



Nutrition Tools

Tool A: Nutrition Questionnaire for Infants

The nutrition questionnaire for infants (see pocket at the back of the guide) is a tool for parents to complete before meeting with a health professional. The questionnaire provides a useful starting point for identifying areas of nutrition concern and the need for additional screening.

When reviewing the responses to the questionnaire, use the interpretive notes to identify areas of concern and determine follow-up questions or actions. The notes are listed by their corresponding questions on the questionnaire.

1. Feeding is crucial for the development of a healthy relationship between parents and their infant. A parent's responsiveness to an infant's cues of hunger and satiation and the close physical contact during feeding facilitate healthy social and emotional development.
2. Signs of hunger include hand-to-mouth activity, rooting, pre-cry facial grimaces, fussing sounds, and crying. Signs of fullness are turning the head away from the nipple, showing interest in things other than eating, and closing the mouth.
3. Infants should be fed breastmilk or iron-fortified infant formula, even in infant cereal. If infants are weaned from breastmilk before 12 months, they should be fed iron-fortified infant formula rather than cow's milk. Cow's milk, goat's milk, and soy milk are not recommended during the first 12 months of life, and reduced-fat (2 percent), low-fat (1 percent), and fat-free (skim) milk are not recommended during the first 2 years of life.
4. Developmental readiness for eating different textures of food and the acquisition of self-feeding skills are important in establishing realistic feeding goals for infants.
5. By 4 to 6 months, infants need more nutrients than can be supplied by breastmilk or infant formula alone; they should gradually be introduced to solid foods when they are developmentally ready. After the infant has accepted iron-fortified infant cereal, then pureed or soft fruits, vegetables, and meats can be offered. Only one new food should be introduced at a time; parents should wait 7 or more days to see how the infant tolerates the food.
Between 6 and 12 months, infants master chewing, swallowing, and manipulation of finger foods. They begin to use cups and utensils, and while they are experimenting with new tastes and textures, their sensory and perceptual development are stimulated.
6. A reasonable amount of juice is 4 to 6 oz per day when the infant is developmentally ready (6 months or older). Juice should be served in a cup, not a bottle. It should be offered in small amounts (more than 8 to 10 oz per day is excessive) because too much juice may reduce the infant's appetite for other foods and increases the risk of loose stools and diarrhea.
7. Infants permitted to suck on a bottle of any fluid that contains carbohydrates, including juice and milk, for prolonged periods are at risk for developing early childhood caries (baby bottle tooth decay). Infants should not be put to bed at night or at naptime with a bottle or allowed unlimited access to a bottle (i.e., permitting the infant to carry a bottle around whenever he wants).
8. Honey should not be added to food, water, or formula that is fed to infants because it can be a source of spores that cause botulism poisoning in

infants. Processed foods containing honey should not be given.

9. Starting at 6 months, infants receiving breastmilk or infant formula prepared with water need fluoride supplementation if the water is severely deficient in fluoride. To assess fluoride levels, ask about all sources of water used by the family, including municipal, well, commercially bottled, and home system-processed water. In addition, find out whether any ready-to-feed infant formula used is manufactured with water that has little or no fluoride. Refer an infant who is not getting enough fluoride to a dentist or primary care health professional for follow-up.
- 10–11. If inadequate cooking or food-storage facilities adversely affect a family's nutrient intake, refer the family to social services. If a family does not have adequate resources to obtain food, refer them to food assistance and nutrition programs such as WIC and the Food Stamp Program, or to a community food shelf or pantry. (See Tool K: Federal Food Assistance and Nutrition Programs.)
12. Respond to parents' questions and concerns.

Tool B: Nutrition Questionnaire for Children

The nutrition questionnaire for children (see pocket at the back of the guide) is a tool for parents to complete before meeting with a health professional. The questionnaire provides a useful starting point for identifying areas of nutrition concern and the need for additional screening.

When reviewing the responses to the questionnaire, use the interpretive notes to identify areas of concern and determine follow-up questions or actions. The notes are listed by their corresponding questions on the questionnaire.

1. Children grow more slowly from ages 1 to 5 than in infancy. Their appetites can change from day to day, depending on how fast they are growing and how active they are. As long as they are energetic and growing, they are probably getting enough of the nutrients they need. Young children often eat small portions. They should be offered small servings and be allowed to ask for more.

Irregular eating and frequently missing meals can result in a low intake of calories (energy) and nutrients. Busy schedules and inadequate resources for obtaining food may cause a child to miss meals.

2. Encourage parents to eat meals together as a family. If children see their parents and other adults enjoying meals together and eating a variety of foods, they will want to do the same. Explain that being a role model is the best teacher.
3. During mealtimes, a relaxed atmosphere should be maintained and children should not be rushed. Well-balanced meals and snacks should be offered in a pleasant environment. When children are stubborn about eating, it is often their way of learning to be independent. Fighting

over food may make them even more stubborn. Encourage parents to get rid of distractions such as television during meals.

4. Meals and snacks for children need to be planned and offered at scheduled times throughout the day and should consist of a variety of healthy foods. Children should not be pressured or rewarded to eat certain foods.
5. Children 2 to 3 years old need the variety and same number of servings as older children but may need small portions—about $\frac{2}{3}$ of a serving. By the time children are 4 years old, they eat portions similar to those eaten by older family members: 1 slice of bread; 1 cup of raw vegetables; 1 medium-size piece of fruit; 1 cup of milk or yogurt; 2 to 3 oz of cooked lean meat, poultry, or fish.

Grains. Children need 6 to 11 servings per day. Grain products provide vitamins, minerals, complex carbohydrates, and dietary fiber, which are important for good health.

Vegetables. Children need 3 to 5 servings per day. Vegetables provide vitamins, minerals, and dietary fiber. Children need to eat dark-green leafy and deep-yellow vegetables often.

Fruits. Children need 2 to 4 servings per day. Fruits provide vitamins, minerals, and dietary fiber. Many juice beverages are not 100 percent juice. Parents need to check the ingredients to make sure that they purchase juice without added sugar such as corn syrup, and canned fruits with little or no added sugar.

Milk and other dairy products. Children need 2 to 3 servings per day. Milk, yogurt, cheese, and other dairy products supply calcium for building and maintaining strong bones and teeth and

protecting bones from osteoporosis. Children 1 to 2 years old need whole milk. Older children can drink reduced-fat (2 percent), low-fat (1 percent), or fat-free (skim) milk.

Meat and meat alternatives. Children need 2 to 3 servings per day. Meat and meat alternatives include both animal and plant sources of protein, iron, and other important nutrients. Two to 3 oz of cooked lean meat, poultry, or fish equal 1 serving from this group. One egg or $\frac{1}{2}$ cup of cooked dry beans counts as 1 oz of lean meat; 2 tablespoons of peanut butter count as 1 oz of meat.

Fats and sweets. This group includes butter, margarine, mayonnaise, vegetable oil, gravy, salad dressing, cake/cupcakes, pie, cookies, chips, doughnuts, and candy. There is no recommended serving because consumption of fats and sweets should be limited.

6. For children under age 3, foods that may cause choking need to be avoided (e.g., hard candy, mini-marshmallows, popcorn, pretzels, chips, spoonfuls of peanut butter, nuts, seeds, large chunks of meat, hot dogs, raw carrots, raisins and other dried fruits, whole grapes).

Young children, 3-year-olds especially, are at risk for choking on food and remain at risk until they can chew and swallow better at about age 5.

Precautions to prevent choking include

- Staying with children while they are eating.
- Having children sit while eating because eating while walking or running can cause choking.
- Keeping things calm at eating time because becoming overexcited while eating can cause choking.

For children between ages 3 and 5, foods that may cause choking can be modified to make them safer (e.g., by cutting hot dogs in quarters lengthwise and then into small pieces, cutting whole grapes in half lengthwise, chopping nuts finely, chopping raw carrots finely or into thin

strips, spreading peanut butter thinly on crackers or bread).

7. Juice should be offered in small amounts because too much juice may reduce a child's appetite for meals. Parents should limit sugary drinks such as fruit punch, soft drinks, and artificially sweetened beverages. If allowed to consume sweets in unlimited amounts, children are likely to fill up on these rather than eat healthy foods.
8. Children permitted to suck on a bottle of any fluid that contains carbohydrates, including juice and milk, for prolonged periods are at risk for developing early childhood caries (baby bottle tooth decay). Children should not be put to bed at night or naptime with a bottle or allowed unlimited access to a bottle (i.e., permitting the child to carry a bottle around whenever she wants).
9. Children need fluoride supplementation if the water is severely deficient in fluoride. To assess fluoride levels, ask about all sources of water used by the family, including municipal, well, commercially bottled, and home system-processed water. Refer a child who is not getting enough fluoride to a dentist or primary care health professional for follow-up.
- 10–11. If inadequate cooking or food-storage facilities adversely affect a family's nutrient intake, refer the family to social services. If a family does not have adequate resources to obtain food, refer them to food assistance and nutrition programs such as WIC and the Food Stamp Program, or to a community food shelf or pantry. (See Tool K: Federal Food Assistance and Nutrition Programs.)
12. The Surgeon General's report on physical activity and health states that everyone should participate in a moderate amount of physical activity (e.g., 15 minutes of running, 30 minutes of brisk walking, 45 minutes of playing volleyball) on most, if not all, days of the week. Longer or more vigorous physical activity will yield greater health benefits. The benefits of physical activity include giving children a feeling of accomplishment, reducing

the risk of certain diseases (e.g., diabetes mellitus, hypertension) if they continue to be active during adulthood, and promoting mental health. Help the inactive child identify enjoyable activities and incorporate them into a daily routine.

13. Children who spend too much time watching television and videotapes or playing computer games are likely to have a sedentary lifestyle, which can lead to overweight. These sedentary activities should be limited to 1 to 2 hours per day.
14. Respond to parents' questions and concerns.

Tool C: Nutrition Questionnaire for Adolescents

The nutrition questionnaire for adolescents (see pocket at the back of the guide) is a tool for adolescents or parents to complete before meeting with a health professional. The questionnaire provides a useful starting point for identifying areas of nutrition concern and the need for additional screening.

When reviewing the responses to the questionnaire, use the interpretive notes to identify areas of concern and determine follow-up questions or actions. The notes are listed by their corresponding questions on the questionnaire.

Eating Behaviors

- 1–2. Irregular eating and frequently missing meals can result in a low intake of calories (energy) and nutrients. Busy schedules and inadequate resources for obtaining food may cause an adolescent to miss meals. If the adolescent is overweight, reinforce the importance of eating three meals per day instead of frequent snacks.
3. Adolescents who are on their own for most meals—perhaps because of a busy schedule—may not have healthy eating behaviors. Remind adolescents and parents that family meals ensure optimal nutrition and encourage communication. Explain to parents that family meals give them the opportunity to model healthy eating behaviors.
4. Shopping for and preparing food give adolescents the opportunity to learn about healthy food choices. Make sure the adolescent is familiar with the basic rules of food safety.
5. Consumption of convenience and fast foods is common among Americans. Frequent consumption increases fat, caloric, and sodium intake and reduces the intake of certain vitamins and minerals. Suggest that adolescents reduce the

consumption of these foods, and offer suggestions for making healthier food choices.

6. If the adolescent is on a special diet, ask, “What kind of diet are you on?” This will provide an opportunity to evaluate the adolescent’s dietary management of conditions such as diabetes mellitus.
7. Because the term “vegetarian” is often used loosely, ask adolescents who follow a vegetarian diet which foods they eat. Further assessment is recommended.
8. Excessive or poor appetite and weight gain or loss may indicate depression or other emotional stress, which should be assessed. Because excessive appetite may also indicate binge eating or overeating, an adolescent who reports excessive appetite needs further assessment to rule out an eating disorder.
9. Soft drinks, fruit-flavored drinks, coffee, and tea contain few essential nutrients and may displace healthier beverages (e.g., milk, which provides calcium, protein, and vitamins; orange juice, which is an important source of vitamin C and folate).

Food Choices

10. *Grains.* Grains supply complex carbohydrates (which are important sources of energy), protein, and minerals; they also tend to be low in fat. Whole grains are a good source of dietary fiber. Six to 11 servings of grains per day are recommended.
Vegetables. Vegetables provide vitamins, such as A and C, and minerals, such as calcium and iron. Most are low in fat and high in dietary fiber. Green leafy vegetables are good sources of folate.

Three to 5 servings of vegetables per day are recommended.

Fruits. Fruits are important sources of vitamins and fiber and are low in fat. Citrus fruits and juices, strawberries, and cantaloupe are good sources of vitamin C and folate. Two to 4 servings of fruits per day are recommended.

Milk and other dairy products. Milk, yogurt, and cheese are good sources of calcium and provide protein, vitamins, and minerals. Three or more servings per day of milk and other dairy products are recommended. Encourage the adolescent to consume reduced-fat (2 percent), low-fat (1 percent), or fat-free (skim) milk and other lower-fat dairy products. Adequate calcium intake during adolescence is essential for peak bone-mass development. If the recommended calcium intake cannot be met by diet, a supplement may be warranted. Of the various forms of calcium, calcium carbonate contains the highest proportion (40 percent) of elemental calcium by weight.

Meat and meat alternatives. Red meat, poultry, fish, eggs, and dried beans provide protein, iron, zinc, and many other minerals and vitamins. Adequate protein intake is essential for growth and development. Two to 3 servings of meat or meat alternatives per day are recommended. Cold cuts, bacon, sausage, and fried meats are high in fat and calories; therefore, their consumption should be limited.

Fats and sweets. This group includes butter, margarine, mayonnaise, vegetable oil, gravy, salad dressing, cake/cupcakes, pie, cookies, chips, doughnuts, and candy. There is no recommended serving because consumption of fats and sweets should be limited.

Food Resources

- 11–12. If inadequate cooking or food-storage facilities adversely affect a family's nutrient intake, refer the family to social services. If a family does not

have adequate resources to obtain food, refer the family to food assistance and nutrition programs such as the Food Stamp Program, a community food shelf or pantry, or a free or reduced-price school meal program. (See Tool K: Federal Food Assistance and Nutrition Programs.)

Weight and Body Image

13. Some adolescents may be dissatisfied with their weight and use unhealthy means to alter it. If the adolescent expresses a concern about weight, follow up with questions such as "Do you feel you are underweight?" "Do you feel you are overweight?" "Are you doing anything to change your weight?"
14. If the adolescent is dieting, determine the frequency, duration, and methods of weight loss. Chronic food restriction and inadequate energy intake may cause poor growth, delayed sexual development, menstrual irregularities, poor concentration, irritability, sleep difficulties, and constipation. Frequent dieting may be associated with binge eating. Purging (e.g., self-induced vomiting, laxative use) may be associated with other risk behaviors (e.g., substance use, suicide attempts).
15. Self-induced vomiting and/or the use of laxatives, diuretics, or diet pills are warning signs of eating disorders. Adolescents who engage in these behaviors need further assessment.

Physical Activity

16. The Surgeon General's report on physical activity and health states that everyone should participate in a moderate amount of physical activity (e.g., 15 minutes of running, 30 minutes of brisk walking, 45 minutes of playing volleyball) on most, if not all, days of the week. Longer or more vigorous physical activity will yield greater health benefits. The benefits of physical activity include giving adolescents a feeling of accomplishment, reducing the risk of certain diseases (e.g., diabetes

mellitus, hypertension) if they continue to be active during adulthood, and promoting mental health. Help the inactive adolescent identify enjoyable activities and incorporate them into a daily routine.

Some adolescents participate in a physical activity too frequently or intensely. Excessive physical activity may lead to fatigue, loss of appetite, or menstrual irregularities; it may also be a sign of an eating disorder.

Lifestyle

17. Adolescents who spend too much time watching television and videotapes or playing computer games are likely to have a sedentary lifestyle, which can lead to overweight. These sedentary activities should be limited to 1 to 2 hours per day.
18. If the adolescent uses vitamin, mineral, herbal, or other dietary supplements, ask about the kind, dosage, length of use, and reason for use. Encourage the adolescent to eat healthy foods instead of using supplements to obtain nutrients. If the adolescent is interested in vitamin supplements, emphasize the importance of using low-dose supplements and the need to avoid high doses (particularly of vitamins A and D), which can be toxic.

Adolescents who participate in physical activities in which strength is a critical factor (e.g., football, weightlifting) may consume a high-protein diet or take protein supplements to increase strength and muscle mass. However, increased protein intake does not affect muscle size.

Adolescents who use protein supplements should be asked about anabolic steroid use. Some adolescents take anabolic steroids to enhance their strength, muscle size, and endurance. Steroid use can cause side effects, including acne, deepening of the voice, and hair recession.

19. Unhealthy behaviors occur in clusters in adolescents. For example, adolescents who smoke

are more likely to have unhealthy eating behaviors and low levels of physical activity. Adolescents who smoke cigarettes to lose weight need counseling on both smoking and healthy weight management. Cigarette smoking also increases the need for vitamin C.

20. If the adolescent admits to using alcohol or street drugs, screen for substance use and refer for counseling and treatment.

Some adolescents take anabolic steroids to enhance their strength, muscle size, and endurance. Steroid use can cause side effects, including acne, deepening of the voice, and hair recession. Emphasize the dangers of steroid use to adolescents who participate in strenuous physical activity to build muscle or who participate in sports in which strength is a critical factor (e.g., football, weightlifting).

Tool D: Key Indicators of Nutrition Risk for Children and Adolescents

| Indicators of Nutrition Risk | Relevance | Criteria for Further Screening and Assessment |
|--|---|---|
| <i>Food Choices</i> | | |
| <p>Consumes fewer than 2 servings of fruits per day.</p> <p>Consumes fewer than 3 servings of vegetables per day.</p> | <p>Fruits and vegetables provide dietary fiber, vitamins (such as A and C), and minerals. Low intake of fruits and vegetables is associated with an increased risk of many types of cancer. In females of childbearing age, low intake of folic acid is associated with increased risk of giving birth to an infant with neural tube defects.</p> | <p>Assess the child/adolescent who is consuming less than 1 serving of fruit per day.</p> <p>Assess the child/adolescent who is consuming fewer than 2 servings of vegetables per day.</p> |
| <p>Consumes fewer than 6 servings of bread, cereal, rice, pasta, or other grains per day.</p> | <p>Grain products provide complex carbohydrates, dietary fiber, vitamins, and minerals. Low intake of dietary fiber is associated with constipation and increased risk of colon cancer.</p> | <p>Assess the child/adolescent who is consuming fewer than 3 servings of bread, cereal, pasta, rice, or other grains per day.</p> <p>Assess the child/adolescent who has recent history of constipation.</p> |
| <p>For children younger than 9 years, consumes fewer than 2 servings of dairy products per day.</p> <p>For children 9 years and older and adolescents, consumes fewer than 3 servings of dairy products per day.</p> | <p>Dairy products are a good source of protein, vitamins, and calcium and other minerals. Low intake of dairy products may reduce peak bone mass and increase the risk of osteoporosis.</p> | <p>Assess the child (younger than 9 years) who is consuming less than 1 serving of dairy products per day.</p> <p>Assess the child (9 years and older) or adolescent who is consuming fewer than 2 servings of dairy products per day.</p> <p>Assess the child/adolescent who has a milk allergy or is lactose intolerant.</p> <p>Assess the child/adolescent who is consuming more than 2 soft drinks per day.</p> |

| Indicators of Nutrition Risk | Relevance | Criteria for Further Screening and Assessment |
|---|---|---|
| Food Choices (cont.) | | |
| Consumes fewer than 2 servings of meat or meat alternatives (e.g., beans, eggs, nuts, seeds) per day. | Protein-rich foods (e.g., meats, beans, dairy products) are good sources of B vitamins, iron, and zinc. Low intake of protein-rich foods may impair growth and increase the risk of iron-deficiency anemia and of delayed growth and sexual maturation. Low intake of meat or meat alternatives may indicate inadequate availability of these foods at home. Special attention should be paid to children and adolescents who follow a vegetarian diet. | Assess the child/adolescent who is consuming less than 1 serving of meat or meat alternatives per day. |
| For children 5 years and older, consumes excessive amount of fat. | Excessive intake of dietary fat contributes to the risk of cardiovascular disease and obesity and is associated with some cancers. | Assess the child/adolescent who has a family history of premature cardiovascular disease. Assess the child/adolescent who has a body mass index (BMI) equal to or greater than the 85th percentile. |
| Eating Behaviors | | |
| Exhibits poor appetite. | A poor appetite may be developmentally appropriate for young children, but in older children it may indicate depression or other emotional stress or chronic disease. | Assess the child/adolescent if BMI is less than the 15th percentile or if weight loss has occurred. Assess if irregular menses or amenorrhea has occurred for 3 months or more. Assess for organic and psychiatric disease. |
| Consumes food from fast-food restaurants 3 or more times per week. | Excessive consumption of convenience foods and foods from fast-food restaurants is associated with high fat, calorie, and sodium intake, as well as low intake of certain vitamins and minerals. | Assess the child/adolescent who is overweight/obese or who has diabetes mellitus, hyperlipidemia, or other conditions requiring reduction in dietary fat. |

| Indicators of Nutrition Risk | Relevance | Criteria for Further Screening and Assessment |
|--|---|--|
| Eating Behaviors (cont.) | | |
| Skips breakfast, lunch, or dinner/supper 3 or more times per week. | Meal skipping is associated with a low intake of energy and essential nutrients and, if it is a regular practice, could compromise growth and sexual development. Repeatedly skipping meals decreases the nutritional adequacy of the diet. | Assess the child/adolescent to ensure that meal skipping is not due to inadequate food resources or unhealthy weight-loss practices. |
| Has food jags—eats one particular food only. | Food jags, which limit the variety of food consumed, decrease the nutritional adequacy of the diet. | Assess the child’s/adolescent’s dietary intake over several days. |
| Food Resources | | |
| Has inadequate financial resources to buy food, insufficient access to food, or lack of access to cooking facilities. | Poverty can result in hunger and compromised food quality and nutrition status. Inadequate dietary intake interferes with learning. | Assess the child/adolescent who is from a family with low income, is homeless, or is a runaway. (See Tool K: Federal Food Assistance and Nutrition Programs.) |
| Weight and Body Image | | |
| Practices unhealthy behaviors (e.g., chronic dieting, vomiting, and using laxatives, diuretics, or diet pills to lose weight). | Chronic dieting is associated with many health concerns (e.g., fatigue, impaired growth and sexual maturation, irritability, poor concentration, impulse to binge) and can lead to eating disorders. Frequent dieting in combination with purging is associated with health-compromising behaviors (e.g., substance use, suicidal behaviors). Purging is associated with serious medical complications. | Assess the child/adolescent for eating disorders. Assess for organic and psychiatric disease. |
| Is excessively concerned about body size or shape. | Eating disorders are associated with significant health and psychosocial morbidity. Eighty-five percent of all cases of eating disorders begin during adolescence. The earlier adolescents are treated, the better their long-term prognosis. | Assess the child/adolescent for distorted body image and dysfunctional eating behaviors, especially if child/adolescent wants to lose weight but BMI is less than the 85th percentile. |

| Indicators of Nutrition Risk | Relevance | Criteria for Further Screening and Assessment |
|---|---|---|
| Weight and Body Image (cont.) | | |
| Exhibits significant weight change in past 6 months. | Significant weight change during the past 6 months may indicate stress, depression, organic disease, or an eating disorder. | Assess the child/adolescent to determine the cause of weight loss or weight gain (e.g., limited or too much access to food, poor appetite, meal skipping, eating disorder). |
| Growth | | |
| Has BMI less than the 5th percentile. | Thinness may indicate an eating disorder or poor nutrition. | Assess the child/adolescent for eating disorders. Assess for organic or psychiatric disease. Assess for inadequate food resources. |
| Has BMI greater than the 95th percentile. | Obesity is associated with elevated cholesterol levels and elevated blood pressure. Obesity is an independent risk factor for cardiovascular disease and type 2 diabetes mellitus. Overweight children and adolescents are more likely to be overweight adults and are at increased risk for health problems as adults. | Assess the child/adolescent who is overweight or at risk for becoming overweight (e.g., on the basis of present weight, weight gain patterns, family weight history). |
| Physical Activity | | |
| Is physically inactive: participates in physical activity fewer than 5 days per week. | Lack of physical activity is associated with overweight, fatigue, and poor muscle tone in the short term, and a greater risk of cardiovascular disease in the long term. Regular physical activity reduces the risk of cardiovascular disease, hypertension, colon cancer, and type 2 diabetes mellitus. Weight-bearing physical activity is essential for normal skeletal development during childhood. Regular physical activity is necessary for maintaining normal muscle strength, joint structure, and joint function; contributes to psychological health and well-being; and facilitates weight reduction and weight maintenance throughout life. | Assess how much time the child/adolescent spends watching television/videotapes and playing computer games. Assess the child's/adolescent's definition of physical activity. |

| Indicators of Nutrition Risk | Relevance | Criteria for Further Screening and Assessment |
|--|---|---|
| Physical Activity (cont.) | | |
| Participates in excessive physical activity. | Intense physical activity nearly every day, sometimes more than once a day, can be unhealthy and associated with menstrual irregularity, excessive weight loss, and malnutrition. | Assess the child/adolescent for eating disorders. |
| Medical Conditions | | |
| Has chronic diseases or conditions. | Medical conditions (e.g., diabetes mellitus, spina bifida, renal disease, hypertension, pregnancy, HIV/AIDS) have significant nutritional implications. | Assess child's/adolescent's compliance with therapeutic dietary recommendations. Refer to dietitian if appropriate. |
| Has hyperlipidemia. | Hyperlipidemia is a major cause of atherosclerosis and cardiovascular disease in adults. | Refer child/adolescent to a dietitian for cardiovascular screening and assessment. |
| Has iron-deficiency anemia. | Iron deficiency causes developmental delays and behavioral disturbances. Another consequence is increased lead absorption. Childhood lead poisoning causes neurological and developmental deficits. | Screen children whose families have low incomes, are migrant, or are recently arrived refugees. Screen male children/adolescents who have low iron intake, a history of iron-deficiency anemia, limited access to food because of poverty or neglect, or special health care needs. Screen nonpregnant adolescents every 5 to 10 years or annually if they have a history of iron-deficiency anemia, low iron intake, or extensive menstrual or other blood loss. |

| Indicators of Nutrition Risk | Relevance | Criteria for Further Screening and Assessment |
|--|--|---|
| Medical Conditions (cont.) | | |
| Has dental caries. | Food affects the health of the mouth as well as overall health. Calcium and vitamin D are vital for strong bones and teeth, and vitamin C is necessary for healthy gums. Eating habits have a direct impact on oral health. Frequent consumption of carbohydrate-rich foods (e.g., candy, soda) that stay in the mouth longer may cause dental caries. Fluoride in water used for drinking and cooking as well as in toothpaste reduces the prevalence of dental caries. | <p>Assess the child's/adolescent's consumption of snacks and beverages that contain sugar, and assess snacking patterns.</p> <p>Assess the child's/adolescent's access to fluoride (e.g., fluoridated water, fluoride tablets).</p> |
| Is pregnant. | Pregnancy increases the need for most nutrients. | Refer the adolescent to a dietitian for further screening, assessment, and counseling. |
| Is taking prescription medication. | Many medications interact with nutrients and can compromise nutrition status. | Assess potential interactions of prescription drugs (e.g., asthma medications, antibiotics) with nutrients. |
| Lifestyle | | |
| Engages in heavy alcohol, tobacco, and other drug use. | Alcohol, tobacco, and other drug use can adversely affect nutrient intake and nutrition status. | Assess the child/adolescent further for alcohol, tobacco, and other drug use. |
| Uses dietary supplements. | Dietary supplements (e.g., vitamin and mineral preparations) can be healthy additions to a diet, especially for pregnant and lactating women and for people with a history of iron-deficiency anemia; however, frequent use or high doses can have serious side effects. Adolescents who use supplements to "bulk up" may be tempted to experiment with anabolic steroids. | <p>Assess the child/adolescent for the type of supplements used and dosages.</p> <p>Assess the adolescent for use of anabolic steroids and megadoses of other supplements.</p> |

Tool E: Screening for Elevated Blood Lead Levels

In 1997, the Centers for Disease Control and Prevention (CDC) updated its lead screening guidelines and published revised guidance to help state and local public health authorities determine which children are at risk for elevated blood lead levels and are most likely to benefit from lead screening.¹ The American Academy of Pediatrics (AAP) supports these revised guidelines. The following information has been compiled from CDC and AAP guidelines.^{1,2} Federal Medicaid policy requires that all eligible children be screened for lead poisoning as described below under Universal Screening, because they are at high risk for lead poisoning.

Screening Recommendations

To prevent lead poisoning, lead screening should begin at 9 to 12 months of age and be considered again at approximately 24 months of age. Health professionals should follow the local or state health department recommendations for universal or targeted screening.²

Universal Screening

Universal screening will be recommended in communities in which the risk of lead exposure is widespread. A universal screening recommendation may read as follows:^{1(p85)}

Using a blood lead test, screen all children at ages 1 and 2, and all children 36–72 months of age who have not been previously screened.

Targeted Screening

Targeted screening will be recommended in communities in which the risk of lead exposure is not widespread or is confined to specific geographic areas or to certain subpopulations. Health professionals should determine whether each child is at risk and screen when necessary. A sample targeted screening recommendation follows:^{1(p85)}

Using a blood lead test, screen children at ages 1 and 2, and all children 36–72 months of age who have not been previously screened, if they meet one of the following health department criteria:

- Child resides in a geographic area (e.g., a specified zip code) in which ≥ 27 percent of housing was built before 1950
- Child receives services from public assistance programs such as Medicaid or WIC
- Child's parent or guardian answers "yes" or "don't know" to any of the three questions in the basic personal-risk questionnaire

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History of Possible Lead Exposure

Health professionals should periodically assess infants and children between 6 months and 6 years of age for a history of possible lead exposure, using the basic personal-risk questionnaire here and any additional community-specific questions recommended by the state or local health department. Blood lead testing should also be considered in abused or neglected children and in children who have conditions associated with increased lead exposure.²

Table 23. Risk Factors and Prevention Strategies for Lead Exposure in Children

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Anticipatory Guidance

Health professionals should provide anticipatory guidance on lead exposure to parents of all infants and young children, including information on risk factors and specific prevention strategies (Table 23).² CDC recommends providing anticipatory guidance at prenatal visits, when the infant is 3 to 6 months of age, and again at 12 months of age; parental guidance at these times might prevent some lead exposure and the resulting increase in blood lead levels that often occurs during a child's second year of life. When children are 1 to 2 years old, parental guidance should be provided at health supervision visits and when the personal-risk questionnaire is administered.¹(p83)

References

1. Centers for Disease Control and Prevention. 1997. *Screening Young Children for Lead Poisoning: Guidance for State and Local Public Health Officials*. Atlanta, GA: Centers for Disease Control and Prevention. Also in Centers for Disease Control and Prevention [Web site]. Cited May 14, 1999; available at <http://www.cdc.gov/nceh/programs/lead/guide/1997/guide97.htm>.
2. American Academy of Pediatrics. 1998. Screening for elevated blood lead levels [policy statement no. RE9815]. *Pediatrics* 101(6):1072–1078. Also in American Academy of Pediatrics [Web site]. Cited May 14, 1999; available at <http://www.aap.org/policy/re9815.html>.

Tool F: Stages of Change— A Model for Nutrition Counseling

| Stage | Description | Goals | Strategies |
|------------------|--|--|--|
| Precontemplation | Is unaware of problem and hasn't thought about change. Has no intention of taking action within the next 6 months. | Increase awareness of need for change. Personalize information on risks and benefits. | Create supportive climate for change. Discuss personal aspects and health consequences of poor eating or sedentary behavior. Assess knowledge, attitudes, and beliefs. Build on existing knowledge. |
| Contemplation | Intends to take action within the next 6 months. | Increase motivation and confidence to perform the new behavior. | Identify problematic behaviors. Prioritize behaviors to change. Discuss motivation. Identify barriers to change and possible solutions. Suggest small, achievable steps to make a change. |
| Preparation | Intends to take action within the next 30 days and has taken some behavioral steps in this direction. | Initiate change. | Assist in developing a concrete action plan. Encourage initial small steps to change. Discuss earlier attempts to change and ways to succeed. Elicit support from family and friends. |
| Action | Has changed overt behavior for less than 6 months. | Commit to change. | Reinforce decision. Reinforce self-confidence. Assist with self-monitoring, feedback, problem solving, social support, and reinforcement. Discuss relapse and coping strategies. |
| Maintenance | Has changed overt behavior for more than 6 months. | Reinforce commitment and continue changes/new behaviors. | Plan follow-up to support changes. Help prevent relapse. Assist in coping, reminding, finding alternatives, and avoiding slips/relapses. |

Source: Adapted from Glanz K, Rimer B. 1995. *Theory at a Glance: A Guide for Health Promotion Practice*. Bethesda, MD: National Institutes of Health, National Cancer Institute. Also adapted, with permission, from Sandoval WM, Heller KE, Wiese WH, Childs DA. 1994. Stages of change: A model for nutrition counseling. *Topics in Clinical Nutrition* 9:64–69. Copyright © 1994 Aspen Publishers, Inc.

Tool G: Strategies for Promoting Healthy Eating Behaviors

| Strategies | Applications/Questions |
|---|---|
| Communication Factors | |
| Promote positive, nonjudgmental strategies to help the child/adolescent adopt healthy eating behaviors. | Reinforce positive aspects of the child's/adolescent's eating behaviors. |
| Encourage the child's/adolescent's active participation in changing eating behaviors. | Help the child/adolescent identify barriers that make it difficult to change eating behaviors, and develop a plan of action for adopting new behaviors. |
| Provide concrete learning situations. | Use charts, food models, and videotapes to reinforce verbal information and instructions. |
| Focus on the short-term benefits of healthy eating behaviors. | Emphasize that healthy eating behaviors will make the child/adolescent feel good and energized. |
| Understand and respect the child's/adolescent's cultural eating behaviors. | Help the child/adolescent integrate cultural eating behaviors with dietary recommendations. |
| Use simple terminology. | Avoid using the term "diet" with the child/adolescent because it tends to be associated with weight loss and may be confusing. |
| Environmental Factors | |
| Provide an office or clinic oriented to children/adolescents. | Use posters and materials written for children/adolescents. |
| Communicate developmentally appropriate health messages. | Use posters and materials that highlight the importance of healthy eating behaviors. |
| Encourage health professionals and staff to become role models for healthy eating behaviors. | Have health professionals and staff model healthy eating behaviors (e.g., by keeping a bowl of fruit at the front desk). |

| Strategies | Applications/Questions |
|--|---|
| Readiness to Change | |
| <p>Identify the child’s/adolescent’s stage of behavior change and readiness to change based on the Stages of Change—A Model for Nutrition Counseling (Tool F).</p> | <p>“Are you interested in changing your eating behaviors?”</p> <p>“Are you thinking about changing your eating behaviors?”</p> <p>“Are you ready to change your eating behaviors?”</p> <p>“Are you in the process of changing your eating behaviors?”</p> <p>“Are you trying to maintain changes in your eating behaviors?”</p> |
| <p>Facilitate behavior change with counseling strategies tailored to the child/adolescent based on the Stages of Change model (Tool F).</p> | <p>Provide a supportive environment, basic information, and assessment.</p> <p>Prioritize behaviors to be changed, set goals, and identify barriers to change.</p> <p>Develop a plan that incorporates incremental steps for making changes, support, and reinforcement.</p> |
| Action Plans | |
| <p>Provide counseling for the child/adolescent who is in the early stages of behavior change or who is unwilling to change.</p> | <p>Increase the child’s/adolescent’s awareness and knowledge of eating behaviors.</p> <p>Encourage the child/adolescent to make behavior changes if necessary.</p> |
| <p>Provide task-oriented counseling for the child/adolescent who is ready to change eating behaviors.</p> | <p>Encourage a few small, concrete changes first, and build on those.</p> <p>Support and follow up with the child/adolescent who has changed behavior.</p> |
| <p>Identify and prioritize behavior changes to be made.</p> | <p>Suggest changes that will have a measurable impact on the child’s/adolescent’s most serious nutrition issues.</p> |
| <p>Set realistic, achievable goals that are supported by the child’s/adolescent’s family and peers.</p> | <p>“What behavior will you change?” “What goal is realistic right now?”</p> <p>“How and when will you change the behavior and who will help you?”</p> |
| <p>Identify and address barriers to behavior change; help reduce barriers when possible.</p> | <p>“What will make it hard for you to make this change?”</p> <p>“Money, friends, or family?” “How can you get around this?”</p> |

| Strategies | Applications/Questions |
|---|---|
| Action Plans (cont.) | |
| Make sure that the behavior changes are compatible with the child's/adolescent's lifestyle. | Don't force the child/adolescent to conform to rigid eating behaviors. Keep in mind current behaviors and realistic goals. |
| Establish incremental steps to help the child/adolescent change eating behaviors. | For example, have the child/adolescent reduce fat consumption by changing the type of milk consumed, from reduced-fat (2 percent), to low-fat (1 percent), to fat-free (skim) milk. |
| Encourage the child/adolescent to commit to behavior changes with incentives or contracts. | Offer tangible non-food rewards to help the child/adolescent focus on changing eating behaviors. |
| Give the child/adolescent responsibility for changing and monitoring eating behaviors. | Stress the importance of planning how the child/adolescent will make and track changes in eating behavior. Make recordkeeping simple, and review the plan with the child/adolescent. |
| Make sure that the child/adolescent has family and peer support. | Show the child/adolescent how to encourage parents and peers to help. Meet with parents to clarify goals and action plans; determine how they can help. |
| Offer feedback and reinforce successes. | Regularly show interest to encourage continued behavior change. |
| General Strategies | |
| Ask the child/adolescent about changes in eating behaviors at every visit. | "How are you doing in changing your eating behaviors?" |
| Emphasize to the child/adolescent the consumption of foods rather than nutrients. | For example, say, "Consume more milk, cheese, and yogurt" rather than "Increase your calcium intake." |
| Build on positive aspects of the child's/adolescent's eating behaviors. | "It's great that you're eating breakfast. Would you be willing to try cereal, fruit, and toast instead of bacon and doughnuts 4 days out of the week?" |
| Focus on "how to" instead of "why" information. | Share behaviorally oriented information (e.g., what, how much, and when to eat and how to prepare food) rather than focusing on why the information is important. |
| Provide counseling that integrates realistic behavior change into the child's/adolescent's lifestyle. | "I understand that your friends eat lunch at fast-food restaurants. Would it help you to learn how to make healthier food choices at these restaurants?" |

| Strategies | Applications/Questions |
|--|---|
| General Strategies (cont.) | |
| Discuss how to make healthy food choices in a variety of settings. | Talk about how to choose foods in various settings such as fast-food and other restaurants, convenience stores, vending machines, and friends' homes. |
| Provide the child/adolescent with learning experiences and skills practice. | Practice problem solving and role-playing (e.g., having the child/adolescent ask the food server to hold the mayonnaise). |
| Introduce the concept of achieving balance and enjoying all foods in moderation. | "Your food record indicates that after having pepperoni pizza for lunch yesterday, you ate a lighter dinner. That's a good way to balance your food intake throughout the day." |
| Make recordkeeping easy, and tell the child/adolescent that you do not expect spelling, handwriting, and eating behaviors to be perfect. | "Be as accurate and honest as you can as you record your food intake. This record is a tool to help you reflect on your eating behaviors." |
| Make sure that the child/adolescent hears what you are saying. | "What eating behaviors are you planning to work on before your next appointment?" |
| Make sure that you and the child/adolescent define terms the same way to avoid confusion. | Discuss the definition of words that may cause confusion, such as "fat," "calories," "meal," and "snack." |
| When assessing food intake, keep in mind that a child's/adolescent's portion size may not be the same as a standard serving size. | Use food models or household cups and bowls to clarify serving sizes. |

Tool H: Tips for Promoting Food Safety

Keep Everything Clean

- Wash hands before preparing or eating food and after doing anything that interrupts either activity.
- Wash fresh fruits and vegetables carefully before cooking them or eating them raw.
- Wash dishes in a dishwasher or in hot soapy water using a clean dishcloth. Don't use sponges—they often spread germs. Rinse and sanitize dishes and let them air dry.
- Wash cutting boards thoroughly with hot soapy water between uses for different foods, especially after using it to cut raw meat. Only use cutting boards made of nonporous materials.

Prepare Foods Properly

- Cook foods thoroughly, especially foods containing meat, poultry, fish, or eggs. Cook hamburger until it is brown or gray on the inside. Cook chicken until juices are clear when a knife or fork is stuck into it. Cook fish until it is opaque and flakes easily with a fork. Cook eggs until they are firm.
- Thaw frozen foods in the refrigerator or under cold running water—never on the counter or in a bowl of standing water.
- When serving foods, make sure hot foods stay above 140°F and cold foods stay below 40°F.

Store Food Safely

- Serve cooked foods stored in the refrigerator within 24 hours.
- Store raw foods underneath cooked and ready-to-eat foods in the refrigerator.
- Store dry ingredients (rice, sugar) in nonporous containers with tight-fitting lids.
- Cover and refrigerate or freeze cooked foods if they will not be eaten right away.
- Leftovers that are refrigerated or frozen should be reheated one time only.
- Reheat liquids (gravy, soup, sauce) by bringing them to a boil. Reheat solid foods at 165°F.
- Store cleaning products and medications away from food and out of children's reach.

Source: Graves DE, Sutor CW, Holt KA, eds. 1997. Making Food Healthy and Safe for Children: How to Meet the National Health and Safety Performance Standards—Guidelines for Out-of-Home Child Care Programs. Arlington, VA: National Center for Education in Maternal and Child Health.

Tool I: Tips for Fostering a Positive Body Image Among Children and Adolescents

| Child or Adolescent | Parents | Health Professional |
|---|--|--|
| <p>Look in the mirror and focus on your positive features, not the negative ones.</p> <p>Say something nice to your friends about how they look.</p> <p>Think about your positive traits that are not related to appearance.</p> <p>Read magazines with a critical eye, and find out what photographers and computer graphic designers do to make models look the way they do.</p> <p>If you are overweight and want to lose weight, be realistic in your expectations and aim for gradual change.</p> <p>Realize that everyone has a unique size and shape.</p> <p>If you have questions about your size or weight, ask a health professional.</p> | <p>Demonstrate healthy eating behaviors, and avoid extreme eating behaviors.</p> <p>Focus on non–appearance-related traits when discussing yourself and others.</p> <p>Praise your child or adolescent for academic and other successes.</p> <p>Analyze media messages with your child or adolescent.</p> <p>Demonstrate that you love your child or adolescent regardless of what he weighs.</p> <p>If your child or adolescent is overweight, don’t criticize her appearance—offer support instead.</p> <p>Share with a health professional any concerns you have about your child’s or adolescent’s eating behaviors or body image.</p> | <p>Discuss changes that occur during adolescence.</p> <p>Assess weight concerns and body image.</p> <p>If a child or adolescent has a distorted body image, explore causes and discuss potential consequences.</p> <p>Discuss how the media negatively affects a child’s or adolescent’s body image.</p> <p>Discuss the normal variation in body sizes and shapes among children and adolescents.</p> <p>Educate parents, physical education instructors, and coaches about realistic and healthy body weight.</p> <p>Emphasize the positive characteristics (appearance- and non–appearance-related) of children and adolescents you see.</p> <p>Take extra time with an overweight child or adolescent to discuss psychosocial concerns and weight control options.</p> <p>Refer children, adolescents, and parents with weight control issues to a dietitian.</p> |

Tool J: Nutrition Resources

General nutrition resources are listed first, followed by resources for specific nutrition issues and concerns.

General Nutrition Resources

American Academy of Family Physicians
11400 Tomahawk Creek Parkway
Leawood, KS 66211-2672
Tel: (913) 906-6000
Fax: (913) 906-6075
Web site: <http://aafp.org>

American Academy of Pediatrics
141 Northwest Point Boulevard
Elk Grove Village, IL 60007-1098
Tel: (847) 434-4000
Fax: (847) 434-8000
Web site: <http://www.aap.org>

American Cancer Society
1599 Clifton Road, N.E.
Atlanta, GA 30329-4251
Tel: (404) 320-3333, (800) 227-2345
Fax: (404) 329-7530
Web site: <http://www.cancer.org>

American College of Obstetricians and Gynecologists
409 12th Street, S.W.
P.O. Box 96920
Washington, DC 20090-6920
Tel: (202) 638-5577
Fax: (202) 484-5107
Web site: <http://www.acog.org>

American Dietetic Association
216 West Jackson Boulevard, Suite 800
Chicago, IL 60606-6995
Tel: (312) 899-0040, R.D. Referral (800) 877-1600, ext. 5000
Fax: (312) 899-4757
Web site: <http://www.eatright.org>

American Medical Association
515 North State Street
Chicago, IL 60610
Tel: (312) 464-5000
Fax: (312) 464-4184
Web site: <http://www.ama-assn.org>

American Nurses Association
600 Maryland Avenue, S.W., Suite 100 West
Washington, DC 20024-2571
Tel: (202) 651-7000, (800) 274-4ANA (4262)
Fax: (202) 651-7001
Web site: <http://www.ana.org>

American Psychological Association
750 First Street, N.E.
Washington, DC 20002-4242
Tel: (202) 336-5500, (800) 374-2721
Fax: (202) 336-6069
Web site: <http://www.apa.org>

American Public Health Association
800 I Street, N.W.
Washington, DC 20001-3710
Tel: (202) 777-APHA
Fax: (202) 777-2534
Web site: <http://www.apha.org>

American School Food Services Association
700 South Washington Street, Suite 300
Alexandria, VA 22314
Tel: (703) 739-3900, (800) 877-8822
Fax: (703) 739-3915
Web site: <http://www.asfsa.org>

American School Health Association
Food and Nutrition Council
7263 State Route 43, P.O. Box 708
Kent, OH 44240-0708
Tel: (330) 678-1601
Fax: (330) 678-4526
Web site: <http://www.ashaweb.org>

Association of State and Territorial
Public Health Nutrition Directors
P.O. Box 1001
Johnston, PA 15901-1001
Tel and fax: (814) 255-2829

Center for Science in the Public Interest
1875 Connecticut Avenue, N.W., Suite 300
Washington, DC 20009-5728
Tel: (202) 332-9110
Fax: (202) 265-4954
Web site: <http://www.cspinet.org>

Consumer Information Center
1800 F Street, N.W., Room G-142, (XC)
Washington, DC 20405
Tel: (202) 501-1794, (800) 688-9889
Fax: (202) 501-4281
Web site: <http://www.pueblo.gsa.gov>

Food and Nutrition Board
Institute of Medicine
2101 Constitution Avenue, N.W.
Washington, DC 20418
Tel: (202) 334-1732
Fax: (202) 334-2316
Web site: <http://www4.nationalacademies.org/iom/iomhome.nsf/Pages/Food+and+Nutrition+Board>

Food Research and Action Center
1875 Connecticut Avenue, N.W., Suite 540
Washington, DC 20009
Tel: (202) 986-2200
Fax: (202) 986-2525
Web site: <http://www.frac.org>

Health Resources and Services Administration
Information Center
2070 Chain Bridge Road, Suite 450
Vienna, VA 22182-2536
Tel: (703) 356-1964, (888) ASK-HRSA
Fax: (703) 821-2098
Web site: <http://www.ask.hrsa.org>

International Food Information Council
1100 Connecticut Avenue, N.W., Suite 430
Washington, DC 20036
Tel: (202) 296-6540
Fax: (202) 296-6547
Web site: <http://www.ific.org>

International Life Sciences Institute
1 Thomas Circle, N.W., Ninth Floor
Washington, DC 20005
Tel: (202) 659-0074
Fax: (202) 659-3859
Web site: <http://www.ilsa.org>

National Association of Pediatric Nurse Practitioners
1101 Kings Highway, North, Suite 206
Cherry Hill, NJ 08034-1912
Tel: (856) 667-1773, (877) 662-7627
Fax: (856) 667-7187
Web site: <http://www.napnap.org>

National Association of Social Workers
750 First Street, N.E., Suite 700
Washington, DC 20002
Tel: (202) 408-8600, (800) 638-8799
Fax: (202) 336-8331
Web site: <http://www.socialworkers.org>

National Center for Education in Maternal
and Child Health

Georgetown University
2000 15th Street, North, Suite 701
Arlington, VA 22201-2617
Tel: (703) 524-7802
Fax: (703) 524-9335
Web site: <http://www.ncemch.org>

National Center for Nutrition and Dietetics
American Dietetic Association
216 West Jackson Boulevard
Chicago, IL 60606-6995
Tel: (800) 366-1655
Fax: (312) 899-1739
Web site: <http://www.eatright.org/ncnd.html>

National Center for Youth Law
405 14th Street, 15th Floor
Oakland, CA 94612-2701
Tel: (510) 835-8098
Fax: (510) 835-8099
Web site: <http://www.youthlaw.org>

National Food Service Management Institute
P.O. Drawer 188
University, MS 38677-0188
Tel: (662) 915-7658, (800) 321-3054
Fax: (800) 321-3061
Web site: <http://www.olemiss.edu/depts/nfsmi>

National Healthy Mothers, Healthy Babies Coalition
121 North Washington Street, Suite 300
Alexandria, VA 22314
Tel: (703) 836-6110
Fax: (703) 836-3470
Web site: <http://www.hmhb.org>

National PTA
330 North Wabash Avenue, Suite 2100
Chicago, IL 60611-3690
Tel: (800) 307-4PTA (4782)
Fax: (312) 670-6783
Web site: <http://www.pta.org>

National School Boards Association
1680 Duke Street
Alexandria, VA 22314
Tel: (703) 838-6722
Fax: (703) 683-7590
Web site: <http://www.nsba.org>

National WIC Association
2001 S Street, N.W., Suite 580
Washington, DC 20009-3355
Tel: (202) 232-5492
Fax: (202) 387-5281
Web site: <http://www.nwica.org>

Society for Nutrition Education
9202 North Meridian Street
Indianapolis, IN 46260
Tel: (317) 571-5618, (800) 235-6690
Fax: (317) 571-5603
Web site: <http://www.sne.org>

U.S. Department of Agriculture

Center for Nutrition Policy and Promotion
3101 Park Center Drive, Room 1034
Alexandria, VA 22302-1594
Tel: (703) 305-7600
Fax: (703) 305-3400
Web site: <http://www.usda.gov/cnpp>

Cooperative State Research, Education, and Extension
Service
800 9th Street, S.W., Room 4413
Washington, DC 20024
Tel: (202) 720-4651
Fax: (202) 690-0289
Web site: <http://www.reeusda.gov>

Expanded Food and Nutrition Education Program
800 9th Street, S.W., Room 4413
Washington, DC 20024
Tel: (202) 720-6079
Fax: (202) 690-2469
Web site: <http://www.reeusda.gov/f4hn/efnep/efnep.htm>

Food and Nutrition Service
3101 Park Center Drive, Room 528
Alexandria, VA 22302-1500
Tel: (703) 305-2281
Fax: (703) 305-2312
Web site: <http://www.fns.usda.gov/fns>

Office of Analysis, Nutrition and Evaluation
Room 1014
Tel: (703) 305-2017
Fax: (703) 305-2576

Supplemental Food Programs Division
Room 528
Tel: (703) 305-2052
Fax: (703) 305-2196

National Agricultural Library
Food and Nutrition Information Center
10301 Baltimore Avenue, Room 105
Beltsville, MD 20705-2351
Tel: (301) 504-5719
Fax: (301) 504-6409
Web site: <http://www.nal.usda.gov/fnic>

U.S. Department of Health and Human Services

Centers for Disease Control and Prevention
1600 Clifton Road
Atlanta, GA 30333
Tel: (404) 639-3534, (800) 311-3435
Fax: (404) 639-6290
Web site: <http://www.cdc.gov>

Food and Drug Administration
Center for Food Safety and Applied Nutrition
5100 Paint Branch Parkway
College Park, MD 20740-3835
Tel: (202) 436-2373
Fax: (202) 436-2636
Web site: <http://www.cfsan.fda.gov>

Food and Drug Administration
Office of Consumer Affairs
5600 Fishers Lane, HFE-88, Room 16-85
Rockville, MD 20857
Tel: (301) 827-4422, (888) 463-6332
Fax: (301) 443-9767
Web site: <http://www.fda.gov>

Indian Health Service
Office of Clinical and Preventive Services
801 Thompson Avenue, Room 331
Rockville, MD 20852
Tel: (301) 443-0576
Fax: (301) 594-6135
Web site: <http://www.ihs.gov>

Maternal and Child Health Bureau
Health Resources and Services Administration
5600 Fishers Lane
Parklawn Building, Room 18A-55
Rockville, MD 20857
Tel: (301) 443-2340
Fax: (301) 443-4842
Web site: <http://www.mchb.hrsa.gov>

National Center for Health Statistics
Centers for Disease Control and Prevention
6525 Belcrest Road
Presidential Building, Room 1064
Hyattsville, MD 20782
Tel: (301) 458-4636
Web site: <http://www.cdc.gov/nchs>

National Institutes of Health
 National Institute of Child Health
 and Human Development Clearinghouse
 P.O. Box 3006
 Rockville, MD 20847
 Tel: (800) 370-2943
 Fax: (301) 984-1473
 Web site: <http://www.nichd.nih.gov>

National Institutes of Health
 National Institute of Diabetes and Digestive
 and Kidney Diseases
 Division of Nutrition Research Coordination
 6707 Democracy Plaza, Sixth Floor, MSC 7973
 Bethesda, MD 20892-0001
 Tel: (301) 594-8822
 Fax: (301) 480-3768
 Web site: <http://www.niddk.nih.gov/federal/dnrc.htm>

Office of Disease Prevention and Health Promotion
 200 Independence Avenue, S.W.
 Hubert H. Humphrey Building, Room 738G
 Washington, DC 20201
 Tel: (202) 401-6295
 Fax: (202) 205-9478
 Web site: <http://www.odphp.osophs.dhhs.gov>

Nutrition Issues and Concerns

Breastfeeding

The Academy of Breastfeeding Medicine
 P.O. Box 81323
 San Diego, CA 92138
 Tel: (619) 295-0058, (877) 836-9947
 Fax: (619) 295-0056
 Web site: <http://www.bfmed.org>

Best Start Social Marketing
 4809 East Busch Boulevard, Suite 104
 Tampa, FL 33617
 Tel: (813) 971-2119, (800) 277-4975
 Fax: (813) 971-2280

International Lactation Consultant Association
 1500 Sunday Drive, Suite 102
 Raleigh, NC 27607
 Tel: (919) 787-5181
 Fax: (919) 787-4916
 Web site: <http://www.ilca.org>

La Leche League International
 1400 North Meacham Road
 Schaumburg, IL 60173-4808
 Tel: (847) 519-7730
 Fax: (847) 519-0035
 Web site: <http://www.lalecheleague.org>

Children and Adolescents with Special Health Care Needs

American Association of Mental Retardation
 444 North Capitol Street, N.W., Suite 846
 Washington, DC 20001-1512
 Tel: (202) 387-1968, (800) 424-3688
 Fax: (202) 387-2193
 Web site: <http://www.aamr.org>

Easter Seals
 230 West Monroe Street, Suite 1800
 Chicago, IL 60606
 Tel: (312) 726-6200, (800) 221-6827, TTY (312) 726-4258
 Fax: (312) 726-1494
 Web site: <http://www.easter-seals.org>

Family Voices
 3411 Candelaria N.E., Suite M
 Albuquerque, NM 87107
 Tel: (505) 872-4774, (888) 835-5669
 Fax: (505) 872-4780
 Web site: <http://www.familyvoices.org>

March of Dimes
1275 Mamaroneck Avenue
White Plains, NY 10605
Tel: (914) 428-7100, (888) MODIMES (663-4637)
Fax: (914) 428-8203
Web site: <http://www.modimes.org>

National Information Center
for Children and Youth with Disabilities
P.O. Box 1492
Washington, DC 20013-1492
Tel: (202) 884-8200, (800) 695-0285
Fax: (202) 884-8441
Web site: <http://www.nichcy.org>

National Parent Network on Disabilities
1130 17th Street, N.W., Suite 400
Washington, DC 20036
Tel: (202) 463-2299
Fax: (202) 463-9405
Web site: <http://www.npnd.org>

Diabetes Mellitus

American Diabetes Association
1701 North Beauregard Street
Alexandria, VA 22311
Tel: (703) 549-1500, (800) DIABETES (342-2383)
Fax: (703) 549-6995
Web site: <http://www.diabetes.org>

International Diabetes Center
3800 Park Nicollet Boulevard
Minneapolis, MN 55416-2699
Tel: (888) 825-6315, (952) 993-3393
Fax: (952) 993-1302
Web site: <http://www.idcdiabetes.org>

Juvenile Diabetes Foundation International
120 Wall Street, 19th Floor
New York, NY 10005-4001
Tel: (212) 785-9500, (800) 533-2873
Fax: (212) 785-9595
Web site: <http://www.jdf.org>

National Diabetes Information Clearinghouse
1 Information Way
Bethesda, MD 20892-3560
Tel: (301) 654-3327, (800) 860-8747
Fax: (301) 907-8906
Web site: <http://www.niddk.nih.gov/health/diabetes/ndic.htm>

Eating Disorders

National Eating Disorders Association
603 Stewart Street, Suite 803
Seattle, WA 98101
Tel: (206) 382-3587; information and
referral: (800) 931-2237
Fax: (206) 829-8501
Web site: <http://www.nationaleatingdisorders.org>

National Association of Anorexia Nervosa
and Associated Disorders
P.O. Box 7
Highland Park, IL 60035
Tel: (847) 831-3438
Fax: (847) 433-4632
Web site: <http://www.anad.org>

Food Allergy

American Academy of Allergy, Asthma
and Immunology
611 East Wells Street
Milwaukee, WI 53202
Tel: (414) 272-6071, (800) 822-2762
Fax: (414) 272-6070
Web site: <http://www.aaaai.org>

Food Allergy Network and Anaphylaxis Network
10400 Eaton Place, Suite 107
Fairfax, VA 22030-2208
Tel: (800) 929-4040
Fax: (703) 691-2713
Web site: <http://www.foodallergy.org>

National Institute of Allergy and Infectious Diseases
 31 Center Drive
 Building 31, Room 7A-50, MSC 2520
 Bethesda, MD 20892-2520
 Tel: (301) 496-5717
 Fax: (301) 402-0120
 Web site: <http://www.niaid.nih.gov>

Human Immunodeficiency Virus

American Foundation for AIDS Research
 120 Wall Street, 13th Floor
 New York, NY 10005-3902
 Tel: (212) 806-1600
 Fax: (212) 806-1601
 Web site: <http://www.amfar.org>

National Center for HIV, STD and TB Prevention
 Centers for Disease Control and Prevention
 1600 Clifton Road, N.E.
 Atlanta, GA 30333
 Tel: (404) 639-3311
 Fax: (404) 639-8600
 Web site: <http://www.cdc.gov/nchstp/od/nchstp.html>

National Pediatric and Family HIV Resource Center
 30 Bergen Street, ADMC No. 4
 Newark, NJ 07103
 Tel: (973) 972-0410, (800) 362-0071
 Fax: (973) 972-0399
 Web site: <http://www.pedhiv aids.org>

Hyperlipidemia

American Heart Association
 7272 Greenville Avenue
 Dallas, TX 75231
 Tel: (214) 373-6300, (800) 242-8721
 Fax: (214) 373-0268
 Web site: <http://www.americanheart.org>

Hypertension

American Society of Hypertension
 515 Madison Avenue, Suite 1212
 New York, NY 10022
 Tel: (212) 644-0650
 Fax: (212) 644-0658
 Web site: <http://www.ash-us.org>

Nutrition and Sports

American Alliance for Health, Physical Education,
 Recreation, and Dance
 1900 Association Drive
 Reston, VA 20191-1598
 Tel: (703) 476-3400, (800) 213-7193
 Fax: (703) 476-9527
 Web site: <http://www.aahperd.org>

American College of Sports Medicine
 401 West Michigan Street
 Indianapolis, IN 46202-3233
 Tel: (317) 637-9200
 Fax: (317) 634-7817
 Web site: <http://www.acsm.org>

Disabled Sports USA
 451 Hungerford Drive, Suite 100
 Rockville, MD 20850
 Tel: (301) 217-0960
 Fax: (301) 217-0968
 Web site: www.dsusa.org

International Center for Sports Nutrition
 502 South 44th Street, Suite 3007
 Omaha, NE 68105
 Tel: (402) 559-5505
 Fax: (402) 559-7302

National Association for Health and Fitness
401 West Michigan Street
Indianapolis, IN 46202-3233
Tel: (317) 955-0957
Fax: (317) 634-7817
Web site: <http://www.physicalfitness.org>

National Association for Sport and Physical Education
1900 Association Drive
Reston, VA 20191-1598
Tel: (703) 476-3410, (800) 213-7193, ext. 410
Fax: (703) 476-8316
Web site: <http://www.aahperd.org/naspe/template.cfm?template=main.htm>

National Recreation and Park Association
22377 Belmont Ridge Road
Ashburn, VA 20148-4501
Tel: (703) 858-0784
Fax: (703) 858-0794
Web site: <http://www.activeparks.org>

National Sports Center for the Disabled
P.O. Box 1290
Winter Park, CO 80482
Tel: (970) 726-1540, (303) 316-1540
Fax: (970) 726-4112
Web site: <http://www.nscd.org>

President's Council on Physical Fitness and Sports
200 Independence Avenue, S.W., Room 738-H
Washington, DC 20201-0004
Tel: (202) 690-9000
Fax: (202) 690-5211
Web site: <http://www.fitness.gov>

Special Olympics International
1325 G Street, N.W., Suite 500
Washington, DC 20005
Tel: (202) 628-3630
Fax: (202) 824-0200
Web site: <http://www.specialolympics.org>

Obesity

American Obesity Association
1250 24th Street, N.W., Suite 300
Washington, DC 20037
Tel: (202) 776-7711, (800) 98-OBESE (986-2373)
Fax: (202) 776-7712
Web site: <http://www.obesity.org>

Weight-Control Information Network
1 WIN Way
Bethesda, MD 20892-3665
Tel: (202) 828-1025, (877) 946-4627
Fax: (202) 828-1028
Web site: <http://www.niddk.nih.gov/health/nutrit/win.htm>

Oral Health

American Academy of Pediatric Dentistry
211 East Chicago Avenue, Suite 700
Chicago, IL 60611-2663
Tel: (312) 337-2169
Fax: (312) 337-6329
Web site: <http://www.aapd.org>

American Association of Public Health Dentistry
1224 Centre West, Suite 400B
Springfield IL 62704
Tel: (217) 391-0218
Fax: (217) 793-0041
Web Site: <http://www.aaphd.org>

American Dental Association
211 East Chicago Avenue
Chicago, IL 60611-2678
Tel: (312) 440-2500
Fax: (312) 440-2800
Web site: <http://www.ada.org>

American Dental Hygienists' Association
444 North Michigan Avenue, Suite 3400
Chicago, IL 60611
Tel: (312) 440-8900
Fax: (312) 440-6780
Web site: <http://www.adha.org>

Vegetarian Eating Practices

The Vegetarian Resource Group
P.O. Box 1463
Baltimore, MD 21203
Tel: (410) 366-8343
Fax: (410) 366-8804
Web site: <http://www.vrg.org>

Tool K: Federal Food Assistance and Nutrition Programs

Source: Adapted, with permission, from Table 4-3 of Kaufman M. 1990. *Nutrition in Public Health: A Handbook for Developing Programs and Services*. Gaithersburg, MD: Aspen Publishers. Copyright © 1990 Aspen Publishers, Inc.

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restrictions, this tool is not
available on the Web. Please see
print version of the nutrition guide.*

Tool L: *Healthy People 2010* Nutrition Objectives for Children and Adolescents

*Healthy People 2010*¹ provides a comprehensive health promotion and disease prevention agenda for the nation. The publication's focus is on improving the health of individuals, communities, and the nation.

Healthy People 2010 includes 467 health objectives in 28 focus areas. For each objective, there is a 2010 target. The objective, target, and baseline information for objectives pertaining to the nutritional status of children and adolescents are listed in Table 24 below.

Table 24. Nutrition Objectives for Children and Adolescents

| Objective Number | Objective, Target, and Baseline |
|------------------|---|
| 1-3 | Increase the proportion of persons appropriately counseled about health behaviors. |
| 5-1 | Increase the proportion of persons with diabetes who receive formal diabetes education. Target: 60 percent. Baseline: 40 percent of persons with diabetes received formal diabetes education in 1998 (age adjusted to the year 2000 standard population). |
| 5-2 | Prevent diabetes. Target: 2.5 new cases per 1,000 persons per year. Baseline: 3.1 new cases of diabetes per 1,000 persons (3-year average) in 1994–1996. |
| 7-2h | Increase the proportion of middle, junior high, and senior high schools that provide comprehensive school health education to prevent unhealthy dietary patterns. Target: 95 percent. Baseline: 84 percent in 1994. |
| 10-5 | Increase the proportion of consumers who follow key food safety practices. Target: 79 percent. Baseline: 72 percent of consumers followed key food safety practices in 1998. |

| Objective Number | Objective, Target, and Baseline |
|------------------|--|
| 16-19 | Increase the proportion of mothers who breastfeed their babies. |
| 16-19a | In early postpartum period: Target: 75 percent. Baseline: 64 percent in 1998. |
| 16-19b | At 6 months: Target: 50 percent. Baseline: 29 percent in 1998. |
| 16-19c | At 1 year: Target: 25 percent. Baseline: 16 percent in 1998. |
| 19-3 | Reduce the proportion of children and adolescents who are overweight or obese. |
| 19-3a | Ages 6 to 11 years: Target: 5 percent. Baseline: 11 percent. |
| 19-3b | Ages 12 to 19 years: Target: 5 percent. Baseline: 10 percent. |
| 19-3c | Ages 6 to 19 years: Target: 5 percent. Baseline: 11 percent. |
| 19-4 | Reduce growth retardation among low-income children under age 5 years. Target: 5 percent. Baseline: 8 percent in 1997. |
| 19-5 | Increase the proportion of persons ages 2 years and older who consume at least two daily servings of fruit. Target: 75 percent. Baseline: 28 percent in 1994–1996. |

| Objective Number | Objective, Target, and Baseline |
|------------------|---|
| 19-6 | <p>Increase the proportion of persons ages 2 years and older who consume at least three daily servings of vegetables, with at least one-third being dark green or deep yellow vegetables.</p> <p>Target: 50 percent.</p> <p>Baseline: 3 percent in 1994–1996.</p> |
| 19-7 | <p>Increase the proportion of persons ages 2 years and older who consume at least six daily servings of grain products with at least three being whole grains.</p> <p>Target: 50 percent.</p> <p>Baseline: 7 percent in 1994–1996.</p> |
| 19-8 | <p>Increase the proportion of persons ages 2 years and older who consume less than 10 percent of calories from saturated fat.</p> <p>Target: 75 percent.</p> <p>Baseline: 36 percent in 1994–1996.</p> |
| 19-9 | <p>Increase the proportion of persons ages 2 years and older who consume no more than 30 percent of calories from fat.</p> <p>Target: 75 percent.</p> <p>Baseline: 33 percent in 1994–1996.</p> |
| 19-10 | <p>Increase the proportion of persons ages 2 years and older who consume 2,400 mg or less of sodium daily.</p> <p>Target: 65 percent.</p> <p>Baseline: 21 percent in 1988–1994.</p> |
| 19-11 | <p>Increase the proportion of persons ages 2 years and older who meet dietary recommendations for calcium.</p> <p>Target: 75 percent.</p> <p>Baseline: 46 percent in 1988–1994.</p> |
| 19-12 19-12a | <p>Reduce iron deficiency among young children and females of childbearing age.</p> <p>Children ages 1 to 2 years:</p> <p>Target: 5 percent.</p> <p>Baseline: 9 percent in 1988–1994.</p> |

| Objective Number | Objective, Target, and Baseline |
|------------------|--|
| 19-12b | Children ages 3 to 4 years. Target: 1 percent. Baseline: 4 percent in 1988–1994. |
| 19-12c | Nonpregnant females ages 12 to 49 years. Target: 7 percent. Baseline: 11 percent in 1988–1994. |
| 19-15 | Increase the proportion of children and adolescents ages 6 to 19 years whose intake of meals and snacks at schools contributes proportionally to good overall dietary quality. |
| 19-18 | Increase food security among U.S. households and in so doing reduce hunger. Target: 94 percent. Baseline: 88 percent in 1995. |

Reference

1. U.S. Department of Health and Human Services. 2000. *Healthy People 2010: National Health Promotion and Disease Prevention Objectives* (2nd ed.). Washington, DC: U.S. Department of Health and Human Services.

Tool M: CDC Growth Charts

The Centers for Disease Control and Prevention (CDC) pediatric growth charts included in the pocket of this guide are widely used as clinical and research tools to assess nutrition status and the general health and well-being of infants, children, and adolescents. The following gender-specific growth charts are available:

- Charts for infants, birth to 36 months, which provide weight-for-age, length-for-age, weight-for-length, and head circumference-for-age percentiles
- A chart for children, 2 to 6 years, which provide weight-for-stature percentiles
- Charts for children and adolescents, 2 to 20 years, which provide weight-for-age, stature-for-age, and body-mass-index (BMI)-for-age percentiles

The growth charts are available and can be downloaded from the CDC's Web site: <http://www.cdc.gov/growthcharts>

The CDC growth charts include gender-specific BMI-for-age charts. BMI is calculated by dividing body weight in kilograms by height in meters squared (kg/m^2). BMI correlates with an individual's total body fat content or percentage of body fat. BMI can be used to monitor changes in body weight and to consistently assess risk of underweight and overweight in children and adolescents 2 to 20 years.

The interpretation of BMI depends on the child's or adolescent's age. Established cut-off points should be used to identify underweight and overweight children and adolescents. The following BMI-for-age percentile cutoffs may indicate a health risk; in these cases, further medical assessment (including diet, physical activity, and laboratory measures) is recommended.

- Underweight: BMI-for-age less than the 5th percentile
- At risk for overweight: BMI-for-age greater than or equal to the 85th percentile but less than the 95th percentile
- Overweight: BMI-for-age greater than or equal to the 95th percentile

Suggested Reading

Health Resources and Services Administration, Maternal and Child Health Bureau; Centers for Disease Control and Prevention. 2002. *Growth Charts Training*. Available at <http://128.232.56/mchbgrowthcharts/module4/text/mainmodules.htm>.