

# Weight Control and Obesity Prevention in Children

PHYSICIANS COMMITTEE FOR RESPONSIBLE MEDICINE

5100 WISCONSIN AVE., N.W., SUITE 400 • WASHINGTON, DC 20016  
PHONE (202) 686-2210 • FAX (202) 686-2216 • PCRM@PCRM.ORG • WWW.PCRM.ORG

People who maintain a healthy weight throughout life stay healthier and live longer than those who are overweight. The lifestyle habits that help keep us slim—exercise and a healthy diet—also cut our risk of diabetes, heart disease, high blood pressure, and some cancers.

The prevalence of obesity among our nation's youth has more than doubled in the past 20 years, with close to five million youths aged 6 to 17 seriously overweight or obese. The prevalence of obesity in nine-year-old children in a recent study was about 12 percent for boys and 7 percent for girls.<sup>1</sup> Even the number of young overweight four- to five-year-old girls nearly doubled between the early 1970s and the early 1990s.<sup>2</sup>

The problems caused by overweight go way beyond appearances. Childhood obesity leads to all manner of health problems, such as adult-onset diabetes and heart disease.<sup>3</sup> A number of risk factors for heart disease, stroke, and diabetes, including high blood pressure, high blood cholesterol, and insulin resistance, are sometimes grouped together and called the metabolic syndrome. In one study, obese seven-year-olds had nearly four and a half times the risk of having metabolic syndrome in adulthood than their non-obese peers.<sup>4</sup> The Centers for Disease Control and Prevention recently found that 60 percent of overweight five- to ten-year-olds already have at least one risk factor for heart disease, such as raised blood pressure or insulin levels.<sup>5</sup>

Many overweight children become overweight adults. This is in part because the number of fat cells a child has is determined by the time he or she reaches adolescence. Generally, heavier children have more fat cells, which makes it more difficult for them to lose weight as adults. And, sadly, children who are overweight maintain some added health risk even if they eventually lose the weight.<sup>6</sup>

Family plays a major role in determining a child's body size. Genetics give us our eye and hair color, but when it comes to body size and shape, genes are no match for how we live life. Doctors agree that environmental influences are very important to a child's chances of staying slim and fit. For example, a child with a family history of adult-onset diabetes has double

the risk of having diabetes as an adult. However, if the same child remains inactive, eats fatty foods, and becomes obese, he or she has a significantly greater chance of developing diabetes. We are all born with a set of genes, but we have the ability to influence how those genes are expressed simply by choosing healthy actions.

For all these reasons, it is important not to wait for children to grow out of their chubbiness, but instead to help them choose a healthy eating style and incorporate fun physical activity into their lives right away.

## Food Choices for a Healthy Body

Choosing a plant-based eating style is a simple way to achieve or maintain a healthy weight because such dietary patterns require no calorie counting and contain the nutrients a fit body needs. Vegetarians have been shown to be leaner than their meat-eating peers in a number of scientific studies.<sup>7,8</sup>

Dr. Benjamin Spock, pediatrician, medical researcher, and teacher, advised in his book, *Dr. Spock's Baby and Child Care*, that weight-loss programs for children should be based upon changing the type of food children eat, rather than the amount of food they eat. He encouraged shifting the entire family away from oily fried foods, meats, and dairy products and toward low-fat, plant-based foods—grains, pasta, vegetables, legumes, and fruit. When this is done, he stated, “weight loss typically occurs without anyone going hungry.”<sup>9</sup> This is the key to life-long weight maintenance. The scientific evidence is clear: the closer a family gets to a pure vegetarian diet, the healthier they'll be.

- Experiment and broaden food options. Try new foods, recipes, and places to eat to keep it interesting and enjoyable. Sometimes, when people change their food intake because of concerns about health, body size, or personal beliefs, they focus too narrowly on just a small number of foods. Exploring the broad range of healthful foods now available makes a menu change fun, nutritious, and sustainable.

- Choose low-fat, healthful options whenever possible. Choosing lower fat recipes and foods and eating a variety of colors are good ways to ensure that your child's diet is a healthy one. For example, oven-roasted potatoes should be chosen over French fries, pasta with marinara sauce is a better option than spaghetti with meatballs, and fruit sorbet is just as refreshing but much more healthful than ice cream. The net effect is usually a reduction in the number of calories and, of course, fat consumed in any given portion of food that isn't easily detected. Plus, the introduction of new foods adjusts the taste buds and develops an appreciation for good, wholesome food. It's best to avoid foods and beverages that have lots of energy but few or no nutrients, such as candy, soda, punch, cookies, and fried snack foods. Fatty condiments like creamy salad dressings, mayonnaise, butter, and margarine are best left off the plate. Instead of centering meals around fatty meats and cheese, meals should be built from healthy grains, legumes, and vegetables.

## Key Steps to Fitness

**F**itness has four dimensions: cardiovascular, strength, flexibility, and body composition. Activities that get the heart pumping, such as running, swimming, bicycling, aerobics, and playing sports or outdoor neighborhood games, improve cardiovascular fitness. Strength-training activities, such as weightlifting, push-ups, and sit-ups, as well as many daily tasks, such as digging in the garden, lifting boxes, carpentry work, and so forth, improve muscular development and bone strength. Stretching, yoga, gymnastics, dancing, and martial arts all promote flexibility. A healthy body composition balances muscle and other lean tissue with an appropriate amount of fat tissue for a child's age and sex. Healthy body compositions are achieved through a combination of an active lifestyle and a healthy menu of grains, vegetables, legumes, and fruit.

## What If a Child Is Already Overweight?

**A**ction should be taken now. The two main contributors to overweight are low activity level and diets based on meat, dairy products, and high-calorie, low-nutrient-density foods. The first step is assessing a family's lifestyle by looking at eating patterns and activities to determine what changes are needed to promote fitness and achieve a healthy weight. The easiest and most effective method is for all members of the family to shift together—if possible—to a healthier lifestyle. The same healthy habits will benefit the rest of the family as well as the overweight child.

A “get-healthy” approach is a better choice than embarking on a low-calorie diet for achieving fitness and a healthy weight. The idea is to focus on what is being eaten, not so much on quantity. The healthiest diet avoids animal products completely and is built from grains, legumes, vegetables, and fruit.

Parents, teachers, and guardians can work with children toward an understanding that food is a fuel for health and

fitness rather than a comfort, friend, enemy, or boredom reliever. Reading books to children that present nutrition in a fun and interesting manner is a good way to teach them the value of good nutrition. Under most circumstances, restricting the calorie intake of children is not recommended. Children continue to grow and develop into their early twenties, so they can't afford to be short-changed of nutrients. It is, however, all right to limit the quantities of highly processed foods and sugary beverages (otherwise known as “empty calorie” foods) and to help children understand reasonable portion sizes.

Children and adults benefit from learning to pay attention to their natural hunger and fullness cues, rather than focusing on “cleaning their plates.” There are natural internal signals that keep people from overeating. If a child does not want to finish his or her meal now, the plate can be wrapped and saved for when the child is hungry later. Promising dessert as a reward is best avoided as well, as it encourages overeating and makes less healthful foods seem special.

It's important for parents to talk with children about their eating and activity patterns. Children should be active for at least 60 minutes on most days, and they should eat three to five healthy meals and snacks a day. Sedentary activities, such as TV watching and computer time, should be limited except when homework requires it. It is estimated that, on average, U.S. preschoolers spend 23 hours a week in front of the television and grade-school students watch for 29 hours each week. Add to this the time spent playing video games, using the Internet, doing homework, and eating dinner—and kids spend a lot of time sitting still.

Parents can encourage their children to play with other children and to do active things with family members. Most communities have locally organized activity programs after school, on the weekends, and during the summer. Since gym class and team sports are not every child's cup of tea, encouraging individual interests such as ice skating, ballet dancing, or skateboarding are important, too. Both encouraging children to adopt a healthy, vegetarian eating style and teaching them to enjoy being active are likely to be the most important lessons children can learn for their long-term health.

Many schools are under financial pressure to downsize health and physical education programs, so support school districts in their efforts to promote wellness and physical education and to promote healthier lunches in the cafeteria. School lunch programs are required to provide nutritious, low-cost meals to students; parents and teachers can help school officials understand what options should be available for children. See [www.HealthySchoolLunches.org](http://www.HealthySchoolLunches.org) for more information.

## Staying Clear of the Food Fight

**C**hildren learn very early that what they eat is important to their parents, and they often use this knowledge to their advantage. Parents may sit for hours at the dinner table with their children until they finish their last asparagus spear. Food can be used as a reward, a way to exert control, or a way to rebel. Rewarding kids for good grades or good behavior with

sweets can set up internal conflicts about food. This is especially true if the rewards are in opposition to current goals for health or body image. If not dealt with early, these food fights may extend into adult life as well. Finding a way to sidestep the food fight is a priority. If a child is having trouble sticking to healthful foods, the following strategies may be helpful.

- Stock the kitchen with healthy foods. Having plenty of fruits, vegetables, grains, and beans on hand and keeping unhealthy foods out of the house are simple ways to eliminate conflict over which type of food to prepare or eat.
- Focus on food as a fuel for health. Choosing a simple, health-giving way of eating like the one suggested in these pages and explaining to children why it is important to eat this way will help them to appreciate and choose healthful foods.
- Reduce the emphasis on food in daily life. When people solve problems by eating or congratulating themselves with food, the importance of food has gotten out of control. Finding other solutions to problems, such as talking about them, writing about them in a journal, or taking a walk or a bike ride to figure out possible steps to take, are much healthier and productive. Families should become accustomed to using non-food treats as rewards, such as a warm conversation, reading, going to a movie or the park, making something, calling Grandma or a friend, or engaging in other physical activities.
- Set clear divisions of responsibility. If a “food fight” develops, parents should define responsibilities around foods. The parent is responsible for providing appropriate food choices. The child is responsible for choosing what to eat amongst the choices offered.
- Allow for healthy treats. Occasional treats are a good idea, but they should be healthful items. Fresh-fruit smoothies, a colorful cup of berries in season, or a vegetable dish prepared a favorite way can all be special treats and prevent a family from feeling trapped by their healthy diet.

## The Problem with Dieting

A recent study found that roughly half of American adults are currently trying to lose weight and adolescent boys and girls are close behind at 36 and 44 percent, respectively. Roughly 20 to 30 percent of dieting adolescents practice unhealthy or even dangerous diets.<sup>10</sup> In another study of five- to twelve-year-olds, 45 percent of the girls and 20 percent of the boys reported having been on a diet.<sup>11</sup>

Cutting calories is often effective at lowering weight for the short term, but usually results in overeating or binge eating and regaining of any lost weight. This is a natural anti-starvation response to dieting. Caloric restriction alters body chemistry to try to push the dieter to seek out food and makes the body conserve stored energy or hold on to its fat. Some other weight-loss schemes are similarly ineffective or destructive. Diet pills,

for example, contain caffeine or other stimulants, laxatives, or diuretics that simply cause water loss. Crash diets usually leave a person aggravated, discouraged, and the same size.

Instead of limiting calories for the purpose of weight loss, adults and children merely need to switch to healthy foods. When the diet is built from fruits, vegetables, grains, and legumes, weight management is much easier, and putting limits on calories is unnecessary. For example, a veggie burger has 0.5 grams of fat saving 20 grams of fat and 180 calories (compared to hamburger at 21 grams). A bean burrito with lettuce, tomato, and salsa has three grams of fat, for a savings of 99 calories and 11 grams of fat (compared to a chili cheese burrito with 14 grams of fat). And choosing a pineapple and tomato pizza without the cheese over a pepperoni pizza saves 14 grams of fat per slice and a total of 126 calories! It's easy to make the switch and well worth the time.

When people eat healthful foods and stay physically active, their bodies find their way to a healthy size and shape in a pleasurable and sustainable way.

## For More Information

Physicians Committee for Responsible Medicine. *Healthy Eating for Life for Children*, John Wiley & Sons, 2002.

PCRM Reports and Fact Sheets:

- Vegetarian Diets for Children: Right from the Start  
[www.pcrm.org/health/veginfo/veg\\_diets\\_for\\_children.html](http://www.pcrm.org/health/veginfo/veg_diets_for_children.html)
- Vegetarian Diets: Advantages for Children  
[www.pcrm.org/health/veginfo/vegetarian\\_kids.html](http://www.pcrm.org/health/veginfo/vegetarian_kids.html)
- Healthy Snacks for Kids  
[www.pcrm.org/health/veginfo/snacks.html](http://www.pcrm.org/health/veginfo/snacks.html)
- Vegetarian Starter Kit  
[www.pcrm.org/health/veginfo/vsk/index.html](http://www.pcrm.org/health/veginfo/vsk/index.html)

PCRM's Healthy School Lunch Campaign site:  
[www.HealthySchoolLunches.org](http://www.HealthySchoolLunches.org)

## Healthy, Kid-Friendly Recipes

### Missing Egg Sandwich

Makes 4 sandwiches

These sandwiches have the flavor and appearance of egg salad without the saturated fat and cholesterol.

- 1/2 pound firm reduced-fat tofu (1 cup)
- 1 green onion, finely chopped, including green top
- 2 tablespoons pickle relish
- 2 tablespoons vegan mayonnaise
- 2 teaspoons stoneground mustard
- 2 teaspoons reduced-sodium soy sauce
- 1/4 teaspoon each cumin, turmeric, and garlic powder

- 12 slices whole grain bread
- 6 lettuce leaves
- 6 tomato slices

Mash tofu, leaving some chunks. Add green onion, pickle relish, vegan mayonnaise, mustard, soy sauce, cumin, turmeric, and garlic powder. Mix well.

Spread on whole grain bread and garnish with lettuce and tomato slices.

*Per 1/2 sandwich: 123 calories; 7.5 g protein; 19 g carbohydrate; 3 g fat; 3 g fiber; 226 mg sodium; calories from protein: 20%; calories from carbohydrates: 58%; calories from fats: 22%*

### Broccoli with Golden Sunshine Sauce

*Makes about 4 cups*

Broccoli has been called the King of Vegetables for good reason. It is a powerhouse of nutrients, including protein, calcium, and iron, and it is delicious bathed in Golden Sunshine Sauce. The sauce is made with nutritional yeast, which gives it a lovely golden glow.

- 1 bunch broccoli (3 to 4 stalks)
- 2 tablespoons non-hydrogenated, dairy-free margarine
- 1 tablespoon nutritional yeast

Break broccoli into bite-sized florets. Peel stems and slice into 1/4-inch thick rounds. Steam until bright green and just tender, about 5 minutes.

While broccoli is steaming, melt margarine in a saucepan. Stir in nutritional yeast. Add steamed broccoli and toss to mix. Serve immediately.

*Per 1/2-cup serving: 40 calories; 2 g protein; 3 g carbohydrate; 3 g fat; 2 g fiber; 39 mg sodium; calories from protein: 15%; calories from carbohydrates: 24%; calories from fats: 60%*

### Orange Power Pops

*Makes 8 popsicles*

These creamy popsicles are a great way to add protein, calcium, potassium, and other nutrients to the diets of finicky eaters.

- 1 12.3-ounce package firm reduced-fat silken tofu
- 1 cup calcium-fortified orange juice concentrate
- 1 cup fortified vanilla soymilk
- 1/4 cup maple syrup
- 2 ripe bananas

Combine all ingredients in a blender and process until completely smooth. Pour into popsicle molds or paper cups and freeze.

*Per popsicle: 131 calories; 4 g protein; 28 g carbohydrate; 1 g fat; 1 g fiber; 234 mg calcium; 28 mg sodium; calories from protein: 12%; calories from carbohydrates: 82%; calories from fats: 6%*

### References

1. Dywer JT, Stone EJ, Yang M, et. al. Prevalence of marked overweight and obesity in a multiethnic pediatric population: findings from the Child and Adolescent Trial for

Cardiovascular Health (CATCH) study. *J Am Diet Assoc* 2000;100(10):1149-56.

2. Ogden CL, Troiano RP, Briefel RR, Kuczmarski RJ, Flegal KM, Johnson CL. Prevalence of overweight among preschool children in the United States, 1971 through 1994. *Pediatrics* 1997; 99(4): E1.
3. Vanhalla M. Childhood weight and metabolic syndrome in adults. *Ann Med* 1999;31:236-239.
4. Hulman S, Kushner H, Katz S, Falkner B. Can cardiovascular risk be predicted by newborn, childhood, and adolescent body size? An examination of longitudinal data in urban African Americans. *J Pediatr* 1998;132(1):90-7.
5. Centers for Disease Control and Prevention. CDC Surveillance Summaries, July 7, 2000. *MMWR* 2000;49 (No. SS-6).
6. Must A, Jacques PF, Dallal Ge, Bajema CJ, Dietz WH. Long-term morbidity and mortality of overweight adolescents: A follow-up of the Harvard Growth Study of 1922 to 1935. *N Engl J Med* 1992 327(19):1350-5.
7. Snowdon DA, Phillips RL. Does a vegetarian diet reduce the occurrence of diabetes? *Am J Publ Health* 1985;75:507-12.
8. Melby CL, Goldflies DG, Hyner GCL, Lyle RM. Relations between vegetarian/non-vegetarian diets and blood pressure in black and white adults. *Am J Publ Health* 1989;79:1283-88.
9. Spock B, Parker SJ. Dr. Spock's Baby and Child Care. 7<sup>th</sup> edition, Simon & Schuster, New York, NY, 1998.
10. Neumark-Stainzer D, Rock CL, Thornquist MD, Cheskin LJ, Neuhouser ML, Barnett MJ. Weight-control behaviors among adults and adolescents: associations with dietary intake. *Prev Med* 2000; 30(5):381-91.