19	19	18	17	17	16	16	16	15	15	14	14	13	13	13
110	21	21	20	19	19	18	18	17	17	16	16	15	15	15	14	14	13
115	22	22	21	20	20	19	19	18	17	17	17	16	16	15	15	14	14
120	23	23	22	21	21	20	19	19	18	18	17	17	16	16	15	15	15
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145	28	27	27	26	25	24	23	23	22	21	21	20	20	19	19	18	18
150	29	28	27	27	26	25	24	23	23	22	22	21	20	20	19	19	18
155	30	29	28	27	27	26	25	24	24	23	22	22	21	20	20	19	19
160	31	30	29	28	27	27	26	25	24	24	23	22	22	21	21	20	19
165	32	31	30	29	28	27	27	26	25	24	24	23	22	22	21	21	20
170	33	32	31	30	29	28	27	27	26	25	24	24	23	22	22	21	21
175	34	33	32	31	30	29	28	27	27	26	25	24	24	23	22	22	21
180	35	34	33	32	31	30	29	28	27	27	26	25	24	24	23	22	22
185	36	35	34	33	32	31	30	29	28	27	27	26	25	24	24	23	23
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205	40	39	37	36	35	34	33	33	31	30	29	29	28	27	26	26	25
210	41	40	38	37	36	35	34	33	32	31	30	29	28	28	27	26	26
215	42	41	39	38	37	36	35	34	33	32	31	30	29	28	28	27	26
220	43	42	40	39	38	37	36	34	33	32	32	31	30	29	28	27	27
225	44	43	41	40	39	37	36	35	34	33	32	31	31	30	29	28	27
230	45	43	42	41	39	38	37	36	35	34	33	32	31	30	30	29	28
235	46	44	43	42	40	39	38	36	36	35	34	33	32	31	30	29	29
240	47	45	44	42	41	40	39	37	36	35	34	33	33	32	31	30	29
245	48	46	45	43	42	41	40	38	37	36	35	34	33	32	31	31	30
250	49	47	46	44	43	42	40	39	38	37	36	35	34	33	32	31	30

MORE ON BMI CHARTING

BMI is calculated by taking weight in kilograms and dividing it by height in meters squared. Adults can also use a chart (Figure 1a) and find height in feet and inches along the top row and weight in pounds along the left column. The number where the column and row meet is an approximation of BMI. For those over the age of 20, a BMI less than 18.5 is considered underweight; a BMI between 18.5–24.9 is considered normal weight; a BMI between 25.0–29.9 is considered overweight; and a BMI greater than or equal to 30 is considered obese.

However, BMI alone is not a diagnostic tool. To determine if an individual is overweight or obese, a health-care provider might evaluate the individual's diet, physical activity and family history, as well as collecting skin fold thickness measurements, and conducting other health screenings.

FIGURE **1a: Understanding BMI**

Body Mass Index

18 OR LESS	UNDERWEIGHT (BLUE)
24 OR LESS	NORMAL (GREEN)
25-29	OVERWEIGHT (YELLOW)
30 AND OVER	OBESE (ORANGE)

THE FED'S VIEW

www.cdc.gov/nccdphp/dnpa/bmi/index.htm

For population assessment, calculating BMI is one of the best methods of evaluating overweight and obesity trends over time. Calculation requires only height and weight. It is inexpensive and easy to use for clinicians and for the general public. The use of BMI allows people to compare their own weight status to that of the general population. Research has shown that BMI correlates to direct measures of body fat, such as underwater weighing and more advanced measures of body fat.[1,2]

SLIDE 4 MODULE ONE

Assessing BMI in Children

BMI is calculated the same way for children and adults; however BMI for children is plotted on a growth chart. The growth chart is age- and sex-specific because the amount of body fat changes with age and the amount of body fat differs between girls and boys. The Centers for Disease Control and Prevention, or CDC, BMI-for-age growth charts take into account these differences.

The CDC uses the terms *obese* and *overweight* to describe adults. When referring to children the CDC recommends the terms *at risk of overweight* and *overweight*.

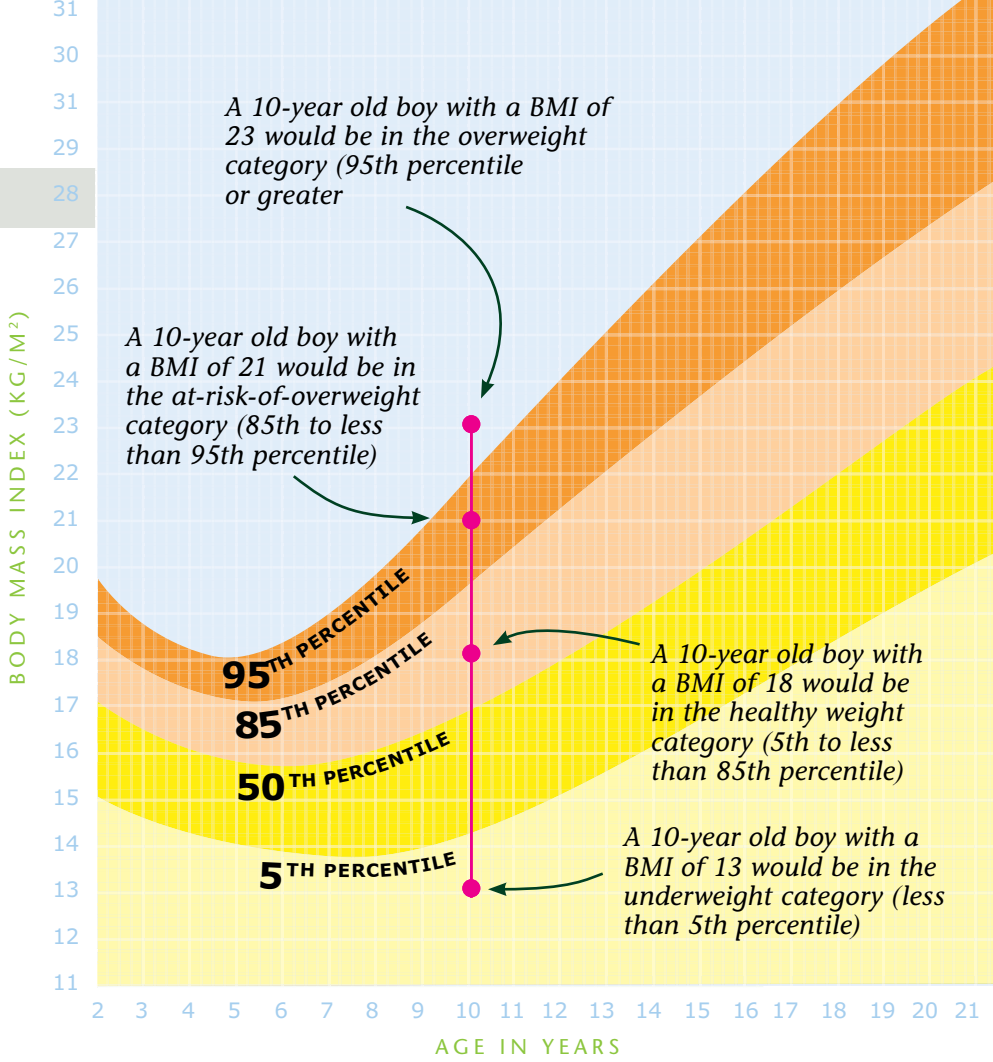
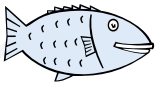


FIGURE **1b: BMI for Boys 2–21 Years**

In Figure 1b, the growth chart shows BMI percentiles for boys age 2 to 20 years. A 10-year-old boy is used for an example.

The 10-year-old boy in the blue shaded area has a BMI of 23, which is above the 95TH percentile. This boy would be in the overweight category. The 10-year-old boy in the dark orange shaded area has a BMI of 21 which is above the 85TH percentile, but below the 95TH percentile. This boy would be in the at risk of overweight category. The 10-year-old boy in the light orange shaded area has a BMI of 18 which is above the 5TH percentile but below the 85TH percentile. This boy would be in the healthy weight category. The 10-year-old boy in the light yellow shaded area has a BMI of 13 which is below the 5TH percentile. This boy would be in the underweight category.

UNDERSTANDING PERCENTILES



OUR SOURCE FOR FIGURE 1B CHART
www.cdc.gov/nccdphp/dnpa/bmi/childrens_BMI/about_childrens_BMI.htm

DIVE IN DEEPER
partners.hss.state.ak.us/takeheart/pdf_files/BMI%20Chart.pdf

MORE ON GROWTH CHARTS
www.cdc.gov/growthcharts/

The easiest way to explain percentiles is to use Figure 1b. The 10-year-old boy with a BMI of 18 is plotted on the 75th percentile line. This means that 75 percent of children the same age in the United States have the same or smaller BMI than him and 25 percent have a higher BMI.

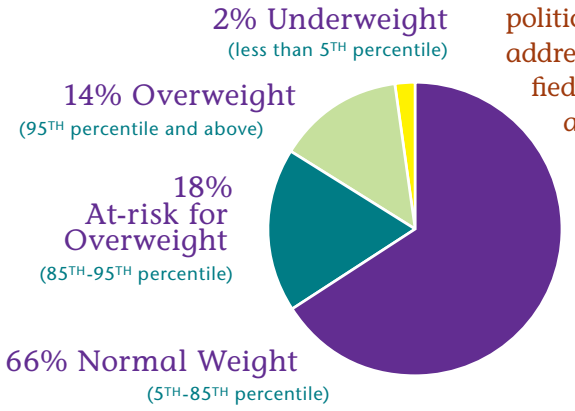
State of Overweight Among Children

SLIDE 5 MODULE ONE

It is extremely important to address nutrition and physical activity to promote a healthy weight in the early child care setting because research suggests children are becoming overweight or at risk of overweight during their toddler and preschool years. Head Start staff have the opportunity to teach children and families good healthy habits to prevent weight gain in early childhood.

FIGURE **1c: Anchorage School District BMI Status**

Kindergarten and First Grade Students: 1998–2003



OUR SOURCES FOR THIS CHART

Figure 1c shows the weight status of Anchorage School District kindergartners and first graders. Eighteen percent are at risk of overweight and 14 percent are overweight. When overweight and at risk of overweight are combined, 32 percent of students are above a normal weight.[3] This suggests that weight gain occurs during the toddler and preschool years emphasizing the importance of nutrition and physical activity in the Head Start setting.

SLIDE 6 MODULE ONE

Currently there is no available Alaska statewide information about overweight preschoolers, so we must look at national information. Figure 1d is from the 2004 National Pediatric Nutrition Surveillance Survey report. The figure shows the percent of overweight children aged 2–5 years by race and ethnicity. As shown, there has been a steady increase in weight since 1995 for the total population as well as for the American Indian/Alaska Native population.[4]

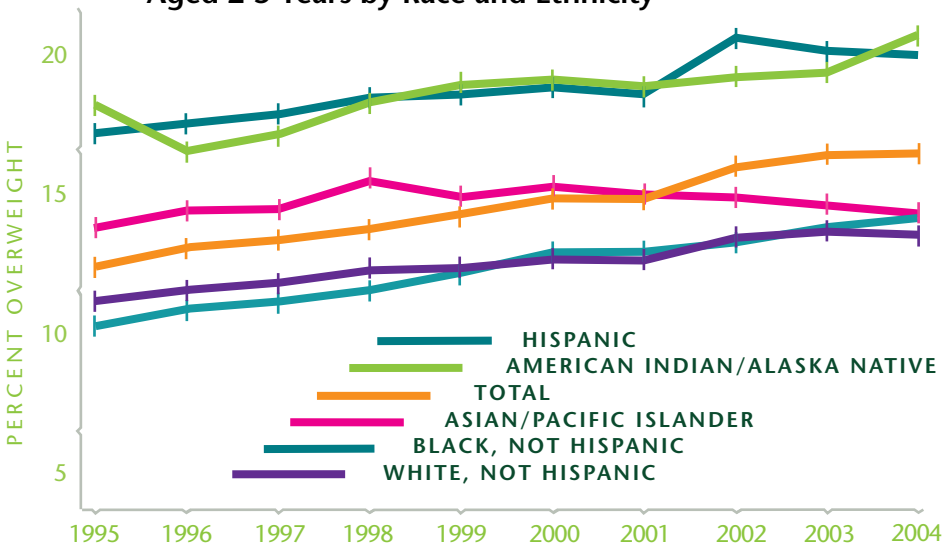
Various unpublished reports and health provider testimony suggest that Alaska's preschoolers are following a similar trend in the increasing numbers of overweight children. Health professionals, public health specialists, and political leaders are working to address the issue and have identified schools and preschools as a target area. After parents, schools and preschools have the greatest influence on a child.

SLIDE 7 MODULE ONE

Parents do not always recognize that their child is overweight. In one study, parents with overweight children were asked if their child was overweight, normal weight, or underweight. Only 27 percent of the parents accurately described their female child as overweight and 14 percent accurately described their male child as overweight.[5]

When talking with parents about their child's weight it is very important to consider the parent's view of their child. If parents are not correctly identifying their own child as overweight, they are very unlikely to listen to advice about good nutrition and physical activity if they feel overweight is the underlying topic. Therefore it is very important that health professionals and early childhood educators discuss childhood overweight in a manner that increases understanding and provides solutions. Those solutions are to encourage healthy, lifelong diet and physical activity habits in children to promote healthy growth, prevent disease and increase physical coordination and strength.

FIGURE **1d: Overweight Among U.S. Children Aged 2-5 Years by Race and Ethnicity**



OUR SOURCE FOR THIS CHART

2004 National Pediatric Nutrition and Surveliance Survey

Peterson E, Utermohle C, Green T, & Middaugh J. Prevalence of Overweight Among Anchorage Children: A Study of Anchorage School District Data: 1998-2003. Bulletin Vol. 8(9), November 10, 2004. Section of Epidemiology, Division of Public Health, Department of Health and Social Services, State of Alaska, Anchorage, Alaska. Available at www.epi.hss.state.ak.us/bulletins/docs/rr2004_09.pdf

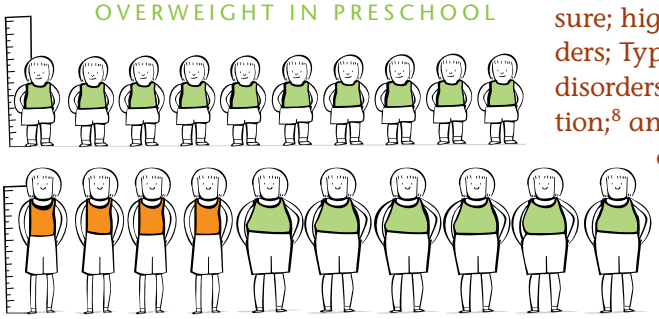
SLIDE 8 MODULE ONE

Studies have shown that overweight children do not always "grow out of it." Children who are at risk of overweight and overweight in early childhood have an increased chances of being an overweight or obese adult.

SLIDE 9 MODULE ONE

A study from the National Institute of Child Health and Human Development showed that six of 10 overweight preschoolers were still overweight at age 12 (Figure 1e). The study also showed that eight of 10 overweight elementary children were still overweight at age 12.

FIGURE **1e: Preschoolers Overweight by 12**



SLIDE 10 MODULE ONE

Health Concerns and Causes of Overweight

Parents want their children to lead healthy, productive, disease-free lives. Head Start staff can help families and children understand that good nutrition and physical activity can help achieve these goals.

The current and future health of a child can be affected if a child is overweight. Overweight and at risk of overweight children have an increased risk of: high blood pressure; high cholesterol; joint disorders; Type 2 diabetes; psychosocial disorders; facing social discrimination;[8] and becoming obese as an adult.[6,7] These diseases in adults can increase the risk for: early death; heart disease; diabetes; arthritis; gallbladder disease; and certain types of cancer.

The increased risk for poor health in childhood because of overweight and at risk of overweight threatens to make this generation of American children the first to have a shorter life span than their parents.[9]

SLIDE 11 MODULE ONE

SLIDE 12 MODULE ONE

The causes of overweight and obesity are very complex and a single answer will not resolve the issue. Each of the levels of influence and factors listed in Figure 1f play a role in the amount of physical activity the individual chooses and the food selections made. Head Starts are in the perfect position to influence many of these factors.

At the individual level, Head Starts can provide education to increase nutrition knowledge to both families and children and can model healthy eating behaviors. At the home level, Head Starts can provide education on the importance of family meals, feeding practices including reasonable portion sizes, and encouragement on decreasing TV and screen time. At the community and organizational level, Head Starts can provide parent and child care provider training and education and serve healthy foods at the Head Start. At the environmental and policy level, Head Start staff and parents can leverage their power to recreate societal and cultural norms and influence policy at the local, state and national level.

DETAILS OF THE NICHD STUDY

THE NATIONAL INSTITUTE OF CHILD HEALTH AND DEVELOPMENT (NICHD)
www.nichd.nih.gov/od/secc/index.htm

In one study, growth data from the National Institute of Child Health and Human Development Study of Early Child Care and Youth Development were analyzed. Height and weight of participating children in the study were measured at seven different ages: 24, 36, 54 months and 7, 9, 11 and 12 years.

Children who were ever above average weight (greater than the 85th percentile) one time at ages 24, 36, or 54 months during the preschool ages were more than five times as likely to be overweight at age 12 than those who were below the 85th percentile for BMI at all three of the preschool ages. During the elementary school period, ages 7, 9, and 11 years, the more times a child was overweight, the greater the odds of being overweight at age 12 years compared to a child who was never overweight. A child who was overweight once while at elementary school was 25 times more likely to be overweight at 12, compared to a child who was never overweight while at elementary school.[6]

Another study chose to use the term obese instead of overweight to describe children above the 95th percentile. This research examined the relationship between obesity in childhood and obesity in adulthood by reviewing the epidemiologic literature published between 1970 and July 1992. For all studies and across all ages, the risk of adult obesity was at least twice as high for obese children as for nonobese children. The risk of adult obesity was greater for children who were at higher levels of obesity and for children who were obese at older ages.[7]

FIGURE **1f: Levels and Factors Influencing Nutrition and Physical Activity**

Interpreting GrowthCharts

SLIDE 16 MODULE ONE

Head Start staff are required by Head Start Performance Standard 1304.23 to work together with the child's family to identify nutritional needs, including height and weight information. Many Head Starts plot each child's height and weight information on a growth chart. For children over the age of 2, the CDC BMI age- and sex-specific charts should be used. These charts can be shared with parents to help lead staff into discussions about food, nutrition and physical activity with the family. However, the growth chart needs to be presented properly. As noted before, almost 75 percent of parents with overweight children do not considered their child overweight.[5]

Discussing weight issues with parents must be done carefully and with an emphasis on the importance of good nutrition and regular physical activity as an investment in their child's current and future health.

Changing Alaskans' food knowledge and societal norms will be difficult and take time. However, parents are more easily influenced because of their desire to provide for their children. The goal is to have families make food choices for their children as an investment in their child's current and future health.

SLIDE 13 MODULE ONE

Changing Alaskans' physical activity knowledge and participation will also be difficult and take time. Many Americans spend more time watching TV and on the computer than being physically active. Head Starts can help address these issues by providing physical activity education to children and to parents. Children and families can benefit from participating in physical activities, receiving quick and easy physical activity ideas, and education about being physically active in small indoor spaces, as a family, and during all seasons of the year.

SLIDE 14 MODULE ONE

SLIDE 15 MODULE ONE

Most experts agree that the factors influencing a child's weight are parents/family, businesses/worksites, community programs, media, the health system and the child care provider setting (Figure 1g). Head Start can play a role in the solution. Over 3,500 children in 105 Alaska communities spent time in Head Start during 2004, underscoring the important role Head Start staff play in helping children and families make healthier choices. Head Start provides the perfect environment to educate, influence and teach children and parents about good nutrition and physical activity.

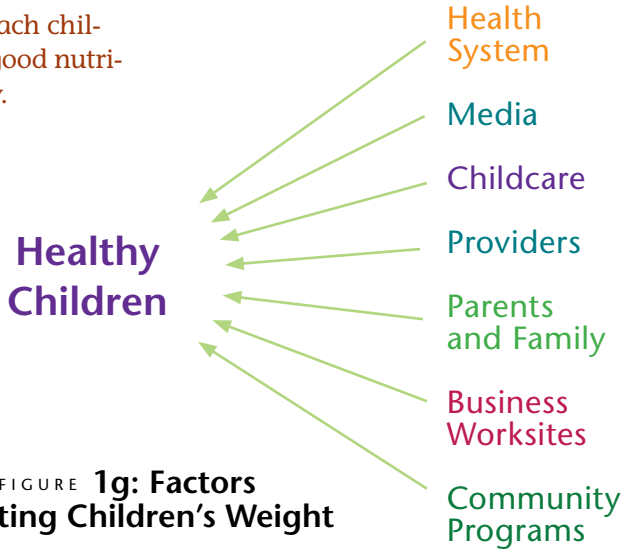
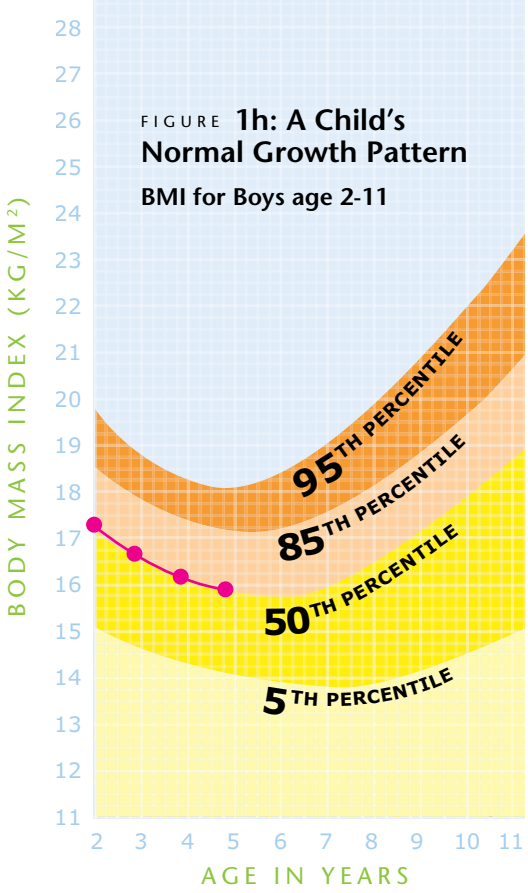


FIGURE **1g: Factors Affecting Children's Weight**



Growth charts are not just used to determine overweight but are used to follow a child's pattern of growth. Plotting a child's BMI on a growth chart at different ages in their Head Start career and following the growth curve is important. Over time, a child's growth curve gives a general picture of how the child is developing physically. Overall growth patterns can be tracked by comparing BMI to national averages for children of the same age and gender, and to measurements from previous ages.

When tracking a child's growth, it is more important that the child is growing at a steady, appropriate rate than that he or she hits a specific number on the chart. Figure 1h shows a child following a normal growth pattern. This child is at the 50TH percentile for his weight, and has been at the 50TH percentile the last three years. The child is following the expected curve of growth and therefore he is likely growing normally.

SLIDE 18 MODULE ONE

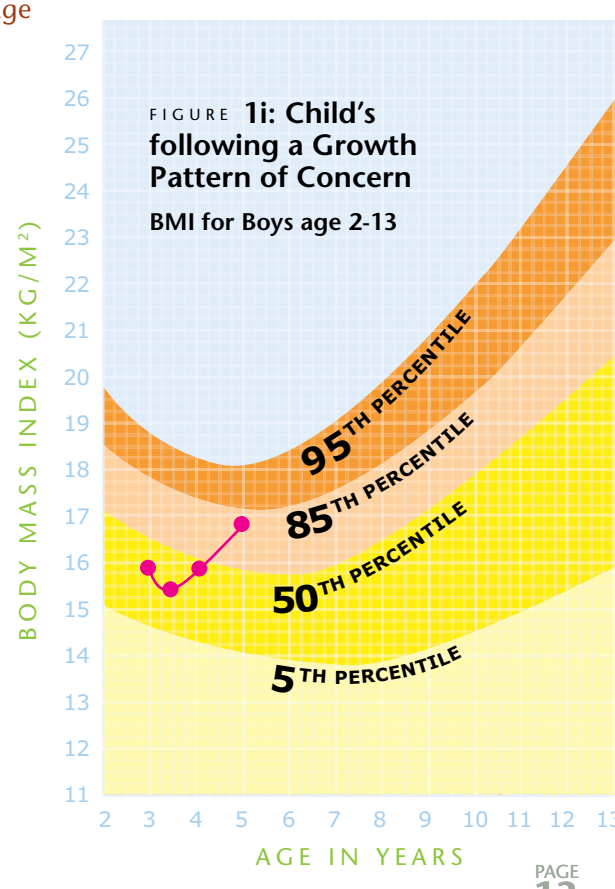
Weighing and measuring children takes time and effort and so it is important that the measurements provide useful information for staff and families and are beneficial to the children. One key part of making sure information is useful is to ensure that height and weight measurements are accurate. Children should be weighed and measured properly so that they are put into the right weight category and their growth patterns show correct information.

To demonstrate how critical accurate measurements are, here is an example of a 5½ year old boy. The boy weighs 41.5 pounds and is 43 inches tall. Using those measurements, the boy has a BMI of 15.8 and a BMI-for-age at the 50TH percentile, which is in the healthy weight range. If the boy was inaccurately weighed at 42.25 pounds, a mere ¾ of a pound different, the boy's BMI would be 16.3 and BMI-for-age in the 75TH percentile. Although this boy would remain in the healthy weight category, his growth chart would show an increase in BMI and might cause unnecessary concern among teachers and his family.

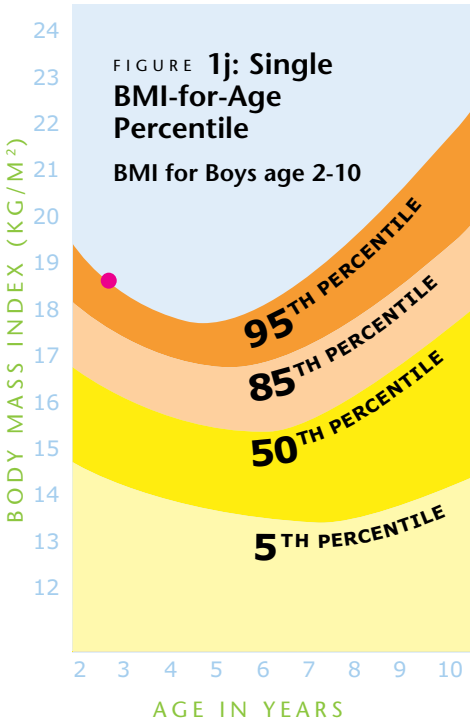
To make sure that height and weight measurements are accurate, Head Start staff should use the same equipment each time a measurement is made. They should also use the same technique for measuring children. Training on how to take height and weight measurements should be provided, with a refresher course each year.

SLIDE 19 MODULE ONE

If the a Head Start child had the growth pattern shown in Figure 1i, Head Start staff would want to double check that the BMI was calculated correctly, that the age was calculated correctly, and that the BMI and age were plotted correctly. If these three checks are correct, the next step would be to re-weigh and measure the child and plot the new information. If the child is truly showing a pattern of weight gain as shown in Figure 1i, Head Start staff should talk to the child's parents and explain the purpose of the growth chart, explain the pattern of concern and refer the child to a health care professional to be evaluated.



When talking about possible weight gain, parents should be reminded not to place children on a weight reduction diet without first consulting a health care provider. Head Start staff should not encourage weight loss in children. Rather, they should emphasize that children need to eat nutritious foods and participate in regular physical activity to achieve and maintain a healthy weight.



SLIDE 20 MODULE ONE

The pattern of growth shown in Figure 1i is of concern because the child had been at the 75TH percentile for a year and then moved above the 85TH percentile. In this case, the pattern of growth for the child is what is important, not the actual BMI. As shown in Figure 1i, the child's BMI at age 3 is very similar to his BMI at age 4½.
The change in the percentile is what causes concern about the child's growth.

SLIDE 21 MODULE ONE

The child in Figure 1j has only one BMI plotted on the growth chart. The boy is at the 95TH percentile indicating he is overweight. However, the child's health provider is the only one that should diagnosis a child as overweight. Since Head Start staff cannot make a medical diagnosis of overweight it can be difficult for staff to talk to parents about the growth charts of children above the 85TH percentile. If used correctly, however, the growth charts can be used to talk about a child's health without upsetting parents.

Head Start staff members work with the child every day and know the child's body shape, about the child's eating and activity habits, and about the family. Therefore, staff can use the growth charts with families to help open a discussion about healthy weight, healthy eating and active play. When discussing the growth charts, staff should clearly explain to the parents what the growth charts measure and what the percentiles mean. They should ask parents about their perception of their child's weight. This provides the opportunity to ask the parents if the child's health care provider has talked to them. If the family has not talked with a health care provider about their child's weight, Head Start staff should refer the family to a provider. In the meantime, Head Start staff should offer to provide local resources and information about healthier eating and physical activity.

GETTING A FULL DIAGNOSIS

What Head Starts Can Do

To address the issue of childhood overweight, Head Starts should find ways to increase the level of education on physical activity and nutrition given to parents and children, continue to serve healthy foods, and increase the amount of active play in the classroom. These improvements can be made without impacting the other Head Start requirements. Physical activity and nutrition education can be used to teach science, literacy, math or any of the other domains of learning.

SLIDE 22 MODULE ONE

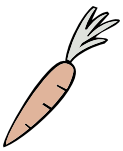
INSPIRE YOUR KIDS TO EAT WELL AND STAY FIT

health.gov/DietaryGuidelines
www.cdc.gov/nccdphp/dnpa/bmi/childrens_BMI/children_tips.htm

BMI alone is not a diagnostic tool. For example, a child may have a high BMI for age and sex, but to determine if excess fat is a problem, a health care provider would need to decide. It is important for the child to be seen by a health care provider because there are various health concerns associated with weight gain. The provider will evaluate height and weight independently using the CDC 2 to 20 years Weight-for-age and Stature-for-age growth charts to determine if changes in weight or height had a greater impact on the BMI. A health care provider may also check skin fold thickness measurements, evaluated the diet, physical activity, family history, and perform other appropriate health screenings. The goal for overweight children and adolescents is to reduce the rate of weight gain while allowing normal growth and development.

The following materials in this training manual will provide information to Head Start staff on improving the food environment and improving physical activity in the Head Start classroom. There are also materials to be used by Head Start staff to encourage parents to increase the number of meals eaten together, improve the selection of healthy snacks and meals, and increase the amount of physical activity at home. The last section of the manual is designed to help food service staff plan, prepare and serve nutritious meals for Head Start children and addresses the use of traditional food use in Alaska's Head Starts. This information is valuable for all staff members so that food service staff menu planning decisions are understood and supported by all Head Start staff.

Although the material is divided into sections for classroom staff, parents, and food service staff the information in each module can be used by all Head Start staff interested in learning more about the importance of good nutrition and active play for preschool childen.



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