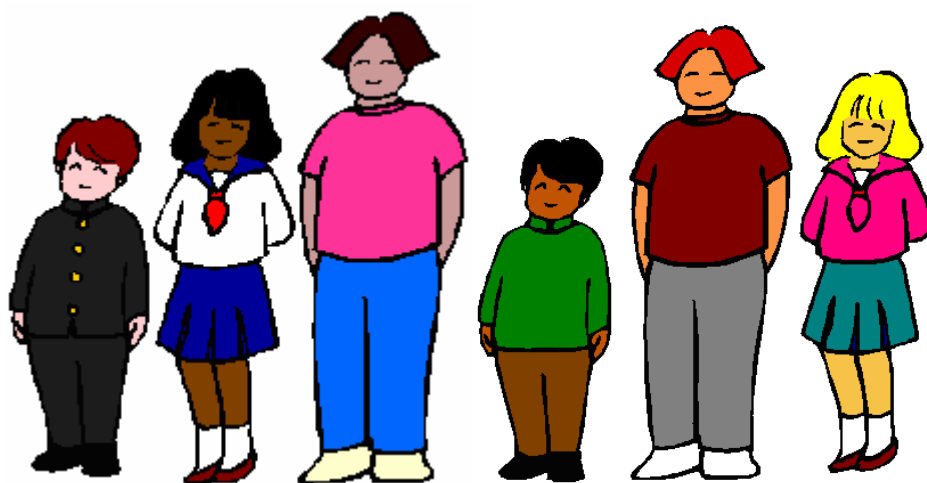




How to Assess Overweight Status in Children: A Training Guide





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Coordinated by the Alabama Department of Public Health
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Introduction

You will be responsible for measuring and weighing children. This is a very sensitive issue that requires careful consideration on your part. Here are some things to keep in mind:

- Always assess height and weight in a private setting.
- Children are receptive to adult comments. Think before you speak!
- Do not allow the children to tease or make fun of someone else's body.
- Smile and be pleasant but do not comment on any aspect of height and weight measurements.
- If a child should have any remarks about his or her body, it is okay to make a kind comment. For example you might say, "all of us come in different sizes and shapes" or " if you are concerned, you are welcome to talk to me in private."
- When a child does come to speak with you, listen carefully and kindly but do not make any diagnosis or statement that the child is overweight, obese, fat, skinny, or too thin. Only a health care provider should do this and only after reviewing the child's weight and height history. Afterward, contact the child's parents and provide appropriate information about the child's concerns.

The following guidelines were developed to help you measure children in a way that is accurate as well as sensitive and supportive.



Before You Start...

1. You may want to obtain consent from parents. You can tailor the consent form provided in this packet to your program's needs.
2. Ensure you have a private place to obtain height and weight measurements from children. You want the students/participants to feel comfortable.
3. Make sure your staff is trained in how to take accurate weights and heights. See our training materials for assistance.
4. Ensure your staff is trained on how to take these measurements in the most sensitive manner. See the introduction of this manual.
5. Check your equipment to ensure accurate results.
 - Children should be weighed using a platform scale. This can either be a beam balance scale or a digital scale.
 - To ensure good readings, make sure that the scales are calibrated (reading zero when nothing is on the platform surface).
 - Your scale needs to measure weight to the nearest $\frac{1}{4}$ pound or 100 grams. In other words, you need a really good scale. A bathroom scale is not ok.
 - In order to accurately record a child's height, you will need a standing height board (a large measuring ruler that is mounted on the wall of a room with a level floor) or stadiometer (a pole with measuring lines that has a moveable head piece). You **should not** use the attached measuring device found on a balance scale because the child will not be able to get into the proper position for accurate measurement of height while standing on the scale. **Do not** measure height up against a wall that has a baseboard.
 - Your height board or stadiometer must measure height in the nearest $\frac{1}{8}$ inch or 0.1 cm.
6. Make sure you have plenty of data collection cards. This guide provides a form to assist you in collecting **all the essential** information you need to accurately calculate BMI for age.

If you have the right equipment, trained, **sensitive** personnel, then you are ready to begin.



Measuring Weight and Height

Before you begin,

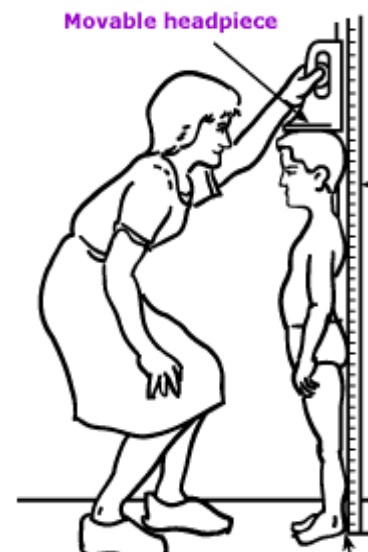
- Set up the scale and stadiometer in a private area.
- Ensure all personnel are trained on how to accurately measure height and weight in a sensitive manner.

How to Measure Weight

1. Ask the child to remove shoes and outer clothing.
2. Place the scale in the “zero” position before the child steps on the scale.
3. Ask the child to stand still on the platform with both feet at the center.
4. Immediately record results to the nearest 1/4 pound or 100 grams.

How to Measure Height

1. Ask the child to remove shoes and caps. If the child has a tall hairstyle, ask him/her to undo it.
2. Position the child.
 - Shoulders level
 - Hands at sides
 - Thighs and heels together
 - Feet flat
 - Head, upper back, buttocks, and heels should all be in contact with the height board or stadiometer. *(Note: In some cases when the child's chin is in the correct position, their head may not make contact with the head board or stadiometer. This is not a problem).*
3. Ask the child to take a deep breath and hold his/her position.
4. Lower the head piece until it firmly touches the crown of the child's head.
 - The head piece should be parallel to an imaginary line that contains the eye socket and the top of fleshy part of the ear (above the opening).
5. Ensure proper position one more time and record the child's height to the nearest 1/8 inch or 0.1 cm.





How to Calculate and Assess Body Mass Index (BMI)

- Body mass index or BMI is an index of height and weight used to assess weight status. When a child is 2 years of age or older, BMI for age is used to determine weight status.
- Children and adolescents (2-20 years) can be classified into 4 weight categories by BMI
 - underweight,
 - normal weight,
 - risk of overweight, or
 - overweight.
- To correctly calculate and assess BMI, it is important to obtain accurate heights and weights. For children and adolescents, you will need to have measured:
 - weight to the nearest 1/4 pound or 100 grams,
 - height to the nearest 1/8 inch or 0.1 cm, and
 - age to the nearest month.
 - You will also need to have recorded the child's gender (See the data collection cards included in this manual).
- Once these measurements are collected, a child's body mass index can be determined. The formula and calculation for body mass index is listed below.

BMI Formula: $[\text{weight (lb)}/\text{height (in)}/ \text{height (in)}] \times 703$



Example: A child's height and weight is 41 ½ inches and 37 pounds, respectively.

$$\text{BMI} = [37 / 41.5 / 41.5] \times 703$$

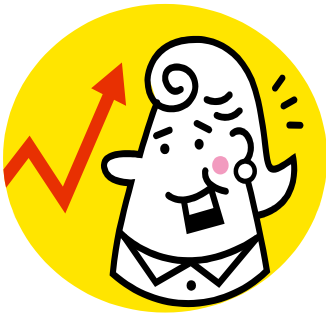
$$\text{BMI} = [.021] \times 703$$

$$\text{BMI} = 14.76$$



Now, that I have my measurements...what should I do?

Individual Assessment:



- First, please note that a single measurement should *not* be used to diagnose a weight problem in a child. Only the child's physician can make such a call. In fact, it is unwise to attempt to interpret the data you collected for the individual child without a series of measurements.
- Secondly, you would not want to track the growth of individual students. This is a difficult task and, again, this is the role of their physician.
- Instead, you could offer information regarding the BMI for age percentile of the child to the parent and encourage the parent to discuss this information with their physician.

If you decide to send home information on a child's weight status, please note this could be a rather sensitive issue.

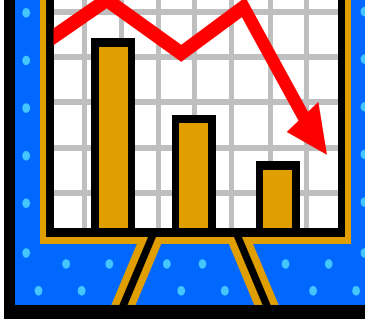
- **Tips for sending home information on a child's weight status.**
 - Other states have tried sending home "obesity report cards." It has proven to be a rather sensitive subject with some parents.
 - If you decide that you will send home information regarding the BMI for age percentile of the child, then please use this opportunity to discuss healthy eating and physical activity for all members in the family, regardless of weight.
 - Be sensitive!
 - Don't diagnose!
 - This guide also provides a template parent letter that you can alter to fit your program or project's needs.






Now that I have my measurements...what should I do?

Group Assessment:

- A single measure of height and weight from all students/participants in your school/program can be useful in determining the percentage of students that fall into each weight category (underweight, normal weight, risk of overweight, and overweight). This could be important information that could help to determine which obesity-related interventions are right for your school/program.
- 
- For example, you may want to track the BMI for age of students by grade. You would track the percentage of students who fall within the four different weight categories by each grade over time. So, you could see if the percentage of students who were classified as overweight in 5th grade in 2010 is greater than the percentage of students who were classified as overweight in the 5th grade in 2005. **This is one of the best ways to use this data.** If the percentage of 5th grade students who are overweight in 2010 is less than it was in 2005, then your program could be working.
 - Don't do the following:
 - Average the weight measurements of your students/program participants. This will provide little usable information on your participants. Remember, weight is related to height, gender, and age.
 - Average the BMI of your population. Again, you need to plot the BMI for age on the gender specific growth chart and obtain BMI for age percentile for each individual. Then you can interpret the result.
 - Average the BMI for age percentiles. You should classify each individual into one of the four weight status classifications and look at the percentage of students that fall into each category.



Collecting the data

- First, you may want to obtain consent from parents. This is highly encouraged. You can tailor the consent form provided in this packet to your program's needs.
 - Second, it is important that you collect your height and weight data using a standard method. A standard data collection form will ensure that all students/participants are asked the same questions in the same manner.
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- The illustration shows two children, a girl on the left and a boy on the right, standing and holding clipboards. The girl has dark hair, wears glasses, a pink long-sleeved shirt, a purple patterned skirt, and brown boots. The boy has dark hair, wears a red long-sleeved shirt, green cargo pants, and red sneakers. Both are looking towards the right side of the frame.
- Two data collections forms have been provided in this packet. Again, you can tailor the data collection forms to fit your needs.
 - The long form includes information on race and ethnicity. Some audiences (small children) may not be able to answer this question.
 - The short form does not include this question. It does, however, include all information needed to plot the BMI for age percentile of a child. **WARNING: You can add information to the data collection card (short form) BUT don't remove any information.**



Data Collection Card: Long Form

Today's Date: _____

My grade in school: _____

Month of Birth: _____

Year of Birth: _____

How do you describe yourself? (Select one or more responses.)

- a. American Indian or Alaska Native
- b. Asian
- c. Black or African American
- d. Hispanic or Latino
- e. Native Hawaiian or from a Pacific Island
- f. White or Caucasian

TO BE FILLED IN BY THE PERSON WHO MEASURES YOU:

Height: _____ inches (to the 1/8 inch)

Weight: _____ pounds (to the 1/4 pound)

Age: _____ years _____ months

Gender (Circle one): Boy Girl

BMI: _____ (You must calculate.)

Alabama County _____ Name of School/Program _____



Data Collection Card: Short Form

Today's Date: _____

My grade in school: _____

Month of Birth: _____

Year of Birth: _____

TO BE FILLED IN BY THE PERSON WHO MEASURES YOU:

Height: _____ inches (to the 1/8 inch)

Weight: _____ pounds (to the 1/4 pound)

Age: _____ years _____ months

Gender (Circle one): Boy Girl

BMI: _____ (You must calculate.)

Alabama County _____

Name of School/Program _____



Consent Form

Dear Parents and Guardians,

Our school/program is implementing a new component into our curriculum that focuses on healthy living. This new healthy living component is geared to teach children valuable lessons regarding good nutrition and adequate physical activity. Children and adults alike can benefit from regular physical activity and healthy eating.

Our primary goal is to:

1) *Promote healthy lifestyles through healthy eating and improved physical fitness and activity levels*

One component of our program requires that our trained staff obtain each child's height and weight in order to determine how our students are growing. This information will be kept confidential and only reviewed by staff associated with the healthy living component. The data collected will be used to evaluate and improve the program.

Whether you decide to allow your child to participate or not, please return the attached form.

If you have questions, please call me at _____.

Cordially,



I wish for my child to participate: (Circle one) YES NO

Signature of Parent/Guardian _____ Date _____

Signature of Child _____ Date _____

Child's Name _____ Child's Birthdate ____/____/____



Follow-Up Letter

Dear _____,

The following information has been collected from your child as part of our healthy living program:

Name of child _____
Grade: _____ Age: _____
Weight: _____ pounds
Height: _____ feet _____ inches
BMI for age percentile: _____
Weight Status based on BMI percentile (circle one):
Underweight
Normal Weight
Risk of becoming overweight
Overweight

Body Mass Index (BMI) is a number that is calculated using your child's weight and height. This number is plotted on a growth chart to find your child's BMI for age. This measure is used to identify weight status of children and adolescents. Children and adolescents (2-20 years) can be classified into one of the following weight categories based on BMI for age:

- underweight (at or below 5th percentile),
- normal weight,
- risk of overweight (between the 85th to 95th percentile),
- or overweight (at or above the 95th percentile).

Weight status is one measure of your child's overall growth pattern and health. Before you make any judgments about your child's weight status based on this report, please read on.

If you have questions concerning your child's weight or height, we encourage you to speak with your family doctor. A single measure of BMI might not tell the entire story about your child's weight. Your doctor can weigh and measure your child and make comparisons between your child's weight and height since birth. In addition, the doctor may ask about your family history. If your child is under/over weight, your doctor will tell you. In addition, be sure to get advice from your doctor about healthy eating and physical activity, regardless of your child's weight status. We have provided information on healthy eating and improved physical activity to all parents. All children and adults should strive to improve their eating and physical activity patterns.

Please do not put your child on a weight gain/loss diet before speaking to your physician. Popular adult diets may affect your child's growth. Any specialized diet should only be used when recommended by your child's physician. Teaching your child how to maintain a healthy weight by making small positive lifestyle changes is one way that you could ensure your child stays healthy throughout their life. Please see our enclosed tip sheet, entitled "How to Help your Child Adopt a Healthy Lifestyle."

You are encouraged to ask any questions at this time about the healthy living program. Your suggestions and concerns are important to us so please be vocal with your opinions. If you have any questions, please contact _____ at _____. Thank you for your support.

Cordially,



How to Help your Child Adopt a Healthy Lifestyle

It is important to teach your child healthy habits at an early age so that your child can grow into a healthy adult. Good eating habits and regular physical activity help your child achieve a healthy lifestyle.

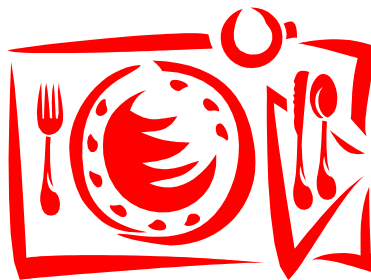
Good Eats

What (and how) your child eats at home is one thing that you can control.

- Instead of high-calorie snacks and soft drinks, make fruits and vegetables available for snacks.
- Take your child to the grocery store and use this time as a learning experience.
- Eat together at the dinner table and allow your child to serve himself or herself.
- Encourage your child to start with a small portion and get seconds only if he or she is still hungry after the meal.

Rate your Plate

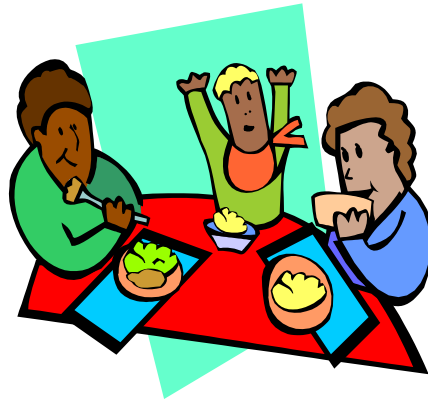
How do the foods on your child's plate measure up? Use the following checklist at meals to make sure that your child eats nutritious foods everyday:



- Are at least 3 food groups represented?
- Is there at least one serving of fruit or vegetable?
- Are there brightly colored foods on the plate?
- Have I eliminated the excess calories on the plate (fried foods, gravies)?
- Have I chosen a beverage low in sugar such as milk or 100% fruit juice?

Eating Together, Learning Together

- Be a positive role model for your child at the dinner table.
- Involve your child in making a menu for the week and allow your child to help you prepare the meals.
- Engage in casual conversation at the table to slow down the eating process.
- Encourage your child to eat slowly and put the fork down between bites.



Healthy Eating Away from Home

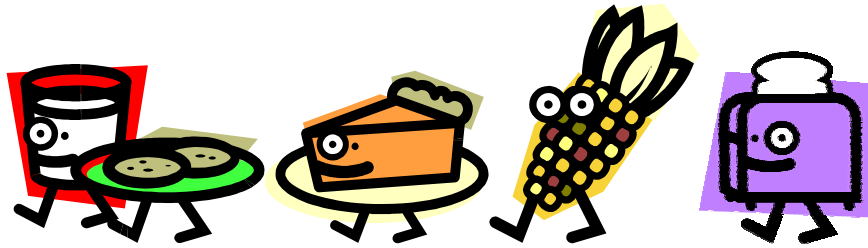
Giving your child the tools he needs to make healthy choices will let you rest assured that your child is eating a balanced diet even when you are not by his or her side.

- Pack your child's lunch with foods that represent at least 3 groups in the food guide pyramid and teach your child to recognize these food groups and plan meals in this fashion.
- Avoid eating at fast food restaurants. When you do eat out, encourage your child to make smart choices. Beverages can also add extra calories to your child's diet. However, many restaurants now offer milk and fruit juice as an alternate to soft drinks.

Smart Snacks

Offer your child healthy snacks between meals to prevent overeating at the meal itself. Here are some great snack ideas to get your started:

- Raw fruits and vegetables
- Unbuttered popcorn
- Sugar-free fruit popsicles
- Whole grain cereal and milk
- Yogurt



Move It to Lose It!

Kids need approximately 60 minutes of physical activity each day. This time can be spread throughout the day to fit into your child's schedule.

- Limit the time spent watching TV and playing video games. Instead, encourage your child to engage in active play each day.
- Build activity into your child's daily routine through chores like vacuuming, sweeping, walking the dog, or helping to wash the car.
- Think *activity*, not *exercise*. Allow your child to have fun discovering activities that he or she enjoys.

More Ways to Get Moving...

- Join a sports team at school or enroll in an after-school activity such as gymnastics, karate, or dance.
- Purchase a pedometer and let your child count the steps he takes each day.
- Go for a walk at a park or zoo.
- Ride a bike.
- Swim with friends.
- Skate.



More Tips for Parents...

- Involve the whole family in making these changes to give your child support.
- Do not use food as a reward or punishment.
- Listen to your child's concerns and fears. Allow your child to make changes in a way that is comfortable.
- Do not talk too much about calories, fat, and dieting with your child. Although it is important that your child understand how to make healthy choices, food and or weight status should not become a focus in his or her life.
- Let your child know that you love him or her regardless of weight.
- Make gradual changes. A drastic adjustment in the way a child eats and lives may cause excess stress that could make your child resistant to change.
- Keep things FUN!
- Praise your child when he meets his or her goal.

