



**Teaching children
about food and fitness**

HEAVYWEIGHT OR HEALTHY WEIGHT?

The good news: Obesity rates for American children over the past decade have leveled off. The bad news: While obesity rates are not rising, they're not getting any better either.

According to a recent study reported in *JAMA* (the *Journal of the American Medical Association*), roughly one in 10 children, ages 2 to 5, is obese. The percentage nearly doubles (one in five children, or 19.6 percent) for children ages 6 to 11 (Ogden et al. 2010).

Even though obesity rates have remained steady, one group is bucking the trend. Among boys 6 to 19 years old, the heaviest are getting heavier, and researchers don't know why.

As teachers and caregivers, we need to understand the relationship of weight to health and what we can do help.

What is obesity?

It's one thing to be *overweight* and another thing to be *obese*. Both terms apply to a range of weights greater than what is considered healthy for a person's height.

Overweight and obese ranges are determined by using a person's weight and height to calculate a number called *body mass index*, or BMI. For most people, BMI correlates with their amount of body fat. BMI does not measure body fat directly, but it's an easy and inexpensive way to screen for health problems associated with weight.

For children, BMI is interpreted using a growth chart that takes into account the normal differences in body fat amounts for boys and girls and for different ages. BMI scores are categorized in *percentiles*.

Scoring in the 70th percentile, for example, means the child's BMI is 70 percent greater than other children of the same sex and age.

In the *JAMA* study mentioned above, when the overweight and obese categories are combined, more than a third (36 percent) of 6- to 11-year-olds tip the scale in the too-heavy direction. The percentage is lower in preschoolers (21 percent of 2- to 5-year-olds), but it's clear that too many children weigh too much.

It's important to remember that BMI is a screening, not a diagnostic, tool. If a child falls outside the healthy weight category, a physician may perform other assessments. These may include examining the family history, reviewing the child's growth and

What is a "healthy weight"?

Weight category	Percentile range
Underweight	Less than the 5th percentile
Healthy weight	5th to less than the 85th percentile
Overweight	85th to less than the 95th percentile
Obese	95th percentile or greater

Source: U.S. Centers for Disease Control and Prevention (CDC). "Healthy Weight—It's not a diet, it's a lifestyle! About BMI for children and teens." www.cdc.gov/healthyweight.



Assessing weight based on BMI

The U.S. Centers for Disease Control and Prevention provides a handy, online calculator for determining BMI of both children and adults.

www.cdc.gov/healthyweight/assessing/bmi/

Using the calculator for children, we find, for example, that a 5-year-old girl who weighs 40 pounds and is 3 feet 4 inches tall has a BMI of 17.6, which places her in the 91st percentile for 5-year-old girls. As such, she is considered overweight.

development, and evaluating the child's eating patterns and physical activity (CDCa).

A family history may reveal that a child who falls in the overweight category by BMI score comes from a line of football players and is simply larger or more muscular compared to other children. An assessment of another child's behavioral habits, on the other hand, may reveal that the child's weight may increase risk for health problems, and the physician may recommend changes in diet and activity.

Why weight matters

An obese child often grows up to be an obese adult. Obesity can increase the risk for a number of serious health problems in adulthood and even pose an immediate risk in childhood, such as high blood pressure.

Health problems may include heart disease, diabetes, asthma, sleep apnea (shallow breathing or

What's so bad about high blood pressure?

Blood pressure measures the force of the blood pushing outward on the walls of the arteries and the force between heartbeats. High blood pressure, also known as hypertension, is considered anything higher than 140 over 90 (American Heart Association).

Because it strains the arteries, high blood pressure can lead to heart attack, stroke, kidney damage, vision loss, and other serious events. Recently high blood pressure has been ranked as the No. 1 risk for dementia as people age (Neergaard 2010).

breathing stoppages during sleep) and liver degeneration (CDCb). Obesity can also increase the risk for certain cancers, including breast, colon, and kidney (National Cancer Institute).

Aside from physical health problems, obesity in children can hamper psychosocial development. Heavy children often become the targets for taunts and teasing by other children, leading to social isolation and depression. The results may include poor school performance, limited social skills, and low self-esteem, which can carry over into adulthood.

Health problems associated with obesity not only cause pain and discomfort to individuals but also increase health care costs. According to the CDC, obesity-related problems require more doctor visits, hospitalizations, and drugs, all of which add up to more than \$93 billion, or more than 9 percent, of U.S. medical care expenditures (CDCc).

Education has helped

An unhealthy weight is typically the result of too many calories and too little exercise. Addressing both factors—lowering calorie intake while at the same time getting more exercise—is the best way to achieve a healthy weight.

By focusing on both factors, public health education efforts have helped stabilize obesity rates over the past decade. In response to those efforts, many schools and restaurants added salad bars to menu options, and a number of communities expanded parks and hike-and-bike trails. In addition, many schools removed vending machines with high-fat snacks and high-sugar sodas.

In homes, women took the lead in healthier eating and exercise. According to one CDC official, "Women are the early adopters of healthy behaviors." Furthermore, "women are the providers in families; they're also the ones that generally buy the food, prepare it and serve it" (Neighmond 2010).

For adults, the goal of the two-pronged approach is usually to shed pounds. But for children, who are still growing, the goal is to slow down the weight gain. In other words, they won't actually lose pounds but rather gradually shift into healthy weight ranges as they grow taller.

Another goal for children is to develop lifelong habits of healthy eating and regular physical activity.

How you can help

Teachers and caregivers can play a big role in helping children achieve and maintain a healthy weight. Some suggestions:

Involve families, especially the family

cooks. Educate parents about healthy eating and physical activity. Explain changes you are making in meals and snacks, curriculum, and physical activity in your program. Ask for parents' input and respond to their concerns.

Post information about healthy eating and activity on your Web site, include the information in newsletters, and arrange for speakers at parent meetings. Tailor the information to the lifestyle and culture of the families you serve. Give a demonstration on making low-calorie tacos and burritos, for example, or hand out recipes for nutritious dishes that take 30 minutes or less to prepare.

Encourage parents to apply changes in eating and activity to everyone in the family, not just to an overweight child.

Make nutrition part of the curriculum. Plan simple cooking and tasting activities for children 3 and older. See "Climbing onto the food pyramid:

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Children's books about nutrition and fitness

- Carle, Eric. 2007. *From Head to Toe Big Book*. Harper Festival. Ages 2-6.
- Carlson, Nancy. 2008. *Get Up and Go*. Puffin. Ages 3-6.
- Cronin, Doreen. 2005. *Wiggle*. Atheneum. Ages 2-5.
- Ehlert, Lois. 1996. *Eating the Alphabet*. Red Wagon Books. Ages 1-3.
- Ehlert, Lois. 1990. *Growing Vegetable Soup*. Voyager Books. Ages 4-8.
- Fraser, Mary Ann. 2007. *I.Q. Gets Fit*. Walker. Ages 4-8.
- Leedy, Loreen. 1996. *The Edible Pyramid: Good Eating Every Day*. Holiday House. Ages 4-8.
- Rabe, Tish. 2001. *Oh the Things You Can Do That Are Good for You: All About Staying Healthy* (Cat in the Hat's Learning Library). Random House. Ages 4-8.
- Rockwell, Lizzy. 2010. *The Busy Body Book: A Kid's Guide to Fitness*. Crown. Ages 4-8.
- Rockwell, Lizzy. 2009 (reprint ed.). *Good Enough to Eat: A Kid's Guide to Food and Nutrition*. Collins. Ages 4-8.





How many calories?

For a quick online way to learn how many calories are in different foods, try this Web site: www.calorieking.com.

To find how many calories your activities burn every day, see <http://nat.illinois.edu/energy/ec.html>.

Food and fitness with children," Summer 2005; "Cook smart! Eat smart," Spring 2006; and "Cooking in the classroom," Spring 2009, *Texas Child Care*.

At story time, read and discuss books about nutrition and fitness, such as those suggested on page 27.

Serve healthy meals and snacks. Invite a nutrition specialist or dietician to review your menus, recipes, and cooking methods and suggest changes that are healthy and affordable. In many recipes you can reduce sugar and fat by a third and reduce salt by half or omit it altogether. For more information, see "Altering Recipes for Good Health," Texas AgriLIFE Extension, at http://fcs.tamu.edu/food_and_nutrition/pdf/alteringrecipes.pdf.

Offer lots of fruits and vegetables, preferably fresh or lightly cooked to retain as many nutrients as possible. Include beans and whole grains such as whole wheat bread and brown rice for high fiber content.

Don't restrict fat for infants and toddlers because they need it for healthy nerves and brain development.

Why do boys like video games?

Some reasons:

- Video games are visually exciting and feed into boys' visual-spatial ability.
- They make boys feel strong and capable—like the superheroes they have imagined themselves to be since age 3.
- The social pressure to try and like the games is extremely strong.
- With both parents working, children must be able to entertain themselves.
- Because parents don't trust their neighborhoods, boys don't have many of the outdoor play opportunities of previous generations.

Source: Thompson, Michael. 2008. *It's a Boy: Understanding Your Son's Development From Birth to Age 18*. New York: Ballantine.

For children 2 and older, however, shift to low-fat milk, cheese, and yogurt.

Instead of frying food, use a low-fat alternative method of cooking such as boiling, broiling, or baking. Avoid potato chips and other fried foods.

Avoid or limit cakes, pies, and other sweets. Adapt recipes to use less sugar and fat (shortening, butter, oil). When making cookies, for example, use a half cup sugar to one cup of flour and substitute whole wheat flour for one-fourth of the flour. For muffins and quick breads, use one tablespoon sugar and two tablespoons of fat to one cup of flour.

Read the ingredients on commercially prepared foods, and remember that the following are names of sugars: *sucrose, sorbitol, maple syrup, corn syrup, fructose, glucose, mannitol, molasses, dextrose, maltose, honey, and lactose*.

When children are thirsty, offer water. Don't stock sodas or sweetened fruit drinks. Fresh apple slices are better than apple juice because they not only have fewer calories but also contain more fiber and help one feel more satisfied.

Model healthy eating. Sit down and eat with children. Serve small portions, and chew slowly. Be willing to try new foods, and avoid passing on your food dislikes to children.

Use meal time to discuss nutrition and healthy eating, but avoid lecturing. You might say, "I'd like another helping of potatoes, but I'm full so I'll let it go."

Avoid labeling a child as a "picky eater" or having a "sweet tooth." When Justin says, "Look, I ate all my spinach," respond with a simple "You must like spinach. It will help you build strong bones." Focus on the positive and ignore the negative.

Avoid admonishing children to "clean their plates." Let them decide when they are full. Avoid offering food or dessert as a reward. This exaggerates the importance of food.

Provide physical activity. Make time in your program schedule for children to get at least an hour of physical activity every day, the amount recommended by the American Academy of Pediatrics. If physical activity takes place outdoors in the sunshine, children get the bonus of natural vitamin D.

Keep to a minimum such sedentary activity as watching television and playing video and computer games. The AAP recommends no more than two hours of screen time a day, which children will probably get at home

DEVELOP RELATIONSHIPS WITH CHILDREN THAT STRESS THEIR VALUE AS UNIQUE AND VALUABLE INDIVIDUALS

Most children love playing outdoors. Make the playground inviting for everyone, and vary the activities according to interest. Some children may want to pull a wagon or ride a tricycle, while others will prefer jumping rope, climbing a jungle gym, having a foot race, kicking a soccer ball, or playing tag.

Group games provide exercise and nurture friendships. See “Old-fashioned games for timeless fun,” Fall 2009; “Summer games from junk,” Summer 2009; “Fun in the sun: Outdoor activities for all ages,” Summer 2004; “Move it: Physical activity for young children,” Winter 2004, and “Plunge into parachute play,” Fall 2004, *Texas Child Care*.

A key reason children participate in games and physical activity is fun. When they stop having fun, they quit the activity. Having fun means that children have feelings of belonging, acceptance by their peers, and success or competence in their physical abilities.

You can help by showing enthusiasm, engaging in the activity with children, and acknowledging their efforts.

Avoid targeting heavy children. Our culture’s emphasis on appearance already puts pressure on children to conform to a certain body image. We don’t need to feed that notion with behavior that implies big is bad. In reality, there is great diversity in body shape and size.

As caregivers and educators, we care first about how children are learning and making their way in the world. Develop relationships with children that stress their value as unique and valuable individuals. At the same time, be concerned if a child’s weight changes noticeably in a short time, or if a child seems upset about food or weight.

Avoid singling out heavier children for intervention, even if it’s well-intended. Stop any teasing of overweight children. Find ways to avoid having heavy children chosen last for a game. Instead of

Boy’s large size a “gift”

For a heartwarming story about how a formerly overweight college basketball player changed the life of a 210-pound 12-year-old, read “Slimmed-down Pittman inspires local kid” by Dana O’Neil at <http://sports.espn.go.com>.

children choosing sides, for example, have them count off and assign odd numbers to one side and even numbers to another side.

Encourage all children to listen to their bodies: “Your body will tell you when it’s hungry.” When they feel “tired,” ask whether they might feel better after a nap or after physical activity.

Help children care for their bodies

As early childhood educators, we can help children develop healthy habits that lead to healthy weights. We need to be role models in eating nutritious food and engaging in physical activity.

Our goal is to help children learn to care for their bodies. Our efforts can help them become better able to learn, have more energy, improve their physical skill and dexterity, and enhance their social skills.

References

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- American Heart Association. “What is high blood pressure?” www.americanheart.org/presenter.
- National Cancer Institute. “Fact sheet. Obesity and cancer: Questions and answers.” www.cancer.gov/cancertopics/factsheet/Risk/obesity.
- National Center on Physical Activity and Disability. “Health promotion: Inclusive physical education.” www.ncpad.org/programming/fact_sheet.
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Providing physical activity for children with disabilities

Every child, regardless of ability, can have an active lifestyle. The goal in planning is that all children will participate or work toward developing physical skill.

As a first step, consult with a child’s parents and, if possible, a physical therapist from the child’s supportive team (Early Childhood Intervention or public school). Find out which activities are most appropriate and interest the child.

Assess your program’s physical activities against the criteria below. Some activities may need to be adapted for children with disabilities, as shown by the following examples:

Environment. Can you shorten the game field or install a smooth surface on a pathway?

Equipment: Can you use a larger ball or install a harness on a swing? Can you lower or enlarge the target?

Movement: Instead of running, could the child try propelling forward in the wheelchair? Instead of catching a ball, could the child bat it with a racket?

Rules: Can you allow more time? Can you pair up children to work on a given task, providing a partner or buddy to a child with an impairment? Can you change the goal of a game, perhaps from winning to practicing a skill?

Instruction: To make instructions clear, can you reduce background noise, draw a diagram on a flip chart, or use pictures or symbols?

Prepare any adaptations in advance. Provide adequate supervision, and make sure children have access to bathrooms and water at any time.

U.S. Centers for Disease Control and Prevention (CDCa). “Healthy Weight—It’s not a diet, it’s a lifestyle! About BMI for children and teens.” www.cdc.gov/healthyweight.

CDCb. “Healthy weight—It’s not a diet, it’s a lifestyle! Tips for parents: Ideas to help children maintain a healthy weight.” www.cdc.gov/healthyweight.

CDCc. “Overweight and obesity. Economic consequences.” www.cdc.gov/obesity/causes/economics.html.