

Nutrition and Physical Activity Guidelines for Adolescents

July 2000

**Produced for the California
Department of Health
Services**

These guidelines were funded by the US Department of Agriculture,
Food Stamp Program through the *California Nutrition Network for Healthy, Active Families*,
an equal opportunity provider and employer.

The Adolescent Nutrition Program gratefully acknowledges the individuals who assisted with the development of these Guidelines.

Adolescent Nutrition Advisory Committee

Beth Carlton, MPH, RD
Nutrition Consultant
California Project Lean
Calif Dept of Health Services

Linda Cowling, MPH, RD
Nutrition Consultant
California Nutrition Network

Bonnie Dahl, MS, RD
Public Health Nutrition Consultant
WIC Branch
Calif Dept of Health Services

Charlotte Doisy
Assoc Government Program Analyst
Cal Learn Program
Calif Dept of Social Services

Suzanne Haydu, MPH, RD
Nutrition Consultant
Maternal & Child Health Branch
CALIF Dept of Health Services

Arnell Hinkle, MPH, RD, CHES
Executive Director
CANFit

Joanne Ikeda, MA, RD
Nutrition Education Specialist
UC Cooperative Extension

Kathy Kennedy-Mason, MPH, RD
Nutrition Consultant
WIC Branch
Calif Dept of Health Services

Rae Lee, RD, NTH
Nutrition Consultant
Maternal & Child Health Branch
Calif Dept of Health Services

Nancy Link, MS, RD
Nutrition Education Specialist
NET Program
Calif Dept of Education

Claire Pisor
Program Manager
Adolescent Family Life Program

Marilyn Townsend, MS, RD
Nutrition Education Specialist
UC Cooperative Extension

We also extend our sincere appreciation to all the AFLP/ASPPP Directors, Case Managers, and other program staff who participated in the needs assessment and evaluation.

A special thank you to:

Joanne Ikeda, MA, RD, for her contribution to the *Body Image and Disordered Eating* and the *Weight Management* guidelines.

Peggy Agron, MA, RD, for sharing Project LEAN program materials
Judy Levine, MS, RD, for her review and input

The Adolescent Nutrition Program gratefully acknowledges the support and assistance given by the following State staff:

Suzanne Haydu, MPH, RD; Nutrition Consultant, Maternal & Child Health Branch

Rae Lee, MPH, RD; Nutrition Consultant Maternal & Child Health Branch

Terrence Smith, MD, MPH; Chief, Program and Policy Section, Maternal & Child Health Branch

Silvia Solis, MSW; Health Program Specialist, Maternal & Child Health Branch
Jacquelyn Ward, RN, MSN, CPNP; Chief, Office of Child & Adolescent Health

Epidemiology and Evaluation Section Staff: Elizabeth Adams, Don McNeill, and David Reynen

Adolescent Nutrition Program Staff:

Claire Pisor
Program Manager

Delfina Shelomenseff, MPA, RD
Public Health Adolescent Nutrition
Program Coordinator

Julee Andreoni, MS
Nutrition Program Technician

Marcia Hensley
Program Secretary

Principal Author
Delfina Shelomenseff,
MPA, RD

Assistant Author
Julee Andreoni, MS

Editor and Designer
Peg Hardaway Farrel, PhD



Adolescent Nutrition

Introduction

Adolescence is the only time following infancy when the rate of physical growth actually increases. This sudden growth spurt is associated with hormonal, cognitive, and emotional changes that make adolescence an especially vulnerable period of life. First, there is a greater demand for calories and nutrients due to the dramatic increase in physical growth and development over a relatively short period of time. Second, adolescence is a time of changing lifestyles and food habit--changes that affect both nutrient needs and intake. Third, adolescent drive for individuation means more opportunity to assert food choices and expand or narrow healthy options.

Adolescence can be divided into three stages. Early adolescence (11-14 years of age) is characterized by the onset of puberty and increased cognitive development. Middle adolescence (15-17 years of age) is characterized by increased independence and experimentation. Late adolescence (18-21 years of age) is a time for making important personal and occupational decisions.

March 2012

California Nutrition and Physical Activity Guidelines for Adolescents

Inside this Section

Page

AN-1	Introduction
AN-3	Nutrition Recommendations
AN-5	Nutrition for Pregnancy & Breastfeeding
AN-6	Adolescent Eating Behaviors
AN-8	What Can Case Managers Do?
AN-9	Additional Resources/Web Links Referenced
AN-10	References

Poor nutrition during any of these stages can have lasting consequences on an adolescent's cognitive development, resulting in decreased learning ability, poor concentration, and impaired school performance.

Common Nutrition Concerns

Adolescents of both sexes and in all income and racial/ethnic groups are at risk for dietary excesses and deficiencies. Dietary excesses of total fat, saturated fat, cholesterol, sodium, and sugar commonly occur. Most adolescents do not meet dietary recommendations for fruits, vegetables, and calcium-rich foods.¹ See Figure AN-1 for some factors that contribute to poor eating habits.

Some nutrition-related concerns for adolescents include consumption of sugar-sweetened beverages (SSBs), iron-deficiency anemia, inadequate calcium intake, unsafe weight-loss methods and eating disorders. Overweight and obesity in children and adolescents is generally caused by poor eating habits and physical inactivity or a combination of the two.²

Figure AN-1 Factors that Contribute to Poor Eating Habits

- Easily available, low-cost, high-fat and/or high-sugar, low-nutrient foods, such as french fries, candy, chips, or soda
- Limited access to healthy foods that appeal to teens at home and when away from home
- Perception that healthy, low-in-fat, unprocessed, nutrient-dense foods (high in nutrients compared with their caloric content) are inconvenient and lack taste. Some examples of healthy snacks include fresh fruit, whole grain bread, or lowfat yogurt
- Lack of knowledge regarding appropriate nutrition and the health impact of poor nutrition
- Poor parental role modeling
- Lack of food handling, shopping, and preparation classes at school (e.g., home economics), resulting in the lack of relevant skills
- Increased incidence of disordered eating due to 1) fear of getting fat, 2) desire to appear more muscular, 3) advertising's negative impact on body image

Nutrition problems may occur as a result of tobacco and alcohol use, pregnancy, disabilities, or chronic health conditions.

Consequences of Poor Eating Habits

Poor or inappropriate dietary habits increase the risk and/or incidence of chronic disease among adolescents. Of great concern is the increasing rate of obesity and obesity-related health risks, such as diabetes and cardiovascular disease. The prevalence of type 2 diabetes among adolescents has increased and is closely linked to overweight and obesity.²

Inadequate iron intake increases the incidence of iron-deficiency anemia, especially among those adolescents at highest risk, such as pregnant adolescents, vegetarians, and competitive athletes. Vegetarianism is popular among some adolescents as they experiment or rebel and individuate. Without appropriate supplementation, these adolescents may be at risk for nutrient deficiencies (see the *Vegetarian Teens* section).

A typical adolescent diet does not include adequate amounts of fruit, vegetables, and grains.¹ These foods are a significant source of vitamins and minerals such as folate. Folate deficiency is a concern for all girls physically capable of becoming pregnant (see the *Folate/Folic Acid* section and *Fruits and Vegetables* section).

Consumption of SSBs (e.g. soda, vitamin water, sports drinks, energy drinks, Kool-Aid etc.) among adolescents has risen dramatically and continues to replace milk and water.³ Health risks associated with this increased intake of sugar-sweetened beverages include excess sugar and caloric intake, which contribute to overweight, obesity and dental caries.

According to the American Academy of Pediatrics (AAP), most children and adolescents do not need to replace their electrolytes by drinking sports drinks. Their electrolyte needs are normally met by consuming a healthy and balanced diet. Water should be the beverage of choice. However, nonfat or lowfat milk can also be consumed after exercise.⁴

Due to their health risks, the AAP recommends that energy drinks should never be consumed by children and adolescents. Energy drinks and sports drinks are significantly different drinks with different risks. The fact that the terms are used interchangeably, possibly indicating confusion, is an additional concern.

One disturbing result of drinking SSBs is the decrease in milk consumption, resulting in insufficient calcium intake. Adequate calcium intake during adolescence is essential for peak bone mass, yet evidence suggests that most female adolescents do not meet the recommended daily intake.⁵ Drinking soda may also interfere with calcium absorption due to high content of phosphorus in soda. For more information, refer to the *Calcium* section.

Nutrition Recommendations

For personalized nutrition recommendations based on age, sex, physical activity level, and other factors, visit the USDA's interactive [SuperTracker](http://www.choosemyplate.gov) website.

Although using the online tool is most convenient, food pattern tables can also be used. Refer to pages 78-82 of [The 2010 Dietary Guidelines for Americans](#). Some tables are included in Appendix A of this document.

Tools for pregnancy and breastfeeding are described on page AN-5.

Energy

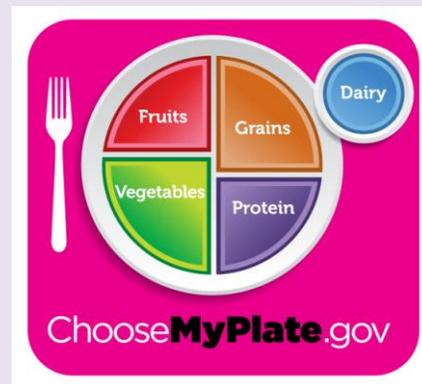
Carbohydrates, protein and fat provide energy in the form of calories. Carbohydrates and protein each contain four calories per gram; fat contains nine calories per gram.

Non-pregnant and non-lactating female adolescents usually require between 1,600 and 2,400 calories each day. Adolescent males usually need about 1,800 to 3,200 calories. However, caloric needs vary by age and physical activity level. To identify calorie needs based on such factors, see Appendix A.

Of the total calories needed, about 60% is needed for the body's basic energy needs (basal metabolism).

Figure AN-2 MyPlate

The MyPlate symbol and website, www.choosemyplate.gov, were launched by the United States Department of Agriculture (USDA) in 2011. MyPlate serves as a reminder to eat healthfully and illustrates the five food groups using a familiar mealtime visual, a place setting. MyPlate encourages individuals to make healthier meal choices by building their plate like in the graphic below.



Each of the food groups depicted provides some, but not all of the nutrients that an individual needs. Foods in one group cannot replace foods from another group.

In addition to consuming healthy foods, daily physical activity is important for a healthy lifestyle.

MyPlate displays food proportions, not quantities. The recommended quantity of each food group varies from person to person based on age, sex, and other factors. For personalized recommendations, use the USDA's [SuperTracker](http://www.choosemyplate.gov) website or the tables included in Appendix A.

Resources that are available on the [ChooseMyPlate](http://www.choosemyplate.gov) and [SuperTracker](http://www.supertracker.gov) websites include:

- Daily food plans tailored to individuals of varying ages, beginning at age two
- A tool to access food information (food groups, calories and comparisons)
- A tracker that provides feedback on food and physical activity levels
- Planners that help in reaching personal goals

Some examples include tissue growth and repair as well as heart and lung function.

Pregnant and lactating adolescents generally have higher caloric needs. These needs depend on factors such as age, height, weight, and physical activity level. After entering in personal information, the [SuperTracker](#) website provides caloric recommendations for pregnancy and breastfeeding.

Carbohydrates

Carbohydrates are an essential part of a healthy diet. They should not be eliminated from one's diet as part of a weight loss diet, such as the popular "no-carb diets." The best sources of carbohydrates are whole grains, fruits, vegetables, and beans. These are also excellent sources of vitamins, minerals, and fiber.

Protein

Protein needs depend on the individual's rate of growth. Most adolescents meet or exceed recommended levels. Adolescents at risk for protein deficiency include strict vegetarians and those using extreme measures to restrict their food intake to lose weight.

Fat

Fat is a necessary nutrient but most adolescents exceed recommended levels for fat intake.⁵ Some adolescents, especially girls, are at risk for deficiency due to their efforts to lose or avoid gaining weight by severely reducing their fat intake. The USDA recommends that for adolescents aged 14-18 years, fat from all sources should be limited to 25%- 35% of all calories consumed that day. Most fats given to adolescents should be unsaturated fats. Examples are fish, nuts, and vegetable oils.

Vitamins and Minerals

Vitamins and minerals have a role in most or all processes that take place in the body. The demands of growth and development, coupled with poor eating habits, place many adolescents at risk for vitamin and mineral deficiencies, such as calcium and vitamin D (see Figure AN-3). Calcium requirements are higher for adolescents (see the *Calcium* section).

Adolescents who may become pregnant or are pregnant need to consume folic acid daily to help prevent birth defects (see the *Folate* section). Adolescents who are pregnant have increased needs for certain vitamins and minerals. They should talk to their primary health care provider about taking a prenatal vitamin. See other sections for *Iron*, *Fruits and Vegetables*, and *Vegetarian Teens*.

Figure AN-3 Vitamin D

This vitamin is found in foods such as fortified milk, fish, eggs, and cod liver oil. Sunshine also contributes to vitamin D intake. Vitamin D is important for the body to build strong and healthy bones.⁶

For people aged 1-70 years of age, the Recommended Dietary Allowance is 600 IU of vitamin D per day, regardless of sex, pregnancy, or breastfeeding status.⁷ If this recommendation is not met through foods and fortified milk, taking a vitamin D supplement may be recommended by their health care provider. Adolescents, especially those pregnant and breastfeeding should check with their primary healthcare provider before taking a vitamin supplement.

Fiber

Fiber is the non-digestible edible material found in fruits, vegetables, beans, and some grains, such as whole-grain cereal or oatmeal. Fiber helps with digestion and may reduce cholesterol levels.⁸ See Table AN-1 for recommended daily values.

Table AN-1 Adequate Intake for Fiber (grams per day)

Age	Females	Males
9-13	26	31
14-18	26	38
19-30	25	38
Pregnancy		
14-18	28	
19-30	28	
Lactation		
14-18	29	
19-30	29	

Source: Institute of Medicine, Food and Nutrition Board, 2005⁹

Average fiber intake for female adolescents is approximately 13 grams per day,¹⁰ which is well below recommended intakes. Fiber intake can be increased by consuming more fruits, vegetables, beans and whole grains.

To check if recommended daily intakes are met, an [interactive calculator](#) can be used.



Water

Water is involved in almost every life-sustaining body process. It carries nutrients and oxygen to body cells, takes waste products away, and regulates body temperature. It provides no energy and thus has no calories.

The body loses water through urination, sweat, breathing, and feces. Drinking water and other beverages is the best way to replace body water. Solid foods, especially fruits and vegetables, also provide water, however this amount is difficult to measure.

When adolescents are physically active for less than three hours in mild weather conditions, only water is needed for re-hydration. However, if physical activity lasts longer than three hours and the weather is hot and humid, athletes may need to replace electrolytes, such as sodium, potassium, and chloride that help regulate the body's balance of fluids. When adolescents participate in prolonged physical activity, they should drink water; commercial sports drinks are rarely necessary. Salt pills should not be used, as they can be dangerous.

Nutrition for Pregnancy & Breastfeeding

The USDA's [SuperTracker](#) website provides personalized nutrition recommendations during pregnancy and breastfeeding.

[MyPlate for Moms/My Nutrition Plan for Moms](#) provides general nutrition recommendations for an average pregnant or breastfeeding woman (the document is available at the end of this section).

NOTE: Pregnant adolescents require 4 cups of milk.

Pregnancy

During pregnancy, there is a higher need for some vitamins and minerals. These can be obtained through eating healthy foods, such as fruits, vegetables, whole grains, etc. Use the [SuperTracker](#) website or [MyPlate for Moms/My Nutrition Plan for Moms](#) to identify the quantity and types of foods to be eaten. A healthy diet plan should also be discussed with the primary healthcare provider.

Vitamins: Before and during pregnancy, folic acid must be consumed to help prevent certain birth defects (see the *Folate* section for details). A prenatal vitamin containing folic acid may be recommended during pregnancy. Vitamin, mineral and other supplements should be discussed with the primary healthcare provider at prenatal visits. However, taking too much or giving them to someone else can be very dangerous. Vitamins should not replace a healthy diet.

Alcohol: Pregnant women and women who may become pregnant should not drink any alcohol. No amount of alcohol has been determined as safe during pregnancy. Drinks containing alcohol include beer, wine, liquor, and mixed drinks.

Figure AN-4 Food Choices and Self-Regulation¹¹

Adolescents are provided with several different messages that may affect their daily food choices. In one study, researchers sought to understand the factors that influence the decision-making process of adolescents when it comes to food selection. Adolescents aged 11-18 years participated in a simulated task in which they chose particular items for a meal and then described why they chose particular foods.

Findings include:

- The primary reasons for adolescent food selection include: taste, familiarity/habit, health, dieting, and satiety.
- Adolescents reported eating a more healthy and varied meal at dinner.
- When adolescents made food choices, they followed self-made food decision-making rules to resolve conflicting values. Within a meal, “taste” was more influential for the core item, but “health” rose up in influence for the secondary or side item. When having lunch with peers, “taste” may be the primary reason for a food choice, but when with family at dinners, health may be more influential than it would be with peers.
- Other factors that influenced food selection are negotiation patterns within the family and interactions with peers.

When promoting healthy eating, educators should recognize the many dilemmas that adolescents face in making food choices. Educators can help adolescents eat healthy by providing guidance on: (1) developing food decisions, (2) effectively negotiating with family members and (3) appropriate peer interactions.

Breastfeeding

Although similar to pregnancy, there are slight differences in nutrient requirements, which also vary by degree of breastfeeding. Use the [SuperTracker](#) website and [MyPlate for Moms/My Nutrition Plan for Moms](#) to identify the quantity and types of foods to be eaten.

Water: As with everyone, while breastfeeding, one should drink to thirst. Most people get more thirsty while breastfeeding, so preparing a glass of water in advance is helpful. Drinking extra liquids does not produce more milk.

Milk: Drinking milk is not necessary for producing breast milk. Most mammals do not drink milk, but are capable of breastfeeding their young. Individuals who do not consume milk should have an alternate source of calcium. See the *Calcium* section for examples.

Vegetarians: Vegetarians are perfectly capable of producing quality breast milk and should breastfeed. Vegetarian diets should include alternate sources of protein, Vitamin B₁₂, Vitamin D, and calcium.¹² Refer to the *Vegetarian Teens* and *Calcium* sections for examples.

See the *Physical Activity* section for physical activity recommendations for pregnancy or parenting.

Adolescent Eating Behaviors

Adolescents spend a good deal of time away from home and many consume fast foods, which are convenient, but are often high in calories and fat. It is common for adolescents to skip meals and snack frequently. Some factors influencing adolescent food choices are described in Figure AN-4.

The California Department of Public Health conducts a dietary practices survey of 12- to 17-year-olds in California. It is called the California Teen Eating, Exercise and Nutrition Survey (CalTEENS). As part of this survey, Healthy Eating Practice Scores are analyzed. This score reflects fruit, vegetable, fiber, whole grain, and dairy consumption, in addition to low-fat dairy intakes. Scores range from potentially zero to a maximum of seven. In 2002, the average Healthy Eating Practice Score was approximately three out of seven for California

adolescents (3.1 for females and 2.9 for males). The score for African-American adolescents was significantly lower than that of White adolescents at 2.6 (versus 3.1).¹³

Approximately forty-eight percent of adolescents surveyed by the California Health Interview Survey (CHIS) in 2009* reported eating at a fast food restaurant two or more times in the past week.¹⁴ In 2006, 60.3% of California adolescents had eaten 2 or more servings of high-fat, low-nutrient foods the previous day.¹⁵ On a positive note, adolescents who had been taught to cook in healthy ways reported more healthy eating practices.¹³

To encourage adolescents to learn how to prepare healthy foods, [recipes for adolescents](#) are available online.

Nutrition Supplements

Dietary supplements may supply some vitamins and minerals, but they cannot provide all the nutritional components that food offers for good health. No supplement can fix an ongoing pattern of poor food choices.

Some adolescents may be intrigued by over-the-counter nutrition supplements such as vitamins, minerals, herbs and protein powders. The Food and Drug Administration (FDA) does not regulate the purity or dosages of most of these products, their claims are seldom proven, and overuse may be dangerous.

Expensive nutrition products — such as energy or power bars and shakes — are popular, but their effects on performance have not been widely studied and these may cause harm to adolescents. Creatine, a popular supplement among athletes, has not been evaluated for its effects on the growth, development, or health of adolescents.

The social pressure to be thin and the stigma of obesity can lead to unhealthy eating practices and poor body image, particularly among young female adolescents. Some adolescents, especially males, may want to build muscle mass. Their methods should be evaluated by their healthcare provider.

Cultural Factors

One's cultural background often influences one's food choices and preferences. People from different cultures may also view body weight differently. For example, some cultures may see excess weight as a sign of social status and health.

One's culture may also affect diet during pregnancy and infant feeding practices. Some cultures traditionally use herbal supplements and teas during pregnancy. These are not regulated and are not routinely recommended for use. See the *Infant Feeding* section for infant feeding recommendations.

Some cultures may also practice “good/bad” and/or “hot/cold” labeling of foods. According to this belief, certain foods cannot be eaten at certain times of the day or during a specific life stage (such as in pregnancy). If this is practiced, meal planning may be slightly more difficult, but plans can still be made.

Cultural influences are not limited to one's ethnic background. They can include religion, social and economic status, and where one was raised or currently lives (urban, rural, or suburban lifestyle). Adolescents also have their own culture that can strongly influence their food choices, especially away from home (see “Adolescent Eating Behaviors,” earlier in this section).

For more information, refer to the following online resources:

- [Celebrating Diversity: Approaching Families through Food](#)
- [The California Food Guide](#) (also contains dietary information for several cultural groups in California)

* 12-17 years of age

What Can Case Managers Do?

Suggested Interventions

Interventions planned to address adolescent nutrition and physical activity topics should include concrete, practical experiences that address immediate concerns. Although having accurate nutrition knowledge is important, especially for adolescents, it is very important to remember that knowledge alone is not enough to change dietary behavior.

Adolescents are more attentive to information if it is presented in an interactive way; they prefer not to simply listen to a speaker or read a pamphlet or booklet. Education activities should be quick and fun, and should demonstrate that healthy foods are affordable, easy to prepare and can be flavorful.

Encourage these eating practices:

- Drinking water or nonfat/lowfat milk when thirsty
- Eating with family members
- Selecting healthy foods when eating out
- Visiting farmers' markets if they are available in the community. Find a market using this [online search tool](#)
- Selecting fresh fruits and vegetables when they are in season and prices are lower
- Eating at fast food restaurants less frequently and learning to make healthier choices when doing so. Encourage reviewing nutritional content, as chain restaurants are required to have this information. It is unrealistic to expect adolescents to not frequent fast food restaurants
- Avoiding eating while watching TV or playing computer games

Hands-on activities are very effective. Such activities include:

- Cooking demonstrations and food sampling
- Meal planning, including snacks and party foods
- Grocery store tours
- Planning a menu and shopping for ingredients within a limited dollar amount
- Tips on how to eat healthfully in restaurants
- Learning basic food preparation techniques using [recipes for teens](#)
- Serving healthy foods and providing a physical activity break. Use the resources available [here](#)
- Using applications (“apps”) on phones to encourage healthy eating practices

Nutrition Screening

Case managers can screen their clients for nutrition risk (see the *Nutrition Risk Screening* section). They can provide education, offer nonjudgmental feedback on current habits, and recommend reasonable lifestyle changes. Concrete approaches are best. “Try a whole wheat bagel for breakfast” is clearer than “eat more grains,” or “gradually switch from whole or lowfat milk to 1% or nonfat milk” is more concrete than “eat less fat.” Using information gathered during the screening process, case managers can assist clients to set goals and develop an action plan.

Goal Setting

Goals must be descriptive and concrete. They should be realistic, reasonable, and achievable. Avoid goals that are too ambitious or long term; make them small with short-term results.

It is important that the client chooses which goals are most important and realistic for her. Use [MyPlate for Moms/My Nutrition Plan for Moms](#) to help the client identify nutrition goals that she would like to try.

Referrals

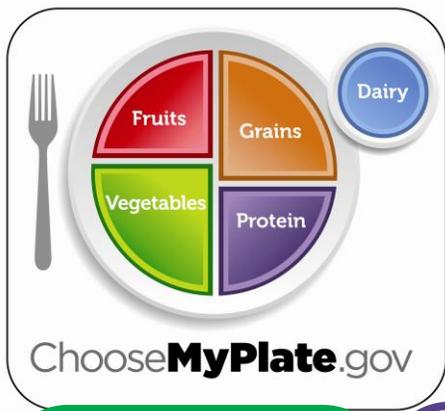
Each section/guideline includes, when appropriate, recommendations for when and to whom referrals should be made.

Additional Resources/Web Links Referenced

Title	Resource Type	URL
SuperTracker	Webpage - Interactive Tool	www.choosemyplate.gov/SuperTracker/createprofile.aspx
The Dietary Guidelines for Americans	Document (PDF)	www.cnpp.usda.gov/Publications/DietaryGuidelines/2010/PolicyDoc/PolicyDoc.pdf
MyPlate for Moms/My Nutrition Plan for Moms	Document (PDF)	www.cdph.ca.gov/programs/NutritionandPhysicalActivity/Documents/MO-NUPA-MyPlateForMoms.pdf
Fiber Calculator	Webpage – Interactive Tool	www.healthcalculators.org/calculators/fiber.asp
Celebrating Diversity: Approaching Families through Food	Document (PDF)	www.mchlibrary.info/pubs/pdfs/CelebratingDiversity.pdf
California Food Guide: Fulfilling the Dietary Guidelines for Americans	Webpage	www.dhcs.ca.gov/formsandpubs/publications/Pages/CFGTableofContents.aspx
California Food Guide: Fulfilling the Dietary Guidelines for Americans – Life Cycle: 9-18 Year Olds	Document (PDF)	www.dhcs.ca.gov/dataandstats/reports/Documents/CaliforniaFoodGuide/12.9-18YearOlds.pdf
Recipes/Cookbooks for Adolescents	Webpage	www.cdph.ca.gov/programs/NutritionandPhysicalActivity/Pages/EasyMealsandSnacks.aspx
Farmer’s Markets Search Tool	Webpage – Interactive Tool	http://apps.ams.usda.gov/FarmersMarkets/
Worksite Nutrition and Physical Activity	Webpage - Resources	www.cdph.ca.gov/HealthInfo/healthyliving/nutrition/Pages/WorksiteNutritionandPhysicalActivity.aspx
Nutrition and Physical Activity Initiative (Maternal, Child and Adolescent Health)	Webpage	www.cdph.ca.gov/programs/nutritionandphysicalactivity/Pages/default.aspx
Comprehensive Website for Adolescent Girls' Health	Website	www.girlshealth.gov/

References

1. Stang J, Story M, eds. *Guidelines for Adolescent Nutrition Services*. Minneapolis, MN: Center for Leadership, Education and Training in Maternal and Child Nutrition, Division of Epidemiology and Community Health, School of Public Health, University of Minnesota; 2005.
2. The Surgeon General's Call To Action To Prevent and Decrease Overweight and Obesity. http://www.surgeongeneral.gov/topics/obesity/calltoaction/fact_adolescents.html, 2012.
3. Centers for Disease Control and Prevention. Beverage Consumption Among High School Students--United States, 2010. <http://www.cdc.gov/mmwr/pdf/wk/mm6023.pdf>.
4. Sports drinks and energy drinks for children and adolescents: are they appropriate? *PEDIATRICS*. Jun 2011;127(6):1182-1189.
5. Greer FR, Krebs NF. Optimizing bone health and calcium intakes of infants, children, and adolescents. *PEDIATRICS*. Feb 2006;117(2):578-585.
6. Higdon J. Vitamin D. *Micronutrient Information Center* 2011; <http://lpi.oregonstate.edu/infocenter/vitamins/vitaminD/>, 2011.
7. Institute of Medicine, Committee to Review Dietary Reference Intakes for Vitamin D and Calcium. *Dietary Reference Intakes for Calcium and Vitamin D: The National Academies Press*;2011.
8. Institute of Medicine (U.S.). Standing Committee on the Scientific Evaluation of Dietary Reference Intakes., Institute of Medicine (U.S.). Panel on the Definition of Dietary Fiber. *Dietary reference intakes : proposed definition of dietary fiber*. Washington, D.C.: National Academy Press; 2001.
9. Institute of Medicine (U.S.). Panel on Macronutrients, Institute of Medicine (U.S.). Standing Committee on the Scientific Evaluation of Dietary Reference Intakes. *Dietary reference intakes for energy, carbohydrate, fiber, fat, fatty acids, cholesterol, protein, and amino acids*. Washington, D.C.: National Academies Press; 2005.
10. U.S. Department of Agriculture, Agricultural Research Service. Nutrient Intakes from Food: Mean Amounts Consumed per Individual, by Gender and Age. *What We Eat in America, NHANES 2007-2008*. 2010. http://www.ars.usda.gov/SP2UserFiles/Place/12355000/pdf/0708/Table_1_NIN_GEN_07.pdf. Accessed 2011.
11. Contento IR, Williams SS, Michela JL, Franklin AB. Understanding the food choice process of adolescents in the context of family and friends. *J Adolesc Health*. May 2006;38(5):575-582.
12. Griffin P. California Food Guide: Maternal Nutrition During Lactation. 2006. <http://www.dhcs.ca.gov/dataandstats/reports/Documents/CaliforniaFoodGuide/8MaternalNutritionduringLactation.pdf>.
13. California Department of Public Health, *Network for a Healthy California*. California Teen Eating, Exercise and Nutrition Survey, 2002. Available from: <http://www.cdph.ca.gov/programs/cpns/Documents/Network-REU-CalTEENS-2002.pdf>.
14. California Health Interview Survey. Fast food eaten how many times in past week. *askCHIS2009*.
15. California Department of Public Health, *Network for a Healthy California*. California Teen Eating, Exercise and Nutrition Survey, unpublished data; 2006.



California MyPlate for Moms

Make half your plate vegetables and fruits, about one quarter grains and one quarter protein. Choose foods that are high in fiber and low in sugar, solid fats or salt (sodium). These food amounts are for an average woman for one day. You may need more or less.

Vegetables

Eat more vegetables.
Use fresh, frozen or low-sodium canned vegetables. Avoid French fries.

Daily Amount

3 or more of these choices:

- 2 cups raw leafy vegetables
- 1 cup raw vegetables or juice
- 1 cup cooked vegetables



Protein

Choose healthy protein.
Eat vegetable protein daily. Avoid bacon, hot dogs and bologna.

Daily Amount

6-7 of these choices:

- 1 ounce fish, poultry or lean meat
- 1 egg
- ½ ounce nuts
- ¼ cup cooked dry beans, lentils or peas
- ¼ cup tofu
- 1 tablespoon nut butter



Grains

Eat mostly whole grains like brown rice. Limit bread, noodles and rice that are white.

Daily Amount

6 of these choices in the 1st trimester, **8** in the 2nd/3rd trimester and while breastfeeding:

- 1 slice whole wheat bread or ½ bagel
- 1 small (6-inch), whole wheat tortilla
- 1 cup cereal
- ½ cup cooked pasta, rice or cereal



Fruits

Add color with fruit.
Make most choices fruit, not juice.

Daily Amount

2 of these choices:

- 1 cup fresh fruit
- 1 cup unsweetened frozen or canned fruit
- ½ - ¾ cup juice
- ½ cup dried fruit



Dairy

Enjoy calcium-rich foods.
Choose pasteurized nonfat or lowfat milk, yogurt and cheese.

Daily Amount

3 of these choices for women

or

4 of these choices for teens:

- 1 cup milk
- 1 cup soy milk with calcium
- 1 cup of plain yogurt
- 1½ ounces cheese



Choose Healthy Fats & Oils

- Use plant oils like canola, safflower and olive oil for cooking.
- Read food labels to avoid saturated and trans fats (hydrogenated fats).
- Avoid solid fats such as lard and butter.
- Eat cooked fish at two meals each week.
- Limit oils to 6 teaspoons each day.

Choose Healthy Beverages

- Drink water, nonfat or lowfat milk instead of soda, fruit drinks and juice.
- Limit caffeine drinks like coffee and tea. Avoid energy drinks.
- Do not drink alcohol when you are pregnant or may become pregnant.
- Alcohol passes through breast milk. If breastfeeding, talk with your healthcare provider about alcohol use.

My Nutrition Plan for Moms

These tips can help you to eat well and have a healthy weight during and after your pregnancy. Fill in your weight goals and check off which tips you are willing to try.

Pregnancy: My recommended weight gain in pregnancy is _____ pounds. My current weight gain is _____ pounds.

After Pregnancy: A healthy weight range for me is _____ pounds. My goal is to weigh _____ pounds.

Vegetables

Each day I will:

- Try to eat at least 3 choices of fresh, frozen or low-sodium canned vegetables.
- Flavor vegetables with herbs and spices instead of fat or salt.
- Eat many dark green and orange vegetables.

Protein

Each day I will:

- Try to eat 6-7 choices.
- Grill, broil or bake meat instead of fry.
- Eat beans, nuts, tofu, seeds and nut butter.
- Eat lean meat (15% fat or less).
- Take skin off poultry.
- Eat 12 oz. of fish per week.
- Limit bacon, hot dogs and bologna.

Grains

Each day I will:

- Try to eat 6-8 choices.
- Choose whole grains at least half of the time.
- Eat WIC-approved cereals.

Fruits

Each day I will:

- Try to eat 2 choices.
- Eat a variety of fresh, frozen or canned fruits.
- Choose fresh, frozen and canned fruits without added sugars.
- Limit fruit juice to ½ - ¾ cup juice each day.

Dairy

Each day I will:

- Try to eat 3 choices.
- Choose pasteurized nonfat or lowfat (1%) milk and cheeses.
- Eat plain yogurt. For sweetness, add fruit.
- Choose soy products, with calcium, like tofu.

Fats & Oils

I will:

- Use 6 teaspoons of plant oils like canola, safflower and olive oil daily.
- Bake, broil, steam, or microwave instead of frying.

Beverages

I will:

- Drink water, nonfat or lowfat milk instead of sugary drinks.
- Limit caffeine drinks like coffee and tea. Avoid energy drinks.

Extras (Solid Fats, Sugars and Salt)

I will:

- Choose foods low in fat, sugar and salt.
- Read nutrition labels to limit fat, sugar and salt (sodium).
- Choose fruits, veggies, unsalted nuts and seeds for snacks.

My Other Ideas

- Make a daily food plan. Go to www.choosemyplate.gov/SuperTracker/createprofile.aspx.
- _____

Appendix A

Dietary Tables for Ages 9-30 Years, Non-Pregnant

Instructions

Step 1

Use Table A-1a to determine the client’s Estimated Calorie Needs.

- a. You’ll need the following client information:
 - Age
 - Gender
 - Physical Activity Level (definitions to the right)

- b. Use the age, gender and physical activity level identified in “a” to obtain the client’s Estimated Calorie Needs from the table below.

Physical Activity Levels

- **Sedentary:** lifestyle that includes only the light physical activity associated with typical day-to-day life.
- **Moderately active:** lifestyle that includes physical activity equivalent to walking about 1.5 to 3 miles per day at 3 to 4 miles per hour, in addition to the light physical activity associated with typical day-to-day life.
- **Active:** lifestyle that includes physical activity equivalent to walking more than 3 miles per day at 3 to 4 miles per hour, in addition to the light physical activity associated with typical day-to-day life.

Table A-1a Estimated Calorie Needs Per Day by Age, Gender, and Physical Activity Level
 Estimated amounts of calories^a needed to maintain calorie balance for various gender and age groups at three different levels of physical activity. The estimates are rounded to the nearest 200 calories. An individual’s calorie needs may be higher or lower than these average estimates.

Age/Activity Level ^b	Male Sedentary	Male Moderately Active	Male Active	Female ^c Sedentary	Female ^c Moderately Active	Female ^c Active
9	1,600	1,800	2,000	1,400	1,600	1,800
10	1,600	1,800	2,200	1,400	1,800	2,000
11	1,800	2,000	2,200	1,600	1,800	2,000
12	1,800	2,200	2,400	1,600	2,000	2,200
13	2,000	2,200	2,600	1,600	2,000	2,200
14	2,000	2,400	2,800	1,800	2,000	2,400
15	2,200	2,600	3,000	1,800	2,000	2,400
16	2,400	2,800	3,200	1,800	2,000	2,400
17	2,400	2,800	3,200	1,800	2,000	2,400
18	2,400	2,800	3,200	1,800	2,000	2,400
19–20	2,600	2,800	3,000	2,000	2,200	2,400
21–25	2,400	2,800	3,000	2,000	2,200	2,400
26–30	2,400	2,600	3,000	1,800	2,000	2,400

a. Based on Estimated Energy Requirements (EER) equations, using reference heights (average) and reference weights (healthy) for each age-gender group. For children and adolescents, reference height and weight vary. For adults, the reference man is 5 feet 10 inches tall and weighs 154 pounds. The reference woman is 5 feet 4 inches tall and weighs 126 pounds. EER equations are from the Institute of Medicine. Dietary Reference Intakes for Energy, Carbohydrate, Fiber, Fat, Fatty Acids, Cholesterol, Protein, and Amino Acids. Washington (DC): The National Academies Press; 2002.

b. Sedentary means a lifestyle that includes only the light physical activity associated with typical day-to-day life. Moderately active means a lifestyle that includes physical activity equivalent to walking about 1.5 to 3 miles per day at 3 to 4 miles per hour, in addition to the light physical activity associated with typical day-to-day life. Active means a lifestyle that includes physical activity equivalent to walking more than 3 miles per day at 3 to 4 miles per hour, in addition to the light physical activity associated with typical day-to-day life.

c. Estimates for females do not include women who are pregnant or breastfeeding. Source: Britten P, Marcoe K, Yamini S, Davis C. Development of food intake patterns for the MyPyramid Food Guidance System. J Nutr Educ Behav 2006;38(6 Suppl):S78-S92.

Source: 2010 Dietary Guidelines for Americans¹

c. **Estimated Calorie Needs:** _____ calories

Step 2

Use Table A-1b to identify the client's food group recommendations.

- Begin with the Estimated Calorie Needs (obtained in Step 1): _____ calories
- Use the Estimated Calorie Needs to identify daily recommendations for fruits, vegetables, grains, protein foods, dairy and oils from the table below. Subgroups (e.g., type of vegetable) are listed in weekly amounts. Limits for solid fats and added sugars (SoFAS) are also available.

Table A-1b Dietary Recommendations Based on Calorie Level												
For each food group or subgroup, ^a recommended average daily intake amounts ^b at all calorie levels. Recommended intakes from vegetable and protein foods subgroups are per week. For more information and tools for application, go to ChooseMyPlate.gov .												
Calorie Level of Pattern^c	1,000	1,200	1,400	1,600	1,800	2,000	2,200	2,400	2,600	2,800	3,000	3,200
Fruits	1 c	1 c	1½ c	1½ c	1½ c	2 c	2 c	2 c	2 c	2½ c	2½ c	2½ c
Vegetables^d	1 c	1½ c	1½ c	2 c	2½ c	2½ c	3 c	3 c	3½ c	3½ c	4 c	4 c
Dark-green vegetables	½ c/wk	1 c/wk	1 c/wk	1½ c/wk	1½ c/wk	1½ c/wk	2 c/wk	2 c/wk	2½ c/wk	2½ c/wk	2½ c/wk	2½ c/wk
Red and orange vegetables	2½ c/wk	3 c/wk	3 c/wk	4 c/wk	5½ c/wk	5½ c/wk	6 c/wk	6 c/wk	7 c/wk	7 c/wk	7½ c/wk	7½ c/wk
Beans and peas (legumes)	½ c/wk	½ c/wk	½ c/wk	1 c/wk	1½ c/wk	1½ c/wk	2 c/wk	2 c/wk	2½ c/wk	2½ c/wk	3 c/wk	3 c/wk
Starchy vegetables	2 c/wk	3½ c/wk	3½ c/wk	4 c/wk	5 c/wk	5 c/wk	6 c/wk	6 c/wk	7 c/wk	7 c/wk	8 c/wk	8 c/wk
Other vegetables	1½ c/wk	2½ c/wk	2½ c/wk	3½ c/wk	4 c/wk	4 c/wk	5 c/wk	5 c/wk	5½ c/wk	5½ c/wk	7 c/wk	7 c/wk
Grains^e	3 oz-eq	4 oz-eq	5 oz-eq	5 oz-eq	6 oz-eq	6 oz-eq	7 oz-eq	8 oz-eq	9 oz-eq	10 oz-eq	10 oz-eq	10 oz-eq
Whole grains	1½ oz-eq	2 oz-eq	2½ oz-eq	3 oz-eq	3 oz-eq	3 oz-eq	3½ oz-eq	4 oz-eq	4½ oz-eq	5 oz-eq	5 oz-eq	5 oz-eq
Enriched grains	1½ oz-eq	2 oz-eq	2½ oz-eq	2 oz-eq	3 oz-eq	3 oz-eq	3½ oz-eq	4 oz-eq	4½ oz-eq	5 oz-eq	5 oz-eq	5 oz-eq
Protein foods^d	2 oz-eq	3 oz-eq	4 oz-eq	5 oz-eq	5 oz-eq	5½ oz-eq	6 oz-eq	6½ oz-eq	6½ oz-eq	7 oz-eq	7 oz-eq	7 oz-eq
Seafood	3 oz/wk	5 oz/wk	6 oz/wk	8 oz/wk	8 oz/wk	8 oz/wk	9 oz/wk	10 oz/wk	10 oz/wk	11 oz/wk	11 oz/wk	11 oz/wk
Meat, poultry, eggs	10 oz/wk	14 oz/wk	19 oz/wk	24 oz/wk	24 oz/wk	26 oz/wk	29 oz/wk	31 oz/wk	31 oz/wk	34 oz/wk	34 oz/wk	34 oz/wk
Nuts, seeds, soy products	1 oz/wk	2 oz/wk	3 oz/wk	4 oz/wk	4 oz/wk	4 oz/wk	4 oz/wk	5 oz/wk				
Dairy^f	2 c	2½ c	2½ c	3 c	3 c	3 c	3 c	3 c	3 c	3 c	3 c	3 c
Oils^g	15 g	17 g	17 g	22 g	24 g	27 g	29 g	31 g	34 g	36 g	44 g	51 g
Maximum SoFAS^h limit, calories (% of calories)	137 (14%)	121 (10%)	121 (9%)	121 (8%)	161 (9%)	258 (13%)	266 (12%)	330 (14%)	362 (14%)	395 (14%)	459 (15%)	596 (19%)

Source: 2010 Dietary Guidelines for Americans¹

Notes for Table A-1b

^a . All foods are assumed to be in nutrient-dense forms, lean or low-fat and prepared without added fats, sugars, or salt. Solid fats and added sugars may be included up to the daily maximum limit identified in the table. Food items in each group and subgroup are:	
Fruits	All fresh, frozen, canned, and dried fruits and fruit juices: for example, oranges and orange juice, apples and apple juice, bananas, grapes, melons, berries, raisins.
Vegetables	
• Dark-Green Vegetables	All fresh, frozen, and canned dark-green leafy vegetables and broccoli, cooked or raw: for example, broccoli; spinach; romaine; collard, turnip, and mustard greens.
• Red and Orange Vegetables	All fresh, frozen, and canned red and orange vegetables, cooked or raw: for example, tomatoes, red peppers, carrots, sweet potatoes, winter squash, and pumpkin.
• Beans and Peas (legumes)	All cooked beans and peas: for example, kidney beans, lentils, chickpeas, and pinto beans. Does not include green beans or green peas. (See additional comment under protein foods group.)
• Starchy vegetables	All fresh, frozen, and canned starchy vegetables: for example, white potatoes, corn, green peas.
• Other Vegetables	All fresh, frozen, and canned other vegetables, cooked or raw: for example, iceberg lettuce, green beans, and onions.
Grains	
• Whole Grains	All whole-grain products and whole grains used as ingredients: for example, whole-wheat bread, whole-grain cereals and crackers, oatmeal, and brown rice.
• Enriched Grains	All enriched refined-grain products and enriched refined grains used as ingredients: for example, white breads, enriched grain cereals and crackers, enriched pasta, white rice.
Protein Foods	All meat, poultry, seafood, eggs, nuts, seeds, and processed soy products. Meat and poultry should be lean or low-fat and nuts should be unsalted. Beans and peas are considered part of this group as well as the vegetable group, but should be counted in one group only.
Dairy	All milks, including lactose-free and lactose-reduced products and fortified soy beverages, yogurts, frozen yo-gurts, dairy desserts, and cheeses. Most choices should be fat-free or low-fat. Cream, sour cream, and cream cheese are not included due to their low calcium content.
^b . Food group amounts are shown in cup (c) or ounce-equivalents (oz-eq). Oils are shown in grams (g). Quantity equivalents for each food group are: Grains, 1 ounce-equivalent is: 1 one-ounce slice bread; 1 ounce uncooked pasta or rice; ½ cup cooked rice, pasta, or cereal; 1 tortilla (6" diameter); 1 pancake (5" diameter); 1 ounce ready-to-eat cereal (about 1 cup cereal flakes). • Vegetables and fruits, 1 cup equivalent is: 1 cup raw or cooked vegetable or fruit; ½ cup dried vegetable or fruit; 1 cup vegetable or fruit juice; 2 cups leafy salad greens. • Protein foods, 1 ounce-equivalent is: 1 ounce lean meat, poultry, seafood; 1 egg; 1 Tbsp peanut butter; ½ ounce nuts or seeds. Also, ¼ cup cooked beans or peas may also be counted as 1 ounce-equivalent. • Dairy, 1 cup equivalent is: 1 cup milk, fortified soy beverage, or yogurt; 1½ ounces natural cheese (e.g., cheddar); 2 ounces of processed cheese (e.g., American).	
^c . See Appendix 6 for estimated calorie needs per day by age, gender, and physical activity level. Food intake patterns at 1,000, 1,200, and 1,400 calories meet the nutritional needs of children ages 2 to 8 years. Patterns from 1,600 to 3,200 calories meet the nutritional needs of children ages 9 years and older and adults. If a child ages 4 to 8 years needs more calories and, therefore, is following a pattern at 1,600 calories or more, the recommended amount from the dairy group can be 2½ cups per day. Children ages 9 years and older and adults should not use the 1,000, 1,200, or 1,400 calorie patterns.	
^d . Vegetable and protein foods subgroup amounts are shown in this table as weekly amounts, because it would be difficult for consumers to select foods from all subgroups daily.	
^e . Whole-grain subgroup amounts shown in this table are minimums. More whole grains up to all of the grains recommended may be selected, with offsetting decreases in the amounts of enriched refined grains.	
^f . The amount of dairy foods in the 1,200 and 1,400 calorie patterns have increased to reflect new RDAs for calcium that are higher than previous recommendations for children ages 4 to 8 years.	
^g . Oils and soft margarines include vegetable, nut, and fish oils and soft vegetable oil table spreads that have no <i>trans</i> fats.	
^h . SoFAS are calories from solid fats and added sugars. The limit for SoFAS is the remaining amount of calories in each food pattern after selecting the specified amounts in each food group in nutrient-dense forms (forms that are fat-free or low-fat and with no added sugars). The number of SoFAS is lower in the 1,200, 1,400, and 1,600 calorie patterns than in the 1,000 calorie pattern. The nutrient goals for the 1,200 to 1,600 calorie patterns are higher and require that more calories be used for nutrient-dense foods from the food groups.	
Source: 2010 Dietary Guidelines for Americans ¹	



Infant Feeding

What is Infant Feeding?

Infant feeding is feeding a child until one year of age.

Breastfeeding is feeding human milk (breast milk) and is the normal food for infants. For this reason, this guideline primarily covers breastfeeding and its promotion, protection and support.

Infants should be breastfed for **at least the first year of life**, if not longer, as mutually desired:¹

- [Infants under ~6 months of age](#) should be **exclusively breastfed**, which means feeding only human milk (with the exception of vitamins, minerals and medicines). The infant is not given any formula, juice, water, milk of any other animal or other foods.
- [Infants ~6 months of age and older](#) should be fed human milk with complementary foods being added as the infant develops (Figure IF-4). An infant who starts solids is fully breastfed as long as human milk is not replaced by formula, cow's milk, or juice.

Formula feeding is feeding infant formula. Infant formula is milk from a cow or other animal that has been modified for use with infants. Infants should not be given regular cow's milk that has not been modified. Such milk is not appropriate for infants due to their extra nutritional needs and can cause illness.

Combination or “mixed” feeding is feeding both formula and human milk. Feeding both is not better than feeding only human milk. Combination feeding can reduce the amount of mother's milk the baby takes. This decreases the amount of milk the mother makes and her ability to protect her baby.

May 2012

California Nutrition and Physical Activity Guidelines for Adolescents

Inside this Section

Page

IF-1	What is Infant Feeding?
IF-2	Why is Breastfeeding Important?
IF-4	Breastfeeding Statistics
IF-5	What Factors Might Influence Breastfeeding Practices?
IF-7	Planning for Breastfeeding
IF-8	Support for Breastfeeding
IF-9	Is it Safe to Breastfeed?
IF-10	What is Breastfeeding Like in the Early Weeks?
IF-15	Infant Feeding Guide: Birth to Around 6 Months
IF-16	Infant Feeding Guide: Around 6 Months to 9 Months
IF-17	Guide for Complementary Feeding
IF-19	Infant Feeding Guide: 9 Months - 12 Months
IF-20	Weaning
IF-21	Breastfeeding Screening Tree for Case Managers
IF-22	Interventions
IF-23	Tips for Addressing Breastfeeding Concerns: A Guide for Case Managers
IF-26	Additional Resources/ Web Links Referenced
IF-29	Referrals
IF-29	Follow-Up
IF-30	References

Why is Breastfeeding Important?

This is described in the context of Mothers and Child(ren), Families and Communities. Not all benefits/risks are described here.

Mothers and Child(ren)

The health effects of breastfeeding for mothers and children are well recognized and supported by scientific evidence. Infants and mothers who are not breastfed are more likely to have health problems. Examples are shown in Table IF-1.

Table IF-1 Impacts of Not Breastfeeding ²
Among full-term infants, increased risk of:
<ul style="list-style-type: none"> • Acute ear infection • Eczema • Diarrhea and vomiting • Hospitalization for some lung infections in the first year • Asthma • Childhood obesity • Type 2 diabetes • Some cancers (leukemia) • Sudden Infant Death Syndrome (SIDS)
Among preterm infants, increased risk of:
<ul style="list-style-type: none"> • Death from intestinal infection (necrotizing enterocolitis)
Among mothers, increased risk of:
<ul style="list-style-type: none"> • Breast cancer • Ovarian cancer
Among families and communities:
<ul style="list-style-type: none"> • Missed opportunities to bond through breastfeeding • Higher economic costs: lab tests, formula, medicines, missed work time[*] • Lost opportunity to use a renewable (“green”) source of food

Public health and medical organizations in the U.S. and worldwide recommend breastfeeding.[†] The AAP states that all substitute products “differ markedly” from human milk and that exclusive breastfeeding for the first six months

^{*} These savings were based on direct costs (e.g., costs for formula as well as physician, hospital, clinic, laboratory, and procedural fees) and indirect costs (e.g., wages parents lose while caring for an ill child), as well as the estimated cost of premature death.

[†] Examples include the World Health Organization (WHO), International Lactation Consultant Association (ILCA), American Academy of Pediatrics (AAP), American Public Health Association (APHA), American Congress of Obstetricians and Gynecologists (ACOG) and the Academy of Nutrition and Dietetics (AND)

of life should be considered normal infant feeding.¹

Breastfeeding should be thought of as an essential part of the human lifecycle. The first three months after birth can be thought of as the “fourth trimester”³ of pregnancy because this time is important, not only for breastfeeding, but for the mother’s recovery and the baby’s adjustment to living on his own. It is normal for the following to occur when a mother breastfeeds:

- Her body recovers as her uterus shrinks; helping to reduce her risk of postpartum bleeding
- Her body makes milk and loses some of the fatty stores she developed during her pregnancy, helping her to return to her pre-pregnancy weight
- Periods usually return later, helping her to conserve iron
- Breastfeeding can help mothers feel confident, relaxed and help with bonding with her baby. The infant gets used to eating, breathing and doing for himself what mother’s body used to do. Both learn to communicate and understand each other’s cues and responses

Breastfeeding can help younger mothers in many ways:

- Younger mothers may feel less prepared to raise a child and may lack confidence. Breastfeeding is linked with increased confidence⁴
- Children of younger mothers may be more likely to be neglected or subjected to harsh parenting.^{5,6} Breastfeeding may help with bonding and may be associated with reduced abuse/neglect⁷
- Babies born to adolescents are hospitalized more often than those born to older mothers. This makes the factors in human milk that help prevent illness even more important for adolescents⁸
- Younger parents often have lower income, and as such can greatly benefit from the lower cost of breastfeeding as well as fewer medical expenses for their babies⁹

Families

Fewer Illnesses

Breastfeeding is important for families. Babies who are not breastfed are more likely to become sick. Mothers and their children are more likely to develop certain chronic diseases if breastfeeding does not take place. When this happens, families face fear, stress, inconvenience, and the financial burden of doctor and hospital visits.

Less Cost

Breastfeeding helps families save money because they do not have to spend money on formula or extra trips to the doctor and hospital. When children are sick, parents often have to stay home, causing them to lose income.

Mothers who breastfeed can receive extra food from Women, Infants, and Children (WIC), a supplemental nutrition program. Pregnant women, infants and young children are eligible for WIC services if they meet income and health requirements.

[Learn about WIC and how to apply.](#)

WIC's Role with Breastfeeding

WIC promotes breastfeeding by giving mothers who breastfeed their children more food and education based on how much the mother breastfeeds. Fully breastfeeding mothers get the most benefits for themselves and their babies.

[More information about WIC breastfeeding benefits](#)

Opportunities for Bonding

Breastfeeding provides an opportunity for mothers to bond with their infants. This closeness can help to overcome fears that mothers may have that they may not know how to care for their baby.

Communities

Breastfeeding is "Green"

Breastfeeding benefits the environment, since it is all-natural. Breastfeeding does not require animals to feed, land to grow their food, manufacturing and disposal of formula, cans, bottles and related equipment.

When partners or family members say they are feeling "left out" because they can't feed the baby, validate those feelings ("Yes, many people feel this way"). Then brainstorm with the client about ways that others can create their own special bond with the baby.

Some examples include:

- Burp and cuddle the baby once feeding is done
- Get on the floor to play with the baby during "tummy time"
- Play, sing, read, and dance with the baby
- Take the baby/all children out for a walk
- Bring the mother food or water when she is breastfeeding
- Praise the mother for her decision to breastfeed the baby

Breastfeeding is Safest in Disasters

Emergencies, e.g., natural disasters, terrorist events, can occur anywhere. Breastfeeding is the safest way to feed an infant in an emergency.

Mothers who are scared, stressed, or have stopped breastfeeding can often return to breastfeeding. For more information, visit [Emergencies and Breastfeeding](#).

Breastfeeding under California Law

Breastfeeding is so important that laws have been passed to protect mothers' and babies' rights to breastfeed:

- **In public:** Mothers have the right to breastfeed in all public places
- **At work:** Employers are required to provide a private space for expressing milk, other than a bathroom. They must provide sufficient breaks for expressing of milk

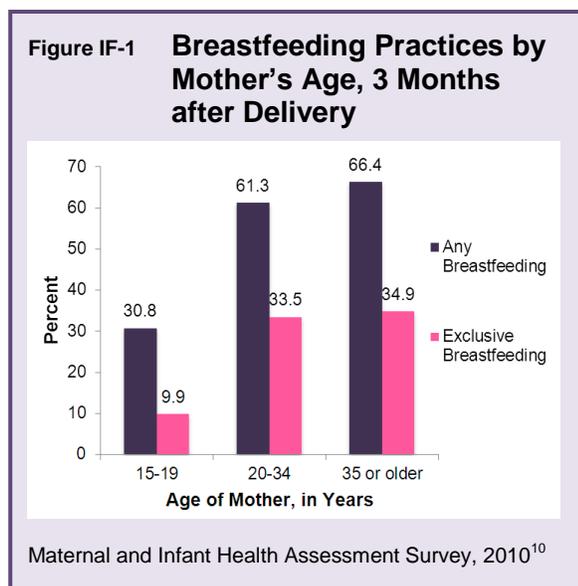
[More information about California's breastfeeding laws](#)

Breastfeeding Statistics

Younger mothers report breastfeeding less than older mothers. According to the 2010 California Maternal and Infant Health Assessment (MIHA) Survey,[‡] 15-19 year-old California mothers reported the following:¹⁰

- Before birth, 87.3% said they intended to breastfeed their babies, but only 57.8% reported breastfeeding at any level at three months after delivery
- Before birth, only 42.3% said they intended to breastfeed exclusively compared with 62.3% of mothers 20-34 years old and 62.8% of mothers 35 years or older
- Before birth, 42.3% said they intended to breastfeed exclusively, yet only 9.9% reported exclusively breastfeeding at 3 months after delivery, compared with 33.5% of mothers 20-34 years old and 34.9% of mothers 35 years or older

Figure IF-1 shows exclusive breastfeeding comparisons by age at three months after delivery. Note that AAP recommends exclusive breastfeeding until the infant begins complementary foods around six months of age.



These findings suggest that adolescents and their support people may need help understanding exclusive breastfeeding in the prenatal period and need timely information and support after birth.

Teens, like many mothers, can feel helpless and unprepared to face the challenges of getting breastfeeding started and continuing it beyond the first few weeks. They may lack the support to continue to breastfeed.

Provide resources to call if healthcare providers, family or other caregivers challenge their decision to breastfeed and encourage formula-feeding.

It is important to help teens deal with peer pressure and learn specific skills such as how to pump and store human milk.

Teens need to value what they can give their babies that no one else can: their milk. They need to know the importance of exclusively breastfeeding their babies for at least six months and why no other foods or liquids are better during this time.

Breastfeeding rates vary by race/ethnicity. Among women of all ages, the percent of that report any and exclusive breastfeeding is highest for White and Asian/Pacific Islanders. It is lowest for Black and Hispanic women.

Immigrant families, in adopting U.S. culture, may lose their traditions of breastfeeding. Ask clients if they were breastfed, or if they know people with their cultural background who breastfed. If so, offer praise to engage the client and promote breastfeeding.

[‡] MIHA is an annual, statewide-representative survey of women with a recent live birth in California. MIHA collects self-reported information about maternal and infant experiences and about maternal attitudes and behaviors before, during and shortly after pregnancy.

What Factors Might Influence Breastfeeding Practices?

Beliefs/Concerns

Teens who participate in focus group studies say that breastfeeding is “best” and is healthy for infants.^{11,12} They commonly report that the health benefits for infants¹¹⁻¹³ and increased closeness and bonding^{12,13} motivate them to breastfeed. Therefore, it is important to stress that breastfeeding can help them feel close to their baby and that their baby will recognize them as “mother” no matter who else cares for them during the day.

Potential concerns about breastfeeding are listed in Figure IF-2.

Figure IF-2 Possible Concerns about Breastfeeding

Teens—and others—may not breastfeed because of the following reasons:¹⁴

- Concern about insufficient milk
- Fear that breastfeeding is painful
- Believe that infants prefer formula
- Perceive formula as easier
- Embarrassed to breastfeed in public
- Fearful about body changes
- Returning to work or school
- Concern that infants will become excessively dependent
- Discomfort with act of breastfeeding or improper positioning and latching
- Concerned they must have a “special” diet
- Worried that fathers and relatives cannot play a role in the infant’s life

One concern that teens or mothers of any age may have is whether their health or behaviors prevent them from being able to breastfeed. In many cases, mothers can breastfeed. See page IF-9 for situations in which breastfeeding can occur and some situations in which using one’s own milk may not be possible.

Breastfeeding support is often available through WIC. International Board Certified Lactation Consultants[§] in their area can be found through

www.ilca.org. These experts can help with latching, positioning and other difficulties.

Those who do not want to breastfeed in public can learn strategies on how to breastfeed discretely from breastfeeding support groups or by talking about their concerns with WIC staff.

More tips to help case managers address specific concerns are available. See [Tips for Addressing Breastfeeding Concerns: A Guide for Case Managers](#).

Unique Challenges for Teens

The normal challenges of adolescence, such as issues with sexuality, body changes and self-acceptance can affect their choice to breastfeed and get help if they have trouble with breastfeeding.

Teens often have concerns about sexuality. Since breasts are viewed as highly sexualized, breastfeeding may be challenging, embarrassing, or uncomfortable for teen mothers. Teen mothers are also more likely to have been sexually abused than other teens, so this is a possibility that brings additional complications.¹⁵

Teens who become pregnant have more body changes than most teens. They may feel that their body was not “theirs” for nine months and may want to have their body back. If teens feel stigmatized in society for being a teen mother, they could feel that the act of breastfeeding draws more attention to themselves.

Many teens are self-conscious about their actions and their physical appearance. They may seek validation from friends, family, partners, and society at large and can be vulnerable to pressure from others—friends, family, boyfriends, and the media--and want to fit in with their peers. Unfortunately, breastfeeding is not the norm in American society and it is difficult for a teen mother to feel normal about breastfeeding in such an environment.

These issues are very real and complex. They may not come up when a teen is asked why she does not intend or continue to breastfeed. Open and honest discussions with the teen are key to learning about her thoughts and challenges to breastfeeding.

[§] Look for the certification, IBCLC, which stands for International Board Certified Lactation Consultant.

Breastfeeding Discussions

Listen. Discuss breastfeeding in a sensitive manner and listen to what teens have to say. This is more effective than “telling teens what to do.”¹¹ Teens must first feel “heard” before they are ready to learn.

Validate. Each concern a mother states should be addressed first by letting the mother know her fears/feelings are normal and common: “Yes, many mothers worry that...”

Long lectures are ineffective with mothers. Targeted education based on the concerns she reported is more effective. For example:

- Help is available through WIC or support groups if she finds breastfeeding painful or is worried about pain
- Mothers can eat a variety of foods and still make perfect milk for their babies

Overcome misinformation is by teaching teens how to seek out and evaluate information for themselves. They can invite their support person to group meetings/ classes. Case managers can help teens learn about breastfeeding through websites that provide accurate information (see links in Additional Resources/Web Links Referenced) and up-to-date materials.

Societal and Cultural Norms

Societal and cultural barriers often make it difficult to choose to breastfeed or carry out one’s decision to breastfeed; examples include:¹⁶

- Lack of knowledge about breastfeeding, role models or willingness to access mother-to-mother support groups leave many new mothers with few resources during this important transitional time
- Hospital policies such as separation of mother and baby, gifts of free infant formula, early discharge, inadequate follow-up and support in the early days of breastfeeding have been shown to shorten the duration of breastfeeding
- Lack of breastfeeding-friendly environments in the workplace and community, in spite of California Lactation Accommodation Law
- Very few health care professionals have received the training needed to support and help women and their infants with breastfeeding basics
- Limited maternity leave and lack of

workplace feeding or pumping facilities

- Lack of support from one’s peers and family members has an even greater impact on the decision to breastfeed than advice from health care providers, with one of the greatest influences often being a woman’s partner
- Embarrassment, lack of confidence, lack of desire, poor previous breastfeeding experience, fear of change in lifestyle, concerns about their physical appearance, dietary or other health practices, such as smoking and drinking prevent some women from breastfeeding

To help lessen or overcome some of the pressures and barriers teens face, provide the following additional information:

- Formula feeding requires shopping, planning, preparation and cleanup, inconvenient at night and when not at home
- When mother must be away, she still can make sure her baby gets the best by pumping and having her baby’s caretaker give her milk in a bottle. Some WIC agencies have pumps available for mothers going back to work or school. Pumps are also sold in many stores, but ask WIC staff which ones work well
- Encourage students to talk to their school/work about organizing space and time in their schedules to pump
- Help teens find breastfeeding resources using the [My Breastfeeding Resources handout](#)

To help overcome the cultural norm of formula feeding, help teens be firm advocates for themselves in their decision to breastfeed and in all decisions they make. Encourage them to respectfully question what they are told by friends, family, and professionals.

For example, if told that she should not breastfeed because of her medicine, she could say, “I want to breastfeed. What other medicines can I take that WILL allow me to breastfeed?”



Planning for Breastfeeding

It is best to start planning for breastfeeding as early as possible. Early planning is important for all mothers. In fact, prenatal intent may increase breastfeeding success.¹⁷ Suggested ways to help are described below.

1. **Support and encourage her.** Case managers, and others, can do the following:
 - Listen to her, talk to her. Let her know why breastfeeding is important for mothers, infants, families and communities. Ask for her thoughts about breastfeeding—what sounds good about it? What concerns her?
 - Discuss her right to breastfeed in public and express milk at work
 - Provide and discuss educational materials in many forms: written, video, online, etc.
 - Acknowledge and address concerns, answering basic questions, but refer to a specialist when necessary. See [Tips for Addressing Breastfeeding Concerns: A Guide for Case Managers for sample responses](#)
2. **Help her identify role models who breastfed.**
 - Help her identify family, friends, and/or community members who have successfully breastfed
 - Help her attend mother-to-mother support meetings or talk with breastfeeding professionals (described in the next section)
 - See [My Breastfeeding Resources](#) to fill in local support or peer counseling groups
3. **Encourage teens to share her plans to breastfeed** with the people closest to her, so that they are aware of her intent to breastfeed and can support her. Making preparations to breastfeed within the birthing hospital and school or work setting can help her to be successfully breastfed. Targeted strategies are listed in Table IF-2.

Table IF-2 Sharing Plans to Breastfeed

Among friends and family, she can:

- Share her [Birth Plan](#) with partners and others who will be her support persons in the hospital so that they are aware of her desire to breastfeed and can help advocate for her if any issues arise
- Ask friends and family to shorten or delay visits right after delivery, so that she can get to know her baby, breastfeed, and/or use professional breastfeeding help
- Ask a friend, partner, or family member to help with chores the first few weeks after delivery, so mother and baby can breastfeed and bond

In the hospital setting, she can:

- Develop a [birth plan](#), a signed set of instructions for hospital staff. Keep a copy of her birth plan and make sure copies are in her prenatal chart and sent to the hospitals as part of her record. This is one way that a mother can communicate her desires around birth and breastfeeding
- Ask Labor and Delivery staff to help her start breastfeeding in the first hour after delivery. Tell staff that she wants to be near her baby throughout her stay, so she can have plenty of skin-to-skin contact
- Avoid bottles, formula and pacifiers for the first month, even if she plans to pump or combination feed in the future. Convey this desire to hospital staff**

In the school/work setting, she can:

- If possible, delay returning to school or work, so she and her baby can get to know each other and get breastfeeding started well. [Learn about six key work laws that help families nurture their children](#)
- If needed, obtain a breastfeeding pump to pump milk at work/school. Pumps may be available through WIC. They can also be rented or purchased (and are tax-deductible)
- Discuss [workplace laws](#) with her employer and arrange for a place and time to pump
- Ask her school or work if it has a daycare, or find a daycare close by, so that she can breastfeed during breaks. Find a supportive child care center and share the handouts at www.breastfeedingworks.org/resources

** It is best to get breastfeeding going well during the first month, and later on use bottles/pacifiers if she still wants to do so. The baby can become confused and mother's breasts do not get the message to make enough milk for this baby. This way she keeps her options open to breastfeed or combination feed.

Support for Breastfeeding

Support is crucial for a breastfeeding mother no matter what her age. Many teens initiate breastfeeding but do not continue possibly because they lack support. Fortunately, many types of support are available.

Support from Family and Friends

Partners, family, and friends can have a powerful impact on a teen's decision to breastfeed. They can support her decision by being informed about breastfeeding, helping her to get professional assistance if needed, helping with chores, not making discouraging remarks, and by providing a listening ear.

Community Support

- Many communities have breastfeeding support groups just for breastfeeding mothers. [La Leche League](#) has mother-to-mother support groups
- [WIC agencies](#) have staff that can answer basic questions, and some WIC agencies have peer counselors and lactation experts. The teen can connect with others who share her breastfeeding experiences
- Public Health Nurses can make home visits and provide information and assistance

Professional Support

- Help teens identify professionals who are knowledgeable about breastfeeding, such as WIC staff, lactation experts, public health nurses, registered dietitians, pediatricians, family practice physicians, and obstetrician/gynecologists
- [International Board Certified Lactation Consultants](#) are lactation experts with the highest level of practical knowledge and skill in breastfeeding support. They make breastfeeding more comfortable by helping with pain, positioning, latching, and other concerns. A Board Certified consultant can have the letters IBCLC after her name

For information about breastfeeding, clients or case managers can also call the 24-hour, toll-free number for the La Leche League (1-877-4-LALECHE). Note: Phone lines, while helpful, may not be able to provide responses immediately.

See the handout, [My Breastfeeding Resources](#), for a list of several professional and community resources. The handout also has sections for case managers to fill in local resources for the client to use.

One way to provide teens who want to breastfeed with the knowledge and skills as well as timely access to the support needed to resist bottles and formula, is by calling **them** in the first few weeks after delivery and providing them with anticipatory guidance about the frequent barriers that mothers face.

An example of topics for these contacts is provided at: "Examples of anticipatory guidance and questions" in the [CDPH Model Hospital Toolkit Policy 10](#).

Is it safe to Breastfeed?

Mothers are often told myths that cause her to doubt whether she should breastfeed. She should always check with her baby’s primary healthcare provider. Most mothers can breastfeed in the following situations:

1. If the mother smokes cigarettes.^{1,18}

- Encourage quitting. Second-hand smoke harms infants and family members and can cause infant respiratory allergies and Sudden Infant Death Syndrome (SIDS)
- Discourage smoking in the home and near children. Those who smoke should not sleep with the baby in their bed. It is a risk factor for SIDS
- Mothers who breastfeed their babies help reduce some of the risks of smoke exposure. However, nicotine can make mother produce less milk, so her baby may not grow and gain enough weight

2. If the mother occasionally has a single alcoholic drink.^{1,18}

- Remind the client that in California, the legal drinking age is 21. Drinking alcohol when underage puts her at risk of losing custody of her baby
- Alcohol passes into breast milk and may be harmful for her and the baby. If the mother drinks alcohol, she should stop after one drink, and wait at least 3 hours before breastfeeding the baby. One drink of alcohol is 1 beer, 1 ½ ounces alcohol, or 5 ounces wine. If she has one drink and the baby cannot wait 3 hours to feed, a bottle of warmed-up breast milk from the freezer can be provided
- If one is not using birth control, she should not drink alcohol. If she becomes pregnant again, alcohol can harm the next baby, even before she knows she is pregnant
- Those who drink should make sure that their baby is being safely cared for

3. If the mother or child is ill (has the cold, flu, herpes, has had surgery, went to the dentist, etc.).

Human milk has the nutrients and antibodies needed to fight illness. It is very rare that mothers must wean – and even then, they can often express milk and return to breastfeeding once they are well. More information about breastfeeding and [maternal](#) and [infant](#) illness.

4. If the mother takes prescription medicine, birth control, or over-the-counter drugs.

Most do not interfere with breastfeeding. However, she should check with the baby’s primary health care provider. **Note:** Ask about birth control specifically; she may not think about birth control as a medication. If a particular medication cannot be taken, alternatives are often available. It is best to avoid long-acting medications. [More information about birth control and breastfeeding.](#)

5. If the mother is physically active.

Physical activity does not interfere with quality or production of breast milk.¹⁹

In rare situations, the mother may need to delay breastfeeding, pump or may not be able to breastfeed. Refer the client to her healthcare provider in the following situations:^{1,18}

- If the infant is diagnosed with galactosemia
- If the mother is positive for human T-cell lymphotropic Virus Type I/II or untreated brucellosis
- If the mother has active untreated Tuberculosis
- If the mother developed Chicken Pox (Varicella) between 5 days before delivery to 2 days after delivery
- If the mother has H1N1
- If the mother has HIV/AIDS
- If the mother needs to use chemotherapy, or radioactive medications
- If the mother uses “street” drugs, marijuana, or drinks alcohol excessively (make appropriate referrals if such behavior is suspected). The child may suffer from inadequate care or endangerment and should be referred to their primary care provider

Appendix B has details about conditions that may warrant pumping, delaying breastfeeding, stopping a behavior, or not breastfeeding at all.

Milk Banks

If a mother is unable to breastfeed, her infant can still receive the benefits of human milk. Milk banks provide pasteurized human milk for babies when their mothers cannot provide it. The costs may be covered by Medi-Cal and requires a physician’s prescription. Milk banks also accept human milk donations. See the handout, [My Breastfeeding Resources](#), for contact information.



What is Breastfeeding Like in the Early Weeks?

The First Weeks

The first few weeks are usually very challenging, as mothers and infants learn to breastfeed. This is normal. It is important for teens to reach out for help and not give up during this crucial time. Stress the normalcy of her feelings and worries. Encourage her to seek out help quickly rather than waiting until she is ready to give up.

Acknowledge that breastfeeding may be challenging at first. As with any new skill, it is most difficult in the beginning but gets easier with time. Anticipate possible difficulties and help the client come up with possible solutions ahead of time, so the client is prepared and supported in continuing to breastfeed.

Table IF-3 describes what can be expected during the first few weeks of breastfeeding.

In the first few days, a thick “early milk” called colostrum is produced, which is rich in immune factors. This milk should not be discarded as it helps protect infants from disease. The amount produced may be so small that it is not readily visible, but babies only need small amounts as their digestive system is immature and they are learning how to suck, swallow and breathe.

After a few days, many mothers are worried that their milk seems “weak” or changes color according to what she eats. Changing milk color, smell, taste and consistency is normal – and helps the baby get used to the flavors of breast milk. Milk will change during a single feeding and from week to week. All of this milk is beneficial and meets the needs of the infant. Contrary to some myths, milk does not “sour” and there is no “bad milk.”

Mothers should learn to feed their baby on cue, not by the clock.

Nursing on Cue

Nursing on cue is breastfeeding when the child gives signs that she is ready to be fed. Parents should feed on cue, feeding the baby when she shows hunger signs and stopping when she shows she doesn’t want any more.

Mothers should watch for cues that their baby is hungry, such as being more active and alert, putting hands or fists to mouth, making sucking motions with the mouth, or making rooting—turning the head--motions.

It is best to feed babies **before** they are crying because crying is a late sign of hunger, and it is harder for the mother and infant to breastfeed when the infant is crying.

Some infants are very sleepy for the first few weeks. If they are not wetting, or stooling or have lost more than 7% of body weight, they need to be awakened. Make sure the mother is following up with her baby’s healthcare provider.

It is normal for babies to want to breastfeed erratically, sometimes wanting to feed every 2 – 4 hours, and at times seeming to want to eat “all the time.” Feeding eight to twelve times in 24 hours during the first month is normal. Infants may feed a little less frequently as they get older. This can change from week to week.

Table IF-3 What to Expect while Breastfeeding: Birth to Six Weeks²⁰⁻²³

	Milk	The Infant	The Mother
Birth	There is milk in the breast by 28 weeks of pregnancy. Some women leak milk prior to delivery, but most do not. The first milk, colostrum, is yellowish in color and gives infants early protection against disease. Colostrum is the perfect first food for all newborns. Do not discard it. If the baby is not able to breastfeed, hand express colostrum to a small clean spoon and feed it to the baby by spoon or syringe.	The infant will be awake and alert in the first hour. This is the best time to start learning how to breastfeed. The infant's stomach at birth can hold only about as much as what fits in a marble. It is a "getting to know you" time when the baby adapts to the world and looks for her mother's face, hears her voice and adjusts to the new environment. Place the baby on the mother's chest to warm up and hear familiar sounds. This releases normal seeking behavior leading to the first breastfeeding.	Mother is tired after birth but ready to touch and talk to her baby. This is the perfect time to make her comfortable as she recovers and help her cuddle with and warm her baby skin-to-skin. This is important bonding time. When the baby shows "ready to eat" behaviors (cues) the mother can breastfeed often giving the mother and the baby many opportunities to learn new breastfeeding skills.
First 12-24 Hours	The infant will drink 1 teaspoon of colostrum at each feeding. Women may not see the milk, but it has what the infant needs and in the right amount. The baby shows cues when ready to eat: licking the lips, reaching to the mother or breast, sucking hands or fingers. The baby's stool reflects the changes in breast milk. Stools starts out dark, almost black, and become lighter. If the baby cannot be brought to the mother to breastfeed, hand expression with pumping should be taught so that The baby can be given breast milk as soon as the baby can feed.	It is normal for infants to sleep heavily shortly after birth. Some infants may be too tired to latch on well at first. Expect frequent feedings. Babies have strong instincts to suck and feed every 1-2 hours and sleep after feedings. Some infants, especially if they are not full-term, will be tired and the mother may have to wake them up to breastfeed if they sleep more than 3 hours. Mothers should ask the hospital staff not to give her baby any formula, water, or pacifiers unless needed for medical reasons, because at this age, babies usually breastfeed due to sucking needs rather than hunger. If pacifiers are used to soothe babies, they may skip feedings and not stimulate needed milk production.	Mother needs quiet time to rest during the short times between feedings and time to bond with her baby. Mothers may want to limit visitors. Nipples may be tender, but should not hurt. If breastfeeding hurts, she should ask for breastfeeding help. A semi-reclined position, with the baby on top of the women helps the infant latch on to the breast Women with a C-section may need extra help positioning the baby for feeding, but they can breastfeed even if they are taking medication for pain. If there is concern, consult the baby's health care provider.
Days 2-5	The milk now has more water, so it will look bluish-white, but may still have a yellowish appearance for about two weeks. The milk the woman makes is just right for her baby. Many mothers do not leak milk. This is not a sign of how much milk she makes. By day three the stool should be lighter (more yellow) in color.	The infant will feed often, 10 to 20 times in 24 hours. The more a baby breastfeeds, the more milk a mother makes. The infant's stomach is slowly growing to the size of the baby's fist. All infants do not eat on a schedule or know day from night. It is normal for breastfeeding infants to feed every 1-2 hours for a while, followed by a longer sleep. Feedings will probably take about 30 minutes. It is best not to remove the baby from the first breast until they let go. Some babies take only one side at a feeding. If they nurse on one side only, start on the other side at the next feeding. After delivery, it is normal for an infant to lose some weight. By about 10 days to 2 weeks of age the baby should be back to	Between days 2-4 the mother's breasts will begin to feel full and may leak. Insert pads inside the bra to absorb milk. She usually makes more milk than her baby needs. Frequent breastfeeding can help reduce swollen and hard breasts (engorgement). Between feedings, ice packs can reduce swelling, which goes away in 1-2 days. If breastfeeding becomes difficult, the mother should call for assistance. Day or night, mothers need to rest when the baby sleeps. Family and friends should help her and

		birth weight. The baby should be seen by the health care provider at least once by 3 days after discharge.	allow her time to rest and recover. If she has pain in her nipples or worries about her milk supply, she can contact WIC, her health care provider, a lactation consultant the delivery hospital or other breastfeeding resources.
Day 6 to 4 weeks	Milk transitions from colostrum to transitional milk to mature milk. Changes will usually not be noticed by either the mother or baby, but these changes perfectly meet the baby's needs at this time. Setting aside six diapers every morning reassures her that her baby has taken enough milk if she has used them all up in 24 hours. At least two diapers should also have stool (see page IF-13). By day six the stool should be soft and thicker yellow looking or have a "cottage cheese" like look. At least two large stools (the size of the palm of the mother's hand) a day is normal.	It is normal for all infants to have irregular feeding and sleeping schedules. Breastfeeding babies feed frequently to meet their growth needs. Frequent feedings increase the mother's milk supply. The baby is learning to feed more efficiently and the mother's milk production is adjusting to the needs of the baby. Setting a feeding schedule or limiting feedings can decrease the baby's growth and reduce the mother's milk supply. Teach mothers to respond to their baby's cues and to enjoy their baby's communication skills. Reinforce that frequent, irregular feeding patterns are normal. Mothers need help anticipating and preparing for her baby's frequent feeding needs during this time. Mothers need to know that as breastfeeding infants grow they will breastfeed fewer times a day and night.	Mother may feel down one moment and frustrated the next. This is normal and often called "baby blues". She should expect to feel better in about two weeks. She should reach out for help and accept it. Family and friends can bring food for her, and help with the housework, but let the mother and the baby learn how to be with each other rather than taking the baby away. Mother's body will adjust to making the right amount of milk. If she is worried, she should call WIC and CPSP for help.
First 4-6 weeks	Most mothers never see their milk. If she expresses her milk, she may see that it looks bluish-white at the beginning of a feeding and creamy white towards the end. Milk may change color and flavor after the mother eats certain foods. This is normal and helps the baby get used to the family's diet.	The infant is more efficient at breastfeeding and may take less time on each breast. The infant has a larger stomach capacity and is able to take more milk. Feedings may be farther apart. At around 10 days, and 6 weeks, infants will breastfeed more frequently (called "growth spurts"). Breastfeeding is not just for food – it also meets many of the baby's needs, such as security, warmth and closeness. This is normal and will not lead to a "spoiled" baby.	The mother's breasts make the milk her baby needs, but not a lot more, so her breasts will be less hard unless she has delayed a feeding. Leaking usually slows down. She should not worry, as her milk will be there for her baby. Women can eat a variety of foods and still make good milk. To help her recover, she should eat a variety of foods when hungry, drink fluids when thirsty and rest whenever she can. If the mother is returning to work or school, she should be referred to local resources for pumps and information about Lactation Accommodation laws.

Approximate Infant Stomach Sizes²⁴

1 Day	2 Days	3 Days	4 Days	5 Days	6 Days	7 Days	2 Weeks	3 Weeks
Cherry		Walnut		Ping Pong Ball		Chicken Egg		
								

Note: The graphics displayed in this table are not true to size. Please refer to the actual food items/objects to estimate sizes.

Breast Milk Production and Supply

Teens and mothers of any age may worry that they are not producing enough milk for their baby. It is important to remember that a newborn's stomach is very small and does not hold that much milk at one time. The teaching tool above can be used to show approximate stomach sizes; however, the objects are not drawn to size. Because babies' stomachs are so small, they require short, frequent feedings. This also helps establish a good milk supply in the mother.

Supply and Demand

The more often that milk is removed from the breast, the more milk the mother produces.

When nursing (or pumping) sessions are skipped, the mother's body sends signals that the milk is not needed and milk production decreases. This is why it is important to feed or pump often.

This same principle applies with growth spurts. Babies "cluster feed" at this time "Placing the order for tomorrow's milk production". It is not that the mother is not making enough milk. Rather, the increase in milk removal stimulates milk production in the mother.

AAP recommends that babies should be checked and weighed by their health care provider within 3 days after discharge and again at two weeks, and a breastfeeding evaluation should be done at that time.^{1,18}

During the first few weeks, mothers are often worried about how much milk they make. Babies should be alert and awake often and feeding frequently the first few weeks after birth. One way to feel reassured their baby is eating enough is to count the wet and dirty diapers produced. The chart shows the minimum number of wet and dirty diapers the infant should have the first week. Babies often wet and dirty the same diaper. Tip: caregivers should set aside 6 clean diapers every day, and make sure that 2 – 4 of them also are dirty.

Age	Minimum Number of Wet Diapers	Minimum Number of Dirty Diapers
1 day old	1	1
2 days old	2	2
3 days old	3	2
4 days old	4	3
5 days old	5	3
6 days old	6	4
7 days old	6	4

Adapted from the California WIC Program²⁵

If the infant produces fewer wet or dirty diapers than what is listed in this table, the diapers remain dark after day 5 or the infant sleeps through feedings, refer to the infant's primary healthcare provider.

The infant's stool consistency will change during the first week of breastfeeding and that is normal. On days 1 and 2, it will be black, thick, and sticky. On days 3 and 4, it becomes greenish

to yellow and less thick. On day 5, it becomes mustard or yellow, seedy and watery. If the infant produces more diapers, this is not cause for concern.

However, mothers should never be made to feel they are wrong to ask for an infant or breastfeeding evaluation. They should be encouraged to “follow their gut” and ask for a medical evaluation if they are worried.

Breastfeeding Positions

Helpful resources on breastfeeding positions are listed below:

- Page 14 of [Your Guide to Breastfeeding](#). Shows common positions used to hold an infant while breastfeeding
- Pages 2 and 3 of [WIC’s Guide to Breastfeeding](#)
- “Laid back breastfeeding” information at www.biologicalnurturing.com. Many mothers find that to start out, the best position is “laid back breastfeeding”
- “Laid back breastfeeding” section of La Leche League’s [Tear Sheet Toolkit](#)
- Ameda’s [Your Baby Knows How to Latch On](#) YouTube Video

[Many great hints, including information about Cue Feeding and normal infant behavior](#)

Refer to a lactation expert if there is pain or other problems.

Infant Care

At times, parents can feel impatient and frustrated. When this happens, parents might handle a baby in a rough way without meaning to hurt them. Talk to teens about how normal it is to feel tired and frustrated once in a while. At the same time, they must keep in mind never to shake or allow others to handle her baby roughly.

Discuss ways to calm a baby by breastfeeding. Share that if the baby is not interested, rocking or patting slowly and rhythmically can calm the baby. It can take up to 20 minutes of using the same movement (think: “repetition to soothe” such as rocking, patting, etc.) to calm a baby down. Brainstorm with her what to do if her baby’s crying is getting difficult. Who can help her? Where can she place her baby that is safe?

Remind the mother to sleep when the infant sleeps, so that their sleeping schedules are in tune. Note that babies should always sleep on their backs (not their sides, not their stomachs) to reduce the risk of Sudden Infant Death Syndrome (SIDS). [More SIDS information](#)

The client can also ask for help from a partner, family member or close friend when she needs some time to herself.

Infant Feeding Guide: Birth to Around 6 Months

Breastfeeding

AAP recommends that infants be exclusively breastfed for the first six months of life.^{1,18}

During this time, human milk has all the necessary factors for optimal growth and for protecting infants from germs that they have been exposed to as well as preventing the development of some illnesses later in life.

Exclusively breastfed infants should begin supplementation with 400 IU of vitamin D soon after birth. This should be discussed with a pediatrician as early as possible.²⁶

For breastfeeding babies, pacifiers or artificial nipples are not recommended during the first month. Pacifiers can meet the infant's sucking needs without providing food. This will lead to fewer breastfeeding opportunities and less frequent emptying of the mother's breast, which may then make less milk.

If an exclusively breastfed baby develops allergies, breastfeeding can still be successful. The healthcare provider should be contacted, so that a plan can be developed to address the allergy (i.e. mother can eliminate one food from her diet). Rashes (eczema) and/or bloody stools are the most common symptoms.²⁷

Formula-Feeding

If the mother says that she plans to partially or exclusively formula-feed and will not change her mind, or if an infant is unable to be breastfed—and milk banks have been discussed—iron-fortified formula should be provided until one year of age, not regular cow's milk.

There are different types of formula—powder, liquid and ready-to-feed—and each is prepared differently. It is important to identify the type of formula and to prepare it correctly, according to instructions on the package. Adding too much water or not enough water can harm the baby.

More information on using formula safely is available from [WIC](#) and in Appendix C.

Infant Care during Feeding

Breastfeeding or bottle-feeding, whether the bottle has infant formula or pumped breast milk, requires sensitivity to the baby's cues of hunger and fullness. As babies grow, they are awake more, but that does not mean they should be fed until they fall asleep – they may want to play, visit, take a walk, etc. Figure IF-3 describes how to help prevent overfeeding and other important strategies if a bottle is used.

Figure IF-3 Infant Feeding Strategies¹⁶

- Hold and cuddle the infant comfortably and securely during feeding. Make sure the head and neck are supported. Hold the head higher than the body
- Alternate sides so the baby looks towards the caregiver in both directions
- Provide skin-to-skin contact between caregiver and baby. Allow the infant to hear the caregiver's heartbeat by holding infant close to chest
- Feed according to an infant's hunger and satiety (fullness) cues such as lip smacking, sealing the lips together, slowed/decreased sucking, turning away, spitting nipple out/refusing nipple (whether bottle or breast) and increased distractibility
- Feed appropriate volume for age and avoid overfeeding by responding to the feeding cues
- If a bottle is used, **do not** prop the bottle in the infant's mouth or put the infant to bed with a bottle. Do not force the nipple into the infant's mouth
- When bottles are used, unclean water, bottles, nipples and rings is dangerous. Bottle components should be clean, regardless of whether formula or pumped milk is placed in the bottle. Easy-to-read directions for how to clean and prepare a bottle are available [here](#)

Warning: Solid Foods

Solid foods and liquids—other than breast milk or infant formula—should not be given in the first six months of life. Doing so is potentially harmful and replaces the right food, breast milk, with less nourishing foods. By reducing breastfeeding, this can also reduce how much milk the mother makes.

Infant Feeding Guide: Around 6 Months to 9 Months

AAP recommends breastfeeding for at least the first year of life. However, at 6 months or so, breast milk or formula alone do not meet all of the infant's nutritional needs and complementary foods are slowly and gradually introduced.^{1,18}

Introducing Complementary Foods

Complementary (solid) foods should be introduced when the infant meets the developmental milestones described in Figure IF-4; this is typically around six months of age but can vary.

Figure IF-4 **Developmental Readiness for Complementary Foods**¹⁶

The age at which an infant is developmentally ready for complementary (solid) foods varies, but is typically around six months of age.

When to begin solids

An infant is developmentally ready to begin complementary foods when he/she can do all of the following:

- Sit up with support
- Hold her head steady
- Put fingers or toys in her mouth
- Close her lips over a spoon
- Show that food is not wanted by turning her head
- Be able to keep food in her mouth and swallow it

Beginning solids too early

When an infant is fed too early, or before she is developmentally ready, she may choke on the food, consume too many calories, or develop food aversions. Feeding too early can also cause the infant to consume too little human milk or formula, which can lead to poor nutrition.

Beginning solids too late

However, feeding too late, or after the infant is developmentally ready, can negatively impact growth and intake of nutrients such as iron. Infants may not obtain the right variety and amounts of complementary foods, may reject age-appropriate foods and textures, may delay independent eating, and may resist mealtime routines.

If there is a family history of food allergy, the primary care provider should be contacted before introducing complementary foods. The child should be watched for allergies as new foods are introduced. See Figure IF-5 for more information.

Fostering a Love of Healthy Foods

Healthy habits need to begin early in life--this includes enjoying healthy foods and not overfeeding/overeating.

When feeding, attention must be paid to hunger and fullness cues. Self-feeding helps children exercise control how much to eat and which healthy foods they would like to try. Feeding tips include:

- Introduce healthy foods gradually and in a positive, gentle manner to avoid “food battles”
- As the child cues interest in eating, offer foods. If she shows signs of being full, remove the food
- Provide opportunities to finger-feed and explore (“play with”) food. At first this is messy and may require a wash after mealtime. As children learn, it is less messy

See page IF-17 for more information.

Introducing Cups

Learning to drink from a cup is important, since drinking from a bottle too long can lead to tooth decay, anemia, too much weight gain, and ear infections ([more information from WIC](#)). Tips for using a cup include:

- Give babies the opportunity to practice drinking from a cup by giving them water in a cup from around six months of age, when solid foods are introduced
- When traveling, use a small plastic cup with a lid and a hard spout, but other times it is best to teach the child to drink from a regular cup. Water can be used to reduce anxiety about spills. Some children also like cups with handles
- If baby insists on a bottle at bedtime, brush teeth and provide only water in the bottle

Guide for Complementary Feeding

Breastfeed first when offering complementary foods to infants.

Between approximately 6-12 months of age, breastfeed before serving solid foods, so that solid foods do not replace breast milk. After the baby is over 12 months of age, solids are offered first, followed by breastfeeding.

Introduce foods with new textures.

Infants should be allowed to explore and learn about textures:

1. Smooth (strained or pureed)
2. Mashed (smooth with a few small lumps)
3. Chopped (more lumps)
4. Tiny pieces of food

Be sure that they can chew and swallow foods from one stage before moving to the next.

Introduce a variety of foods.

Continue to offer foods that infants did not seem to like. As they get older, they may find they do like them. Below are healthy foods for infants:

- Baby cereals: rice, oatmeal, barley
- Meats: beef, chicken, turkey
- Vegetables: squash, peas, carrots, sweet potato
- Other foods: beans, egg yolk, tofu, cottage cheese, plain yogurt, rice, noodles

Try homemade foods, a healthier and inexpensive alternative.

They can be prepared using a strainer, blender, or baby food grinder. Salt, sugar, fats, or gravy should not be added to baby foods. Canned foods for adults should not be given, as they contain large quantities of salt and/or sugar.

Feed according to infant cues.

Infants should be fed according to cues that they are hungry or full, just as recommended for breastfeeding. Infants might open their mouths when they are hungry or turn away when full.

Feeding infants in response to cues prevents over-feeding, helps infants enjoy the healthy foods they are given, and teaches them to eat only when hungry. Infants should not be forced at certain times of the day or forced to complete the entire meal.

Watch infants for food allergies. See Figure IF-5 (for allergy in exclusively breastfeeding babies, see page IF-15).

Do not feed foods that have honey, even if cooked.

Honey should not be offered for the first year of life, as it may lead to infant botulism, a life-threatening condition.

Handle food safely.

Foods should be safe, age-appropriate and high in iron. See Figure IF-6 for food safety information.

Help infants have healthy teeth and gums.

See Figure IF-7 for oral health information.

Do not share harmful bacteria.

Adults have bacteria in their mouths that can cause disease and cavities. Avoid sharing spoons or food that others have had in their mouth.

Give only breast milk or formula in a bottle.

Sugary drinks, such as juice or soda, or solid foods should never be placed in a bottle.

Do not feed juice or soda.

Avoid juice during the first year of life. Juice fills the infant's stomach, replacing other foods. If juices are given, it should be 100% juice, given in a cup, limited to 2 ounces per day, and diluted in equal parts with water. Do not give sweet drinks such as soda, as it can lead to cavities.

Make feeding time a happy time.

Feeding infants with other family members at the table makes eating enjoyable for the infant, as well as the entire family. Infants also enjoy eating with their hands, so wait until the meal is over for a "clean up."

Figure IF-5 Food Allergy²⁸

When foods are introduced, give the baby one food at a time (not mixed with other foods) so you can tell which food is making the baby sick. Wait a few days before trying another new item to watch for any problems with the new food.

Signs of food allergy might include rashes, hives, diarrhea, stomachaches, vomiting, and difficulty breathing. If an allergy is suspected, a health care provider should be contacted immediately.

Foods that infants are more likely to be allergic to are:

- Cow's milk
- Soy milk or tofu
- Egg whites
- Fish or other seafood
- Wheat
- Nuts
- Corn
- Foods that cause problems to other family members (father, mother, grandparents). Tell the healthcare provider about this, as these foods may need to be avoided

Figure IF-6 Food Safety²⁸

Be clean. To avoid illness, hands should be washed before preparing or handling food. Wash surfaces used for preparing food, bottles, bottle nipples, and foods used to make baby food.

Read labels. If infant formula is used, directions on the container should be followed. Adding too much water or formula can be harmful. Formula or other foods should not be used after their expiration date.

Avoid burns. Milk should never be heated in a microwave. Place the bottle in hot water. Test the milk (on his/her inner arm) before giving it to the baby.

Refrigerate promptly. Milk and other foods should be refrigerated to keep food from spoiling. Recently pumped human milk lasts 5 days in the refrigerator, but formula only lasts 24 hours. Breast milk can also be frozen. When feeding with a bottle, throw away any leftover milk that the baby does not drink—do not refrigerate for later use, as it could make the baby sick.

Cook food thoroughly. If a food requires cooking, make sure it is cooked thoroughly and reaches appropriate temperatures.

[More information on food safety](#)

Do not cross-contaminate. Cooked foods should never be placed on a surface (plate, bowl, cutting board, etc.) that previously held raw meat or eggs, unless that surface has been thoroughly washed.

The following should not be given to infants:

- Items that can cause choking, such as hot dogs, nuts, seeds, popcorn, chips, grapes, raisins, raw vegetables, peanut butter, and candy
- Honey should not be offered for the first year of life, as it may lead to infant botulism, a life-threatening condition
- Adult canned foods should not be given
- If there is news of a food outbreak, that food should also be avoided
- Items to which there is allergy

Figure IF-7 Oral Health²⁹

Early Childhood Caries (ECC), or tooth decay in infants and children, is a widespread public health problem. Fortunately, it is often preventable. Parents and family members can prevent ECCs by doing the following:

1. Cleaning their own teeth because harmful bacteria are often transmitted from the caregiver to the child.
2. Not sharing utensils with children, pre-chewing the child's food, or cleaning pacifiers with their mouths.
3. Cleaning infant's or child's teeth twice daily once a tooth develops.
4.
 - For children less than two years of age, a 'smear' of fluoridated toothpaste should be used
 - Teeth should be flossed when a toothbrush cannot reach all tooth surfaces
5. Making sure the child visits a dentist by one year of age.
6. Having good feeding practices:
 - Infants should not sleep with a bottle, unless it has water. Even milk contains sugars that can cause caries!
 - Children should not carry around a bottle. They should not carry around a no-spill training cup if it contains a sugary drink, such as juice. These bathe the mouth in sugar, providing the perfect environment for bacteria for bacteria to grow
 - Infants should start drinking from a cup as they approach their first birthday
 - Between-meal snacking and excessive exposure to sugary food and drinks—such as juice—should be avoided. Remember: juice is not needed in the first year of life!

Infant Feeding Guide: 9 Months - 12 Months

Finger Foods

Breastfeeding continues to be the primary food at this age, but children will also be more skilled at eating finger foods themselves, and some will be learning to use a spoon.

Sample finger foods are small pieces of peeled soft fruits and soft cooked vegetables, small pieces of well-cooked ground meat, small pieces of dry cereal, toasted bread squares, unsalted crackers, teething biscuits, small pieces of soft tortilla, small slices of cheese and cut-up noodles.

These foods should continue to be provided as part of the family meal, allowing the child to decide the amounts and types of food to eat. Most babies will choose to eat one or two foods for a few days, such as chicken and avocados, then choose to eat carrots and beans. It is not necessary to worry about eating a balanced diet during each meal, but rather that a variety of foods are eaten in a few days or weeks.

Continued Cup Use

The infant should continue to practice using a cup. Cutting down on the number of bottles given each day and providing cups instead is one method. By one year of age, most infants should only drink from the breast or a cup, not from a bottle. Cups should be provided only during meals and snacks and should contain breast milk, formula, or water. If bottles are provided at bedtime, they should only hold water, to avoid early childhood caries.

Continued Breastfeeding

The longer that breastfeeding continues, the better outcomes are for both infant and mother. There is no evidence of harm for breastfeeding past three years of age.¹

From 12 months on, mother will first offer foods and then provide opportunities to breastfeed after the meals and at bedtime. It is very normal for children to continue to breastfeed past one year of age. In this way, mother will continue to provide her baby with protection against

infections, as they are now more exposed to the illnesses carried by other children and adults. If the mother is working or going to school, she will probably no longer need to pump, but will just breastfeed when she is at home or on weekends. She will slowly make less and less milk, but it changes and will have more antibodies, so that she can continue to protect her child from illnesses. If her child does get sick, she can also increase her milk production to help him recover more quickly.

Cow's Milk

Some mothers would like their children to begin to drink regular cow's milk. It can now replace formula for the infant at one year of age.¹

Weaning

Weaning occurs when breast milk is substituted with other foods or sources of milk, such as iron-fortified formula. In the U.S., women and teens often wean very early, so breastfeeding does not occur as long as is recommended. Since health outcomes keep improving the longer that breastfeeding continues, early weaning is not recommended.

When an adolescent says she wants to wean, health professionals should ask why. She may be planning to wean not because she wanted to, but because other people advised it. For example, a boyfriend may have been jealous of her relationship with the baby. Sometimes misinformation occurs, such as “the baby will get spoiled,” or “someone said my milk has gone bad.” These kinds of challenges can be worked through and early weaning may be avoided.

If the client is having a hard time breastfeeding and going to school, she may find it difficult to pump milk at school.

Breastfeeding does not have to be all or nothing. Rather than switching completely to formula, the mother can have her baby fed formula when she is away and breastfeed when they are together. This is better than stopping completely, as her baby will benefit from getting her milk.

If the client reports being pressured to wean, refer her to a lactation expert for help.

If the client is determined to wean, she should be helped to do it gradually, to avoid risking pain or breast infections. She should also be encouraged to replace feeding time with holding, cuddling and being with her baby – she is weaning from breastfeeding, but not from mothering. This is important for the psychological well-being of their relationship.

Sometimes mothers are sorry that they weaned. Often it is possible to return to breastfeeding. If the client is interested in re-lactation or transitioning into exclusive breastfeeding, refer her to a lactation expert.

Breastfeeding Screening Tree for Case Managers

Client is Pregnant

•Discuss breastfeeding and provide introductory information.
 •Is she considering breastfeeding?

No

Yes

•Discuss personal barriers to breastfeeding or what she may have heard or experienced.
 •Provide accurate information, seeking advice from a professional when necessary. See [My Breastfeeding Resources](#).
 •Provide tips to overcome the barriers mentioned. See [Tips for Addressing Breastfeeding Concerns: A Guide for Case Managers](#)
 •Have her identify solutions for overcoming barriers.
 •Is she willing to try exclusive breastfeeding?

•Discuss breastfeeding duration, exclusivity, vitamin D supplementation, pacifier use, laws, pumping and going back to school, who she can contact for professional help and informal support, and other challenges, as well as strategies to overcome them.
 •Talk about previous breast surgery, cancer, or use of any medications and make appropriate referrals.
 •Help her make a [birth plan](#) to give to the hospital. Encourage her to talk to friends and family to support her decision and help her be successful.
 •Encourage her to learn more about breastfeeding by reading, attending breastfeeding groups, such as La Leche League, and talking to mothers who have breastfed.

No

Yes

•Provide information on combination/mixed feeding.
 •Is she willing to try combination feeding?

No

Yes

Discuss formula feeding.

Client is Breastfeeding

Infant is younger than 6 months

Infant is 6 months or older

•Discuss how breastfeeding is going and ask about any concerns, e.g., latching, positioning, or shyness when feeding.
 •For latching/positioning concerns, refer to a lactation expert. Provide tips for other concerns.
 •Remind her that the baby needs to be supplemented with vitamin D soon after birth.
 •She should feed 8-12 times per day for the first four months and 6-8 times per day from four to six months.
 •Encourage feeding on cue.
 •Remind her to count diapers and refer to a physician if too few dirty and wet diapers are produced.
 •Artificial nipples and pacifiers can be used after the first month.
 •Help her get a breast pump if she has to return to school/work and provide information on its use.
 •Remind her that breast milk is the only food or drink an infant needs in the first 6 months. Around 6 months, baby foods that are high in iron should be given, e.g., meat, chicken, beans and WIC cereals.

•Discuss how breastfeeding is going and ask about any concerns, such as pumping.
 •Remind her to start feeding complementary foods containing iron once the child shows all signs of being ready.
 •Encourage feeding the infant a varied diet with different textures.
 •Encourage her to use good food safety and oral health practices.
 •Breastfeeding should continue for the first year or longer as mutually desired by mother and infant. Breastfeeding longer provides greater benefits to mother and infant.
 •Remind her that regular cow's milk should not be given in the first year of life.

Is she weaning or planning to wean?

No

Yes

Provide positive reinforcement for breastfeeding!

•Ask her why she is planning to wean, helping to clear any misconceptions about breastfeeding. If she is weaning before six months, refer her to her primary health care provider.
 •Help overcome challenges to breastfeeding by providing information, tips, support and referring to WIC or other lactation expert.

Postpartum Client is Not Breastfeeding

•Focus on pregnancy prevention.
 •Answer any questions she may have about breastfeeding or general infant feeding infant feeding.
 •Let her know that breastfeeding can resume after stopping. If interested in re-lactating, she should talk to a lactation expert.

Interventions

The interventions and resources described below are geared toward breastfeeding promotion and support. An expanded list, which includes links to other infant feeding resources, is on page IF-26.

Promote breastfeeding as normal infant feeding.

- Use the [WIC Lego Chart](#) to illustrate the difference between the contents of breast milk and formula (also available in [Spanish](#)). If possible, provide a concrete example by physically counting out the differences using real Legos or blocks
- Use resources tailored to the client's needs, for example, resources for [Hispanic](#) or [African-American](#) families may be needed

Openly and non-judgmentally discuss the client's thoughts about breastfeeding. Talk about her specific challenges and help her to address them.

- Review the handout, [Breastfeeding: Common Questions and Answers](#), with the client. Ask her about any questions or myths that she may have heard and discuss them with her
- Review the handout, [Nutrition & Breastfeeding: Common Questions and Answers](#), with the client to answer common questions about nutrition, illness, and drug use while breastfeeding
- Case managers can use [Tips for Addressing Breastfeeding Concerns: A Guide for Case Managers](#) as a reference for providing suggestions/tips to address specific breastfeeding barriers

Help the client prepare for and sustain breastfeeding.

- Review [My Action Plan for Breastfeeding](#). Help the client identify and check off which items she is willing to try
- Help the client complete a [Birth Plan](#) to provide to her health care provider. Birth Plans are available in [English](#) and in [Spanish](#)
- Help the client fill out [My Breastfeeding Resources](#), so that she will have a list of resources for if and when the need arises. Discuss the different kinds of support available in her community, including support from friends and family
- To identify nutrition needs for a client who is breastfeeding, visit the USDA's [SuperTracker website](#) and enter in the client's information. Share the resources available in the *Adolescent Nutrition* guideline, including the handouts, [MyPlate for Moms/My Nutrition Plan for Moms](#) and [Nutrition & Breastfeeding: Common Questions and Answers](#)
- Provide the handout, [Breastfeeding Checklist for My Baby and Me](#), to the client before she gives birth. This handout lists signs that breastfeeding is or is not going well in the early days after childbirth. If breastfeeding is not going well, the client should ask for help quickly, so that problems can be addressed and breastfeeding can ensue

Tips for Addressing Breastfeeding Concerns: A Guide for Case Managers

To correct misinformation, staff should share consistent and accurate breastfeeding information.

Breastfeeding Concern	Suggested Response/Tips
Lacks information	<ul style="list-style-type: none"> • Ask the client what she knows and would like to know about breastfeeding. Early on, discuss breastfeeding as the normal choice for feeding babies and the risks of not breastfeeding for mothers, babies, children, families, and communities • Discuss breastfeeding each trimester using the <i>Infant Feeding</i> guideline and offer counseling and handouts based on the client's questions and concerns • Explain breast pumps and talk to her about getting one from WIC, a hospital or elsewhere • Tell the client that professional breastfeeding support is available after delivery. See the My Breastfeeding Resources handout for support
Fears she does not have enough milk	<ul style="list-style-type: none"> • Women of all ages make breast milk that is similar in quality • Newborns only need a small amount of milk because their stomachs are so small. See the stomach size graphic in the breastfeeding chapter • It is normal for infants to wake up and feed multiple times throughout the day and night because of their small stomach and their rapid growth • Making breast milk does not depend on breast size. Feeding often and not using pacifiers and other nipples in the first month helps produce enough breast milk • One way to keep track of milk production is to count the number of wet and dirty diapers. Show the client the handout, What to Expect in the First Week of Breastfeeding. Some weight loss is normal in the first week. See the "Referrals" section for when to refer to a health care provider
Experiences pain or has trouble latching on or positioning	<ul style="list-style-type: none"> • If done correctly, breastfeeding should not hurt, but may cause some tenderness at first • Pain can be a sign of incorrect latching or positioning at the breast • See the My Breastfeeding Resources handout to contact a lactation expert if there is pain or difficulty latching and positioning
Believes baby prefers formula	<ul style="list-style-type: none"> • Breast milk is preferred because it is much healthier than formula, provides skin-to-skin contact, and is digested more easily than formula • Babies do not prefer the taste of formula; they may prefer that bottled milk flows out quickly • If a bottle must be used to feed a baby, it is best to choose a nipple that does not pour the milk out fast and is about the size of the mother's own nipple. Feeding should follow the baby's cues of hunger and fullness • If the client is making little milk, the baby will look for a source of food. Refer as this may be a sign she is not making enough milk
Believes giving formula is easier than breastfeeding	<p>Breastfeeding may seem harder than providing formula at first. At about six weeks, many mothers report that breastfeeding is easier, less work, and cheaper than formula-feeding.</p> <ul style="list-style-type: none"> • Breastfeeding does not require warming, setting up, or bottle cleaning • All babies need to be held during feedings. Propping bottles is not safe • The client can return to work or school and use a pump to express milk for her baby while they are separated. Breast pumps are available from WIC or can be rented if the mother is not eligible for WIC • Mothers who breastfeed do not need to carry bottles, clean water, or formula with them when they travel. They do not have to prepare bottles at night • Mothers who breastfeed can save money on formula costs and can get extra free food for them from WIC and stay on WIC up to one year • Breastfed babies are healthier than formula-fed babies. This means fewer doctor visits, trips to the hospital, missed work days, and better lifelong health • The use of formula requires special care. Making a mistake mixing and storing

	<p>formula can make babies sick. Formulas have been recalled in the past due to production errors that could harm babies</p> <ul style="list-style-type: none"> • In emergency situations, breast milk is the safest food for a child
Is embarrassed to breastfeed in public	<p>Validate the client's feelings that many mothers feel embarrassed to breastfeed in public. Reassure her that it gets easier with practice. Tell her that women have a legal right to breastfeed in any public place. Show pictures of women breastfeeding discretely. The client can:</p> <ul style="list-style-type: none"> • Practice breastfeeding discretely in front of a mirror to find a technique that works for her • Breastfeed before leaving and right after coming home from short trips. • Watch baby cues and breastfeed before the baby becomes fussy. It is easier to feed a baby that is calm and not crying • Breastfeed in the car, a dressing room, or in a women's lounge area • Wear clothes that cover well, such as shirts that pull up from the waist or can be unbuttoned from the bottom. Use a shawl or baby blanket • If the client is still uncomfortable, recommended pumping breast milk at home and using a bottle with expressed milk in public
Is scared her body will change	<ul style="list-style-type: none"> • Breasts change due to pregnancy, not breastfeeding. Sagging may occur over time and is caused by many factors: genetics, pregnancy, aging, and gravity • Breasts may become slightly larger when breastfeeding because they are producing milk, but this change is usually temporary • Breastfeeding may help the client return to pre-pregnancy weight faster than if she formula feeds
Has to return to work or school	<p>Let the client know that she can breastfeed and return to work or school. Encourage her to discuss her plans with her employer or school as early as possible. Are her employers aware of breastfeeding and pumping at work laws? Provide tips for breastfeeding and returning to work or school.</p> <p>The client can:</p> <ul style="list-style-type: none"> • Breastfeed her baby at work/school if child care is close by • Express breast milk by regularly pumping during breaks at work or school. • Discuss laws that support pumping milk at work • Provide bottles of expressed milk a few weeks before returning to work or school to prepare baby for the bottle • Store expressed milk in a cooler or refrigerator for immediate use or freeze breast milk for use at a later time • Feed both breast milk and infant formula. Breastfeeding is the best option, but breast milk in a bottle is better than not giving breast milk
Does not want to follow a diet	<ul style="list-style-type: none"> • No special diet is necessary. Nutrition while breastfeeding is similar to nutrition in pregnancy. Even if the mother eats junk food, her breast milk is better than formula • A healthy diet is important for the mother's health and postpartum weight loss • Some mothers fear they must stop eating their favorite food or spices but that is not needed. Most babies like the different flavors of mother's diet and it may help them accept a greater food variety later in life • Refer to the handout, Nutrition & Breastfeeding: Common Questions and Answers, for answers to specific questions the client may ask
Wants other family or partner to feed the baby so they are involved	<p>Fathers and family are an important part of the baby's life. They can:</p> <ul style="list-style-type: none"> • Tell stories or read to the child to help the baby's development • Hold the baby and play games, such peek-a-boo and pat-a-cake • Feed expressed breast milk in a bottle and feed other foods once the baby is six months of age
Lack of role models who support breastfeeding	<ul style="list-style-type: none"> • Ask the client what she is hearing about breastfeeding from those closest to her. Help her identify any misinformation or challenges • Help her name role models who have successfully breastfed and are in similar circumstances (e.g. returned to work or school)

	<ul style="list-style-type: none"> • Talk to her about professional, friend, and family support after delivery • Help her list those she will call for help and encouragement • Encourage the client to discuss breastfeeding with her partner, her mother, family and friends, and others important to her • Encourage her to attend a mother’s support group at WIC, La Leche League, or others. She can invite her support team to go with her
Does not want to be solely responsible for feeding the baby or fears loss of freedom	<ul style="list-style-type: none"> • Many mothers like the fact that their baby knows it is mom who feeds them, even if others share in the care of the baby • Breastfeeding can help her feel more “free” because she will not have to deal with formula and cleaning bottles • Assure the client breastfeeding gets faster and less frequent and the mother will have more time between feedings • Acknowledge that many times mothers may feel pressured to “get away” from the baby. Not all mothers want or need to “get away” for a break. It is normal to not want to leave your baby • If mothers do desire time away from their baby they can ask friends for help with childcare and household chores. If she needs a day off, she can express her breast milk and have someone else feed her baby
Is not confident in her ability to breastfeed	<ul style="list-style-type: none"> • Tell the client that most women can breastfeed their babies and that you are here to help her. Validate her concerns and fears and tell her many women are not sure they can breastfeed and with practice she will become more confident • Ask the client how she feels about her ability to breastfeed her baby and help her plan and prepare for breastfeeding. Use the handout, My Breastfeeding Resources, to discuss available resources • Ask the client if she would like the help of a breastfeeding peer mentor (if available in your area); provide referrals to breastfeeding classes and consultation • Let the health care provider know if she lacks breastfeeding confidence • Help the client prepare to breastfeed. She can talk to her doctor about pre-existing medical conditions and medications she takes. She can share her plans to breastfeed with her employer, school, and doctor • Help her complete a birth plan to share with her health care provider and delivery hospital • She can talk to friends and family members about her decision to breastfeed. She can get support from case managers, peer counselors, WIC, or mothers in support groups like La Leche League • Let her know that breastfeeding might be hard at first but that she has support to meet and overcome any challenges. Review Table IF-3 (What to Expect while Breastfeeding: Birth to Six Weeks) and discuss the handout, My Action Plan for Breastfeeding

Additional Resources/Web Links Referenced

Many free breastfeeding resources are available. Select resources based on the client's needs. Certain handouts, such as the WIC "Feed me!" handouts will be useful for all clients.

Title	Resource Type	URL
Resources hyperlinked in <i>Infant Feeding</i>, in order of presentation, where first referenced		
About WIC and How to Apply	Webpage - Resources	www.cdph.ca.gov/programs/wicworks/Pages/AboutWICandHowtoApply.aspx
WIC Breastfeeding Benefits	Document (PDF)	www.cdph.ca.gov/programs/wicworks/Documents/NE/WIC-NE-EdMaterials-PantryForMomAndBabyComparisonSheetsForIndividualEd.pdf
Emergencies and Breastfeeding	Webpage - Resources	www.cdph.ca.gov/healthinfo/healthyliving/childfamily/Pages/EmergencyPreparednessInfantandYoungChildCareandFeeding.aspx
California Breastfeeding Laws	Webpage - Resources	www.cdph.ca.gov/HEALTHINFO/HEALTHYLIVING/CHILDFAMILY/Pages/CaliforniaLawsRelatedtoBreastfeeding.aspx
International Lactation Consultant Association	Interactive tool – search for a lactation consultant	www.ilca.org
My Birth Plan – English	Document (PDF)	www.cdph.ca.gov/programs/NutritionandPhysicalActivity/Documents/MO-NUPA-MyBirthplan-English.pdf
My Birth Plan – Spanish	Document (PDF)	www.cdph.ca.gov/programs/NutritionandPhysicalActivity/Documents/MO-NUPA-MyBirthplan-Spanish.pdf
Work Laws to Support Nurturing Children	Document (PDF)	http://workfamilyca.org/resources/pdf/KeyLawPoster_ENG.pdf
Resources for Breastfeeding and Going Back to Work or School	Webpage - Resources	www.breastfeedingworks.org/resources
La Leche League Mother-Mother Support Groups	Webpage—Interactive Tool	www.llli.org/webus.html
WIC Locator	Webpage—Interactive Tool	www.apps.cdph.ca.gov/wic/resources/laSearch/search.asp
Lactation Expert Locator	Webpage—Interactive Tool	www.ilca.org/i4a/pages/index.cfm?pageid=3432
Examples of Anticipatory Guidance and Questions for Breastfeeding	Webpage - Resources	www.cdph.ca.gov/HealthInfo/healthyliving/childfamily/Pages/BFP-MdlHospToolkitPolicy10.aspx
Maternal Illness and Breastfeeding	Webpage - Resources	www.llli.org/NB/NBmaternalillness.html
Infant Illness and Breastfeeding	Webpage - Resources	www.llli.org/NB/NBinfantillness.html
Birth Control and Breastfeeding	Webpage - Resources	www.cdph.ca.gov/HealthInfo/healthyliving/childfamily/Pages/FamilyPlanningandContraceptionDuringBreastfeeding.aspx
Your Guide to Breastfeeding (in English, Spanish and	Webpage - Resources	www.womenshealth.gov/pub/bf.cfm

Chinese and tailored versions for African-American and American Indian/Alaska Native women)		
WIC's Guide to Breastfeeding	Document (PDF)	www.cdph.ca.gov/programs/wicworks/Documents/NE/WIC-NE-EdMaterials-AWICGuideToBreastfeeding.pdf
Laid Back Breastfeeding	Website	www.biologicalnurturing.com/
La Leche League Tear-Sheet Toolkit	Document (PDF)	http://www.llli.org/docs/000000000000001WAB/laleche_ch_20_tear-sheet_toolkit.pdf
Video: "Your Baby Knows How to Latch On"	Video	www.youtube.com/watch?v=6Hdhiii573A
Cue Feeding and Normal Infant Behavior	Website	www.secretsofbabybehavior.com/
Handout about Formula Preparation Safety	Document (PDF)	http://www.cdph.ca.gov/programs/wicworks/Documents/NE/WIC-NE-EdMaterials-WhenYouFeedMeFormula.pdf
Handout about Cup Use	Document (PDF)	www.cdph.ca.gov/programs/wicworks/Documents/NE/WIC-NE-EdMaterials-TimeForACup.pdf
Handout about Food Safety	Document (PDF)	www.nal.usda.gov/wicworks/Sharing_Center/MO/Fight_BAC.pdf
WIC Lego Chart - English	Document (PDF)	www.cdph.ca.gov/programs/breastfeeding/Documents/MO-HowDoesForWAFBF-Eng.pdf
WIC Lego Chart - Spanish	Document (PDF)	www.cdph.ca.gov/programs/breastfeeding/Documents/MO-HowDoesForWAFBF-Sp.pdf
Breastfeeding Resources for Hispanic Families	Webpage - Resources	www.nal.usda.gov/wicworks/Learning_Center/support_bond.html
Breastfeeding Resources for African-American families	Webpage - Resources	www.dshs.state.tx.us/wichd/bf/african_americanbf.shtm#Resources
Breastfeeding: Common Questions and Answers	Document (PDF)	www.cdph.ca.gov/programs/NutritionandPhysicalActivity/Documents/MO-NUPA-BreastfeedingQA.pdf
Nutrition & Breastfeeding: Common Questions and Answers	Document (PDF)	www.cdph.ca.gov/programs/NutritionandPhysicalActivity/Documents/MO-NUPA-NutritionBreastfeedingQA.pdf
My Action Plan for Breastfeeding	Document (PDF)	www.cdph.ca.gov/programs/NutritionandPhysicalActivity/Documents/MO-NUPA-MyActionPlanforBreastfeeding.pdf
My Breastfeeding Resources	Document (PDF)	www.cdph.ca.gov/programs/NutritionandPhysicalActivity/Documents/MO-NUPA-MyBFResources.pdf
SuperTracker	Webpage – Interactive Tool	www.choosemyplate.gov/SuperTracker/createprofile.aspx
Breastfeeding Checklist for My Baby and Me	Document (PDF)	www.cdph.ca.gov/programs/NutritionandPhysicalActivity/Documents/MO-NUPA-BFChecklistforMyBabyandMe.pdf
Additional Resources		
WIC Educational Resources – Women Includes breastfeeding and pregnancy; multiple	Webpage - Resources	www.cdph.ca.gov/programs/wicworks/Pages/WICEducationMaterialsWomen.aspx

languages available		
WIC Educational Resources – Infants Includes baby food (WIC: Feed me! handouts), breastfeeding and infant crying and sleeping; multiple languages available	Webpage - Resources	www.cdph.ca.gov/programs/wicworks/Pages/WICEducationMaterialsInfants.aspx
Getting to Know Your Baby – Birth to Six Months	Document (PDF)	www.cdph.ca.gov/programs/wicworks/Documents/BabyBehavior/WIC-BB-GettingToKnowYourBabyBooklet.pdf
Handout on Milk Production	Document (PDF)	www.ameda.com/sites/default/files/26401020_1010%20MakeMilk%20EN_4c.pdf
Handout on Latching and Positioning	Document (PDF)	www.ameda.com/sites/default/files/26401022_1010%20HelpTakeBrst%20EN_4c.pdf
Website with Inspirational Breastfeeding Stories	Document (PDF)	www.breastfeedforall.org/index.html
Breast Milk Counts - Website for Women with Interactive Tools	Website with Interactive Tools	www.breastmilkcounts.com
WIC Breastfeeding Peer Counselor Training Manual	Webpage - Resources	www.cdph.ca.gov/programs/wicworks/Pages/WICBFPeerCounselor.aspx
La Leche League International – Information and Support Groups	Website	http://www.llli.org/ http://www.llli.org/resources.html
California Food Guide Life Cycle: Normal Infant Feeding	Document (PDF)	www.dhcs.ca.gov/dataandstats/reports/Documents/CaliforniaFoodGuide/9InfantFeeding0-12months.pdf
California Department of Public Health Breastfeeding Website	Website	www.cdph.ca.gov/HealthInfo/healthyliving/childfamily/Pages/BreastfeedingandHealthyLiving.aspx

Referrals¹⁴

Note: This list is not exhaustive.

Refer the client to **her primary health care provider** if...

- The client has had breast surgery or injury and wants to breastfeed
- The client has a medical condition and wants to breastfeed
- The client uses medication and wants to breastfeed
- The client has red bumps on her breasts
- The client has breast pain that lasted more than 72 hours
- The client wants to use breast milk bank

Refer the client to **her infant's primary health care provider** if...

- The infant is breastfed and has not been given vitamin D supplements.
- The infant does not produce enough wet and/or dirty diapers (see page IF-13)
- The infant has any of the following symptoms:
 - A dry mouth
 - Red-colored urine
 - Yellow-skin, a symptom of jaundice
 - Not have enough wet or dirty diapers
 - Does not wake up and eat at least 8 times in 24 hours
 - The baby loses more than 10% of his/her body weight or the infant's weight does not return to original birth weight by ten days
- The infant is ill
- The infant has an allergic reaction

Refer the client to a **registered dietitian** if...

- If the client is concerned about feeding the infant certain food items
- If the client is vegan or if the client has a nutritional deficiency

Refer the client to a **lactation expert/lactation consultant** if...

- The client has flat or inverted nipples and wants to breastfeed

- The client has had breast surgery or injury and wants to breastfeed
- The client experiences pain while breastfeeding, or engorgement lasting longer than 24 hours
- The client and her baby are having trouble with latching and positioning
- The client does not hear swallowing sounds by the time the infant is 48 hours of age
- The infant refuses to breastfeed for more than 24 hours, or if the infant is too sleepy to breastfeed
- The infant breastfeeds for longer than one hour after milk supply is established
- The infant appears hungry after breastfeeding
- The client stopped breastfeeding, but wants to start again
- The client is using herbal remedies
- The client's health care provider instructed her to stop breastfeeding and she does not want to stop

Follow-Up

Review the [action plan](#) with the client to determine if she achieved her goal(s) for behavior change.

If the client did not make any changes, talk with her about what prevented her from doing so. Validate her feelings. Work with her to identify strategies for removing any barriers.

If the client made changes but still falls short of achieving her goals, praise her for the changes that she made. Work with her to revise her action plan (change or add goals).

If the client has made changes and achieved her goal, praise for the changes that she made. Help her develop a new action plan for maintaining the new behavior.

References

1. AAP Section on Breastfeeding. Breastfeeding and the Use of Human Milk. *PEDIATRICS*. February 2005;115(2):496-503.
2. McGuire S. U.S. Dept. of Health and Human Services. The Surgeon General's Call to Action to Support Breastfeeding. U.S. Dept. of Health and Human Services, Office of the Surgeon General. 2011. *Adv Nutr*. Nov 2011;2(6):523-524.
3. American Academy of Pediatrics. Families. *Breastfeeding Initiatives* <http://www2.aap.org/breastfeeding/familiesLanding.html>.
4. Wiesenfeld AR, Malatesta CZ, Whitman PB, Granrose C, Uili R. Psychophysiological response of breast- and bottle-feeding mothers to their infants' signals. *Psychophysiology*. Jan 1985;22(1):79-86.
5. Dukewich T, Borkowski, J., Whitman, T.L. Adolescent mothers and child abuse potential: An evaluation of risk factors. *Child Abuse & Neglect*. 1996;20(11).
6. Kim HK, Pears KC, Fisher PA, Connelly CD, Landsverk JA. Trajectories of maternal harsh parenting in the first 3 years of life. *Child Abuse Negl*. Dec 2010;34(12):897-906.
7. Strathearn L, Mamun AA, Najman JM, O'Callaghan MJ. Does breastfeeding protect against substantiated child abuse and neglect? A 15-year cohort study. *Pediatrics*. Feb 2009;123(2):483-493.
8. Feldman-Winter L, Shaikh U. Optimizing breastfeeding promotion and support in adolescent mothers. *J Hum Lact*. Nov 2007;23(4):362-367.
9. Bartick M, Reinhold A. The burden of suboptimal breastfeeding in the United States: a pediatric cost analysis. *PEDIATRICS*. May 2010;125(5):e1048-1056.
10. 2010 MIHA County Report: A Summary Report of County Snapshots and Geographic Comparisons from the Maternal and Infant Health Assessment Survey. Sacramento: California Department of Public Health, Maternal, Child and Adolescent Health Program; 2012.
11. Nelson AM. Adolescent attitudes, beliefs, and concerns regarding breastfeeding. *MCN Am J Matern Child Nurs*. Jul-Aug 2009;34(4):249-255.
12. Wambach KA, Koehn M. Experiences of infant-feeding decision-making among urban economically disadvantaged pregnant adolescents. *J Adv Nurs*. Nov 2004;48(4):361-370.
13. Hannon PR, Willis SK, Bishop-Townsend V, Martinez IM, Scrimshaw SC. African-American and Latina adolescent mothers' infant feeding decisions and breastfeeding practices: a qualitative study. *J Adolesc Health*. Jun 2000;26(6):399-407.
14. WIC Breastfeeding Peer Counselor Training Manual. In: WIC C, ed: WIC.
15. Berglas N, Brindis, C., Cohen, J. Adolescent Pregnancy and Childbearing in California. 2003. <http://www.library.ca.gov/crb/03/07/03-007.pdf>.
16. Haydu S, Sundquist J. Life Cycle: Normal Infant Feeding (0-12 months). *California Food Guide: Fulfilling the Dietary Guidelines for Americans*2006.
17. Coreil J, Murphy, J. Maternal Commitment, Lactation Practices, and Breastfeeding Duration. *Journal of Obstetric, Gynecologic, & Neonatal Nursing*. 1988.
18. Breastfeeding and the use of human milk. *PEDIATRICS*. Mar 2012;129(3):e827-841.
19. Griffin P. California Food Guide: Maternal Nutrition During Lactation. *California Food Guide: Fulfilling the Dietary Guidelines for Americans*2006.
20. U.S. Department of Health and Human Services' Office on Women's Health. Your Guide to Breastfeeding. 2011. <http://www.womenshealth.gov/publications/our-publications/breastfeeding-guide/>.
21. Pang WW, Hartmann PE. Initiation of human lactation: secretory differentiation and secretory activation. *J Mammary Gland Biol Neoplasia*. Dec 2007;12(4):211-221.
22. Colson SD, Meek JH, Hawdon JM. Optimal positions for the release of primitive neonatal reflexes stimulating breastfeeding. *Early Hum Dev*. Jul 2008;84(7):441-449.
23. California Department of Public Health. Stomach Capacity References.
24. Best Start. Breastfeeding Guidelines for Consultants2009.
25. California WIC Program. What to Expect in the First Week of Breastfeeding. *California WIC Program*2011.

26. Wagner CL, Greer FR. Prevention of rickets and vitamin D deficiency in infants, children, and adolescents. *PEDIATRICS*. Nov 2008;122(5):1142-1152.
27. ABM Clinical Protocol #24: Allergic Proctocolitis in the Exclusively Breastfed Infant. *Breastfeed Med*. Dec 2011;6(6):435-440.
28. California WIC Program. Feed Me! 6 to 12 Months: California WIC Program; 2008.
29. Policy on early childhood caries (ECC): classifications, consequences, and preventive strategies. *Pediatr Dent*. 2008;30(7 Suppl):40-43.



Breastfeeding: Common Questions and Answers

● Will it be easy to breastfeed my baby?

Breastfeeding can be tricky at first, as you and your baby both learn to breastfeed. This is normal, so don't give up! Breastfeeding gets easier once you AND your baby get the hang of it. Don't sit and worry--ask for help! You and your baby CAN learn how to breastfeed.

● Does breastfeeding hurt?

Breastfeeding should not hurt. If you feel pain, ask WIC or your doctor for a lactation expert who can help your baby latch on properly. This should take care of any pain you feel.

● Can I make enough breast milk?

Almost all mothers worry about it, but most mothers can make all the milk their baby needs! Your body starts making milk even when you are 4-5 months pregnant. Most teens can make milk just as well as adults. You can keep making milk by feeding often. So, don't let anyone—other than a medical professional—tell you that you don't have enough milk to breastfeed your baby. If you are worried, get help from WIC or a lactation expert right away!

What are helpful breastfeeding resources?

Ask your case manager to help you fill out the *My Breastfeeding Resources* handout. Keep it somewhere where you can find it easily.

● Will my baby get enough breast milk?

Newborns have small stomachs, but they have to double their birth weight in 4 months. As your baby does not eat much at one time, feedings must be frequent (at least 8-12 times per day at first)! Make this easier for you by keeping your baby close by.

Call your baby's doctor if your baby has signs of not getting enough milk. To learn what those signs are, ask your case manager to go over the handout, *Breastfeeding Checklist for My Baby and Me*. Always call the doctor if you are concerned about your baby for any reason.

● How can I prepare to start breastfeeding in the hospital?

Tell your doctors you want your baby in your room after birth. Keep your baby on your chest, skin to skin at least the first hour so your baby can get warm, relax and maybe even nurse. Tell your family and friends not to give pacifiers, formula, bottles or anything else to your baby. Try not to give your baby a pacifier or artificial nipple for the first month.

Keep your baby's doctor's appointments. This is a good time to talk to your doctor about how breastfeeding is going. If you are told to feed your baby formula, contact WIC or a lactation expert to get help.

● Do I have to go on a special diet to breastfeed my baby?

Breastfeeding does not require a special diet or different foods. Ask your case manager to go over the handout, *Nutrition & Breastfeeding: Common Questions and Answers*, for more information.

● What is colostrum?

The first few days, you will have early milk called colostrum. This milk looks yellow and thick, different from later milk. It comes out in small amounts, so you might not even see it! It is important to feed your baby colostrum because it helps to prevent illness. It will slowly become more watery, so that your baby can learn how to suck, swallow and breathe – and not choke! Your milk will change to mature milk when your baby is about 2 weeks old to meet his or her needs.

● Is it normal for breast milk to change in color or smell?

Yes. Your milk might look different in the beginning and end of a feeding, or change from week to week. It can even change color and flavor depending on what you eat. This is normal and is just what your baby needs. In fact, this is one of the special things about breast milk.

● Is it possible to breastfeed and go to school or work?

You can still breastfeed while going to school or work. Here are some tips:

- Take as much time off as you can. You and your baby can get to know each other and learn to breastfeed.
- Find out if you can get a breast pump from WIC, your CPSP or health insurance company.
- Practice pumping for a couple of weeks before returning to work or school.
- Pump or hand express when you are away, so that you can keep making milk. Your baby can have that milk when you are not there. If you are working, California law requires your employer to allow you unpaid breaks and a private space for pumping, which is NOT a bathroom. If your school or work is close by, you may be able to go to your baby and breastfeed during breaks.
- Share brochures from www.breastfeedingworks.org/resources with your school or work.

● Will breastfeeding take away my freedom?

Being a mother comes with challenges no matter how you feed. If you formula feed, you have to take bottles with you whenever you go out and you have to wash sticky bottles. At night, you have to go to the kitchen and prepare the bottle! Breastfeeding is ready-made food to go.

● Won't my family, friends or partner feel left out if I breastfeed my baby?

They can do other things with your baby, such as read, sing, dance, take your baby for walks, and spend some “tummy time” with them. Tell your friends and family why breastfeeding is important for your health and your baby’s health. They should be proud of you for breastfeeding.

● What if I am embarrassed to breastfeed in public?

If you are embarrassed to breastfeed in public, you are like many others! Try these tips:

- Practice breastfeeding in front of a mirror to find a technique that works for you.
- Breastfeed right before leaving and right after coming home from short trips.
- Wear shirts that pull up from the waist or that can be unbuttoned from the bottom. Use a pretty shawl or baby blanket as a cover-up.
- Breastfeed before your baby cries, so it is not as hard to position him/her.
- Sit in the car, in a changing room, or in a sitting area to breastfeed.
- Pump breast milk at home and use a bottle with expressed milk in public.



Nutrition & Breastfeeding: Common Questions and Answers

● Will I have to change my diet while breastfeeding?

Breastfeeding does not require a special diet or different foods. Everyone needs to follow a healthy diet of different fruits and vegetables, lean protein, low fat dairy and whole grains every day. The extra calories and nutrients that you need are easy to get when you choose healthy foods and you eat when you are hungry and stop when you are full. You can make a food plan just for you at www.choosemyplate.gov/supertracker-tools/daily-food-plans/moms.html.

● Can I go on a diet to lose weight while breastfeeding?

It is not a good idea for breastfeeding women to lose weight quickly. Rapid changes in weight can affect the amount of milk you make. You will lose weight gradually as you make milk for your growing baby. It is best to make slow changes.

To lose weight safely and slowly, limit extra fats and sugars and exercise most days. Skipping meals is not healthy for anyone and can reduce your baby's milk. The more often and longer you breastfeed, the easier it is to lose weight.

● Can I eat “junk food” while breastfeeding?

Eating “junk food,” such as soda, French fries, sweets and chips will not hurt your baby. Breast milk from mothers who eat “junk food” is better for babies than formula.

Eat healthy foods for yourself. You will lose extra weight faster and you will feel less tired and get sick less often. To make healthier food choices, find out how much fat and sugar is in the foods that you eat. Get quick nutrition information at www.choosemyplate.gov/SuperTracker/foodapedia.aspx.

● How much water do I need to drink?

Let your thirst be your guide. Many mothers find they get thirsty when they are breastfeeding, so have a glass of water nearby when you sit down to breastfeed. Mothers who drink too much water can lower their milk supply.

● Do I need to drink milk or eat dairy foods to breastfeed?

You do not need to drink milk or eat dairy foods to breastfeed. You do need foods that are high in calcium and vitamin D in your diet while you are breastfeeding and all through your life, for strong and healthy bones. Dairy foods have calcium and as do many green leafy vegetables. Other options are calcium-fortified soy products, canned sardines and salmon. If you do not eat calcium-rich foods, ask your doctor if you need a calcium supplement.

● Can I have caffeine when I'm breastfeeding?

Drinking no more than three 8-ounce cups of coffee early in the day should not affect your baby. If your baby isn't sleeping well or is fussy, cut back on caffeine in coffee, tea, soft drinks, and chocolate. Caffeine can keep you awake, too. Most coffee cups and coffee drinks are larger than 8-ounces (1 cup). Avoid energy drinks.

● Is drinking alcohol a good idea when breastfeeding?

In California, the legal drinking age is 21. Drinking alcohol when underage may put you at risk of losing custody of your baby.

Alcohol passes into breast milk and may be harmful for you and your baby. If you do drink alcohol, stop after one drink, and wait at least 3 hours before breastfeeding your baby. One drink of alcohol is 1 beer, 1 ½ ounces alcohol, or 5 ounces wine. If you have one drink and your baby cannot wait 3 hours to feed, give a bottle of warmed-up breast milk from the freezer. If you drink, make sure your baby is being safely cared for.

If you are not using birth control, do not drink alcohol. Alcohol can harm your next baby, even before you know you are pregnant.

● Can vegetarians or vegans breastfeed?

Yes. You need protein, not animal products and meat, to make breast milk. Vegetarian and vegan women need to be sure to eat foods rich in vitamin B12, vitamin D, and calcium. Sometimes vegetarians need to take a vitamin, so talk to your doctor about taking one that meets your needs.

● Does my baby need vitamin D if I breastfeed?

Yes. Breastfed babies should begin taking 400 IU of vitamin D soon after birth. Talk to your baby's doctor about Vitamin D for your baby as soon as possible. Most breastfed babies do not need any other vitamins.

● Do I need vitamins?

Every day, eat a vitamin or cereal that has 400 mcg of folic acid. Your body needs folic acid for healthy hair, nails, skin and overall health. Folic acid also helps prevent serious birth defects that can happen before you know you are pregnant. If you think that you need other vitamins, talk to your doctor or to WIC staff. Even if you take a vitamin, try to eat different colors and textures of fresh and healthy foods every day.



● Can I exercise while breastfeeding my child?

Yes. Exercising is part of being healthy. Exercise will not hurt your milk. Remember for your health and safety, start exercising gradually once your doctor says it's OK!

Phone number for a registered dietitian (if needed): _____

My Breastfeeding Resources

Type of Resource	When to Use this Resource	Specialist/ Organization Name	General Contact Information/ Information about the Resource	Fill in your Local Contact Information (e.g. Phone Number)
Professional Breastfeeding Help	When you need help breastfeeding, have problems with latching on, feel pain, have questions about drug safety, etc.	WIC lactation expert (also called a lactation consultant)	Your local WIC site may have FREE lactation experts. To find the closest WIC, call 1-888-942-9675 or visit www.applications.dhs.ca.gov/wic/resources/laSearch/search.asp	
		Other lactation experts (hospital, private)	To find a lactation expert nearby, visit www.ilca.org/i4a/pages/index.cfm?pageid=3337	
Medical Help	For emergency situations	Emergency Room/ER	Call 9-11.	Call 9-11.
	If you have medical or health concerns for you or your baby.	Primary health care provider (doctor or clinic) for mother or baby	Call your health care provider or your baby's health care provider.	
Nutrition Help	If you have questions or concerns about your diet, weight, or food intake while breastfeeding.	Registered Dietitian	Call your health care provider or your local WIC agency. To find the closest WIC, call 1-888-942-9675 or visit www.applications.dhs.ca.gov/wic/resources/laSearch/search.asp	
Community Breastfeeding Support	When you would like breastfeeding support or to talk about breastfeeding and taking care of babies with professionals and experienced mothers.	La Leche League groups	To find a local La Leche League, visit www.llli.org/Web/California.html	
		WIC peer counseling is offered in some counties	Call your local WIC agency. To find the closest WIC, call 1-888-942-9675 or visit www.applications.dhs.ca.gov/wic/resources/laSearch/search.asp	

		Other local support groups	Find support groups in your county at www.californiabreastfeeding.org .	
Helplines/ Warmlines	For answers to basic breastfeeding questions. Note: Lines may be temporarily closed or may not be able to provide a response immediately.	National Breastfeeding toll-free helpline	<ul style="list-style-type: none"> • Call 1-800-994-9662 • TDD for the hearing-impaired is 1-888-220-5446 • Available in English and Spanish M-F 9am-6pm EST 	
		La Leche League 24-hour toll-free warmline	Call 1-877-4-LALECHE (1-877-452-5324)	
Milk Banks	To donate or get breast milk (this is a Medi-Cal benefit that requires a doctor's prescription).	Mother's Milk Bank of California	For information: <ul style="list-style-type: none"> • Visit www.sanjosemilkbank.com • Call 1-408-998-4550 • Email MothersMilkBank@hhs.co.santa-clara.ca.us 	
Breastfeeding Pumps/Supplies	To purchase or rent a breast pump.	Local WIC agency	Call your local WIC agency. To find the closest WIC, call 1-888-942-9675 or visit www.applications.dhs.ca.gov/wic/resources/laSearch/search.asp	
		Hospital rental		
		Private rental		
		Local Breastfeeding Coalition	Visit www.californiabreastfeeding.org/memberscounty.html	
Other	For breastfeeding information, tips, and handouts.	California Department of Public Health	Visit http://cdph.ca.gov/breastfeeding	
		California Women, Infants, and Children (WIC)	Visit www.cdph.ca.gov/programs/wicworks/Pages/BreastfeedingResourcesforMoms.aspx .	
		Federal Office on Women's Health	Visit http://womenshealth.gov/breastfeeding	

My Action Plan for Breastfeeding



Name: _____

Check the box for each step you are doing now to prepare for breastfeeding. Check the boxes for the steps you plan to take. Write down other ways you plan to prepare for breastfeeding.

Things that I can do to get ready for breastfeeding

- Learn more about breastfeeding by asking questions, attending classes, and reading. Ask my local WIC agency, medical provider, or clinic staff for more information and help.
- Attend a breastfeeding support group at WIC or La Leche League to talk to moms who have breastfeeding experience.
- Talk to my family, husband/partner, friends, and my work or school about my plans to breastfeed my baby.
- Fill out a birth plan and give it to my doctor. Ask your case manager for a copy of *My Birth Plan*.
- Ask that my baby stay in my room after I give birth.
- Start breastfeeding in the first hour after delivery.
- Avoid pacifier use for the first month.
- Complete and save *My Breastfeeding Resources*.
- If I have trouble breastfeeding, I will ask for help instead of giving my baby formula.
- Give my baby only breast milk for the first six months and try to breastfeed for at least a whole year. If I need to be away from my baby, I can pump breast milk.
- Other ideas to help me breastfeed my baby:

Am Doing	Steps I Will Take
<input type="checkbox"/>	<input type="checkbox"/>

Signature: _____

Date: _____

Breastfeeding Checklist for My Baby and Me

This checklist will help you know things are going well for you and your 4 day to 4 week old baby. If you have any concerns, call the baby's doctor and a lactation expert.

Check that breastfeeding is going well for you and for your baby.

My baby is over 4 days old and:

- Breastfeeds at least 8 times in 24 hours.
- Makes swallowing sounds during most of the feeding.
- Makes at least 4 dirty diapers in 24 hours.
- Has dirty diapers that are lighter in color and not so dark and thick.
- Only breastfeeds and does not take formula or other liquids.

I delivered more than 4 days ago and:

- I enjoy breastfeeding my baby.
- Latching baby on to feed is getting easier.
- After my baby latches on and I count to 10, my nipples do not hurt.
- My breasts were larger and heavier after delivery.
- My breasts feel softer after I breastfeed.
- I believe that breastfeeding is going well.

Check if you and your baby need help with breastfeeding. If you check any of these boxes, contact your baby's doctor or a lactation expert and/or WIC to get help quickly.

My baby is over 4 days old and:

- Sleeps more than 5 hours at a time
- Does not wake up to breastfeed at least 8 times every 24 hours.
- Does not make swallowing sounds during the most of the feeding.
- Wet diapers are not heavy and have a pink color.
- Does not make at least 4 dirty diapers in 24 hours.
- The dirty diapers are dark and thick.
- Breastfeeds and drinks formula and other liquids.
- Has yellow colored skin and eyes.

I delivered more than 4 days ago and:

- My breasts did not get larger and heavier after delivery.
- Latching baby on is difficult.
- My breasts do not feel softer after I breastfeed.
- I worry I don't have enough milk.
- I can't tell when my baby is hungry and when my baby is full.
- After my baby latches on and I count to 10, my nipples still hurt.
- I change sanitary pads every hour because I bleed so much.
- I do not think breastfeeding is going well.

Baby's Doctor _____

Phone _____

My Doctor _____

Phone _____

Lactation Expert _____

Phone _____

WIC's Phone _____

Baby's Birth Date _____ Baby's Birth Weight _____ Baby's Discharge Weight _____

My Birth Plan

(For a normal, full-term delivery)

Name: _____

My plan is to:

- Have my labor start and stop without drugs, unless medically required
- Have my chosen support people stay with me
- Drink clear liquids and eat light foods during early labor
- Move, change positions, take a shower, have a massage and walk, as much as possible during labor
- Have a Heparin Lock versus a continuous drip IV for quick access in case of an emergency
- Hold my baby skin to skin immediately after birth
- Have my baby's tests performed while in contact with me so my baby is not taken from me until after he/she has breastfed
- Have 24 hour rooming in
- Receive help and education to breastfeed successfully
- Have my baby brought to me if for some reason he/she is not in my room and is giving hunger cues, such as sucking hands or making sucking sounds, moving the head towards a person or, in very sleepy babies, eye movements under the eyelids before he/she is crying
- Get an appointment for a health checkup for my baby upon discharge and be given the names of helpers, in case I need help with breastfeeding
- Be given instruction on the use of an electric breast pump if my baby is unable to breastfeed or is separated from me due to a medical condition within 6 hours after delivery

I do not want:

- My bag of waters broken, or to have an episiotomy or other surgery done unless medically necessary
- My baby given a pacifier, bottles, water or formula without my consent and the medical order of his/her doctor

Signature of the patient

Date signed

Copies for MD, hospital, clinic and patient

Mi plan de parto

(Para el parto de un bebé a nacido tiempo completo y saludable)

Nombre: _____

Mi plan es:

- Permitir que el parto comience y se demore sin el uso de drogas, a menos que sean requeridas por un problema médico
- Que las personas que yo elija como equipo de apoyo me acompañen durante el parto
- Ingerir líquidos claros y comidas livianas durante el parto
- Tener un acceso a mi vena que me permita moverme y la vez ofrezca acceso rápido en caso de emergencia (Heparin Lock)
- Poner mi bebé sobre mi pecho, piel a piel en cuanto nazca
- Que hagan los exámenes de mi bebé mientras esté en contacto conmigo para que no se separe de mí hasta que haya tomado el pecho
- Tener mi bebé en mi habitación las 24 horas del día
- Recibir ayuda y educación para lograr dar el pecho efectivamente
- Si por alguna razón mi bebé no está conmigo, que me lo traigan en cuanto dé señales de tener hambre como: chuparse las manos, hacer ruidos de chupo, mover su cabecita hacia una persona, o, si es muy dormilón, mover sus ojos debajo de los párpados antes que comience a llorar
- Ya tener una cita para un examen físico de mi bebé al darme de alta y recibir los nombres de personas que me puedan ayudar si necesito ayuda con la lactancia
- Que si mi bebé no puede tomar pecho o está separado de mí por una condición médica, me ofrecerán un sacaleches e instrucciones para su uso dentro de 6 horas después del parto

No deseo que:

- Me rompan las fuentes o me hagan una episiotomía u otra cirugía a menos que sea por necesidad médica
- Le den un chupón, mamilas, agua o fórmula a mi bebé sin mi permiso y las órdenes del médico

Firma de la paciente

Fecha

Copias para el médico, el hospital y la paciente

Appendix B

Sample Situations When Mothers Should Not Breastfeed¹

In the following rare situations, the client should not breastfeed and should be referred to her primary healthcare provider for further information:

1. If the infant is diagnosed with galactosemia.
2. If the mother is positive for human T-cell lymphotropic Virus Type I/II or untreated brucellosis.
3. If the mother has active untreated Tuberculosis, she must stay away from her baby until she has completed 2 weeks of therapy as prescribed by her primary care provider. During this time, her expressed human milk can be used. After 2 weeks, she can be tested, and if no longer infectious she can breastfeed her baby while taking the medications to control the TB infection.
4. Mothers who develop varicella (Chicken Pox) between 5 days before delivery to 2 days after delivery should be separated from their infants but can provide their expressed human milk.
5. Mothers with H1N1 should temporarily be isolated from their babies until they have no more fever, but can provide their milk for their baby.
6. In the US, a mother with HIV/AIDS should be giving her baby formula.
7. If mother needs to have chemotherapy, or radioactive medications, they can affect her baby if she breastfeeds. In some cases she can “pump and dump” and return to breastfeeding after completing her medications. Have her check with her baby’s health care provider.
8. If the mother is using street drugs, marijuana, or is drinking excessive alcohol (make appropriate referrals if such behavior is suspected). The child may suffer from inadequate care or endangerment, and should be referred to their primary care provider.

Source

1. Breastfeeding and the use of human milk. *PEDIATRICS*. Mar 2012;129(3):e827-841.

Appendix C

Mixing/Feeding Infant Formula¹

Iron

The infant formulas currently available in the United States are either

1. **Iron-fortified** with about **12** milligrams of iron per liter, or
2. **Low iron** with about **2** milligrams of iron per liter

The American Academy of Pediatrics (AAP) recommends that formula-fed infants receive an **iron-fortified formula** as a way of reducing the prevalence of iron-deficiency anemia.

If infants are fed a low-iron formula, a health care professional may recommend a supplemental source of iron, particularly after 4 months old.

Infant Formula Products

Baby formula comes in three forms:

- **Powder:** the least expensive of the infant formulas. It must be mixed with water before feeding.
- **Liquid concentrate:** usually mixed with an equal amount of water.
- **Ready-to-feed:** the most expensive form of formula that requires no mixing.

The protein source varies among different types of infant formula.

Safety Issues

- **Formula preparation.** In most cases, it's safe to mix formula using ordinary cold tap water that's brought to a boil and then boiled for one minute and cooled. According to the World Health Organization, recent studies suggest that mixing powdered formula with water at a temperature of at least 70 degree C—158 degrees F—creates a high probability that the formula will not contain the bacterium *Enterobacter sakazakii*—a rare cause of bloodstream and central nervous system infections. Remember that formula made with hot water needs to be cooled quickly to body temperature—about 98 degrees F—if it is being fed to the baby immediately. If the formula is not being fed immediately, refrigerate it right away and keep refrigerated until feeding.
- **Bottles and nipples.** The Mayo Clinic says you may want to consider sterilizing bottles and nipples before first use. After that, you can clean them in the dishwasher or wash them by hand with soapy water.
- **Water.** Use the exact amount of water recommended on the label. Under-diluted formula can cause problems related to dehydration. Over-diluted formula will not provide adequate nutrition, and, if fed for an extended period of time, may result in slower growth.
- **Bottled water.** If consumers use non-sterile bottled water for formula preparation, they should follow the same directions as described for tap water above. Some companies sell bottled water that is marketed for infants and for use in mixing with infant formula. This bottled water is required to meet general FDA quality requirements for bottled water. If the bottled water is not sterile, the label must also indicate this. Water that is marketed by the manufacturer as sterile and for infants must meet FDA's general requirements for commercial sterility.
- **Formula warming.** This isn't necessary for proper nutrition. The best way to warm a bottle of formula is by placing the bottle in a pot of water and heating it on the stove until warm (at body temperature). Never use microwave ovens for heating infant formulas. Microwaving may cause the bottle to remain cool while hot spots develop in the formula. Overheated formula can cause serious burns to the baby.
- **"Use by" date.** This is the date after which a package or container of infant formula should not be fed to infants. It indicates that the manufacturer guarantees the nutrient content and the general acceptability of the quality of the formula up to that date. FDA regulations require this date on each container of infant formula.
- **Storage.** Manufacturers must include instructions on infant formula packaging for before and after the container is opened. They must also include information on the storage and disposal of prepared formula.

- **Freezing formula.** This is not recommended, as it may cause a separation of the product's components.
- **Homemade formula.** FDA does not regulate or recommend recipes for these. Errors in selecting and combining ingredients for homemade formula can have serious consequences affecting the nutrition and overall well-being of the infant.
- **Counterfeit formula.** These formulas have been diverted from normal distribution channels and relabeled to misrepresent quality or identity. An example is illegal labeling of the "use by" date. Infant formula may also be illegally relabeled to disguise its true content. This can lead to serious adverse health consequences for infants who cannot tolerate certain ingredients.
- **Formula changes.** Always look for any changes in formula color, smell, or taste. If you buy formula by the case, make sure the lot numbers and "use by" dates on the containers and boxes match. Also, check containers for damage, and call the manufacturer's toll-free number with any concerns or questions.
- You may contact at 1-888-463-6332 or visit medwatch online voluntary reporting to report an illness, injury or other problem believed to be related to infant formula.
- Notify manufacturers about problems, complaints, or injuries caused by their products by calling the toll-free telephone numbers listed on their product labels.

Source

1. U.S. Food and Drug Administration. FDA 101: Infant Formula. *For Consumers* 2007; <http://www.fda.gov/ForConsumers/ConsumerUpdates/ucm048694.htm>.

Other Resources

- State of Washington's WIC program Staff Education: <http://www.doh.wa.gov/cfh/WIC/materials/clinic/inservices/infantformula.pdf>
- California Women, Infant and Children (WIC) Program: www.cdph.ca.gov/programs/wicworks/Documents/NE/WIC-NE-EdMaterials-WhenYouFeedMeFormula.pdf
- United States Department of Agriculture (USDA): www.nal.usda.gov/wicworks/Topics/FG/Chapter4_InfantFormulaFeeding.pdf

NUTRITION RISK SCREENING

Water

An adolescent should drink six to eight 8-oz glasses of fluid per day with more before and after physical activity. Sodas, coffee, tea and juice count as fluid intake; however, they can be a source of extra calories contributing to weight gain and/or caffeine, which causes the body to lose fluid.

Convenience/fast food

Convenience and fast foods are popular and easily available. Frequent consumption increases fat, calorie, and salt intake and reduces the intake of fiber and some vitamins and minerals. Use the “Fast Food Survival Guide” booklet to discuss options for healthier food choices. (This booklet has been provided to Adolescent Family Life Program case management staff by the state Maternal and Child Health Branch.)

Vegetarian diets

Because the term “vegetarian” is often used loosely, refer to Section IO: *Vegetarian Teens* guideline for additional screening questions for clients who say they are vegetarian.

Vitamin/mineral/herbal supplements

Vitamin and mineral supplements, although helpful in some instances, cannot take the place of a healthy diet. If the client insists on taking supplements, emphasize the need to avoid high doses that can be toxic. Herbal supplements are not regulated by the Food and Drug Administration and have not been satisfactorily researched to determine their safe use for adolescents.

Protein powders, creatine

Contrary to popular belief, increased protein intake does not affect muscle size. The effect of creatine on the growing adolescent body is unknown.

Special diets

Clients on special diets for medical reasons, such as diabetes, should have been instructed by a registered dietitian or other medical care provider and should be receiving ongoing monitoring of medical condition and diet.



B. FOOD GROUPS

Criteria for meeting recommended number of servings from the Food Guide Pyramid and suggested guidelines for further screening and intervention activities follow each of the food group intake grids.

Bread, cereal, rice, and pasta

Grains provide complex carbohydrates (an important source of energy), protein, and minerals; they also tend to be low in fat. Whole grains are a good source of fiber.

Fruits and vegetables

Fruits are important sources of vitamins and fiber and are low in fat. Vegetables provide vitamins, such as A and C, and minerals, such as calcium and iron. Most are low in fat and high in fiber.

Milk, yogurt, and cheese

Milk, yogurt, and cheese are good sources of calcium and provide protein, vitamins, and minerals. Encourage the client to use nonfat or low-fat milk and other low-fat dairy products.

Meat, poultry, fish, dry beans, eggs, and nuts

Red meat, poultry, fish, eggs, and dried beans provide protein, iron, zinc, and many other minerals and vitamins. Cold cuts, bacon, sausage, and fried items are high in fat and calories.

Fats, oils, 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 these foods provide little nutrition but can be a source of too many calories.

PART 2. FOOD SECURITY

Encourage client to use available resources. Refer to food assistance and nutrition programs, such as WIC, if client is eligible.

PART 3. FOOD SHOPPING AND PREPARATION

If appropriate, share recipe booklet with client or other person responsible for the family’s meals. (This booklet has been provided to Adolescent Family Life Program case management staff by the state Maternal and Child Health Branch.)

PART 4. DISORDERED EATING AND WEIGHT

Many adolescents may be dissatisfied with their weight and use unhealthy methods to alter it. Use Section 7: *Body Image and Disordered Eating* and Section 8: *Weight Management* guidelines for further screening and intervention activities.

PART 5. PHYSICAL ACTIVITY

The Surgeon General’s report on physical activity and health recommends 30 minutes or more of moderately intensive physical activity all or most days of the week. Help the inactive adolescent identify enjoyable activities that can be included into a daily routine. Excessive physical activity (too often and/or too intense) may be a sign of an eating disorder.

Too much @e watching television and videotapes or playing computer games can lead to overweight. Sedentary activities should be limited to one to two hours per day.

Use Section 9: *Physical Activity* guideline for further screening and intervention activities.



PART 6. CLIENT AWARENESS AND READINESS FOR CHANGE

It is important to identify how ready, if at all, the client is to make changes in behavior that will improve nutrition and physical activity. See Appendix Two for information on the stages of change.

Interventions/Referrals

Each of the guidelines provides definition and background information on a specific topic, additional screening questions or self-assessment activities, suggestions for intervention activities and criteria for referral. Activity worksheets are provided for the case manager to use with the client to assist with self-assessment and setting goals for behavior change.

For additional information on providing nutrition counseling to adolescents, see Appendix Two, “Stages of Change,” and Appendix Four, “Strategies for Health Professionals to Promote Healthy Eating Habits.”

Follow-Up

Ask the client to complete the food diary (included in this section) periodically (for example, every three months) in order to:

1. recognize and praise positive behavior
2. identify any need for further education/counseling.

NUTRITION RISK SCREENING QUESTIONNAIRE

This Nutrition Risk Screening Questionnaire is intended to identify nonpregnant, nonlactating adolescents at risk for calorie, vitamin, mineral, and fiber deficiency; excess fat and sugar intake; inadequate or excessive physical activity; and problematic weight control behaviors or attitudes. Pregnant adolescents are at high risk nutritionally; their dietary intake and physical activity should be assessed by a registered dietitian, nurse, or physician specializing in obstetrical care.

PART 1. DIETARY INTAKE

A. HABITS

For each question, circle the answer which best describes the client's usual behavior.

- | | | | | |
|---|--------|---------------------|-------------------|----------|
| 1. How many days each week do you eat breakfast? | None | 1-2 days | 3-5 days | 6-7 days |
| 2. How many days each week do you eat lunch? | None | 1-2 days | 3-5 days | 6-7 days |
| 3. How many days each week do you eat dinner? | None | 1-2 days | 3-5 days | 6-7 days |
| 4. How often do you eat between meals or after dinner? | Daily | Several times /week | Once/week or less | Rarely |
| 5. How much water do you drink each day? | <1 cup | 1-2 cups | 3-5 cups | >5 cups |
| 6. How many times per week do you eat or take out a meal from a fast food restaurant? | Daily | Several times/week | Once/week or less | Rarely |
| 7. Are you a vegetarian? | Yes | No | | |
| 8. Do you take any vitamin or mineral supplement? | Daily | Weekly | Rarely | Never |
| If yes, which brand or type: _____ | | | | |
| 9. Do you use herbal supplements? | Daily | Weekly | Rarely | Never |
| If yes, which one(s)? _____ | | | | |
| 10. Do you use any pills or teas to lose weight? | Yes | No | | |
| 11. Do you use protein powders, creatine or other supplements that claim to increase muscles? | Daily | Weekly | Rarely | Never |
| 12. Are you on a special diet for medical reasons? | Yes | No | | |

B. Food Groups

Using food replicas from the Food Guide Pyramid, help the client determine the number of servings eaten from the following food groups.

Bread, Cereal, Rice, and Pasta

Serving Size	Food Item	Servings per day	Servings per week	Eat once a month or less	Never eat
1 slice	Bread				
1/2	Hamburger or hot dog bun				
1/2	English muffin, bagel, pita bread				
4-6	Crackers				
1-6 inch	Tortilla				
1 small or 1/2 large	Muffin, *biscuit				
2 medium	Pancakes				
2 small	Waffle				
1/2 cup	Hot cereal				
3/4 cup	Cold Cereal				
1/2 cup	Rice, cooked				
1/2 cup	Pasta (spaghetti, noodles, macaroni, etc.), cooked				
	TOTAL # OF SERVINGS:				

*risk of excessive calories due to high fat content

- Client meets recommendation of 6-11 servings/day of bread, cereal, rice, and pasta
- < 6 servings/day: Client is at risk for low calorie/fiber/carbohydrate intake and extreme dieting behavior depending on intake from other groups. Use Section 7: body Image and Disordered Eating guideline for further screening and intervention.
- > 11 servings/day: Client may be at risk for excessive calorie intake depending on intake from other food groups. Use Section 8: Weight Management guideline for further screening and intervention.

NUTRITION RISK SCREENING

Fruits and Vegetables

Serving Size	Food Item	Servings per day	Servings per week	Eat once a month or less	Never eat
1 medium	Fresh apple, pear, banana, orange, peach, nectarine, tomato				
1/2	Grapefruit				
2	Apricots, tangerines				
1/4	Cantaloupe				
1 cup	Melon, cut up				
3/4 cup	Berries				
1/2 cup	Pineapple, fresh				
1/2 cup	Canned or frozen fruit				
1/4 cup	Dried fruit (raisins, apricots, dates)				
3/4 cup	100% fruit or vegetable juice				
1 cup	Leafy green vegetables				
1/2 cup	Vegetables, raw or cooked				
1 medium	Potato, baked, boiled, or mashed				
10-12 (1/2 small fast food order)	French fries*				
TOTAL # OF SERVINGS:					

*risk of excessive calories due to high fat content

- Client meets recommendation of 5 or more servings/day of fruits and vegetables.
- < 5 servings/day: Client is at risk for low vitamin/mineral/fiber intake. Use Section 5: Folate and Section 6: Fruits and Vegetables guidelines for further screening and intervention.

Milk, Yogurt, and Cheese

Serving Size	Food Item	Servings per day	Servings per week	Eat once a month or less	Never eat
1 cup	Milk*				
1 cup	Chocolate milk				
1 cup	Yogurt				
1-2 ounces	Cheese*				
1 cup	Cottage cheese*				
1½ cup	Frozen yogurt				
1½ cup	Ice cream*				
1½ cup	Pudding,* custard				
8 ounces	Milk shake*				
	TOTAL # OF SERVINGS:				

*risk of excessive calories due to high fat content

- Client meets recommendation of 3 or more servings/day of dairy products
- < 3 servings/day: Client is at risk for low calcium and protein intake. Use Section 3: Calcium and Section 10: Vegetarian Teens guidelines for further screening and intervention.

NUTRITION RISK SCREENING

Meat, Poultry, Fish, Dry Beans, Eggs, and Nuts

Serving Size	Food Item	Servings per day	Servings per week	Eat once a month or less	Never eat
3 ounces	Cooked beef, pork or lamb				
3 ounces	Cooked chicken, turkey or duck				
3 ounces	Fresh or frozen fish, cooked				
3 ounces	Shellfish				
3 ounces	Lunch meats*				
	Hot dogs*				
3 ounces	Tuna or other canned fish				
3	Eggs (1 egg = 1 oz. meat)				
9 ounces	Tofu (3 ounces = 1 oz. meat)				
6 Tbsp	Peanut butter*				
1½ cup	Legumes, cooked or canned: [lentils, beans (pinto, navy, kidney, garbanzo), split peas, black-eyed peas]				
	Nuts and seeds				
	TOTAL # OF SERVINGS:				

*risk of excessive calories due to high fat content; low-fat choices recommended

- Client meets recommendation of 2-3 servings/day of protein foods.
- < 2 servings/day: Client is at risk for low protein and iron intake. Use Section 4: Iron and Section 10: Vegetarian Teens guidelines for further screening and intervention.

Fats, Oils, and Sweets

Serving Size	Food Item	Servings per day	Servings per week	Eat once a month or less	Never eat
2	Cookies				
1	Brownie				
1	Donut or sweet roll				
1	Granola bar				
1	slice cake or pie				
½ cup	Pudding, custard, Jello, ice cream, sherbet				
1	Chocolate bar, M&Ms or candy (1 pkg)				
1 tbsp	Sugar, honey, jam, jelly, syrup				
12 ounces	Soda (not diet) (1 can)				
1 cup	Fruit flavored, sugar sweetened drinks (lemonade, fruit punch, KoolAid, Hi-C, Sunny Delight)				
1 tsp	Butter or margarine				
1 Tbsp	Mayo, salad dressing, sour cream				
1 Tbsp	Cream cheese				
1 Tbsp	Vegetable oil				
	TOTAL # OF SERVINGS:				

- > 3 servings/day: Client is at risk for excessive fat, sugar and calories. Use Section 8: Weight Management guideline for intervention activities.

NUTRITION RISK SCREENING

PART 2. FOOD SECURITY

For each question, circle the answer which best describes the client's usual behavior.

- 1. Do you use any of the following food resources
 - ...food stamps Yes No
 - ...WIC Yes No
 - ...donated food/meals/food closet Yes No
 - ...school meals Yes No

- 2. Are there times when there is not enough food to eat or not enough money or food stamps to buy food? Rarely Occasionally Monthly Weekly



PART 3. FOOD SHOPPING AND PREPARATION

For each question, circle the answer which best describes the client's usual behavior.

1. Who buys the food that you and your family eat?
 I do My parent(s) My spouse or partner Other: _____

 If not you, is the person who does open to suggestions and education? Yes No
2. Is a shopping list used? Yes No Sometimes
3. Do you plan any of the meals that you and your family eat?
 Rarely For myself only Sometimes All the time
4. Who prepares the meals that you and your family eat?
 I do My parent(s) My spouse or partner Other: _____

 If not you, is the person who does open to suggestions and education? Yes No
5. How is meat, poultry and fish usually prepared at home?
 Fried Baked Broiled Other: _____
6. What type of fruits and vegetables are used at home?
 Fresh Frozen Canned
7. How are vegetables usually prepared?
 Eaten raw Steamed or cooked in microwave oven Boiled in water Other: _____
8. Where you live, do you have...
 ...a working stove? Yes No
 ...a working stove? Yes No
 ...a working refrigerator? Yes No
 ...a working microwave oven? Yes No
 ...other equipment you need for preparing and cooking food? Yes No
 ...enough space for food preparation? Yes No

NUTRITION RISK SCREENING

PART 4. BODY IMAGE, DISORDERED EATING, AND WEIGHT MANAGEMENT

- | | | | |
|-----|---|-----|----|
| 1. | Do you worry about gaining weight? | Yes | No |
| 2. | Are you preoccupied with losing weight? | Yes | No |
| 3. | Are you on a diet or do you limit your food intake to lose weight? | Yes | No |
| 4. | Does your mood depend on your weight (e.g., if you gain one pound you are depressed, irritable, etc.) | Yes | No |
| 5. | Do you feel bad about yourself if you gain weight? | Yes | No |
| 6. | If you gain one pound, do you worry that you will continue to gain weight? | Yes | No |
| 7. | Do you think of certain foods as being either “good” or “bad” and feel guilty about eating “bad” foods? | Yes | No |
| 8. | Do you use foods to comfort yourself? | Yes | No |
| 9. | Do you ever feel out of control when eating? | Yes | No |
| 10. | Do you spend a significant amount of time thinking about food and when you will eat? | Yes | No |
| 11. | Do you vomit or have you thought about vomiting as a way to control your weight? | Yes | No |
| 12. | Do you try to hide how much you eat? | Yes | No |
| 13. | Do you use laxatives, water pills, exercise, etc., to prevent weight gain? | Yes | No |
| 14. | Are you dissatisfied with your body size or shape? | Yes | No |
| 15. | Do you eat until you feel stuffed? | Yes | No |

Total number of “yes” answers = _____

More than five (5) “yes” answers may indicate an eating disorder. See Section 7: *Body Image and Disordered Eating* and Section 8: *Weight Management* guidelines for further screening and intervention activities.

PART 5. PHYSICAL ACTIVITY

For each question, circle the answer which best describes the client’s usual behavior.

1. On how many of the past seven days did you participate in moderate physical activity (for example, walking or riding a bike) for at least 30 minutes? 0-1 2-3 4-5 6-7

2. On how many of the past seven days did you participate in vigorous physical activity (for example, basketball, fast dancing or swimming) for at least 20 minutes? 0-1 2-3 4-5 6-7

3. Do you spend more than two hours per day watching television and videotapes or playing computer games? Yes No

Client meets recommendation of at least 30 minutes of moderate or 20 minutes of vigorous physical activity per day 4 or more days per week.

Client does not meet minimum physical activity recommendation. Use Section 9: *Physical Activity* guideline for further screening and intervention activities.

PART 6. CLIENT AWARENESS AND READINESS FOR CHANGE

Identify your client's stage of behavior change and readiness to change.

- | | | | | |
|----|--|--------------|--------------------------|-----------------------|
| 1. | How would you rate your eating behaviors? | Good | Need to improve a little | Need to improve a lot |
| 2. | Are you interested in changing your eating behaviors? | | Yes | No |
| 3. | Are you thinking about changing your eating behaviors? | | Yes | No |
| 4. | Are you ready to change your eating behavior? | | Yes | No |
| 5. | Are in the process of changing your eating-behavior? | | Yes | No |
| 6. | Are you trying to maintain changes in your eating behaviors? | | Yes | No |
| 7. | What changes would you like to modify or maintain? | a. | _____ | |
| | | b. | _____ | |
| | | c. | _____ | |
| 8. | What do you need to help you make or maintain desired changes? | | | |
| | | Information? | _____ | |
| | | Assistance? | _____ | |
| | | Other? | _____ | |

- Client is in early stages of behavior change or unwilling to change.
- Client is ready to change eating behaviors. Use action plans in guidelines to assist client with setting of realistic and achievable goals for behavior change.

NUTRITION NEEDS ASSESSMENT WORKSHEET

Client name and I.D.# _____
(Possible Nutrituion Risks on back)

Table with 4 columns: Date, Identified Nutrition Risk, Intervention Planned - Activities and Referrals, Outcome. The table contains 15 empty rows for data entry.

Comments: _____

Case Manager signature: _____ Date: _____

NUTRITION RISK SCREENING

Nutrition risks that may be identified with the “Nutrition Risk Screening Questionnaire”

Low intake of...

- calories
- carbohydrates
- protein
- iron
- calcium
- fruit vegetables
- folate/folic acid
- water

Weight

- body dissatisfaction
- disordered eating behavior
- extreme dieting behavior

Lack of...

- food shopping/preparation skills
- food storage/preparation equipment

Too much...

- fat, sugar, and calories
- fast foods/convenience foods

Other

- food security
- vegetarian diet
- use of supplements

Physical Activity

- not enough
- excessive

Food Diary for: _____ **Date:** _____

List how much you eat, drink or take as a supplement for every day next week. Include amounts to the best of your knowledge, for example, 1 bowl of cereal with 1/2 cup milk, 1/2 apple, 2 slices of pizza, 4 crackers, 2 oz. of cheese, 1 chicken breast, large glass of juice, etc.

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
Milk, Yogurt, & Cheese 3-4 servings/day							
Meat, Poultry, Fish, Dry Beans, Egg, & Nuts 2-3 servings/day							
Fruits & Vegetables 5 or more servings/day							
Bread, Cereal, Rice, & Pasta 6-11 servings/day							
Fats, Oils, & Sweets Use sparingly							
Water 6-8 glasses							
Supplements							

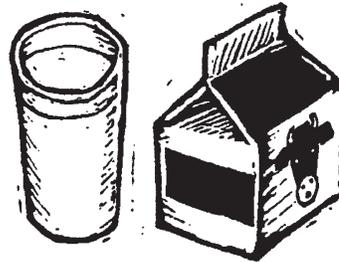
Calcium

July 2000

Section 3

What Is Calcium?

Calcium is a mineral found primarily in dairy products and in dark green, leafy vegetables. The human body needs calcium to build and maintain strong bones and teeth. Calcium also plays a role in the proper functioning of the heart, muscles, and nerves, and in maintaining blood flow.



dairy desserts) per day. The same study also showed that only 45% of all African-American adolescents surveyed reported drinking or eating three or more servings of calcium-rich foods.

Inadequate calcium intake in childhood and adolescence results in low bone density, which in turn can lead to stunted growth, increased risk for bone fractures, and osteoporosis in later years. Osteoporosis is a condition of gradually weakened and brittle bones.

How Much Calcium Is Enough?

For individuals 9 to 18 years of age, the optimal dietary calcium intake is 1,300 milligrams per day. Four or more servings of milk or other calcium-rich foods would meet this recommendation. Adolescents who avoid dairy

What Are the Consequences of Calcium Deficiency.?

Adolescence is a critical time for optimal calcium intake because bones grow and incorporate calcium most rapidly during the adolescent years. The peak time for building bone mass is approximately during ages 12 to 14. By age 17, approximately 90% of the adult bone mass has been established. Relatively little calcium is added to bones after age 21.

Unfortunately, most adolescents do not meet their dietary calcium requirements. A recent survey in California showed that only 47% of girls aged 16-17 drank or ate three or more servings of calcium rich foods (milk, cheese, yogurt,

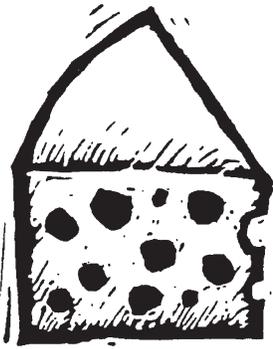
Inside this Section

- 1 What is Calcium?
What Are the Consequences of Calcium Deficiency?
How Much Calcium is Enough?
- 2 What are good sources of calcium?
What is Lactose Intolerance?
What About Calcium Supplements?
- 3 Additional Screening
Interventions/Referrals
Follow-Up
- 4 "How Much Calcium Am I Getting?" Activity Sheet
- 5 "Action Plan for Calcium" Activity Sheet

CALCIUM

products because they are concerned over calories and weight gain can choose low-fat or fat-free (nonfat) dairy products.

One of the barriers to adequate adolescent calcium intake is the consumption of soft drinks. As the amount of soft drinks consumed by adolescents has increased, the amount of milk that they drink has decreased. A 12-oz serving of nonfat milk has fewer calories than a 12-oz soft drink, and provides one-third of an adolescent's daily calcium needs, as well as many other important nutrients.



What Are Good Sources of Calcium?

Dairy products such as milk, yogurt and cheese are excellent sources of calcium. Plant sources of calcium include broccoli, sunflower seeds, nuts, legumes, some greens (kale, collards, mustard), okra, rutabaga, bok choy, dried figs, and tortillas (made from lime processed corn). Fortified sources

Additional Screening

Screen for lactose intolerance by asking the following questions:

- Does drinking milk upset your stomach?
- Do you have gas, bloating, or diarrhea after drinking or eating any dairy products?
- Can you eat foods cooked with milk without any problems?

Use the "How Much Calcium Am I Getting?" activity sheet to help your client determine how much calcium she is getting from food and/ or supplements.

You can use the food replicas to help with portion sizes.

of calcium are also available. Calcium-fortified orange juice, soy beverages, rice beverages, and cereal are also great sources of calcium.

What Is Lactose Intolerance?

Some individuals produce too little lactase, an enzyme the body uses to break down lactose (the sugar in milk). When lactose is not digested, it cannot be absorbed by the body. As it moves through the intestine, it can cause such uncomfortable symptoms as nausea, cramping, gas, bloating, abdominal pain, and diarrhea.

The amount of lactose that can be tolerated without side effects varies by individual. The type of dairy product consumed also makes a difference. Most individuals with lactose intolerance can have small amounts of dairy products throughout the day, especially when taken with other foods.

Before eliminating all dairy products from their diet, individuals should experiment with variety and serving sizes. In addition, they can try milk products that have the enzyme lactase added. One example is Lactaid (& brand milk. Lactase is also available as drops that can be added to milk or pills that the individual can take prior to drinking or eating dairy products. Dairy alternatives such as soy milk and rice milk are also available. However, not all dairy alternative are fortified with calcium and vitamin D. It is important to check the food label for these necessary nutrients.

"Lactose intolerance" is an inability to digest lactose; it is not an allergy. A milk allergy is the body's reaction to the protein in milk; individuals with a milk allergy need to avoid all dairy products and any foods containing them - even in very small amounts. Infants and young children diagnosed by a physician with a milk allergy usually outgrow it by age 4.

What About Calcium Supplements?

Calcium supplements can be used to provide part, or all, of the daily requirement. However, adolescents are not usually interested in taking supplements for long-term prevention of disease. However, they may be willing to include more calcium-rich foods and beverages in their diet.

Calcium supplements should not be taken at the same time as an iron supplement or a multi-vitamin/ mineral supplement that contains iron.

Adolescents with severe lactose intolerance — who are unwilling to use lactose-reduced milk — may need to rely on a supplement in addition to non-dairy sources of calcium to meet their calcium requirement.

Interventions/ Referrals

Use the “How Much Calcium Am I Getting?” activity sheet to teach which foods are good sources of calcium, including the lesser known non-dairy sources.

Use the “Action Plan for Calcium” activity sheet to assist the client to develop her action plan for the behavior changes she is willing to make to achieve the recommendation optimal calcium intake.

Follow-Up

Review the action plan with the client to determine if she achieved her goal(s) for behavior change.

If the client did not make any changes...
... Explore what barriers prevented her from doing so and discuss possible strategies for removing these barriers.

If the client made changes but still falls short of the recommended intake...
... Revise action plan with client to change or add goals for behavior change.

If the client has made changes and achieved the recommended intake...
... Help the client develop a new action plan for maintaining the new behavior.



How Much Calcium Am I Getting

Calcium Sources	Serving Size	Calcium Contents (mg)	My Serving Size	My Calcium Intake (mg)
DAIRY:				
Milk, all types	8 oz (1 cup)	300		
Skim milk powder	1 1/4 cup	400		
Cheese, hard, aged	1 oz	~200		
Cheese, processed	1 oz	150		
Cottage cheese	1 cup	140		
Ricotta cheese	1/2 cup	335		
Yogurt, low-fat, nonfat	8 oz	415		
Yogurt with fruit, low-fat	8 oz	315		
Yogurt, frozen	1 cup	200		
Ice cream, ice milk	1 cup	150		
Milkshake	8 oz	300		
Pudding or custard	1 cup	150		
NON-DAIRY:				
100% fruit (with calcium)	1 cup	350		
Citrus/fruit punch with calcium	1 cup	300		
Tofu, firm	1/2 cup	260		
Broccoli	1 cup	240		
Sardines	3 oz	325		
Salmon, canned	3 oz	180		
Almonds	1/4 cup	100		
Greens (turnip, beet, collards)	1 cup	150		
Okra	1 cup	150		
Dry Beans, cooked, canned	1 cup	100		
Tortilla, corn	1 - 7"	45		
SUPPLEMENTS:				
Vitamin/mineral pill		~100-200		
Antacid, such as TUMS®		200		
			Total =	

Recommended daily intake = 1300 mg

My total daily intake of calcium = _____ mg

How much more calcium do I need? _____ mg

ACTION PLAN for CALCIUM

Name: _____ Date: _____

Check the boxes that describe what you are presently doing and what you plan to do:

	AM DOING	PLAN TO DO
Include a calcium-rich food or beverage with every meal.	<input type="checkbox"/>	<input type="checkbox"/>
Choose a calcium-rich food or beverage for a snack every day.	<input type="checkbox"/>	<input type="checkbox"/>
Substitute milk for water in hot cereal, soups, pancake mix, and other recipes.	<input type="checkbox"/>	<input type="checkbox"/>
Drink less soda. I will reduce my soda Intake by _____ (cans, bottles, Glasses) per day	<input type="checkbox"/>	<input type="checkbox"/>
Along with eating calcium-rich foods, I will take a vitamin/mineral supplement _____ times per week.	<input type="checkbox"/>	<input type="checkbox"/>
Drink all the milk that I put on my cold cereal.	<input type="checkbox"/>	<input type="checkbox"/>
My ideas for improving my calcium intake:	<input type="checkbox"/>	<input type="checkbox"/>

Signature: _____ Date: _____
(optional)



How Much Iron Is Enough?

Adolescents need more iron due to increasing blood volume and muscle mass. The recommended amount of dietary iron for 11 - to 18-year-old boys is 12 milligrams per day. Adolescent girls of the same age need slightly more, 15 milligrams per day, due to menstrual losses.

What Are Good Sources of Iron?

Sources of dietary iron include meat, fish, and poultry. Green vegetables, such as broccoli and spinach, and legumes also contain iron. However, iron from plants is not absorbed as well as iron from meat sources. Iron-fortified foods, such as breads and cereals, also contribute iron to the diet.

Iron absorption can vary greatly from person to person. Iron absorption increases significantly with low body iron stores. Also, other foods eaten with iron-rich foods may affect how much iron is absorbed. Vitamin C-rich foods, such as citrus fruits/juices, increase absorption. Coffee, tea, and sodas can reduce absorption.

What About Iron Supplements?

Health care professionals do not usually recommend iron supplements unless iron-deficiency anemia is confirmed by a health care provider. In fact, too much iron can be harmful or fatal. Just 10 iron pills can kill a child!

Additional Screening

Use the “How Much Iron Am I Getting?” activity sheet to help the client determine how much iron she is getting from her diet. You can use the food replicas to help her with portion sizes.

Has the client ever been told by her medical care provider that she is anemic and if yes, what information and/or counseling was she given.

Follow-Up

Review the action plan with the client to determine if she achieved her goal(s) for behavior change.

If the client did not make any changes...
...Explore what barriers prevented her from doing so and discuss possible strategies for removing the barriers.

If the client made changes but still falls short of recommended intake...
...Revise action plan with the client to change or add goals for behavior change.

If the client has made changes and achieved the recommended intake...
...Help the client develop a new action plan for maintaining the new behavior.

Interventions/Referrals

If you suspect your client might be anemic — because of symptoms or responses to the Risk Questionnaire — refer her to a health care professional.

Use the “How Much Iron Am I Getting?” activity sheet to teach what foods are good sources of iron.

Use the “Why Do I Need Iron?” activity sheet to discuss symptoms of iron deficiency. Clients with these symptoms should be encouraged to discuss them with a medical provider.

Use the “Iron Tips” activity sheet to discuss how iron intake can be increased.

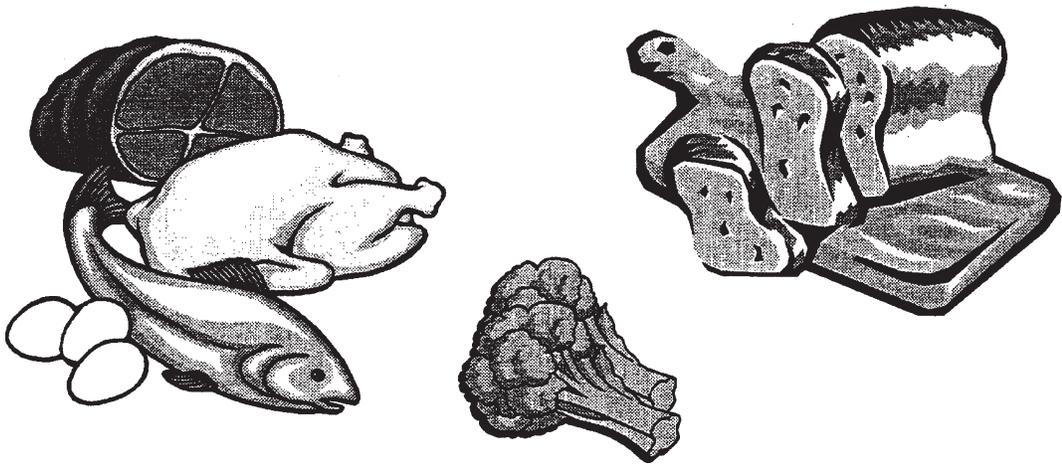
Use the “Action Plan for Iron” to assist the client in developing her plan for behavior changes she is willing to make to achieve the recommendation for optimal iron intake.

Why Do I Need Iron?

Iron is a mineral found in certain foods.

If you don't eat enough foods high in iron each day, you may:

- ❖ Look pale, feel tired, and act cranky
- ❖ Not feel like eating
- ❖ Have headaches and get sick more easily
- ❖ Have trouble learning and do poorly in school or work



How Much Iron Am I Getting

Iron Sources	Serving Size	Iron Contents (mg)	My Serving Size	My Iron Intake (mg)
VERY GOOD FOOD SOURCES:				
Beef, pork	3 oz	3		
Beef liver	3 oz	6		
Chili with meat and beans	1 cup	8		
Beans, cooked (pinto, kidney, garbanzo, lima, black, red)	1 cup	5		
Lentils, cooked	1 cup	6		
Oysters, cooked	3 oz	8		
Clams, canned, drained	1 oz	8		
All WIC cereal	3/4 cup	4-18		
Cream of wheat, instant, cooked	3/4 cup	9		
Baby cereals with iron, dry	4 Tbsp.	8		
GOOD FOOD SOURCES:				
Chicken, turkey	3 oz	1		
Fish, canned tuna, shrimp	3 oz	1		
Fish	1	1		
Tofu, firm	1/4 cup	3		
Corn or flour tortillas, enriched	1 average	1		
Rice or pasta, cooked	1 cup	2		
Bread, enriched	1 slice	1		
Leafy greens (Spinach, chard, collards, mustard, cilantro)	1/2 cup	3		
Peas, snow-peas	1/2 cup	1		
Prune juice	3/4 cup	2		
Dried fruit - raisins apricots, prunes	1/2 cup 10 pieces	2		
Peanut butter	2 Tbsp.	1		
			Total =	

Recommended daily intake of iron = _____ mg

My total daily intake of iron = _____ mg

How much more iron do I need? _____ mg

ACTION PLAN for IRON

Name: _____ Date: _____

Check the boxes that describe what you are presently doing and what you plan to do:

	AM DOING	PLAN TO DO
Add one serving of vegetables such as broccoli, spinach, or romaine lettuce to my diet most days of the week.	<input type="checkbox"/>	<input type="checkbox"/>
Try a breakfast cereal that contains iron such as Cream of Wheat.	<input type="checkbox"/>	<input type="checkbox"/>
Drink orange juice with iron-rich foods.	<input type="checkbox"/>	<input type="checkbox"/>
Try a fruit or vegetable from the iron-rich food list that I have never tried before.	<input type="checkbox"/>	<input type="checkbox"/>
Add one serving of black beans, pinto beans, garbanzo beans or lentils to my diet most days of the week.	<input type="checkbox"/>	<input type="checkbox"/>
My ideas for improving my iron intake:	<input type="checkbox"/>	<input type="checkbox"/>

Signature: _____ Date: _____
(optional)

Iron Tips!

- **Eat more foods that are good sources of iron every day.**
 - ◆ *Just eating a little meat with other foods can increase the iron your body can get from foods. For example, try putting a small amount of meat into your cooked beans. Meat is an "iron helper" - it helps your body use the iron from other foods.*
 - ◆ *If you are a vegetarian, eat beans and tofu often.*
- **Eat vitamin C foods with iron-rich foods to help your body use iron better.**
 - ◆ *Eat foods rich in vitamin C together with iron-rich foods. Vitamin C foods are "iron-helpers," too. For example, drink a glass of orange juice with your breakfast cereal or have some salsa on your taco.*
 - ◆ *Cook vitamin C foods and iron-rich foods together. For example, cook your beans with tomatoes or chilies.*
- **Coffee, tea, and sodas can make you take in less iron from the food you eat. If you drink coffee or tea (including decaffeinated), drink them between meals. Herbal tea is OK.**
- **Cook foods in cast-iron skillets, pots, or pans, if possible.**
- **Soak dry beans for several hours in cold water before you cook them. Pour off the water and use new water to cook the beans. Your body will take in more iron this way.**
- **If you are pregnant, take your prenatal vitamins. They have the extra iron that you need.**

IRON TIPS - TAKE TWO!

VITAMIN C FOODS

Vegetables:

tomato
broccoli
cauliflower
bell pepper
chili peppers
cabbage

Fruits:

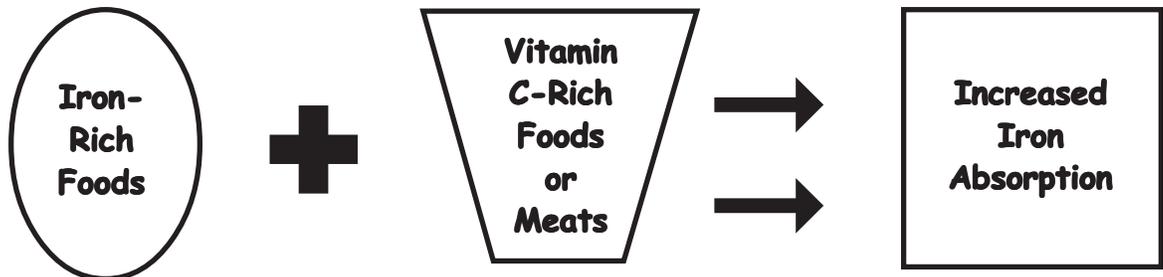
oranges
cantaloupe
grapefruit
strawberry
kiwi
mango
papaya

Juices:

orange
grapefruit
tomato
lemon
lime

Read Food Labels!!!

1. Iron is added to many foods. Look for food labels that say "enriched" or "fortified." Examples of foods that may have extra iron are:
bread rice tortillas
cereals pasta
2. Vitamin C (ascorbic acid) is added to some foods because we need to have it every day. Look for labels that say 'added vitamin C.' Juices are a good example of a vitamin C enriched product. Check the label to see if each serving has 50% or more of the vitamin C that you need.
3. Avoid buying "fruit drinks" and other sweetened drinks that are high in sugar or corn syrup. Look for labels that say "100% juice."





Folic Acid and Folate

What are “Folate” and “Folic Acid?”

Folic acid and folate are different terms for the same B vitamin.

- **Folic acid** is the synthetic form that is added to fortified foods and used in vitamin supplements. The body absorbs folic acid better than natural folate
- **Folate** is frequently used as the word to describe the vitamin found naturally in foods

Folic acid is necessary for the growth and repair of every cell in the body. Folic acid is needed for the growth and repair of hair, skin and nails.

Folic acid is important for the development of the human embryo. It is critical for the cell growth that occurs when fetal tissues and organs (brain, spinal cord) begin to develop very early in pregnancy.

Adolescence is a critical time in the life course to target for folic acid intake because 1) adolescents’ nutritional needs tend to increase and 2) overwhelmingly their pregnancies are unplanned and may not occur in the most optimal of circumstances. Additionally, habits that are formed during the adolescent period may continue throughout their reproductive years.

July 2012

California Nutrition and Physical Activity Guidelines for Adolescents

Inside this Section

Page

FA-1	What are “Folic Acid” and “Folate?”
FA-2	What are the Consequences of Insufficient Folic Acid/Folate Intake?
FA-2	How Much Folic Acid/Folate is Enough?
FA-3	What is the Status of Folic Acid Intake among Teens?
FA-3	How Can Teens Consume Enough Folic Acid?
FA-3	What Are Good Sources of Folate?
FA-3	Screening
FA-4	Interventions
FA-4	Follow-Up
FA-5	Additional Resources/Web Links Referenced
FA-5	References



What Are the Consequences of Insufficient Folic Acid/Folate Intake?

Because of its relationship to DNA production and cell growth, adequate folic acid/folate intake is essential to all females of reproductive age and can reduce the risk of neural tube defects by up to 70%. In the United States, 3,000 pregnancies are affected by neural tube defects annually.¹

Many organizations, such as the Institute of Medicine,² recommend that all females capable of becoming pregnant --whether or not they are planning a pregnancy—consume 400 mcg of folic acid daily from fortified foods and/or a supplement, in addition to eating folate-rich foods.

Why not start folic acid when one is already pregnant?

Most neural tube defects that could have been prevented occur in the earliest weeks following conception, before women and teens realize they are pregnant and begin prenatal care.

Why not just target those who are planning a pregnancy?

Many pregnancies and repeat pregnancies are unplanned, particularly so among adolescents. By just targeting those who are planning a pregnancy, many opportunities to prevent birth defects will be missed.

How Much Folic Acid/Folate is Enough?

Adolescents need folic acid/folate due to their rapid growth and sexual maturation. See Table FA-1 for specific recommendations.*

Age	Females	Males
9-13	300	300
14-18	400	400
19-30	400	400
Pregnancy	600	
14-18		
19-30		
Lactation	500	
14-18		
19-30		

Source: Institute of Medicine, Food and Nutrition Board, 1998²

Individuals between 9 and 13 years of age should get 300 mcg of folic acid/folate daily. Individuals ages 14 years and older should consume at least 400 mcg per day. 600 mcg is needed during pregnancy and 500 mcg during lactation.

Individuals who have already had a baby with a birth defect may need more than 400 mcg of folic acid/folate each day before and during pregnancy. They should talk to their healthcare provider for the specific amounts needed, especially while planning a future pregnancy.

* Note: The recommendation is for Dietary Folate Equivalents, which takes into consideration that folate is not absorbed as well as folic acid. Many find this distinction confusing. For more information, see the [Institute of Medicine Dietary Reference Intake tables](#).

What is the Status of Folic Acid Intake among Teens?

According to 2010 data from California's Maternal and Infant Health Assessment, only 23.9% of adolescents aged 15-19 years reported consuming folic acid in the month before pregnancy compared to 31.1% of those aged 20-34 and 44.6% of those aged 35 and older.³

How Can Teens Consume Enough Folic Acid?

There are two ways to consume 400 mcg of folic acid each day:

- A. Eating a serving of a breakfast cereal that contains 100% of the recommended daily value (DV) of folic acid:** One serving of [these cereals](#) provides 400 mcg of folic acid.

or

- B. Taking a folic acid supplement:** Most over-the-counter multivitamins contain 400 mcg of folic acid, the amount recommended for the prevention of neural tube birth defects before pregnancy. For teens that prefer not to swallow pills, chewable vitamins with 400 mcg folic acid may be available.

Clients who are pregnant or breastfeeding their children have higher folic acid/folate requirements (Table FA-1). Prenatal vitamins may have the extra folic acid needed for pregnancy.

Remind clients that supplements should not replace a diet that includes foods such as fruits, vegetables, whole grains, and beans. A vitamin supplement can provide 400 mcg of folic acid, but also eating folate-rich foods is important.

What Are Good Sources of Folate?



In addition to consuming 400 mcg of folic acid from a fortified cereal or vitamin supplement, a healthy diet also includes foods rich in folate.

Foods rich in folate include dark green, leafy vegetables (e.g., spinach, broccoli, asparagus, and romaine lettuce), beans, lentils, grains, and citrus and other fruits (e.g., kiwis and strawberries). Because folate is destroyed by the heat used in cooking and canning, adolescents should be encouraged to eat fresh fruits and vegetables. Farmers markets often have fresh, local-grown fruits and vegetables. [Use this tool to find nearby markets.](#) Payment options are also described (cash, card, WIC).

The body can absorb folic acid (the synthetic form of folate found in vitamin supplements and fortified cereals) better than natural folate. The amount of folate (the form that occurs naturally in food) absorbed from individual foods varies; overall absorption from food is estimated to be 50% of the folate available in an individual's diet. It is important to consume a variety of folate-rich foods every day.

Screening

Screen for adequate folic acid intake by first asking the client what she knows about folic acid and then asking whether she is doing one of the following daily:

- A. Eating a cereal that has 100% of the daily value of folic acid
- B. Taking a vitamin with folic acid

If she is not doing A or B or is not sure, be sure to talk about folic acid as described in the "Interventions" section.

Interventions

As adolescents rarely are planning to become pregnant, traditional folic acid messages about birth defects prevention may not be effective. Focus on their interests, such as the beauty and overall health benefits of folic acid, specifically the benefits of healthy skin, hair and nails. Encourage them to make folic acid a part of their daily beauty regimen.

- Review the [Folic Acid is a B-Vitamin Your Body Needs Every Day](#) handout with the client. Talk about the importance of folic acid for healthy skin, hair and nails. Talk with her about how she can use food labels to find out how much folic acid is in cereal or a vitamin
- Use the [My Action Plan for Pretty Skin, Hair and Nails](#) handout to help the client achieve the recommended folate/folic acid intake

Follow-Up

Review the [action plan](#) with the client to determine if she achieved her goal(s) for behavior change.

If the client did not make any changes, talk with her about what prevented her from doing so. Review the benefits of folic acid and see which (if any) are important to her. Validate her feelings. Work with her to identify strategies for removing any barriers.

If the client made changes but still falls short of the recommended intake, praise her for the changes that she made. Work with her to revise her action plan (change or add goals).

If the client has made changes and achieved the recommended intake, praise for the changes that she made. Help her consider a new action plan from another section in the Guidelines.

Additional Resources/Web Links Referenced

Title	Resource Type	URL
Institute of Medicine Dietary Reference Intake Tables	Document (PDF)	www.iom.edu/Activities/Nutrition/SummaryDRIs/~media/Files/ActivityFiles/Nutrition/DRIs/5_SummaryTableTables1-4.pdf
Cereals that Contain 100% of the Daily Value (DV) of Folic Acid	Webpage	www.cdc.gov/ncbddd/folicacid/cereals.html
Farmers Market Locator	Interactive tool	http://search.ams.usda.gov/farmersmarkets/default.aspx
CDC Folic Acid Resources	Webpage	www.cdc.gov/ncbddd/folicacid/index.html
Go Folic! Project – Comprehensive Folic Acid Website	Webpage, blog	http://gofolic.org/
Comprehensive Preconception Health Website with Folic Acid Resources	Website	www.everywomancalifornia.org Spanish version: www.cadamujercadadia.org

References

- Centers for Disease Control and Prevention. Spina Bifida and Anencephaly Before and After Folic Acid Mandate --- United States, 1995--1996 and 1999--2000. *MMWR*. <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5317a3.htm>.
- Institute of Medicine (U.S.). Standing Committee on the Scientific Evaluation of Dietary Reference Intakes., Institute of Medicine (U.S.). Panel on Folate Other B Vitamins and Choline., Institute of Medicine (U.S.). Subcommittee on Upper Reference Levels of Nutrients. *Dietary reference intakes for thiamin, riboflavin, niacin, vitamin B6, folate, vitamin B12, pantothenic acid, biotin, and choline*. Washington, D.C.: National Academy Press; 1998.
- 2010 MIHA County Report: A Summary Report of County Snapshots and Geographic Comparisons from the Maternal and Infant Health Assessment Survey. Sacramento: California Department of Public Health, Maternal, Child and Adolescent Health Program; 2012.

Folic acid is a B-vitamin your body needs every day.



- **Why take folic acid?**

Folic acid helps every cell in your body. Taking folic acid will help your skin glow, your hair shine, and your nails stay healthy and strong. Make folic acid part of your beauty routine.

- **How much folic acid do I need?**

You need at least 400 micrograms (mcg) of folic acid every day.

- **How can I get enough folic acid every day?**

There are two ways to get the 400 micrograms (mcg) of folic acid your body needs every day.



Eat one serving of a cereal that has all the folic acid you need every day. Many cereals do not have enough folic acid, so read the nutrition label on the box.

OR



Take a vitamin that has all of the folic acid you need every day.

Nutrition Facts		
Serving Size: 1 cup (55g)		
Servings Per Container: About 12		
Amount Per Serving	Cereal	With 1/2 cup skim milk
Calories	170	210
Calories from Fat	10	10
	% Daily Value	
Total Fat 1g	1%	2%
Saturated Fat 0g	0%	0%
Polyunsaturated Fat 0g		
Monounsaturated Fat 0g		
Cholesterol 0mg	0%	1%
Sodium 240mg	10%	13%
Total Carbohydrate 41 g	14%	16%
Dietary Fiber 5g	20%	20%
Sugars 20g		
Other Carbohydrate 16g		
Protein 4g		
Vitamin A	10%	15%
Vitamin C	0%	0%
Calcium	100%	110%
Iron	100%	100%
Vitamin D	10%	25%
Vitamin E	100%	100%
Thiamin	100%	100%
Riboflavin	100%	110%
Niacin	100%	100%
Vitamin B6	100%	100%
Folic Acid	100%	100%
Pantothenic Acid	100%	100%

Supplement Facts		
Serving Size: One Tablet		
Amount Per Serving		% Daily Value
Vitamin A	5000 IU	100%
Vitamin C	60 mg	100%
Vitamin D	400 IU	100%
Vitamin E	30 IU	100%
Vitamin K	25 mcg	31%
Thiamin (B1)	1.5 mg	100%
Riboflavin (B2)	1.7 mg	100%
Niacin	20 mg	100%
Vitamin B6	2 mg	100%
Folic Acid	400 mcg	100%
Vitamin B12	0 mcg	100%

My Action Plan for Pretty Skin, Hair and Nails



Name: _____

For pretty skin, hair and nails, make sure you get 400 micrograms of folic acid every day. Make your folic acid beauty plan below.

Things that I can do for pretty skin, hair and nails

Choose A or B to get 400 micrograms of folic acid:



A. Eat cereal that has 100% of my daily value (DV) of folic acid. I will read the labels to be sure.

OR



B. Take a vitamin with folic acid every day.

Eat foods with natural folic acid:

- Lightly cooked or raw vegetables such as broccoli, spinach, asparagus, or romaine lettuce
- Fruits such as berries, oranges or bananas
- Beans such as black beans, pinto beans or lentils



Am Doing	Steps I Will Take
<input type="checkbox"/>	<input type="checkbox"/>

Useful Websites:

- Find out which cereals have 100% of your daily value of folic acid by visiting www.cdc.gov/ncbddd/folicacid/cereals.html
- Buy fresh fruits and vegetables with natural folic acid at a farmers' markets near you. To find the closest markets and those that accept WIC, visit <http://search.ams.usda.gov/farmersmarkets/default.aspx>

Signature: _____

Date: _____

Fruits and Vegetables

July 2000

Section 6

Why Are Fruits and Vegetables Important?

Most people know what fruits and vegetables are but may not know why it is so important to eat them every day. They are excellent sources of fiber, complex carbohydrates, and numerous vitamins and minerals.

Diets that are rich in fruits and vegetables are associated with decreased risk of some cancers and

heart disease. Many Americans of all ages — but specifically teens — eat fewer than the recommended number of five or more servings of fruits and vegetables per day.

In addition to making recommendations for the number of daily servings, the *Dietary Guidelines for Americans* further recommends that the fruits and vegetables eaten come from a variety of sources. Specifically, dark-green leafy and deep-yellow vegetables, citrus fruits or juices, melons, and berries are recommended.



Inside this Section

- 1** Why Are Fruits and Vegetables Important?

Why the Concern About Fruit and Vegetable Intake?
- 2** Why Do Adolescents Avoid Fruits and Vegetables?

Additional Screening

Interventions/Referrals

Follow-Up
- 3** “What’s My ‘5 A Day’ Score?” Activity Sheet
- 4** “Fruit and Vegetable Tips” Information Sheet
- 5** “Be Sure to Get Your Fruits and Veggies Every Day!” Information Sheet
- 6** “Action Plan for Fruits and Veggies” Activity Sheet

Why the Concern About Fruit and Vegetable Intake?

The results from the 1998 California Teen Eating, Exercise, and Nutrition Survey (CalTEENS) revealed that only 24% of teens ate five servings of fruits and vegetables the day of the survey. Other studies have shown that fried potatoes account for one-third of the vegetable servings for youth aged 2 to 19 years.

Fruits and vegetables provide varying amounts and types of nutrients, therefore variety is essential. The best way to eat fruits and vegetables is without additional fat and sugar.

Why Do Adolescents Avoid Fruits and Vegetables?

Teens often choose fast food or convenience foods over whole foods like fruits and vegetables. Some reasons for these choices include:

Availability

The most common reason teens gave for not eating more fruits and vegetables was because they were not available. [CalTEENS] For example, healthy food options from vending machines are generally limited to sodas, candy, and chips.

Peer influence

Studies have shown that eating healthy food is not a valued behavior in the teen culture unless it is used to lose weight or to become more attractive.

Perceptions

Healthy food choices are not perceived as convenient (see Section 2: *Adolescent Nutrition/Screening for Risk* guideline for more information on adolescent eating behaviors).

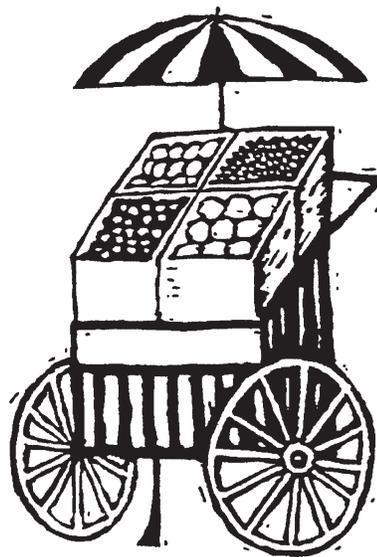
Knowledge and/or skills

Many teens may have the ability to identify healthy foods like fruits and vegetables, yet lack basic food selection and preparation skills.

Poor parental role modeling

Increasing numbers of single parent or dual working parent families rely on convenience and fast foods for many family meals.

It is also possible that the parents themselves do not have the skills necessary to make healthful meals.



Additional Screening

Use the “What’s my ‘5 A Day’ score?” activity sheet to determine how many servings of fruits and vegetables the client is currently eating.

Interventions/ Referrals

Use the activity sheet “Fruit and Vegetable Tips” to discuss ways to improve fruit and vegetable consumption.

Use the “Action Plan for Fruits and Vegetables” to assist the client in developing a plan for behavior change.

Follow-Up

Review the action plan with the client to determine if she achieved her goals for behavior change.

If the client did not make any changes...

... Explore what barriers prevented her from doing so and discuss possible strategies for removing the barriers.

If the client made changes but still falls short of recommended intake...

... Revise action plan with the client to change or add goals for behavior change.

If the client has made changes and achieved the recommended intake...

... Help her to develop a new action plan for maintaining the new behavior.

What's My "5 A Day" Score?

5 A Day Power Play, 1998

In the boxes below, record the number of fruit and vegetable servings you eat each day.

	Monday	Tuesday	Wednesday	Thursday	Friday
At Breakfast					
At Lunch					
For Snacks					
For Dinner					
Total					

How did I score?

1-2 Servings - You're a lightweight. Reach for the fruits and veggies!

3-4 Servings - You're looking good. One or two servings more per day.

5-9 Servings - You're a champion! Keep up the great work.

Fruit and Vegetable Tips

Adapted from the ADA Food and Nutrition Guide, 1998

- ♥ Eat a variety of dark-green leafy and deep-yellow vegetables (red, orange, yellow) every day.
- ♥ Try using spinach, watercress, and romaine and butter lettuces instead of iceberg in your salad
- ♥ Expand your vegetable horizons. Try a new vegetable each week. Some of the vegetables that you used to dislike as a child may taste better to you now. Brussels sprouts, Swiss chard, kale, parsnips, beets, bok choy, okra, spaghetti squash, and many others may all surprise you. Remember to prepare them well and don't overcook them.
- ♥ Keep a bowl of cleaned, raw veggies in your refrigerator for a quick, easy snack.
- ♥ America's favorite fruits are apples, oranges, and bananas. These make great snacks or additions to recipes.
- ♥ Bring some fruit or vegetable juice with you so that you won't need to make a vending machine pit stop.

**Eating 5 to 7 servings of fruits and vegetables
Every day is an easy way to get the vitamins
and minerals you need to stay healthy!**



Be Sure to Get Your Fruits and Veggies Every Day!

Fruits	A = Vitiam A C = Vitam C F = Fiber	Vegetables (1/2 cup cooked)	A = Vitiam A C = Vitam C F = Fiber
Apple (1)	F	Asparagus	C, F
Apricots (3)	A, F	Beans, green	F
Banana (1)	F	Bok choy	A, C, F
Cantaloupe (1/2 cup)	A, C, F	Broccoli	A, C, F
Figs (2)	F	Brussels sprouts	C, F
Grapes (1 cup)	F	Cabbage	C, F
Grapefruit (1/2)	C, F	Carrots	A, F
Honeydew (1/2 cup)	C	Cauliflower	C, F
Kiwi (1)	C, F	Corn	F
Nectarine (1)	F	Dried beans or peas	F
Orange (1)	C, F	Eggplant	F
Papaya (1/2 cup)	A, C	Green pepper	C
Peach (1)	F	Greens	A, C, F
Pear (1)	F	Lettuce: (1c fresh spinach, romaine, red and greenleaf)	A, C, F
Pineapple (1/2 cup)	F	Okra	F
Plums (2)	F	Peas, green	F
Prunes (4)	F	Potato (1 med. baked)	C, F
Raisins (1/2 cup)	F	Spinach	A, F
Raspberries (1/2 cup)	C, F	Squash, winter	A, F
Strawberries (1/2 cup)	C	Sweet potato	A, F
Watermelon (1c)	C	Tomato (1)	A, C, F
Grapefruit juice	C	Zucchini	F
Orange juice	C		
Tomato juice	C		

ACTION PLAN for FRUITS & VEGGIES

Name: _____ Date: _____

Check the boxes that describe what you are presently doing and what you plan to do:

	AM DOING	PLAN TO DO
Eat one more fruit or veggie every day	<input type="checkbox"/>	<input type="checkbox"/>
Eat fruit or dessert instead of a calorie-rich sweet.	<input type="checkbox"/>	<input type="checkbox"/>
Eat a fruit or veggie that I have never tasted or that I disliked in the past.	<input type="checkbox"/>	<input type="checkbox"/>
Drink fruit or vegetable juice instead of soda.	<input type="checkbox"/>	<input type="checkbox"/>
Eat fruit for a snack instead of potato chips or other high-calorie, low-nutrient snack food.	<input type="checkbox"/>	<input type="checkbox"/>
Choose a high-fiber fruit or veggie from the list to eat today.	<input type="checkbox"/>	<input type="checkbox"/>
My idea for improving my fruit and veggie intake:	<input type="checkbox"/>	<input type="checkbox"/>

Signature: _____ Date: _____
(optional)



BODY IMAGE AND EATING DISORDERS

Disordered Eating - Any abnormal eating pattern, ranging from less extreme to extreme behaviors. Disordered eating includes a collection of interrelated eating habits; weight management practices; attitudes about food, weight and body shape; and physiological imbalances. Disordered eating includes classic eating disorders (anorexia nervosa, bulimia nervosa, and binge eating disorder) as well as eating patterns of lesser severity.

Eating Disorder - An extreme expression of a range of weight and food issues, experienced by men and women. They include anorexia nervosa, bulimia nervosa, and compulsive overeating or binge eating disorder. All are serious emotional problems that can have life-threatening consequences.

Anorexia Nervosa - An intense and irrational fear of body fat and weight gain, a strong determination to become thinner and thinner, and misperception of body weight and shape to the extent that the person may feel or see fat when emaciation is clear to others. Symptoms of anorexia include a refusal to maintain weight at or above a minimally normal weight for height and age, an intense fear of weight gain, distorted body image, the loss of three consecutive menstrual periods, and an extreme concern with the body weight and shape. Anorexia nervosa has the highest mortality rate of all psychological disorders.

Bulimia Nervosa - Self-perpetuating and self-defeating cycles of binge eating and purging. During a “binge,” the person consumes a large amount of food in a rapid, automatic, and helpless fashion. This may anesthetize hunger, anger, and other feelings but it eventually creates physical discomfort and anxiety about weight gain. The food is then “purged,” usually by induced vomiting and by some combination of restrictive dieting, excessive exercising, laxatives, and diuretics.

Binge Eating Disorder - Also called compulsive overeating, characterized primarily by periods of impulsive gorging or continuous eating. Binge eating involves eating an amount of food in a specified time period that is larger than that which most individuals would consume during a similar time period, and feeling a lack of control over eating during the binge. While there is no purging, there may be sporadic fasts or repetitive diets. Body weight may vary from normal to mild, moderate, or severe obesity.

study found that girls as young as 9 expressed concern that they were too fat and were afraid of becoming fat as they got older.

Many normal-weight adolescents, especially girls, are dissatisfied with their body shape and weight. Disturbance in body image is a widespread societal phenomenon linked to a variety of psychosocial difficulties and disorders including depression, social anxiety, eating disturbances, and low self-esteem.

Physical body changes that occur with puberty can influence an adolescent’s satisfaction with their personal appearance. A girl’s physical maturation may lead to greater dissatisfaction with her

appearance. After their height spurt, females accumulate fat rapidly, especially in their hips, thighs, and buttocks. Girls who mature early may be more dissatisfied with their appearance and have a poorer body image; they frequently need more reassurance that they are developing normally.

Boys have a mild weight increase before their growth spurt (around 9-13 years of age). This prepubertal weight gain is more pronounced in some males and may trigger a fear of becoming fat. Generally, the increased height and muscular development that occur with later adolescence usually improve body image. In an attempt to build muscles, some boys may

use supplements (creatine, protein, etc.) or anabolic steroids.

Outside Influences on Body Image

It is difficult not to notice or be affected by the constant media message that one must be thin to be beautiful. Models in the 1950s and 1960s weighed 10% less than the average female; models in the 1980s weighed 40% less.

Although the media is held responsible for setting unrealistic standards for the ideal body, it is not the sole source of body image distortions.

- Children and adolescents often feel personal pressure as parents, teachers, coaches, and friends urge them to achieve the “perfect” body.
- Adults themselves often model body dissatisfaction by making negative comments about other’s or their own bodies.
- The majority of adult women are “dieting” to lose weight, whether they need to or not.
- Fat children and adults are socially isolated and are viewed as individuals who have failed themselves or society.
- “Fear of becoming fat” has become a common phenomenon in a society that worships thinness.

All teens are at risk for developing a poor body image in our culture. The media and advertising industry can have serious and detrimental effects on a teen’s self image. Regardless of what teens are told by educators and parents about their looks, these messages are contradicted by what they see on television and movies, and in magazines.

Body Wise, a web site which teaches girls the skills for healthy living, found that one-third of the 9th - to 12th-grade girls surveyed felt they were overweight, and 60% said that they were trying to lose weight. A recent article in People magazine stated that some teens don’t realize that it isn’t normal to hate their bodies (Hubbard, 1999).

“The overriding (media) message is that we need to change something about ourselves in order to be loved or successful. In particular, if we have thin, fit bodies, our lives will be perfect. This message is not true. The constant striving for something other than what we are is part of what may keep us dissatisfied with life.

“The reality is that genetically we are all born with varying shapes and sizes. Less than 5% of the population (genetically and healthfully) can expect to achieve the shape and size the media portrays as ideal. The media holds this unrealistic goal up to us and suggests that we try to reach it. No wonder so many men and women are struggling with body image dissatisfaction!”

<http://www.eating-disorders.com/>

meals, high fat and high caloric consumption, and compulsive over-exercising.

Just because someone does not fit the strict definition for a classic eating disorder does not mean they don’t have a problem. Unhealthy dieting or anorexic/bulimic behaviors that are not frequent or intense enough to meet the formal eating disorder criteria may still have harmful short-term consequences and may lead to the development of more severe eating disorders (Newmark-Sztainer, 1996).

The prevalence of disordered eating is disturbingly high among adolescents and pre-adolescents. Children as young as 5 talk about dieting to lose weight.

Eating Disorders: The Last Stage

Anyone can develop an eating disorder. Males and females and all social and economic classes, Faces, and intelligence levels are affected. Over the past decade, white, middle-to-upper class females ages 13 to 30 have been most affected. True eating disorders are relatively uncommon: Only 5% of adolescents with disordered eating behaviors go on to develop classic eating disorders.

While there is no single event or factor that causes an eating disorder, most professionals agree that *dieting precedes the onset of most* cases (<http://www.laureate.com>).

Disordered Eating: The First Steps

Disordered eating includes a wide range of eating behaviors that can eventually lead to more serious eating disorders such as anorexia nervosa, bulimia nervosa, and binge eating disorder. Disordered eating can be identified by a group of unhealthy weight loss methods such as: extreme caloric restriction, food group elimination skipped

Adolescent females frequently begin to diet after the onset of puberty. Early-maturing females may be even more likely to diet. Overweight females are also at increased risk of dieting and using unhealthy weight loss practices (see Section 8: *Weight Management* guidelines).

Eating Disorders: Outdated Ideas/Beliefs

Adapted from Eating Disorders Shared Awareness, www.something-fishy.org

Only “young, white females” get eating disorders.

Anyone can develop anorexia or bulimia. Regardless of previously held beliefs, young, middle-class, white teenagers or college students are not the only ones who can suffer. Eating disorders affect individuals from every age bracket, class, culture, and race.

You can tell by looking whether a person has an eating disorder.

Not true! There are many anorexics, bulimics, and compulsive overeaters who are of average weight or above. The truly devastating effects of eating disorders are usually invisible, such as nutrient deficiencies, electrolyte imbalances, and a host of other physical dangers. The originators for eating disorders — depression, low self-esteem and an inability to cope with stress — have little to do with one’s weight. Food and weight are symptoms of complex emotional conflicts.

Eating disorders are a vanity issue.

Dieting is an appearance or vanity issue. Many eating disorders may start out as dieting, but the behavior turns quickly to coping mechanism for dealing with stress, self-hate, hurt, and shame. Eating disorders are not **just** about appearance.

Compulsive Overeaters are lazy and have no willpower.

This is a sad false fact. People suffering with compulsive over-eating disorder use food as a way to fill a psychological void, to cope with stress, to take away pain, to comfort themselves. For some, it’s also a way to keep from being vulnerable... if they stay overweight, no one will want to get close to them.

If the doctor says there’s nothing to worry about, then there isn’t.

Doctors do not know everything. Unfortunately, in most places, unless they have taken additional training on how to recognize eating disorders or have specialized in this field, they generally know very little about them. A great number of doctors are not aware of all the warning signs or will begin testing for other possible physical problems instead. Also, the human body learns to adapt to starvation and malnutrition; unless they are specifically geared towards eating disorders, ordinary blood tests will show little detrimental information.

I know someone with anorexia... If I just get him/her to eat it will solve the problem. I know

someone with bulimia... if I can keep him/her out of the bathroom it will solve the problem. I know someone who is a compulsive overeater... a diet will fix everything.

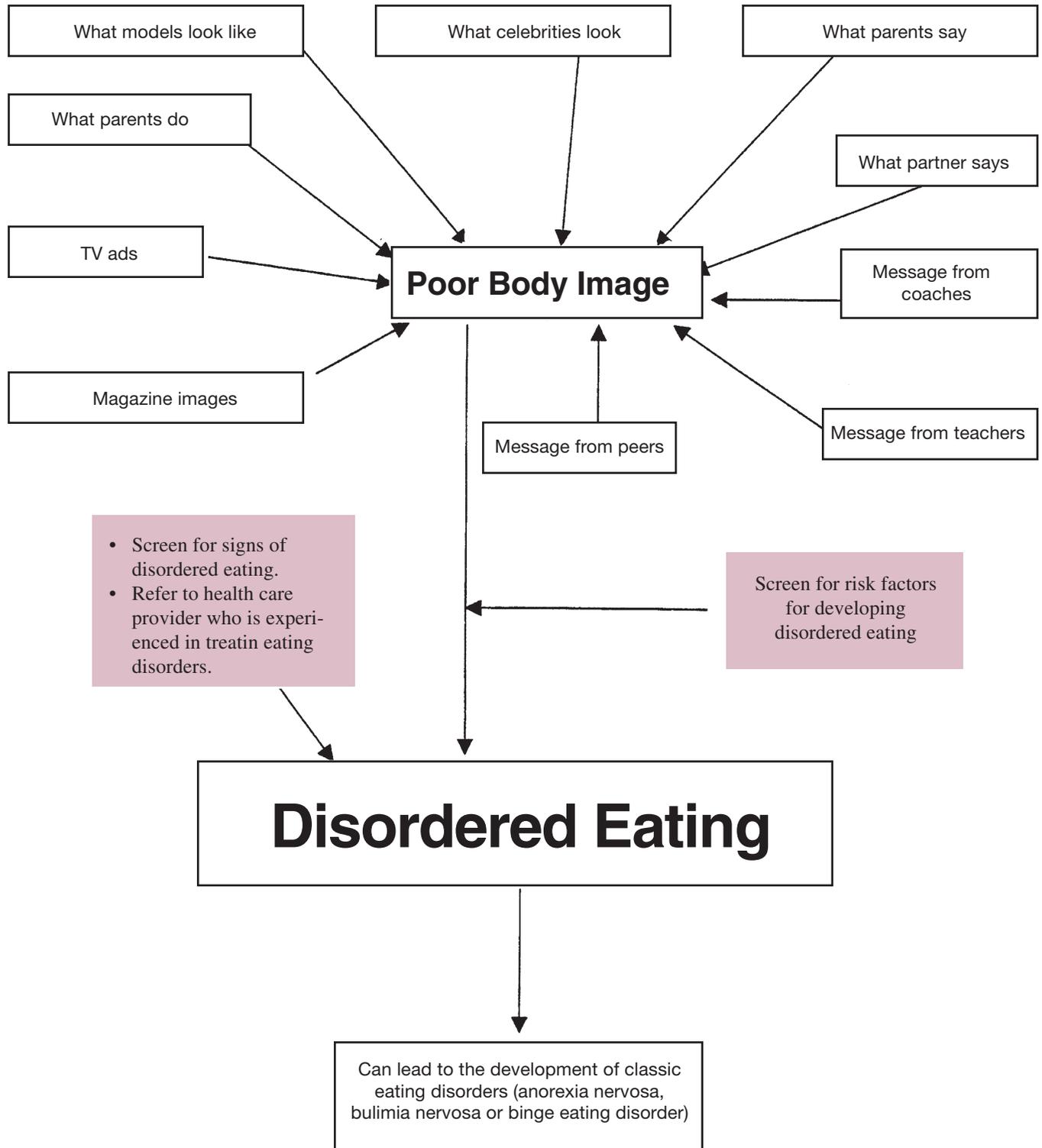
Concentrating only on the food is a very common mistake. People who suffer from eating disorders use a negative coping mechanism — that just happens to involve food — as a way to deal with unpleasant emotions. Buried deep down inside each person is a cause, or group of causes and pains, that have yet to be healed. These pains have compelled them to find an alternative — and unhealthy — means of coping with life.

The key to recovering from an eating disorder is to learn to manage all areas of one’s life: stress, pain (past and present), emotions, and finally, eating healthfully. Learning not to use food as a coping mechanism for the underlying issues cannot be addressed until the person begins to address these issues. The earlier a person gets help, the easier it will be to treat the person and help them get well. When habits become ingrained, eating disorders require lengthy treatment.

Eating disorders are a woman’s illness.

Absolutely not! Only recently has the media begun to address the “hidden population” of men with eating disorders. It is currently estimated that 1 in 10 individuals with an eating disorder is male, however given their reluctance to identify themselves, the actual number of males with an eating disorder is probably greater.

Poor Body Image Can Lead to Disordered Eating



Common Misconceptions about Eating Disorders

Adapted from Eating Disorders Shared Awareness, <http://www.something-fishy.org>

“I cannot be anorexic because I do eat when I have to.”

Restriction of food does not mean complete restriction. For some, this means restricting certain types of foods and limiting calories to below normal on a daily basis. For others, this means fasting for a certain number of days and then eating “normally” for the next few days, and repeating the cycle continually.

“I don’t fit any category. ... I only eat when I absolutely have to (but I don’t binge) and then purge whatever I do eat.”

Often times when anorexics cannot avoid a meal or food they will follow any consumption with self induced vomiting or laxative abuse. This is considered “anorexia, purging type.”

“I eat a lot of candy, and can’t possibly be anorexic.”

Many anorexics and bulimics are junk-food addicts. These foods may serve as a false sense of energy and/or appease extreme cravings. It is not uncommon to find an anorexic or bulimic who lives solely on candy. Other common “replacements” are drugs, alcohol, coffee, tea, and/or cigarettes.

“I eat three meals a day (or I eat a lot during the course of the

day) and never purge. How can I have an eating disorder?”

Disordered eating doesn’t always mean restricting, bingeing, or Purging. If eating patterns or meals consist of only lettuce, salad, or yogurt (or other comparably low calorie, low-fat foods), and the calorie intake overall is far below normal (and is combined with emotional attributes), this would be considered anorexia. The individual may not be “starving” themselves of food per se, but is restricting themselves of any real calories, substance, and nutrition.

“I don’t make myself vomit or use laxatives. I can’t be bulimic.”

There are other methods of “purging” following a binge. In addition to laxative use or induced vomiting, Purging can also be accomplished with compulsive exercise or complete fasting.

“I can’t die from this...”

Eating disorders have the highest rate of death of any psychological illness. As many as 30% of those suffering from an eating disorder will die as a result of complication caused by the illness.

“My family member/friend eats normally around me. He/She can’t possibly have an eating disorder.”

It is not uncommon for anorexics, bulimics, and compulsive overeaters to eat “normally” around others. They may actually look forward to their time alone, however, to be able to “make up for” the time they’ve spent “normally” around others. Once

they have gotten back into their solitary environment, anorexics will completely starve themselves, bulimics will binge and purge, and compulsive overeaters will binge.

“This is just a phase.”

Anorexia, bulimia, and compulsive overeating are not phases that anyone just “goes through.” Some may go through dieting phases, but this is far different from having an eating disorder.

“I take vitamin/mineral supplements so I know I will stay healthy.”

Vitamin/mineral supplements will not protect against the physical devastation’s of an eating disorder. While taking vitamins and minerals may help to provide a sense of security, or even prolong certain aspects of health (such as warding off infection), they will not protect from the dangers associated with having an eating disorder.

These dangers can include bowel or kidney dysfunction, brain shrinkage, dehydration, diabetes, TMJ (temporomandibular joint) syndrome, misalignment of the teeth, esophageal tears, stomach ulcers, joint pain and arthritis, digestive and absorption problems, acid reflux disorders, cancer of the mouth and throat, low or high blood pressure, heart arrhythmia and cardiac arrest loss of menstrual cycle, infertility, dilation of the intestines, or depression and even suicide.

“Everyone who is overweight or fat is a compulsive overeater.”

What defines the illnesses of compulsive overeating or binge eating disorder is more than just the weight range of the individual.

Emotional eating, eating to fill a void, stuffing down feelings with bingeing, isolation, and pushing others away are just some of the traits. There are other reasons an individual can be overweight, including medical reasons or a genetic predisposition to a larger body size.

Why Persons with Eating Disorders Don't Ask for Help

Adapted from Eating Shared Awareness, <http://www.somethingfishy-org>

"I'm not thin enough. He/She won't believe me."

"I'm not sick enough. He/She won't think I need help."

"The doctor won't take this seriously, no one else does."

"The doctor won't take my complaints seriously, He/She thinks I'm too young to be worried about such things."

"He/She will tell my parents."

"People will find out."

"He/She will just see me as fat, they won't believe it's an eating disorder." (Compulsive Overeater)

"The doctor is just going to make me gain (lose) weight!"

"My doctor (therapist) will tell me to 'just eat' but it's so much more than that!"

"My therapist refuses to treat me because I've lost (gained) weight."

"I'm a man and I know they'll think I'm a freak, or they won't believe me."

It's vitally important that health care providers learn to recognize the physical signs of eating disorders and to validate the emotional turmoil experienced by those suffering from them. It is also important to know that there can be many co-existing psychological illnesses and/or addictions to alcohol or drug abuse.

Risk Factors for Developing Disordered Eating

Adapted from Mary-Ann Shafer, MD, Hidden Epidemic Seminar, 1999

- Family history of disordered eating
- Family dysfunction
- Low self-esteem
- Poor body image
- Focus on weight
- Exercising to extremes
- Self-mutilation

Interventions/ Referrals

Use the *BodyTalk* video to educate clients on the role of media and culture in the development of attitudes on body image

Stop the videotape before "What Do We Do With the Message" section and use the "What Is Body Image?" activity sheet as an interactive with clients.

Stop the videotape before the "Resistance and Change" section and use the "Ask Yourself" activity sheet as an interactive activity that encourages client self-assessment of attitude.

Use the "More About Body Image, Eating Disorders, and Dieting" information sheet for other sources of information on these topics.

Use the "The Important People in My Life" information sheet to assist your client with value clarification

Use the "Promoting Size Acceptance" activity sheet to discuss size acceptance with clients.

IF YOU SUSPECT THAT THE CLIENT HAS AN EATING DISORDER, REFER HER TO A HEALTH CARE PROFESSIONAL OR AGENCY THAT SPECIALIZES IN THE TREATMENT OF EATING DISORDERS. FOR REFERRAL INFORMATION, SEE "MORE ABOUT BODY IMAGE, DISORDERED EATING, AND DIETING."

BODY IMAGE AND EATING DISORDERS

Follow-Up

Discuss the client’s answers to the questions on the “What Is Body Image” and the “Ask Yourself” activity sheets. Use the answers to help the client evaluate how her body image is influenced by internal and external messages. Awareness of the type of messages (positive and negative) she receives is the first step toward change.

Let the client know that there is more than one way to be beautiful!

- ♥ Help the client understand that her self-perceptions may be reactions to the negative media images she receives about body image.
- ♥ Encourage acceptance of all body types.

- ♥ Reinforce messages learned in *the Body Image and Disordered Eating* guideline activities.
- ♥ Encourage the client to discuss the origins of body dissatisfaction and eating disorders in social settings, so that she can compare her responses to those of her peers.



Eating Disorder Warning Signs

Adapted from Judith Levine, RD, MS, “Helping your Child Lose Weight the Healthy Way, “ 1996

Warning Sign	Anorexia Nervosa	Bulimia Nervosa	Binge Eating Disorder
Large, rapid weight loss (more than 4 pounds in one month)	X	X	
Great fluctuations in body weight		X	X
Excessive or compulsive exercising	X	X	
Preoccupation with dieting and weight loss	X	X	X
Preoccupation with eating and food	X	X	X
Distorted body image; feels fat even when thin	X	X	
Refuses to eat, eats tiny portions, and/or denies hunger	X	X	
Consumes unusually large quantities of food		X	X
Eats by herself or is secretive about food	X	X	X
Eats only a few types of foods; avoids entire food groups or has suddenly become vegetarian	X	X	
Disappears after eating, usually to the bathroom		X	
Develops dental problems		X	
Has irregular menstrual cycles or has not menstruated for two months or longer	X	X	
Has swollen salivary glands or puffy cheeks		X	
Is depressed, moody, or insecure	X	X	X
Purchases laxatives or diet pills	X	X	
Stops participating in normal activities	X	X	X
Steals food or money to buy food		X	X

Resources on Body Image, Disordered Eating, and Dieting

Treatment Centers and Referrals

Child Health and Disability Program (CHDP)
Look in your local phone book under the Government Listings, Health and Human Services section, for your local CHDP program (accepts Medi-Cal)

Lucile Salter Packard Children's Hospital
At Stanford-Disordered Eating Program
725 Welch Road
Palo Alto, CA 94304
650-498-4468
(Accepts Medi-Cal)

UCLA Neuro-Psych-Institute
Eating Disorder Program
760 Westwood Plaza
Los Angeles, CA 90024
310-825-9989

Eating Disorder Center of California
Offices in Malibu, Westlake Village,
West LA, and Santa Barbara
310-457-9958

Monte Nido Treatment Facility
514 Live Oak Circle
Calabasas, CA 91302
818-222-9534 or 310-457-9958

Disordered Eating Referral
California Dietetic Association
Nancy King, RD (Registered Dietitian)
818-957-8588

Tami Lyon, RD
415-896-5859

More Information on Disordered Eating

American Dietetic Association
National Center for Nutrition & Dietetics
216 West Jackson Blvd., Suite 800
Chicago, IL 60606
312-899-0040
Nutrition Hotline: 800-366-1655
<http://www.eatright.org>

American Anorexia/Bulimia Association
C/O Regent Hospital
293 Central Park West, Suite I R
New York, NY 10024
212-575-6200

Eating Disorders Awareness and Prevention
603 Stewart Street, Suite 803
Seattle, WA 98101
Phone 206-382-3587
Fax 206-292-9890

National Association of Anorexia Nervosa and
Associated Disorders
Box 7
Highland Park, IL 60035
847-831-3438
Fax 847-433-4632

National Eating Disorders Organization
6655 South Yale Avenue
Tulsa, OK 74136
918-481-4044

The National for Center Overcoming Overeating
P.O. Box 1257, Old Chelsea Station
New York, NY 101 13-0920
212-875-0442

BODY IMAGE AND EATING DISORDERS

Books

Cash, T. *The Body Image Workbook. - An 8-step program for learning to like your looks.* New Harbinger Publications, 1997.

Cash, T. Pruzinsky, T. *Body Images: Development, Deviance, and Change.* Guilford Press, 1990.

Cooke, K. *Real Gorgeous.* New York: W.W. Norton & Co, 1996.

Fraser, L. *Losing It: America's Obsession with Weight and The Industry That Feeds on It.* New York: Dutton, 1997.

Hesse-Biber, S. *Am I Thin Enough Yet?* New York: Oxford University Press, 1996.

Hirschmann, J.R. Munter, C.H. *@en Women Stop*

Hating Their Bodies. New York: Fawcett Coumbine, 1995.

Hutchinson, M. *Transforming Body Image: Learning to Love the Body You Have.* Crossing Printing, 1988.

Miller, W. *Negotiated Peace, How to Win the War Over Weight.* Allyn & Bacon, 1997.

Wolfe, N. *The Beauty Myth.* New York: William Morrow & Co, 1991.

Most of the books listed above, as well as others, are

available through the Gurze Catalogue of Books on Eating Disorders. For a free catalog, call (800) 756-7533, or see their website at <http://www.gurze.com>

Other Resources

American Anorexia/Bulimia Association (ANRED) 165 West 46h Street, Suite II 08
New York, NY 1003 6
212-575-6200
<http://www.anred.com/>

Public Health Service's Office on Women's Health U.S. Department of Health and Human Services 200 Independence Avenue, S.W., Room 730B Washington, D.C. 20201 <http://www.whealth.org/links/>

yourSelf
A fun website on nutrition and physical activity created by and for teens
<http://151.121.3.25/tr/>

Overeaters Anonymous Headquarters
Word Services Office
P.O. Box 44020
Rio Rancho, NM 87174-4020
505-891-2664
<http://overeatersanonymmous.org>

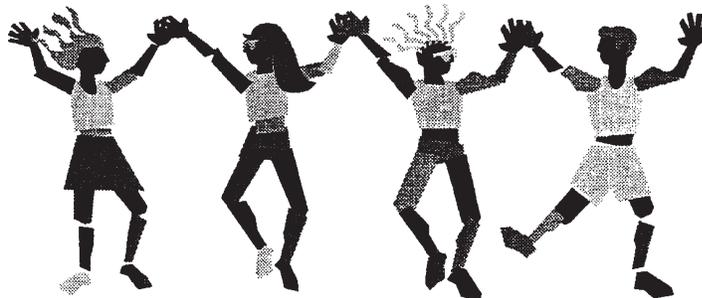
Body image and the media
<http://www.about-face.org>

Young women with power and attitude
<http://www.hues.net>

Teens and Diets-No Weigh
<http://www.hugs.com>

The Center for Eating Disorders
<http://www.eating-disorders.com>

Girl Power!
<http://www.health.org/gpower/bodywise>



WHAT IS BODY IMAGE?

(Adopted from BodyTalk facilitators guide-Corresponds to 1st segment of videotape 'The Message')

Body image is the picture of your body that you hold in your mind.

Body image is made up of many events in your life including:

- How your family members react to your body
- How your body changes as you grow
- Any experience of physical or sexual abuse you may have had
- How your body feels
- How you feel about being a girl or boy
- Sports or movement classes in which you might participate
- Accidents and illnesses you may have had
- Your ethnicity and/or community
- Messages from media, such as television, magazines, and movies



WHO DEFINES BEAUTIFUL IN THIS CULTURE?

Think about the messages you receive about your body and the food you eat from the media, your family, your friends, and at school. How do those messages affect your body image?

Watch 30 minutes of television with a critical eye. Observe how overweight people are portrayed. What stereotypes are promoted?

Have you ever calculated the amount of money and time you've spent in the past week on fashion or fitness magazines, beauty products, and weight loss or weight gain products?

Time spent last week trying to change your body (hours)

\$ _____ Amount spent last week on fashion/fitness magazine

\$ _____ Amount spent last week on beauty products

\$ _____ Amount spent last week on weight loss or weight gain products

\$ _____ TOTAL amount of money spent last week

Figure out how much you would spend in one year to attempt to change your body.

\$ _____ Total amount per week X 52 weeks \$ _____ per year

_____ Time spent per week X 52 weeks = _____ hours per year

If you accepted yourself as you are and stopped buying products with the idea of changing yourself, how much money would you save, and what would you do with it? Consider what you could do with all the time you spent as well.

ASK YOURSELF

Adopted from BodyTalk facilitators guide.

Corresponds to 2nd segment of videotape 'What do We Do With the Message'

How have you used food or eating to cope with bad feelings?

What situations lead you to begin a diet?

How do you feel emotionally and physically when you are dieting?

How often do you eat when you are hungry, eat what your body wants, and stop when you are full?

Observe the messages about beauty directed at you in your environment. Does the idea that beauty comes in all sizes, shapes, and colors exist?

What factors might contribute to the fact that 9 out of 10 people with eating disorders are female?

BODY IMAGE AND EATING DISORDERS

Make a list of the comments you have made about your body — both in your head and out loud — since you woke up this morning. Are these thoughts and comments negative or positive? Identify the sources of any negative thoughts or comments.

Observe how many times in one day you criticize other people's appearances or bodies. How does this practice make you feel? How does it affect the people around you?

What would you be free to do if you accepted your body?

How would you feel if you really loved your body, even with all its "imperfections?"

What are you going to do to help yourself and others to feel good about your bodies?

THE IMPORTANT PEOPLE IN MY LIFE

How much do looks really matter? Answer the questions below about the important people in your life. Why are they important to you? Not because of the way they look, but because of the way they make you feel about yourself. We value other people because they care about us, not because they look like movie stars.

A friend who is always there for me _____

A teacher whose enthusiasm is contagious _____

A relative who shows me love _____

An adult who has reached out to help me _____

Someone who makes me laugh a lot _____

Someone I love very much _____

Someone I can tell my troubles to _____

Someone who makes me feel good about myself _____

Someone I am there for _____

Someone I wish felt better about him/herself _____

Someone I want to be like _____

PROMOTING SIZE ACCEPTANCE

(From Joanne Ikeda, Health at Every Size)



- Human beings come in a variety of sizes and shapes. We celebrate this diversity as a positive characteristic of the human race.
- There is no ideal body size, shape, or weight that every individual should strive to achieve.
- Every body is a good body, whatever its size or shape.
- Self-esteem and body image are strongly linked. Helping people feel good about their bodies and about who they are can help motivate and maintain healthy behaviors.
- Appearance stereotyping is inherently unfair to the individual because it is based on superficial factors over which the person has little or no control.
- We respect the bodies of others even though they might be quite different from our own.
- Each person is responsible for taking care of his/her body.
- Good health is not defined by body size; it is a state of physical, mental and social well-being.
- People of all sizes and shapes can reduce their risk of poor health by adopting a healthy lifestyle.

Weight Management

July 2000

Section 8

The Controversy Over Weight

The subject of weight is a complex and controversial public health issue for all individuals everyone agrees that an increasing percentage of the population — children, adolescents, and adults — is getting larger and heavier, and that, less active lifestyles play an important role. However, not everyone agrees on how to reverse this trend.

Some researchers and clinicians insist that the health risks for overweight and obese individuals are so great that the only way to decrease the risk is weight loss. Others point to study results indicating that overweight individuals can reduce their health risks by becoming physically fit using exercise and healthy food choices but not necessarily losing weight.

Weight management becomes even more complicated for adolescents because they are experiencing rapid growth and development that may be jeopardized by unsupervised caloric restrictions.

How Are “Over-Weight” and “Obesity” Defined?

Most people rely on a scale to determine if they are overweight. A more accurate method is the Body Mass Index (BMI), a clinical screening tool that uses weight in relation to height to determine an individual’s risk for being overweight or underweight. BMI can be calculated using the following formula:

$$\begin{aligned} & (\text{weight in pounds}) \\ & \div (\text{height in inches}) \\ & \div (\text{height in inches}) \\ & \times 703 = \text{BMI} \end{aligned}$$

For those who avoid mathematical computations, pre-calculated charts are available (see the BMI Charts in Appendix Four). If individuals know their height in inches and their weight in pounds, they can find their BMI.

While the BMI alone is an appropriate screening tool for adults — who have finished their growth cycle — such methods for assessing overweight or obesity can be misleading or inaccurate when used for adolescents. To determine an adolescent’s risk for overweight or obesity, BMI is plotted on charts that indicate

Inside this Section

- 1** The Controversy Over Weight
How Are “Overweight” and Obesity” Defined?
- 2** What Contributes to Adolescent Overweight/obesity?
What Are Adolescents Doing About Weight?
- 3** Consequences of Adolescent Dieting
Recommendations
- 4** Interventions/Referrals
Follow-Up
- 5** “To Diet or Not to Diet?” Information Sheet
- 6** “Why Diets Don’t Work” Information Sheet
- 7** “Eleven Ways to Keep a Healthy Weight” Information Sheet
- 9** “Teen, Sodas, and Weight” Information Sheet
- 10** “What Are My Snack Options? Part I” Activity Sheet
- 11** “What Are My Snack Options? Part II” Activity Sheet
- 12** “Action Plan for Weight Management” Activity sheet



What Are Adolescents Doing About Weight?

Adolescent, overweight or not, are at risk of using unhealthy weight-loss practices. Weight control methods used may include: very low-calorie and unbalanced diets, over-the-counter diet pills, diuretics, laxatives, and self-induced vomiting. Adolescents were recently surveyed about their weight loss practices.

Are You:	1997 Youth risk behavior Survey (YBRS) 9th to 12th Grade Students	
	Girls	Boys
Trying to lose weight?	61%	28%
Dieting to lost Weight?	47%	19%
Vomiting or using laxatives?	7%	3%
Using diet pills	8%	3%

percentile by age. These growth charts were revised by the National Center for Health Statistics and the Centers for Disease Control and Prevention; they were released for use in May 2000 and have been included later in this section.

Adolescents with BMIs greater than the 85th percentile for their age group are said to be “at risk for overweight,” those with BMIs greater than the 95th percentile are identified as “at risk for obesity.” However, like a simple weight measurement, the BMI does not identify what percentage of an individual’s body is fat.

Body fatness varies greatly within normal weight individuals (those who fall between the 5th and 85th percentile). It can range from approximately 12% to 30% of body weight as fat, depending upon how much exercise the individual does (Klish, W., 1999). The BMI also does not measure the percentage of weight due to bone

or muscle. Bigger, more muscular teens are not necessarily overweight, just as tall, slim teens are not necessarily under-weight.

What Contributes to Adolescent Overweight/Obesity?

Genetics

It has been known for a long time that fat parents make fat children, even if they are not living in the same home. Therefore, it should not be surprising that several different genes have been identified that affect appetite or metabolic rate.

These genes exist in various combinations in humans because they probably offer survival advantage. During periods of food availability, they increase the

efficiency of fat deposition so an individual can survive longer during periods of starvation (Klish, W., 1999).

Environment

- ◆ *Inactive lifestyle* (see Section 9: *Physical Activity* guideline)
- ◆ *Eating behaviors* and the easy availability of high calories and high fat foods (see Section 2: *Adolescent Nutrition/Screening for Risk* guideline)
- ◆ *Family dysfunction:* Adolescents may respond to uncomfortable emotions related to neglect or abuse with compulsive overeating or excessive inactivity (e.g., watching too much television)
- ◆ *Body image* (see Section 7: *Body Image and Disordered Eating* guideline)

Medical Problems

- ◆ *Asthma:* Adolescents may curb activity level to avoid asthma attacks.
- ◆ *Diabetes:* Insulin doses may be increased to hide binge eating.
- ◆ *Orthopedic problems:* These may be used as an excuse for inactivity



Consequences of Adolescent Dieting

Weight loss and dieting are big business in the United States. The weightloss industry (including diet books, diet fads, diet programs, and other weight loss gimmicks) generates more than \$40 billion in income per year. Adolescents are especially vulnerable to the marketing techniques of this industry. (See Section 7 : *Body Image and Disordered Eating* guidelines.) But at what cost to their health.

All adolescents who diet are at risk for compromised health and well-being. Low-calorie diets or fad diets that allow only a few types of foods can cause serious effects such as:

- | | |
|----------------------------|---------------------------------|
| permanently stunted growth | delayed sexual development |
| menstrual irregularities | weakness |
| fatigue | dizziness |
| depression | persistent irritability |
| constipation | poor concentration |
| sleep difficulties | bad breath, hair loss, dry skin |

In addition, dieting precedes the onset of most cases of eating disorders. (See Section 7: *Body Image and Disordered Eating* guideline.) And — diets don't work! Ninety-five percent of people who lose weight are unable to maintain these losses. (See handout "Why Diets Don't Work.")

- ◆ *Prescription drug side effects:* Some drugs affect weight by increasing appetite; others may have hormonal effects that cause weight gain.

Contraceptives (Rickert, 1996)
Sexually active adolescents should be aware of these potential side effects of hormonal contraceptives on weight.

Combination oral contraceptive pill (OCP):

- ◆ Nausea
- ◆ Fluid retention
- ◆ Weight gain, mostly due to fluid retention or hormonal effects

Progestin-only contraceptive pills, Norplant, depo-Provera (DMPA):

- ◆ Weight gain, mostly due to increased appetite

Adolescents with known weight-related medical problems should be receiving ongoing medical care and counseling. Refer to an appropriate health care provider if necessary

- ◆ Depression
- ◆ Mood Changes
- ◆ With depo-Provera, weight gain and depression are not relieved until the drug clears the body, which takes an average of 6 to 8 months after the last injection.

Recommendation

It is important that interventions for overweight adolescents do not encourage dieting or promote the achievement of thinness as the goal. Interventions should include modification of eating habits and increasing physical activity for the purpose of improving physical fitness and overall well-being.

Accomplishing these goals is a challenge: physical activity by adolescents tends to decrease with age, while consumption of fast foods and other high-calorie/low nutrient foods and beverages tends to increase, especially as teens begin to spend more time away from home. (For more information on adolescent eating behavior, see Section 2: *Adolescent Nutrition/Screening for Risk* Guideline.)

A family approach to changing eating and physical activity habits has been used successfully with younger children. This approach may not be as effective with adolescents, especially older ones who are both spending less time with their families and striving to be independent and, therefore, may resist parental influence.

Interventions/Referrals

For normal weight clients who consider themselves overweight, it may be helpful to use the BMI chart to reassure them that their weight is appropriate for their age and height. If they are not reassured, use Section 7: *Body Image and Disordered Eating* guideline for interventions and referrals.

For clients at risk for overweight (BMI > 85 percentile) or obesity (BMI >95 percentile), use the “Action plan for Weight Management” to help the client identify changes in eating behavior that will reduce caloric intake without jeopardizing nutrition. Use the “Eleven Ways to Keep a Healthy Weight” handout to discuss healthy eating habits with them. Use the handout on soda consumption to discuss how drinking soda can affect body weight. Fill and empty 20-oz plastic soda bottle with 1/3 cup of sugar to demonstrate soda’s high sugar content. Also see Section 9: Physical Activity guideline for interventions to increase physical activity.

For clients who insist on dieting, use the “Why Diets Don’t Work” and “To Diet or Not to Diet?” activity sheet to discourage low-calorie or fad diets. The “Promoting Size Acceptance” activity sheet from Section 7 *Body Image and Disordered Eating* guideline can be used to encourage fitness instead of thinness.

TEENS WITH BMIs ≥ 85 PERCENTILE WHO DESIRE WEIGHT LOSS SHOULD BE REFERRED TO A REGISTERED DIETITIAN OR MEDICAL CARE PROVIDER FOR NUTRITION ASSESSMENT AND TREATMENT.

CLIENTS SUSPECTED OF PRACTICING WEIGHT LOSS METHODS THAT MAY BE PLACING THEIR HEALTH AT RISK SHOULD REFERRED TO A REGISTERED DIETITIAN FOR NUTRITION ASSESSMENT AND COUNSELING.

To find a registered dietitian in your area, contact one of the following organization:

California Dietetic Association
7740 Manchester Avenue, #102
Playa del Rey, CA 90293-8499
310-822-0177
<http://www.dietitian.org>

American Dietetic Association
national Center for Nutrition & Dietetics
216 West Jackson Blvd., Suite 80
Chicago, IL 60606
800-877-1600; Consume Hotline: 800-366-1655
<http://www.eatright.org>

Follow-Up

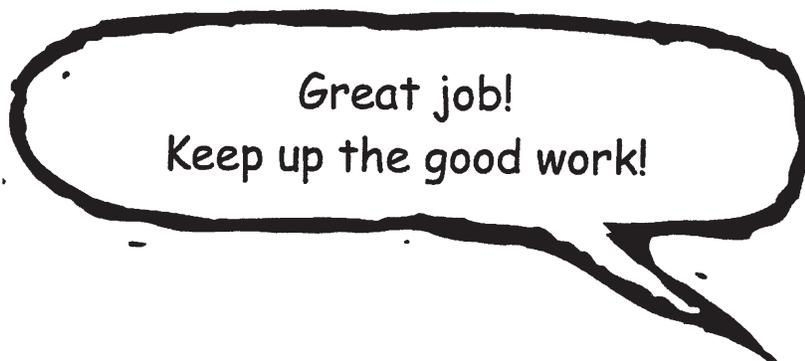
Review the client’s action plan for weight management to determine if she achieved her goal(s) for behavior change.

If the client did not make any changes...
... Explore what barriers prevented her from doing so and discuss possible strategies for removing the barriers.

If the client made changes but still falls short of her goal(s)...

...Revise the action plan with the client to change or add goals for behavior change

... If the client made positive behavior changes...
...Praise her and discuss strategies for maintaining the new behaviors.



To Diet or Not to Diet?

Low-calorie diets or fad diets that allow only a few types of foods can have the following effects to your body:

- ▲ permanently stunted growth
- ▲ delayed sexual development
- ▲ menstrual irregularities
- ▲ weakness
- ▲ fatigue
- ▲ dizziness
- ▲ depression
- ▲ persistent irritability
- ▲ constipation
- ▲ poor concentration
- ▲ sleep difficulties
- ▲ bad breath, hair loss,, and dry skin

Some fad diets - including the popular high-protein, low-carbohydrate diets (e.g., Dr. Atkins, Sugar-Busters, The Zone) - can give you headaches and bad breath and make you feel tired or nauseated.

Why Diets Don't Work

Adapted from: FOODPLAY 01995, 221 Pine Street, Northampton, MA 01060 (413) 585-8400

1. When you don't give your body the fuel it requires, it thinks you're starving. Going on very low-calorie diets or skipping meals will cause you to want to binge. This is NOT an eating disorder! It's your body's natural response to starvation.
2. When your body doesn't get the calories it needs, it slows down how fast it burns calories. So rather than helping you to lose weight, dieting actually makes it easier to gain weight.
3. If you don't give your body adequate fuel, it will eventually resort to using its own supplies. However, instead of burning only fat, it will also burn muscle tissue, which is the very thing you want to keep! Burning muscle tissue will make you feel tired, depressed, and without energy. In this state, you are certainly not interested in exercising, which is one of the best ways to keep your body in shape, strong, and healthy.
4. The more you diet, the harder it is to lose weight. Your body gets used to fewer calories and slows everything down. Rather than cutting back on the number of calories you take into your body (through food), the best way to lose weight is to increase the number of calories your body uses each day (through movement). The more active you are, the more energy you'll use up and the less there will be left over to be stored away as fat.

Eleven Ways to Keep a Healthy Weight

Adapted from: FOOPLAY C1995, 221 Pine Street, Northampton, MA 01060 (413) 585-8400

1. **Don't go on a very low-calorie diet — DIETS DON'T WORK!** When your body doesn't get the calories it needs, it slows down how fast it burns the calories it does get. So rather than helping you to lose weight, dieting actually makes it easier to gain weight.
2. **Try to eat a variety of foods from all groups in the Food Guide Pyramid.**
The more variety you have in your diet, the more you will be able to give your body what it needs: fuel for long-lasting energy and nutrients for growth, repair, and top performance.
3. **Try not to skip meals, especially breakfasts**
Fasting puts a lot of stress on your body and that's what you do when you skip meals, especially breakfast. Without adequate fuel for the morning's activities, most people soon feel tired and irritable — the opposite of energetic and when you're really hungry, you tend to eat more later, especially of the foods that are not the healthiest. Skipping meals always catches up with you later.
4. **Bring healthy foods along with you.**
Bring along a peanut butter and jelly sandwich, bagel and cheese, fruit and yogurt, pretzels, juice, or trail mix when you leave the house. Then you won't have to rely on whatever is most convenient — usually junk foods or fast foods that are filled with fat and extra calories.
5. **Make sure to eat a lot of fresh fruits and vegetables... at least 5 a day! Here are some ideas:**
 - ♥ Choose a 100% fruit juice - like orange juice - instead of soda
 - ♥ Grab a fruit or a salad as a snack
 - ♥ Eat cut-up, fresh vegetables like broccoli "trees" and carrot sticks with a yogurt dip for a TV snack
 - ♥ Microwave or bake a potato and add a dab of yogurt
 - ♥ Add lettuce and tomato to your sandwiches
 - ♥ Eat your vegetables at dinner time

6. Try to listen to your body signals.

Eat when you're hungry; stop eating when you're full. Try not to eat when your body really wants something else. Sleep when you're tired; exercise when you're lethargic (lack energy); breathe deeply when you're stressed; and get involved in fun activities if you're bored. Keep a list close by of all the things you've wanted to do or would do if only you had the time: clean out your jewelry case, sew your jeans, make a photo album, organize your tapes, write letters, paint, do an art project, learn a sport, and so on. Then check that list when you get bored,.

7. Be a fat finder. Choose foods by reading labels and choosing the lower fat choice.

You can eat four apples for the number of calories in a fast food apple pie, or have five cups of unbuttered popcorn for the same calories as in one serving of potato chips (15 chips).

8. Try not to mix eating with other activities, especially watching TV.

Often you wind up eating more without even being conscious of it. If you have to snack while watching TV, chew on lower-fat stuff like plain popcorn, pretzels, fruit salad, or fresh veggies with a yogurt dip.

9. Don't say never - especially to your favorite foods. Just enjoy them a little at a time.

The minute you deny yourself something you want to eat, you end up spending more time and energy thinking about wanting it. Finally, when you do go for it, you often end up eating more than you would have if you had just enjoyed a little of it in the first place. Moderation is always the best way to !go.

10. Have a great time moving your body.

Being active — whether in sports, dancing in your room, or taking a brisk walk — is the best way to feel good, look good, and give your body what it needs. Exercise is also a great stress reducer.

11. Finally, try to appreciate your body for all that it does for you... and discover your own unique beauty, inside and out!

Teens, Sodas, and Weight

Year	Amount of non-diet soda per day	
	Boys (12-19 yrs old)	Girls (12-19 yrs old)
1977-78	7 oz	6 oz
1987-88	12 oz	7 oz
1994-96	19 oz	12 oz

*Growing single -serving soda size
since the 1950s -*



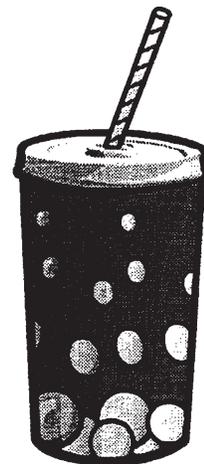
6½ ounces



12 ounces



20 ounces



64 ounces

How Can Soda Affect Your Weight?

One 12-oz can of soda = ~150 calories

One can of soda per day for one year = ~55,000 calories

It takes 3,500 calories to make 1 pound of body weight. Therefore, one 12-oz soda per day translates into **16 pounds** of extra body weight over one year!

One 20-oz bottle = 250 calories

One bottle of soda per day for one year = ~91,000 calories

= **26 pounds** of extra body weight

What Are My Snack Choices? Part I

Adapted from the U.S. DA yourSELF program

Every day, you make choices about what you eat. What snack options do you have? Assess your environment — at school, home, and any other place you usually eat. Write down what you find to snack on. As you do, list each option under its Food Guide Pyramid group.

	Bread Group	Veggies Group	Fruit Group	Milk Group	Meat Group	Fats, Oils Sweets	"Combo Foods"	
At School... School Cafeteria								
	Vending Machine							
	School Store							
	Other: _____							
At Home... Refrigerator								
	Freezer							
	Cabinet							
Other Places... Convenience Store								
	Fast Food							
	Other _____							

What Are My Snack Choices? Part II

Adapted from the USDA yourSELF program

Now that you know what your snack options are, these may - or may not - be all the food choices you need. This is your chance to put a plan in place to expand your food world and to get the food group snacks you want or need.

Consider Your Options. Of all the options you have now, what snacks would you choose today or tomorrow? Write down your choices and why they're best for you.

Choice	Why?

Plan for Change. What would be easy to change... What would be hard to change... What's impossible to change...

	At Home	At School	Other places
Easy			
Hard			
Impossible			

Find **Partners for change** who can help you...

At Home	At School	Other Places

Make a Difference: Share your plan of action with your family, friends, teachers, and others who can help you.

ACTION PLAN for WEIGHT MANAGEMENT

Name: _____ Date: _____

Check the boxes that describe what you are presently doing and what you plan to do:

	AM DOING	PLAN TO DO
I will make a snack change (from high-sugar/ high-fat snacks to low-sugar/low-fat snacks)	<input type="checkbox"/>	<input type="checkbox"/>
I will increase my fruit and vegetable servings by _____ per day.	<input type="checkbox"/>	<input type="checkbox"/>
Instead of skipping breakfast, I will try some new ideas for quick and easy morning meals. (Ask your case manager for recipes.)	<input type="checkbox"/>	<input type="checkbox"/>
I will reduce my soda consumption by _____ cans per day.	<input type="checkbox"/>	<input type="checkbox"/>
I will cut back on the time I spend watching television or playing video games by _____ hours per day.	<input type="checkbox"/>	<input type="checkbox"/>
When eating at my favorite fast food restaurant, I will use the Fast Food Survival Guide to make healthier choices.	<input type="checkbox"/>	<input type="checkbox"/>
Instead of eating fast food, I will plan a meal and prepare it at home. (For quick and fun recipes, ask your case manager about the recipe booklet).	<input type="checkbox"/>	<input type="checkbox"/>

My idea for weight management:

Signature: _____ Date: _____
(optional)

Physical Activity

July 2000

Section 9

What Is Physical Activity?

Physical activity is **any** body movement that increases energy expenditure above a resting state. Exercise is physical activity that includes planned, structured and repetitive body movement

Physical fitness is achieved by being physically active. Fitness is a measure of the ability to perform activities that require endurance, strength, and/or flexibility. Health related fitness includes cardiovascular fitness, muscular strength and endurance, body composition, and flexibility.

Regular physical activity combined with healthy eating habits is the most efficient and healthful way to achieve physical fitness.

Adolescent Physical Activity

Physical inactivity and poor diet are risk factors for many of the same health conditions: heart disease, obesity, diabetes, hypertension, and others. Promoting and supporting regular physical activity in the adolescent population will decrease the risk for these diseases and such mental health

problems as depression, anxiety, and low self-esteem.

Nearly half of all adolescents are not physically active on a regular basis. Female adolescents are much less physically active than male adolescents. The number of physically active adolescents decreases as they get older, with 12-year-olds being much more active than 17-year-olds.

The 1998 California Teen Eating, Exercise, and Nutrition Survey of teen dietary practices (CalTEENS), conducted by the State Department of Health Services, found that the main reason teens did not participate in physical activity was that they had no time (52%). This is especially true for parenting teens.



Inside this Section

- 1** What Is Physical Activity?
Adolescent Physical Activity
- 2** Recommendations
Additional Screening
Interventions/Referrals
Follow-Up
- 3** “How Active Am I?”
Activity Sheet
- 4** “Action Plan for Physical Activity”
Activity Sheet
- 5** “Tips for Increasing Physical Activity”
Information Sheet
- 6** “Benefits of Physical Activity”
Information Sheet

Recommendations

Physical activity experts recommend that all adolescents be physically active daily, or nearly every day. Adolescents should engage in at least 30-60 minutes of moderate to vigorous physical activity per day on most days of the week.

Physical activity can be performed in a continuous fashion or intermittently throughout the day. The Surgeon General's report on physical activity for adolescents stated that physical activity does not need to be strenuous to be beneficial.

For example, regularly participating in brisk walking for 30 minutes jogging for 15-20 minutes is enough to receive the benefits of exercise. Increasing the frequency, time, or intensity of physical activity can add even more health benefits - up to a point. **However, too much physical activity can lead to injuries and other health problems.**

Examples of moderate activity include:

- Walking 2 miles in 30 minutes
Running 1 1/2 miles in 15 minutes
- Bicycling 5 miles in 30 minutes
- Dancing fast for 30 minutes
- Jumping rope for 15 minutes
- Playing basketball for 15-20 minutes
- Playing volleyball for 45 minutes

Additional Screening

Use the "How Active Am I?" activity sheet to determine how much physical activity the client currently getting.

Interventions/ Referrals

Use the "Benefits of Physical Activity" activity sheet to discuss the benefits of moderate physical activity every day.

Use the "Action Plan for Physical Activity" activity sheet to assist the client in developing a plan for behavior change.

Use "Tips for Increasing Physical Activities" activity sheet to give client suggestions for possible activities.

Encourage the client to use the "Physical Activity Log" to track weekly physical activities. If safety is a concern, help the client think of alternative settings for physical activity.

Follow-Up

Review the client's action plan with her to determine if she achieved her goals for behavior change.

If the client did not make any changes...
...Explore what barriers prevented her from doing so and discuss possible strategies for removing the barriers.

If the client made changes but still falls short of recommended intake...
... Revise action plan with the client to change or add goals for behavior change.

If the client has made changes and achieved the recommended intake...
... Help the client develop a new action plan for maintaining the new behavior.



How Active Am I?

Activity	1-2 x month	1-2 x week	3-4 x week	Every day
Watching television				
Playing video games or using computer				
Reading books/magazines				
Going to the movies				
Talking on the telephone				
Taking a nap				
Walking				
Jogging				
Running				
Dancing				
Shooting hoops/playing basketball				
Throwing a Frisbee				
Skating				
Skateboarding				
Jumping rope				
Riding a bicycle				
Bowling				
Table tennis or pool				
Team sports (baseball, softball, soccer, football, volleyball)				
Horseback riding				
Swimming				
Washing/waxing car				
Light housework (washing dishes, cooking, laundry, dusting)				
Moderate housework (sweeping, vacuuming, mopping, painting)				
Heavy housework (washing floors, windows,walls)				
Light yardwork (weeding, watering)				
Moderate yardwork (mowing, raking)				
Heavy yardwork (digging, hoeing)				

Action Plan for Physical Activity

Name: _____ Date: _____

I plan to spend less time on activities that require little or no energy:

Current Activity (Example: watching T.V.)	Time Spent Now?	Goal for Decreasing Time

I plan to increase how often I do the following activities:

Current Activity	How often will I do it? (per week or day)

I plan to add the following activities:

New Activity	How often will I do it? (per week or day)



Tips for Increasing Physical Activity

- ◆ Choose activities that fit your schedule and personality.
- ◆ Plan activities for the time of day when you have more energy.
- ◆ Team up with a friend or friends so you can motivate each other.
- ◆ Use routine chores to get your heart pumping
— walk the dog, mow the lawn, vacuum.
- ◆ Take advantage of any opportunity to get up and move around:
 - Take a short walk around the block
 - Walk up the stairs instead of taking the elevator
 - Walk or ride a bike to school
- ◆ If you take care of younger children, don't just watch them play tag or kick ball, join them!
- ◆ All physical activity is beneficial - sports, planned exercise, household chores, even yard work.

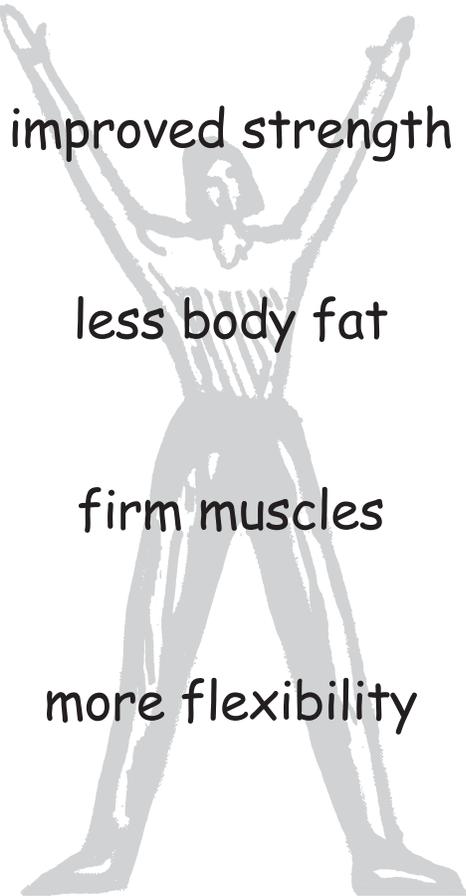


Physical activity doesn't require a fitness center or high intensity workouts. Small lifestyle changes that increase moderate-intensity physical activity are just as effective.

So Just get moving - every day, any time, anywhere!

Benefits of Physical Activity

more energy



improved strength

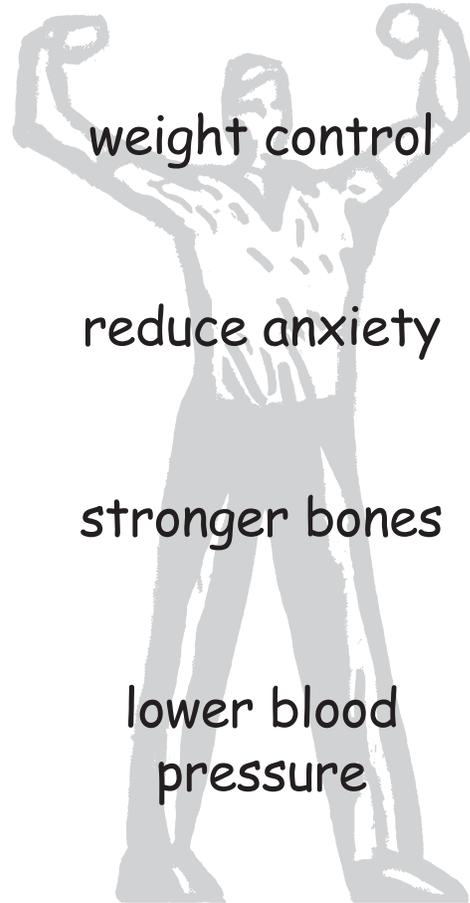
less body fat

firm muscles

more flexibility

reduced stress

look good



weight control

reduce anxiety

stronger bones

lower blood pressure

lower blood cholesterol

Vegetarian Teens

July 2000

Section 10

What Is a Vegetarian?

A vegetarian can be someone who only eliminates red meat from their diet, or it can be someone who avoids any foods of animal origin. More than 50% of those who consider themselves vegetarian do not eat meat or fish, but will consume dairy and egg products. Vegetarian eating plans can be very health-promoting and can provide all of the calories, protein, vitamins, and minerals required for growth. Vegetarian diets also have the potential to be deficient in many essential nutrients if foods containing these nutrients are eliminated without compensation with other foods.

Adequate caloric intake and a variety of foods are critical components to planning a healthy vegetarian diet. There are many ways to get a varied and balanced diet. A sound vegetarian eating plan includes fruits, vegetables, leafy greens, whole grains, legumes, nuts, seeds, and for some, dairy products, dairy product alternatives, and eggs. Vitamin and mineral supplements are recommended. Because the term vegetarian is so often used loosely, the nutritional and medical

consequences of the diet depend on what foods are actually eaten.

Teenagers are the fastest growing segment of our population trying vegetarian dietary patterns. Although there are many different types of vegetarians, it is important not to assume all vegetarian eating patterns support health.

Vegetarians — whatever the details of their diet — need to be aware of the foods they eliminate and the specific essential nutrients that may subsequently be missing from their diet. Vegetarian diets do not support health when the proper foods are not replaced for the foods omitted, and when fruits, vegetables, whole grains, and legumes (dried beans, peas, and lentils) are not consumed in adequate quantities.

It is possible to eat french fries, potato chips, and candy and technically be a “vegetarian,” but this type of diet does not support optimal health. With planning and education, any type of vegetarian diet can include all essential nutrients.



Inside this Section

- 1** What Is Vegetarian?
The Many Faces of Vegetarians
- 2** Why Teens Choose to Go Veggie
What Are the Nutritional Concerns for Vegetarian Adolescents?
Additional Screening
- 3** Interventions/Referrals
- 4** Follow-Up
“Vegetarian Food Guide” Information Sheet
- 5** “Tips for Vegetarians” Information Sheet
- 6** “Smart Choices” Information Sheet

The Many Faces of Vegetarians

There are many ways to live a vegetarian lifestyle. Some classic types of vegetarians are: (adapted from <http://www.oldwayspt.org>):

Lacto-Ovo-Vegetarian: A diet containing eggs and dairy products, but no meat, poultry, and fish.

Lacto-Vegetarian: A diet containing dairy products, but no meat, poultry, fish and eggs.

Pollo-Vegetarian: A diet containing eggs and dairy products, as well as poultry. Meat, fish, and seafood are not eaten.

Pesca-Vegetarian: A lacto-ovo vegetarian diet that adds fish and seafood.

Semi-Vegetarian: The least restrictive vegetarian diet, it is lacto-ovo vegetarian diet with the occasional use of meat, poultry, fish, and seafood.

Strict Vegetarian or Vegan: The most restrictive vegetarian diet, it contains no animal products: meat, fish, seafood, poultry, milk and other dairy products, or eggs. Vegans, who make up about 10% of the total vegetarian population, also avoid foods with animal products as ingredients. For example: beans made with lard (pork fat), baked goods made with butter or eggs, or margarine made with milk solids

Why Teens Choose to Go Veggie

There are many reasons why a teen might choose to eat a vegetarian diet. Some adolescents may be developing an interest in animal rights, while others have religious beliefs that support a vegetarian diet.

One impetus that health care professionals should be aware of is the use of vegetarian eating patterns as a method to restrict food consumption. There is no evidence to show that vegetarianism leads to disordered eating but it is possible that teens with eating disorders or disordered eating may be using vegetarianism to disguise their eating patterns. To learn more about disordered eating and eating disorders see Section 7: *Body Image and Disordered Eating* guideline.

What Are the Nutritional Concerns for Vegetarian Adolescents?

Vegan Diets

Adolescents who attempt to practice a vegan - strictly plant — based - diet are at greater risk for deficiencies of nutrients such as Vitamin B12, Vitamin D, calcium, iron, zinc, and some essential fatty acids. Low zinc intake is a concern because of its role in growth. *Referral to a registered dietitian is recommended.*

Energy

Vegetarian diets are usually lower in calories than omnivorous diets — those that include animal products — because they provide more fiber and less fat. Adolescents have greater needs for energy (calories) than adults, therefore

calorie- and nutrient-dense foods are an important component to any vegetarian diet.

Good sources of energy include dried beans and peas, nuts and nut butters, dried fruits, and whole grains and seeds (these also provide many vitamins and minerals). Added fats and dairy products (for those who use them) are also good sources.

Protein

Concerns about protein deficiencies in the vegetarian diet arise when no meat, poultry, fish, seafood, eggs, or dairy products are consumed. With careful planning, the protein needs of vegetarian teens may be met with consumption of a variety of plant foods. Plant foods such as legumes, nuts, seeds, grains, and some vegetables are rich in protein.

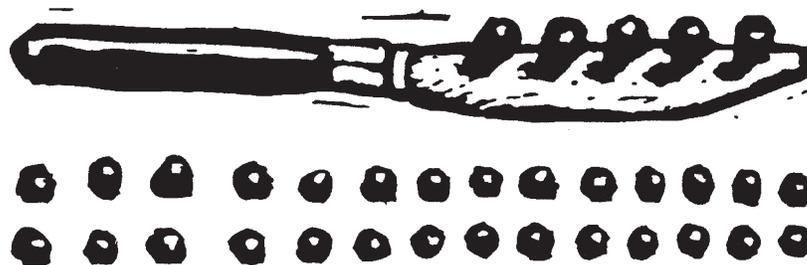
Concern for the protein adequacy of vegetarian diets focuses on the differences in amino acid com-

position between plant and animal proteins. Amino acids are the building blocks of proteins; some “essential” amino acids cannot be made by the body and must be obtained from food. All animal proteins contain the necessary types and amounts of essential amino acids, and thus are sometimes referred to as “complete proteins.” Plant proteins lack one or more essential amino acid — or do not contain them in the amounts needed — and so are sometimes referred to as “incomplete proteins.”

When animals — and humans — consume only a single plant protein, they will not grow adequately because they will not have sufficient quantities of all the essential amino acids. An appropriate combination of plant foods can, however, produce normal growth because the amino acid deficiencies of one plant can be corrected by another. These two-plant combinations are called “complimentary” protein foods.

The most common complimentary protein pairs are grains and beans or grains and legumes. Classic examples of complimentary meals are rice and beans or lentils, tortillas and beans, black-eyed peas and cornbread, bean or pea soup with whole grain bread, and peanut butter sandwiches.

Although at one time it was thought that complimentary protein foods needed to be eaten at the



same meal, recent research has shown that complimentary protein eaten in the same day can support normal growth.

Nonmeat sources of complete protein include eggs, milk, cheese, yogurt, and soy products. Vegans must eat more legumes or nuts, combined with whole grains and soy products, as substitutes for the protein other vegetarians get from eggs, milk, and other dairy products.

Calcium and Vitamin D

It takes more planning for vegans to get adequate calcium from their diet. Vegetarians who avoid milk and other dairy products should supplement their diet with a calcium-fortified milk alternate that is low-fat, and fortified with Vitamin D.

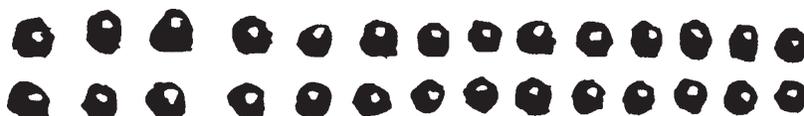
Some nondairy sources of calcium include tofu processed with calcium, calcium-fortified soy beverages, broccoli, sunflower seeds, nuts, legumes, calcium fortified orange juice, and fortified breakfast cereal. See Section 3 *Calcium* guideline for more information on dairy and nondairy sources of calcium.

Vitamin D is not a problem for vegetarians who drink milk and for those who get sunshine exposure on a regular basis (sunbathing is not necessary; about 15 minutes of minimal hand, arm and face exposure without clothing or sunscreen is adequate). What should vegans do when the sun is not visible? They should eat foods are fortified with Vitamin D such as breakfast cereals and soy beverages, or take a supplement that contains no more than 100% of the Recommended Diet Allowance (RDA). Larger doses of Vitamin D can be dangerous.

Iron

Most studies show that vegetarian teens have higher intakes of iron than omnivorous teens, but regardless of dietary choice, iron intake is a concern for all teens. Vegetarian adolescents should be encouraged to include iron-rich plant foods at every meal (see Section 4: *Iron* guideline). Plant foods contain iron, but it is not absorbed as well as the iron from animal sources.

There are ways to improve the absorption of the iron in plant foods (such as legumes, whole-wheat breads, tofu, spinach). One way is to include Vitamin C-foods (citrus fruits or juices, broccoli, tomatoes, for example) at every meal. Semi-vegetarians who eat



Additional Screening

Adapted from ADA Complete Food and Nutrition Guide, 1998

Use the following questions to determine if a client is following a vegetarian diet.

- ◆ Do you eat beef, chicken, fish or seafood every day?
- ◆ Do you avoid any of the following foods?
Milk or dairy, eggs, beef, chicken, fish or seafood

Once vegetarianism has been established, use the following questions to determine whether she needs education on how to follow a healthy vegetarian lifestyle.

Do you eat...

1. Whole-wheat bread, nuts, vegetables, and fruits every day?
2. Bread, rice, pasta and other grain products each day?
3. Vegetables daily?
4. Fruit every day?
5. Beans and other meat alternatives each day?
6. Do you have a difficult time maintaining a healthy weight?

(Vegans or those who do not eat any foods of animal origin can skip to #10)

7. Milk, yogurt, or cheese daily?
8. Eggs occasionally?
9. Foods of plant origin that are high in calcium? (See Section 3: Calcium guideline for nondairy calcium foods.)
10. Foods that are fortified with Vitamins B12 and D (or take a supplement that provides no more than 100% of the RDA for B12 and D)?

If the client answers “no” to any item, she may be at risk for a nutritional deficiency. Check the “Vegetarian Food Guide” for suggestions on how to improve her diet.

small amounts of meat, poultry, or fish are getting a great source of iron that the body can readily use.

Zinc

More than two-thirds of the zinc the American diet comes from animal sources. Vegetarians who include milk, cheese, yogurt, or eggs in their diet get enough zinc.

Vegans can get zinc by eating legumes, tofu, seeds, nuts, and the germ and bran of whole grains. Be aware that these plant sources of

zinc also contain substances (phytates and fiber) that make it difficult for the body to absorb the zinc contained in them.

A multi-vitamin/mineral supplement may be a good way for vegans to get adequate zinc. Such supplements should only contain 100% or less of the Recommended Dietary Allowance (RDA) of zinc; higher doses can have harmful side effects (adapted from the ADA Food and Nutrition Guide, 1998).

Vitamins B12

A Vitamin B12 deficiency may occur with vegetarian diets that omit all animal products. Deficiency of this vitamin can cause neurological problems that may be irreversible, especially in infants or young children. Vegetarian adolescents who eat no animal products must include food products fortified with Vitamin B12 or take a vitamin supplement that includes it.

Vegans should look for cereals, soymilk products, or vegetarian burger patties that are fortified with B12. Vegan products such as seaweed, algae, spirulina, and fermented plant foods such as tempeh and miso are not good sources of B12 because it is in a form that cannot be used by the human body.



Interventions/Referral

Use the additional screening questions to identify if the client is following a vegetarian diet.

Use “Vegetarian Food Guide” activity sheet to educate client on healthy eating pattern for vegetarian diet.

Use the “Tips for Vegetarians” activity sheet to give the clients suggestions for how to have a healthy vegetarian diet.

Use “Smart Choices: activity sheet with clients to instruct them on how to replace nutrients in their diet that may be missing due to food group elimination.

Adolescents who do not substitute particular foods with the foods they eliminate are at risk for nutrient deficiencies. If you suspect that the client’s diet is inadequate, refer them to a health care professional such as a registered dietitian.

Refer adolescents who follow a **vegan** diet to a registered dietitian to assess the adequacy heir diet to a registered dietitian to assess the adequacy of their diet

Follow-Up

Review the completed “Smart Choices” activity sheet with the client. Ask her to fill out a new sheet and indicate the changes she has made since the nutrition intervention.

If the client did not make any changes...
 ... Explore what barriers prevented them from doing so and discuss possible strategies for removing the barriers.

If the client made changes but still falls short of recommended intake...

... Revise action plan with the client to change or add goals for behavior change.

If the client has made changes achieved the recommended intake...

...Help the client develop a new action plan for maintaining the new behavior.



Vegetarian Food Guide

Food Group	Servings	Serving Size	Nutrition-Tip
Legumes, eggs, egg substitute, soy-based meat substitutes, and nuts/seeds	6-9	<ul style="list-style-type: none"> ■ 1/2 cup cooked dry beans, peas, or lentils ■ 3 ounces soy-based meat substitute ■ 1/4 cup tofu or tempeh ■ 1 egg, 2 egg whites, or 1/4 cup egg substitute 	Select tofu set with calcium sulfate for a calcium bonus: a 1/2-cup serving can have as much as calcium as 1 cup of milk
Milk or milk Substitute	4	<ul style="list-style-type: none"> ■ 1 cup milk or yogurt ■ 1 cup calcium- and Vitamin D-fortified soy milk or soy yogurt ■ 1 1/2 ounces cheese or soy cheese 	Protect your bones: Calcium-fortified juices, cereals, tofu with calcium sulfate, and calcium-rich plant foods like collard greens can also help meet calcium needs.
Grains	8-11	<ul style="list-style-type: none"> ■ 1 slice bread ■ 1/2 cup pasta or rice ■ 1 ounce (-1/2 cup) ready-to-eat cereal 	Check the label: Look for 100% whole breads and fortified cereals. Whole grains provide fiber, vitamins, minerals, and protein.
Vegetables	4-5	<ul style="list-style-type: none"> ■ 3/4 cup juice ■ 1 cup raw leafy greens ■ 1/2 cup chopped cooked vegetables 	Eat plenty of nutrient-rich, dark green, deep red, and yellow-orange vegetables. Vegetables provide fiber, vitamins, and minerals
Fruits	3-4	<ul style="list-style-type: none"> ■ 3/4 cup juice ■ 1/4 cup dried fruit ■ 1/2 cup fresh or canned ■ medium-size piece 	Vitamin C-rich foods like strawberries and orange juice boosts iron absorption from legumes and iron-fortified cereals.
Fats	4-5	<ul style="list-style-type: none"> ■ 1 teaspoon olive oil, vegetable oil, margarine, or butter ■ 1 tablespoon of salad dressing or mayonnaise 	Margarine or butter? It is okay to eat either if you do so in moderation. If you like margarine, try to purchase the brands that contain less trans-fatty acids (look on the label).

TIPS FOR VEGETARIANS

(Adopted from ADAs Complete Food and Nutrition Guide)

Be sure you eat enough calories!

- ❖ Many vegetarian meals are low in fat and high in fiber, so you may fill up before you get enough calories to support growth and proper brain function,
- ❖ Include foods like nuts, peanut butter, and cheese to be sure you are getting what your body needs to be its best.

Make grain dishes the centerpiece of your menu!

- ❖ Add interest to vegetarian meals with a greater variety of breads including focaccia, bagels, tortillas, pita bread, chapatis, and naan.
- ❖ Choose fortified breakfast cereals for added nutrients such as iron, folate, Vitamin B12, and zinc.

Eat those veggies!

- ❖ Aim for at least four servings of vegetables each day.
- ❖ Plan meals with several different vegetables.
- ❖ Choose vegetables that are good sources of calcium: dark green leafy veggies (kale, mustard, collard, or turnip greens), bok choy, and broccoli. These foods also supply iron.
- ❖ Choose vegetables that are high in Vitamin C: broccoli, tomatoes, and green pepper.
- ❖ Include two to three servings of legumes and other meat alternatives every day.

Add fruit to your life!

- ❖ Include at least three servings of fruit each day.
- ❖ Fruits high in Vitamin C include citrus fruits, melons, and berries.
- ❖ To get enough fruit in your diet, serve it for dessert and snacks.
- ❖ Look for calcium-fortified juices.

Include more soy products in your meal planning!

- ❖ Soy milk can be a good substitute for cow's milk, but be sure to check the Nutrition Facts on the food label - some brands are fortified with calcium, but not all.
- ❖ Experiment with soybean products such as tofu, tempeh, textured soy protein, and soy milk in your meal planning.
- ❖ For lacto-vegetarians (if you eat dairy but no other animal products), be sure to include two to four servings of milk, yogurt, or cheese every day.



SMART CHOICES

Identify the foods you don't eat in the "If I don't eat this..." column and circle the foods you can use to replace them from the "I can choose this..." column. Use this handout as an action plan for change.

If I don't eat this...

I can choose this...

Meat, fish, or chicken
(lacto-ovo vegetarians)

Milk, dairy foods, eggs or eggs substitutes, beans, lentils, peas, fortified soy beverages, whole and fortified grains, a wide variety of fruits and veggies

Meat, fish, chicken, milk, dairy foods, eggs (vegans or strict vegetarians)

Beans, lentils, peas, whole and fortified grains, fortified soy beverages, tofu with calcium, dark green leafy vegetables, and a wide variety of fruits and veggies

Meat, chicken, eggs, milk, dairy foods

Beans, lentils, peas, fortified soy beverages, whole and fortified grains, dark green leafy veggies, and a wide variety of fruits and veggies

Chicken, milk, dairy foods

Beans, lentils, peas, fortified soy beverages, fish, other meats, whole and fortified grains, eggs or egg substitutes, dark-green veggie, and a wide variety of fruits and veggies

Meat, chicken, or fish occasionally
(semi-vegetarians)

Beans, lentils, peas, a wide variety of fruits and veggies, milk, dairy foods, eggs, whole and fortified grains, tofu with calcium. On days when red meat is not eaten, choose chicken or fish

Meat, chicken
(pesca-vegetarian)

Milk, dairy foods, eggs, fish, seafood, whole and fortified grains, and a wide variety of fruits and vegetables

Milk, dairy foods

Fortified soy beverage, dark-green vegetables, tofu with calcium, whole and fortified grains, eggs, fish, meat, chicken, and a wide variety of fruits and vegetables

Bibliography

- Abnormalities in Weight Status, Eating Attitudes, and Eating Behaviors Among Urban High School Students. Correlations with Self-Esteem and anxiety.* Physical Activity and Health: A Report of the Surgeon General. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 1996.
- Adams, L.B., Shafer, M.B. Early manifestations of eating disorders in adolescents: Defining those at risk. *J Nutr Ed* 1988; 20: 307-313.
- Alpers, R. The importance of the health education program environment of pregnant and parenting teens. *Public Health Nursing* 1998; 15: 91-103.
- Anderson, R.E., Crespo, C., Bartlett, S., Cheskin, L., Pratt, M. Relationship of physical activity and television watching with body weight and level of fatness among children. *J Am Med Assoc* 1998; 279: 938-942.
- Beard, J. Iron deficiency; assessment during pregnancy, and its importance in pregnant adolescents. *Am J Clin Nutr* 1994; 59: 502s-510s.
- Bedinghaus, J., Doughten, S. Childhood nutrition: From breastmilk to burgers. *Primary Care* 1994; 21 655-671.
- Berg, F.M. *Afraid to Eat.- Children and Teens in Weight Crisis.* Hettinger: Healthy Weight Publishing Network, 1997.
- Bergstrom, E., Hernell O., Bonnerdal, B., Persson, L.A. Sex differences in iron stores of adolescents: What is normal. *J Ped GastroenterNutr* 1995; 20: 215-224.
- Breslow, R-A., Subar, A.F., Patterson, B.H., Block, G. Trends in food intake the 1987 and 1992 National Health Interview Surveys. *Nutr Cancer* 1997; 28, 86-92.
- Burke, B., Daniel, K.L., Latimer, A., Mersereau, P., Moran, K., Mulinare, J., Prue, C., Steen, J., Watkins, M. *Preventing Neural Tube Birth Defects: A Prevention Model and Resource Guide.* U.S. Department of Health and Human Services, Centers for Disease Control (booklet); 1998.
- CanFIT Recipes for Success: Nutrition and Physical Activity Programs for Youth. California Adolescent Nutrition and Fitness Program Manual, 1998.
- Cash, T.F., Pruzinsky, T. *Body Images: Development, Deviance, and Change.* Guilford Press, 1990.
- Centers for Disease Control Guidelines for School and Community Programs to Promote Lifelong Physical Activity Among Young People.* U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion. 1997 (handout).
- Clarkson, P.M., Haymes, E.M. Exercise and mineral status of athletes: Calcium-4 magnesium-4 phosphorous, and iron. *Med Science Sports Exerc* 1995; 27, 831-843.
- Dairy Council of California. *Exercise Your Options A Food Choice and Activity Program Middle School Students,* 1995 (booklet).
- Duyff, R.L. The American Dietetics Association's Complete Food and Nutrition Guide. Minneapolis: Chronimed Publishing, 1998.
- Feunekes, G., de Graaf, C., Meyboom, S., van Staveren, W.A. Food choice and fat intake of adolescents and adults: Associations of intakes within social networks. *Prev Med* 1998; 27; 645-656.



BIBLIOGRAPHY

- French, A.S., Story, M., Hannan, P., Breitiow, K., Jeffery, R., Baxter, J.S., Snyder, M.P. Cognitive and demographic correlates of low-fat vending snack choices among adolescents and adults. *J Am Dietetic Assoc.* 1999; 99:471-475.
- Goulding, A., Cannan, R., Williams, S.M., Gold, E.J., Taylor, R.W., Lewis Bamed, N.J. Bone mineral density in girls with forearm fractures. *J Bone Min Res* 1998; 13: 143-148.
- Gregson, J., Foerster, S.B., Wu, S., Davis, B. CalTEENS, The 1998 California Teen Eating, Exercise, and Nutrition Survey: Prevalence of Dietary Practices, Am Public Health Assoc Annual Meeting, 1998.
- Guillen, E .O., Barr, S. I. Nutrition, dieting and fitness messages in a magazine for adolescent women, 1970-1990. *J Adolesc Health* 1994; 15:464-472.
- Hahn, N.I. When food becomes a cry for help: How dietitians can combat childhood eating disorders. *J Am Dietetic Assoc* 1998; 98: 395-398.
- Healthy California 2000: Physical Activity & Fitness Objectives 1995 Update. Governor's Council on Physical Fitness and Sports State of California Health and Welfare Agency.
- Hubbard, K. O'Neill, A., Cheakalos, C. Out of control. *People Weekly* 1999; 51 (13): 52-69.
- Ikeda, J., Hayes, D., Satter, E., Parham E., Kratina, D., Woolsey, M., Lowey, M., Tribitole, E. A Commentary on the new obesity guidelines from NIH. *J Am Dietetics Assoc* 1999; 99, 918-919.
- Ikeda J. *Health at Every Size, A Size Acceptance Approach to Health Promotion* (not published).
- Keizer, S.E., Gibson, R.S., O'Connor, D.L. Postpartum folic acid supplementation of adolescents: Impact on maternal folate and zinc Status and milk composition. *Am J Clin Nutr* 1995; 62,377-384.
- Kohl, H.W., Hobbs, K.E. Development of physical activity behaviors among children and adolescents. *Pediatrics* 1998; 101: 549-554.
- Krebs-Smith, S.M., Cook, A., Subar, A.F., Cleveland, L., Friday, J., Kahle, L.L. Fruit and vegetable intakes of children and adolescents in the U. S. *Arch Pediatric Adolesc Med* 1996; 150, 81-86.
- Leshan, L., Gottlieb, M., Mark, D. Anemia is prevalent in an urban, African-American adolescent population. *Arch Fam Med* 1995; 4: 433-437.
- Levenberg, P.B., Elster, A.B. *Guidelines for Adokscent Preventive Services (GAPS): Clinical Evaluation and Management Handbook*. Chicago: American Medical Association, 1995.
- Levine, E., Guthrie, J.F. Nutrient intakes and eating patterns of teenagers. *Fam Econ Nutr Rev* 1997; 1 0: 20-35.
- Levine, J., Bine, L. *Helping Your Child Lose Weight the Healthy Way, A Family Approach to Weight control*. New York: Birch Lane Press, 1996.
- Lifsnitz, F., Omer, L., Smith, M.M. Nutrition in adolescence. *Adoles Endocrin.* 1993; 22: 673-683.
- Loma Linda University: *Vegetarian Nutrition and Health Letter*. June/July, 1999.

- Lloyd, T., Chinchilli, V.M., Rollings, N., Kicselhorst, K., Tregea, D.F., Henderson, N.A., Sinoway, L.I. Fruit consumption, fitness, and cardiovascular health in female adolescents: The Penn State Young Women's Health Study. *Am J Clin Nutr* 1998; 67: 624-30.
- Medicine and Science In Sports & Exercise*. 1997; 2 9.
- Middlemem, A., Vazquez, I, Durant, R.H.. Eating patterns, physical activity, and attempts to change weight among adolescents. *J Adolest Health* 1998; 22:37-42..
- Morbidity and Mortality Weekly Report. Recommendations to Prevent and Control Iron Deficiency in the United States. 1998; 47: 1-28
- Mussell, M.P., Mitchell, J.E., Weller, C.L., Raymond, N.C., Crow, S.J., Crosby, R.D. Onset of binge eating, dieting, obesity, and mood disorders among subjects seeking treatment for binge eating disorder. *InterJ Eating Disord* 1995; 17: 395-401.
- Myers, L., Strickmiller, P. K., Webber, L. S., Berenson, G. Physical and sedentary activity in school children grades 5 - 8: The Bogalusa Heart Study. *Med Sci Sports Exerc* 1996; 28: 852-859.
- Nelson, M. Anaemia in adolescent girls: Effects on cognitive function and activity. *Proc Nutr Soc*. 1996; 55: 359-367.
- Neumark-Sztainer, D. School based programs for preventing eating disturbances. *J Sch Health*. 1996; 66: 64-71.
- Neumark-Sztainer, D., Story, M., Resnick, M., Blum, R.W. Correlates of inadequate fruit and vegetable consumption among adolescents. *Prev Med* 1996; 25: 497-505.
- Position of the American Dietetic Association: nutrition intervention in the treatment of anorexia nervosa, bulimia nervosa, and binge eating. *J Am Dietetic Assoc* 1994; 94: 902-907.
- Rees, J.M. Eating disorders in adolescents: A model for broadening our perspective. *J Am Dietetic Assoc* 1996; 96: 22-23.
- Rickert, V. *Adolescent Nutrition: Assessment and Management*. New York: Chapman & Hall 1996.
- Rippe, J.M., Hess, S. The role of physical activity in the prevention and management of obesity. *J Am Dietetic Assoc* 1998; 98: 531-538.
- Rockett H, Colditz G. Assessing dieting of children and adolescents. *Am J Clin Nutr* 1997; 65: 1116S-1 122S.
- Shafer, M.A. *Hidden Epidemic Seminar*. Children's Hospital; Oakland, California 1999.
- Skiba, A., Loghmani, E., Orr, D. Nutritional screening and guidance for adolescents. *Adolesc Health Update, Clin Guide Ped* 1997; 9, 1-8.
- Story, M., Holt, K., Sofka, D. *Bright Futures in Practice: Nutrition*. Arlington: National Center for Education in Maternal and Child Health, 2000.
- Story, M., Neumark-Sztainer, D., Sherwood, N., Stang, J., Murray, D. Dieting status and its relationship to eating and physical activity behaviors in a representative sample of U.S. adolescents. *J Am Dietetic Assoc* 1998; 98: 1127-1135.
- Troiano, R.P., Flegal, K.M. Overweight children and adolescents: Description, epidemiology, and demographics. *Pediatrics* 1998; 101: 497-504.

BIBLIOGRAPHY

U.S. Department of Agriculture: *What's in a Meal* (Third Edition). Chicago: National Food Service Institute, 1999.

Vegetarian Nutrition, A Dietetic Practice Group of the American Dietetic Association (info sheet). Vegetarian Teens, 1996. .

Viteri, F. Iron supplementation for the control of iron deficiency in populations at risk. *Nutr Rev* 1997; 55: 195-209

Wahl, R. Nutrition in the adolescent. *Pediatric Annals* 1999; 28:2, 107-111.

Yen I H., Kaplan G A. Poverty area residence and changes in physical activity level: Evidence from the Alameda county Study. *Am J Public Health*. 1998; 88: 1709-1712.

Ziegler, E.E., Filer, L.J. *Present Knowledge in Nutrition*. Washington D. C: ICSI Press, 1996.

Video

Bodytalk- Teens Talk About Their Bodies, Eating Disorders, and Activism. The Body Positive. Berkeley, CA. 1999.

Websites

Center for Eating Disorders: <http://www.eating-disorders.com>

Eating Disorders Awareness and Prevention, Inc.: <http://www.edap.org/>

Eating Disorders Shared Awareness: <http://www.something-fishy.org>

Endocrine Society: <http://www.endo-society.org/>

Girl Power! <http://www.health.org/gpoweribodywise>

Healthy People 2010: [http://www.health.gov/healthy people/](http://www.health.gov/healthy%20people/)

International Food Information Council: <http://www.ificinfo.health.org>

Laureate :Psychiatric Clinic and Hospital, Tulsa, OK: <http://www.laureate.com>

Mayo Clinic Health Oasis: <http://www.mayohealth.org>

Old Ways Preservation Trust: <http://www.oldwayspsptorg>

Teens and Diets “No Weigh”: <http://www.hugs.com>

Youth Risk Behavior Surveillance - United States, 1997:
<http://www.cdc.gov/nccdphp/dash/mmrWFile>

Food Guide Pyramid

A Guide to Daily Food Choices

Fats, Oils, & Sweets
USE SPARINGLY

KEY

◻ Fat (naturally occurring and added)

◼ Sugars (added)

These symbols show that fat and added sugars come mostly from fats, oils, and sweets, but can be part of or added to foods from the other food groups as well.

Milk, Yogurt, & Cheese Group
2-3 SERVINGS

Meat, Poultry, Fish, Dry Beans, Eggs, & Nuts Group
2-3 SERVINGS

Vegetable Group
3-5 SERVINGS

Fruit Group
2-4 SERVINGS

Bread, Cereal, Rice, & Pasta Group
6-11 SERVINGS

Use the Food Guide Pyramid to help you eat better every day... the Dietary Guidelines way. Start with plenty of Breads, Cereals, Rice, and Pasta; Vegetables; and Fruits. Add two to three servings from the Milk group and two to three servings from the Meat group.

Each of these food groups provides some, but not all of the nutrients you need. No one food group is more important than another — for good health you need them all. Go easy on fats, oils, and sweets, the foods in the small tip of the Pyramid.

To order a copy of "The Food Guide Pyramid" booklet, send a \$1.00 check or money order made out to the Superintendent of Documents to: Consumer Information Center, Department 159-Y, Pueblo, Colorado 81009.

U.S. Department of Agriculture, Human Nutrition Information Service, August 1992, Leaflet No. 572

How to Use The Daily Food Guide

What counts as one serving?

Breads, Cereals, Rice, and Pasta

- 1 slice of bread
- 1/2 cup of cooked rice or pasta
- 1/2 cup of cooked cereal
- 1 ounce of ready-to-eat cereal

Vegetables

- 1/2 cup of chopped raw or cooked vegetables
- 1 cup of leafy raw vegetables

Fruits

- 1 piece of fruit or melon wedge
- 3/4 cup of juice
- 1/2 cup of canned fruit
- 1/4 cup of dried fruit

Milk, Yogurt, and Cheese

- 1 cup of milk or yogurt
- 1-1/2 to 2 ounces of cheese

Meat, Poultry, Fish, Dry Beans, Eggs, and Nuts

- 2-1/2 to 3 ounces of cooked lean meat, poultry, or fish
- Count 1/2 cup of cooked beans, or 1 egg, or 2 tablespoons of peanut butter as 1 ounce of lean meat (about 1/3 serving)

Fats, Oils, and Sweets

LIMIT CALORIES FROM THESE especially if you need to lose weight

The amount you eat may be more than one serving. For example, a dinner portion of spaghetti would count as two or three servings of pasta.

How many servings do you need each day?

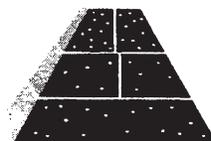
	Women & some older adults	Children, teen girls, active women, most men	Teen boys & active men
Calorie level*	about 1,600	about 2,200	about 2,800
Bread group	6	9	11
Vegetable group	3	4	5
Fruit group	2	3	4
Milk group	**2-3	**2-3	**2-3
Meat group	2, for a total of 5 ounces	2, for a total of 6 ounces	3 for a total of 7 ounces

*These are the calorie levels if you choose lowfat, lean foods from the 5 major food groups and use foods from the fats, oils, and sweets group sparingly.

**Women who are pregnant or breastfeeding, teenagers, and young adults to age 24 need 3 servings.

A Closer Look at Fat and Added Sugars

The small tip of the Pyramid shows fats, oils, and sweets. These are foods such as salad dressings, cream, butter, margarine, sugars, soft drinks, candies and sweet desserts. Alcoholic beverages are also part of this group. These foods provide calories but few vitamins and minerals. Most people should go easy on foods from this group.



Some fat or sugar symbols are shown in the other food groups. That's to remind you that some foods in these groups can also be high in fat and added sugars, such as cheese or ice cream from the milk group, or french fries from the vegetable group. When choosing foods for a healthful diet, consider the fat and added sugars in your choices from all the food groups, not just fats oils, and sweets from the Pyramid tip.

Strategies for Health Professionals to Promote Healthy Eating Habits

Appendix Three

Modified from: Story M, Holt K, Sofka D.

Communication Factors

<i>Strategies</i>	<i>Applications/Questions</i>
Promote positive, nonjudgmental strategies to help the adolescent adopt healthy eating behaviors.	Reinforce positive aspects of the adolescent's eating behaviors.
Encourage the adolescent's active participation in changing eating behaviors.	Help the 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 adolescent feel good and energized.
Understand and respect the adolescent's cultural eating behaviors.	Help the adolescent integrate dietary recommendations with cultural eating behaviors.
Use simple terminology.	Avoid using the term "diet" with the adolescent because it tends to be associated with weight loss and may be confusing.

Environmental Factors

Strategies

Provide a setting oriented to adolescents.

Communicate developmentally appropriate health messages.

Encourage health professionals and staff to become role models for healthy eating behaviors.

Applications/Questions

Use posters and materials written for adolescents.

Use posters and materials that highlight the importance of healthy eating behaviors.

Have health professionals and staff model healthy eating behaviors (e.g., by keeping a bowl of fruit at the front desk).

Readiness to Change

Strategies

Identify the adolescent's stage of behavior change and readiness to change based on the Stages of Change model (Appendix 2).

Facilitate behavior change with counseling strategies tailored to the adolescent based on the Stages of Change model (Appendix 2).

Applications/Questions

“Are you interested in changing your eating behaviors?”

“Are you thinking about changing your eating behaviors?”

“Are you ready to change your eating behaviors?”

“Are you in the process of changing your eating behaviors?”

“Are you trying to maintain changes in your eating behaviors?”

Provide a supportive environment, basic information, and assessment.

Prioritize behaviors to be changed, set goals, and identify barriers to change.

Develop a plan that incorporates incremental steps for making changes, support, and reinforcement.

Action Plans

Strategies

Applications/Questions

Provide counseling for the adolescent who is in the stages of behavior change or who is unwilling to change.

Increase the adolescent's awareness and knowledge of early behaviors.

Encourage the adolescent to make behavior changes if necessary.

Provide task-oriented counseling for the adolescent who is ready to change eating behaviors.

Encourage a few small, concrete changes first, and build those.

Support and follow up with the adolescent who has change behavior.

Identify and prioritize behavior changes to be made.

Suggest changes that will have a measurable impact on the adolescent's most serious nutrition issues.

Set realistic, achievable goals that are supported by the adolescent's family and peers.

"What behavior will you change?" "What goal is realistic right now?"

"How and when will you change the behavior and who will help you?"

Identify and address barriers to behavior change; help reduce barriers when possible.

"What will make it hard for you to make change?"

"Money, friend, or family?"

"How can you get around this?"

Make sure that the behavior changes are compatible with the adolescent's lifestyle.

Don't force the adolescent to conform to rigid eating behaviors. Keep in mind current behaviors and realistic goals.

Establish incremental steps to help the adolescent eating behaviors.

For example, have the adolescent reduce fat consumption change by gradually changing the type of milk consumed, from whole 2% (reduced fat), to 1% (low-fat), to skim (nonfat) milk.

Give the adolescent responsibility for changing and monitoring eating behaviors.

Stress the importance of planning how the adolescent will make and track changes in eating behavior.

Make record-keeping simple, and review the plan with the adolescent.

Make sure that the adolescent has family and peer support.

Show the adolescent how to encourage parents and peers to help.

Meet with the parents to clarify goals and action plans; determine how they can help.

Offer feedback and reinforce success.

Regularly show interest to encourage continued behavior change.

General Strategies

Strategies

Applications/Questions

Ask the adolescent about changes in eating behaviors at every visit.

“How are you doing in changing your eating behaviors?”

Emphasize to the adolescent the consumption of foods rather than nutrients.

For example, say, “Drink more milk, eat cheese, and yogurt” rather than “Increase your calcium intake.”

Build on positive aspects of the 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 four days out of the week?”

Focus on “how to” instead of “why” information.

Share behaviorally orientated 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 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?”

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 adolescent with learning experiences and skills practiced.

Practice problem solving and role-playing (e.g., having the adolescent ask the food server to hold the mayonnaise).

Introduce the concept of achieving balance and enjoying all foods in moderation.

“Your food diary 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 record-keeping easy, and tell the 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 food diary is a tool to help you reflect on your eating behaviors.”

Make sure the 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 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.”

Guidelines for Adolescent Preventive Services

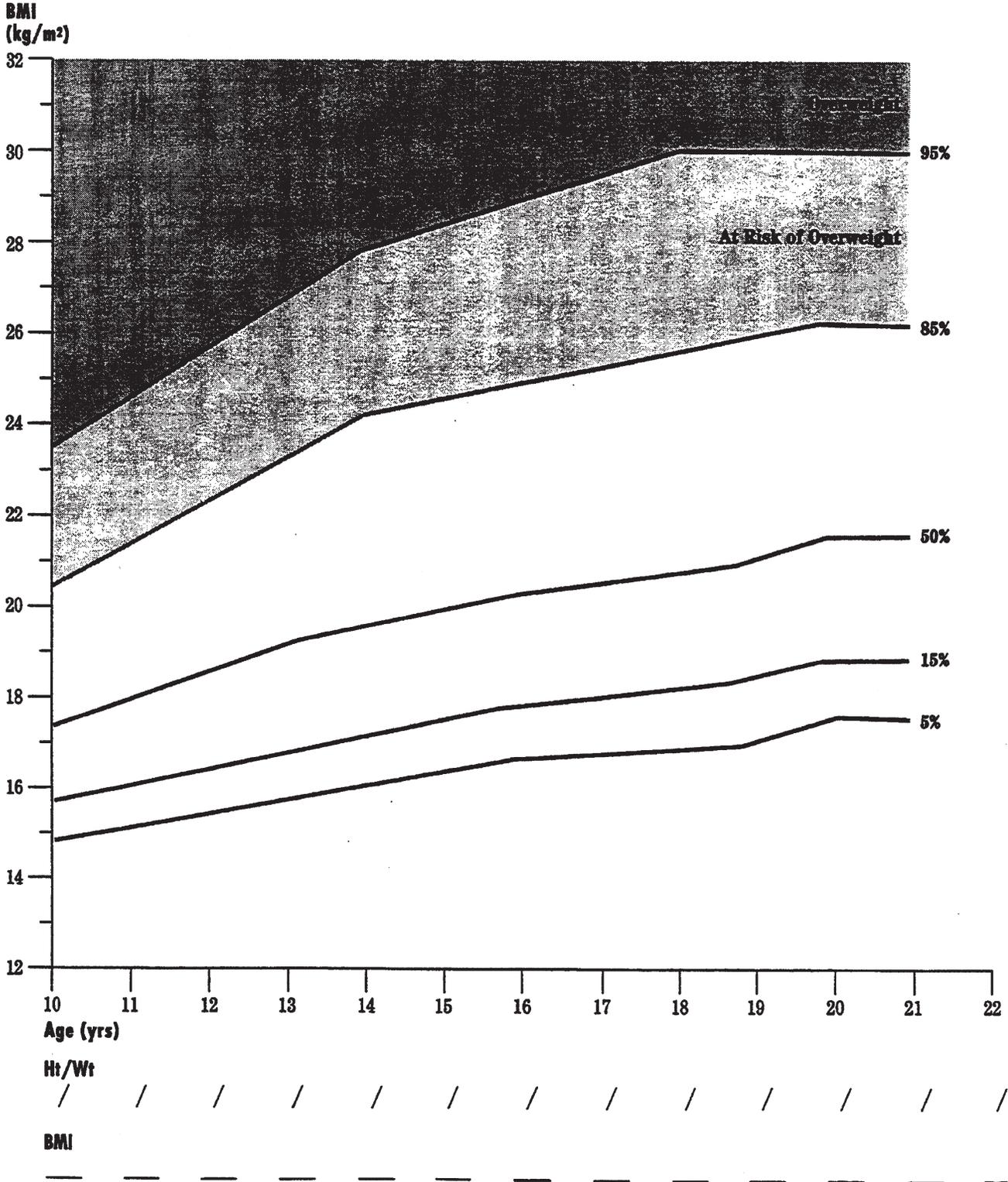
Body Mass Index for Selected Weight and Stature

Weight kg (lb)	Stature m (in)																											
	1.24 (49)	1.27 (50)	1.30 (51)	1.32 (52)	1.35 (53)	1.37 (54)	1.40 (55)	1.42 (56)	1.45 (57)	1.47 (58)	1.50 (59)	1.52 (60)	1.55 (61)	1.57 (62)	1.60 (63)	1.63 (64)	1.65 (65)	1.68 (66)	1.70 (67)	1.73 (68)	1.75 (69)	1.78 (70)	1.80 (71)	1.83 (72)	1.85 (73)	1.88 (74)	1.90 (75)	1.93 (76)
20 (45)	18	13	12	12	11	11	10	10	10	9	9	9	8															
23 (50)	15	14	13	13	12	12	12	11	11	10	10	10	9	9	9	8												
25 (55)	16	15	15	14	14	13	13	12	12	12	11	11	10	10	9	9	9											
27 (60)	18	17	16	16	15	15	14	13	13	13	12	12	11	11	10	10	10	9	9									
29 (65)	19	18	17	17	16	16	15	15	14	14	13	13	12	12	12	11	11	10	10	10	10							
32 (70)	21	20	19	18	17	17	16	16	15	15	14	14	13	13	12	12	12	11	11	11	10	10						
34 (75)	22	21	20	20	19	18	17	17	16	16	15	15	14	14	13	13	12	12	12	11	11	11	10					
36 (80)	24	22	21	21	20	19	19	18	17	17	16	16	15	15	14	14	13	13	13	12	12	11	11	11				
39 (85)	25	24	23	22	21	21	20	19	18	18	17	17	16	16	15	15	14	14	13	13	13	12	12	12	11			
41 (90)	27	25	24	23	22	22	21	20	19	19	18	18	17	17	16	15	15	14	14	14	13	13	13	12	12	12		
43 (95)	28	27	25	25	24	23	22	21	20	20	19	19	18	17	17	16	16	15	15	14	14	13	13	13	12	12		
45 (100)	29	28	27	26	25	24	23	22	21	20	20	19	18	18	17	17	16	16	15	15	14	14	14	13	13	13	12	12
48 (105)	31	30	28	27	26	25	24	24	23	22	21	21	20	19	19	18	17	17	16	16	16	15	15	14	14	13	13	13
50 (110)	32	31	30	29	27	27	25	25	24	23	22	22	21	20	19	19	18	18	17	17	16	16	15	15	15	14	14	18
52 (115)	34	32	31	30	29	28	27	26	25	24	23	23	22	21	20	20	19	18	18	17	17	16	16	16	15	15	14	14
54 (120)	35	34	32	31	30	29	28	27	26	25	24	24	23	22	21	20	20	19	19	18	18	17	17	16	16	15	15	15
57 (125)	37	35	34	33	31	30	29	28	27	26	25	25	24	23	22	21	21	20	20	19	19	18	17	17	17	16	16	15
59 (130)	38	37	35	34	32	31	30	29	28	27	26	25	25	24	23	22	22	21	20	20	19	19	18	18	17	17	16	16
61 (135)	40	38	36	35	34	33	31	30	29	28	27	27	25	25	24	23	22	22	21	20	20	19	19	18	18	17	17	16
64 (140)	41	39	38	36	35	34	32	31	30	29	28	27	26	25	24	23	22	22	21	21	20	20	19	19	18	18	17	16
66 (145)	43	41	39	38	36	35	34	33	31	30	29	28	27	27	26	25	24	23	23	22	21	21	20	20	19	19	18	18
68 (150)	44	42	40	39	37	36	35	34	32	31	30	29	28	28	27	26	25	24	24	23	22	21	21	20	20	19	19	18
70 (155)	46	44	42	40	39	37	36	35	33	33	31	30	29	29	27	26	26	25	24	23	23	22	22	21	21	20	19	19
73 (160)	47	45	43	42	40	39	37	36	35	34	32	31	30	29	28	27	27	26	25	24	24	23	22	22	21	21	20	19
77 (170)	50	48	46	44	42	41	39	38	37	36	34	33	32	31	30	29	28	27	27	26	25	24	24	23	23	22	21	21
79 (175)	49	47	46	44	42	40	39	38	37	35	34	33	32	31	30	29	28	27	27	26	25	24	24	23	22	22	21	21
82 (180)	51	48	47	45	44	42	40	39	38	36	35	34	33	32	31	30	29	28	27	27	26	25	24	24	23	23	22	22
84 (185)	50	48	46	45	43	42	40	39	37	36	35	34	33	32	31	30	29	28	27	27	26	25	25	24	23	23	22	23
86 (190)	49	47	46	44	43	41	40	39	37	36	35	34	33	32	31	30	29	28	27	27	26	25	24	24	23	23	22	23
88 (195)	51	49	47	45	44	42	41	39	38	37	36	35	34	33	32	31	31	30	29	28	27	26	26	25	25	24	23	23
91 (200)	50	48	46	45	43	42	40	39	38	37	35	34	33	32	31	30	30	29	28	27	27	26	25	25	24	23	23	24
93 (205)	50	47	46	44	43	41	40	39	38	36	35	34	33	32	31	30	29	29	28	27	27	26	26	25	25	24	23	24
95 (210)	49	47	45	44	42	41	40	39	37	36	35	34	33	32	31	30	29	28	28	27	27	26	26	25	25	24	23	24
98 (215)	50	48	46	45	43	42	41	40	38	37	36	35	34	33	32	31	30	29	28	28	27	27	26	26	25	25	24	23
100 (220)	49	47	46	44	43	42	40	39	38	37	35	34	33	32	31	30	30	29	28	28	27	27	26	26	25	25	24	23
102 (225)	51	49	47	45	44	42	41	40	38	37	36	35	34	33	32	31	30	29	28	28	27	27	26	26	25	25	24	23
104 (230)	50	48	46	45	43	42	41	39	38	37	36	35	34	33	32	31	30	29	28	28	27	27	26	26	25	25	24	23
107 (235)	49	47	46	44	43	42	40	39	38	37	36	35	34	33	32	31	30	29	28	28	27	27	26	26	25	25	24	23
109 (240)	50	48	47	45	44	43	41	40	39	38	36	35	34	33	32	31	30	29	28	28	27	27	26	26	25	25	24	23
111 (245)	49	48	46	45	43	42	41	39	38	37	36	35	34	33	32	31	30	29	28	28	27	27	26	26	25	25	24	23
113 (250)	50	49	47	46	44	43	42	40	39	38	37	36	35	34	33	32	31	30	29	28	28	27	27	26	26	25	25	24
116 (255)	50	48	47	45	44	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	28	27	27	26	26	25	25	24
118 (260)	49	48	46	44	43	42	41	39	39	37	36	35	34	33	32	31	30	29	28	28	27	27	26	26	25	25	24	23
120 (265)	50	49	47	45	44	43	42	40	39	38	37	36	35	34	33	32	31	30	29	28	28	27	27	26	26	25	25	24
122 (270)	50	48	46	45	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	28	27	27	26	26	25	25	24
125 (275)	49	47	46	44	43	42	41	39	38	37	36	35	34	33	32	31	30	29	28	28	27	27	26	26	25	25	24	23
127 (280)	50	48	47	45	44	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	28	27	27	26	26	25	25	24
129 (285)	50	49	47	46	45	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	28	27	27	26	26	25	24
132 (290)	50	48	47	46	44	43	42	41	39	38	37	36	35	34	33	32	31	30	29	28	28	27	27	26	26	25	25	24
134 (295)	50	49	47	46	45	44	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	28	27	27	26	26	25	24
136 (300)	50	48	47	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	28	27	27	26	26	25	24

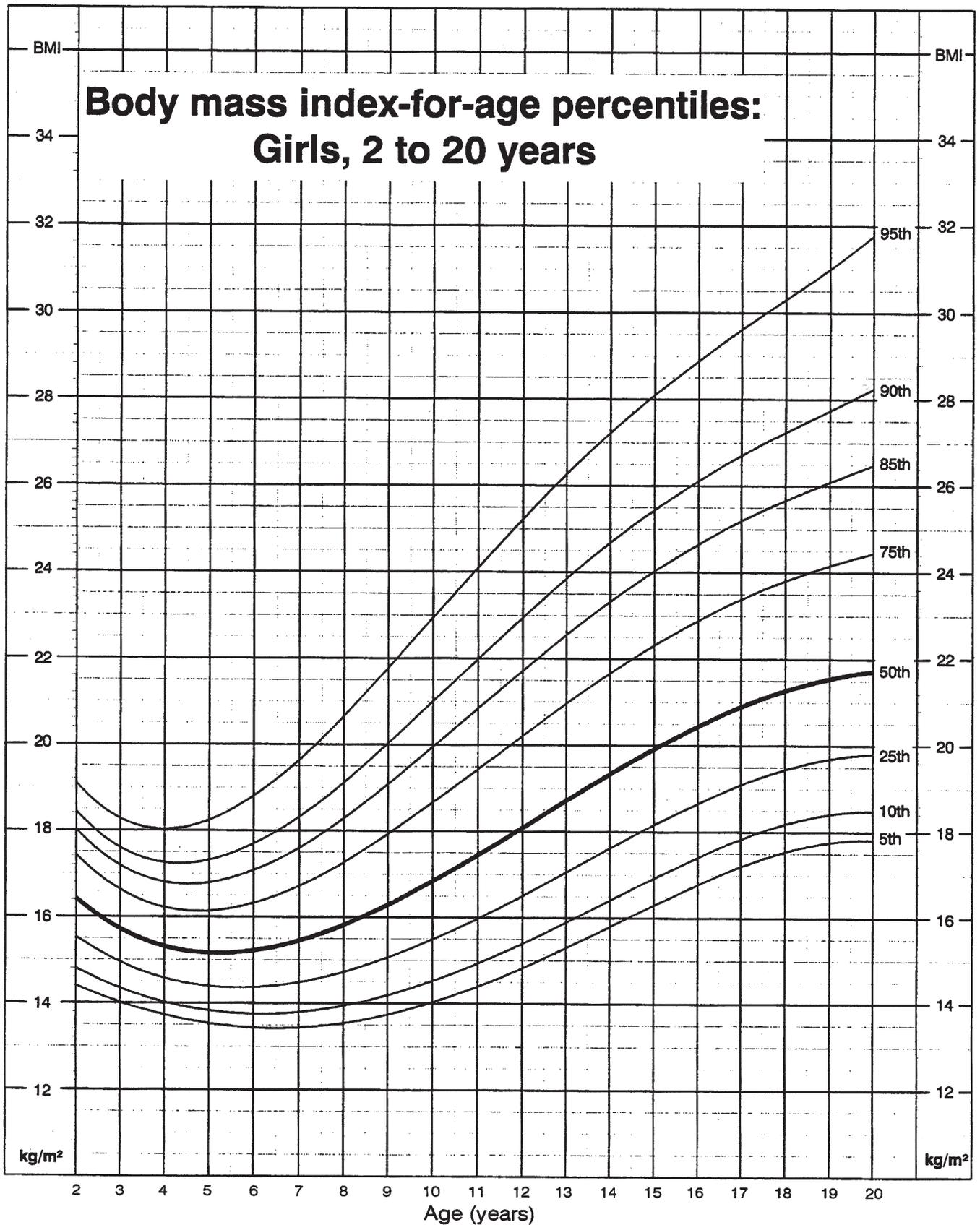


Guidelines for Adolescent Preventive Services
Height, Weight & Body Mass Index (BMI) by Age: Female

Name _____ Birthdate _____



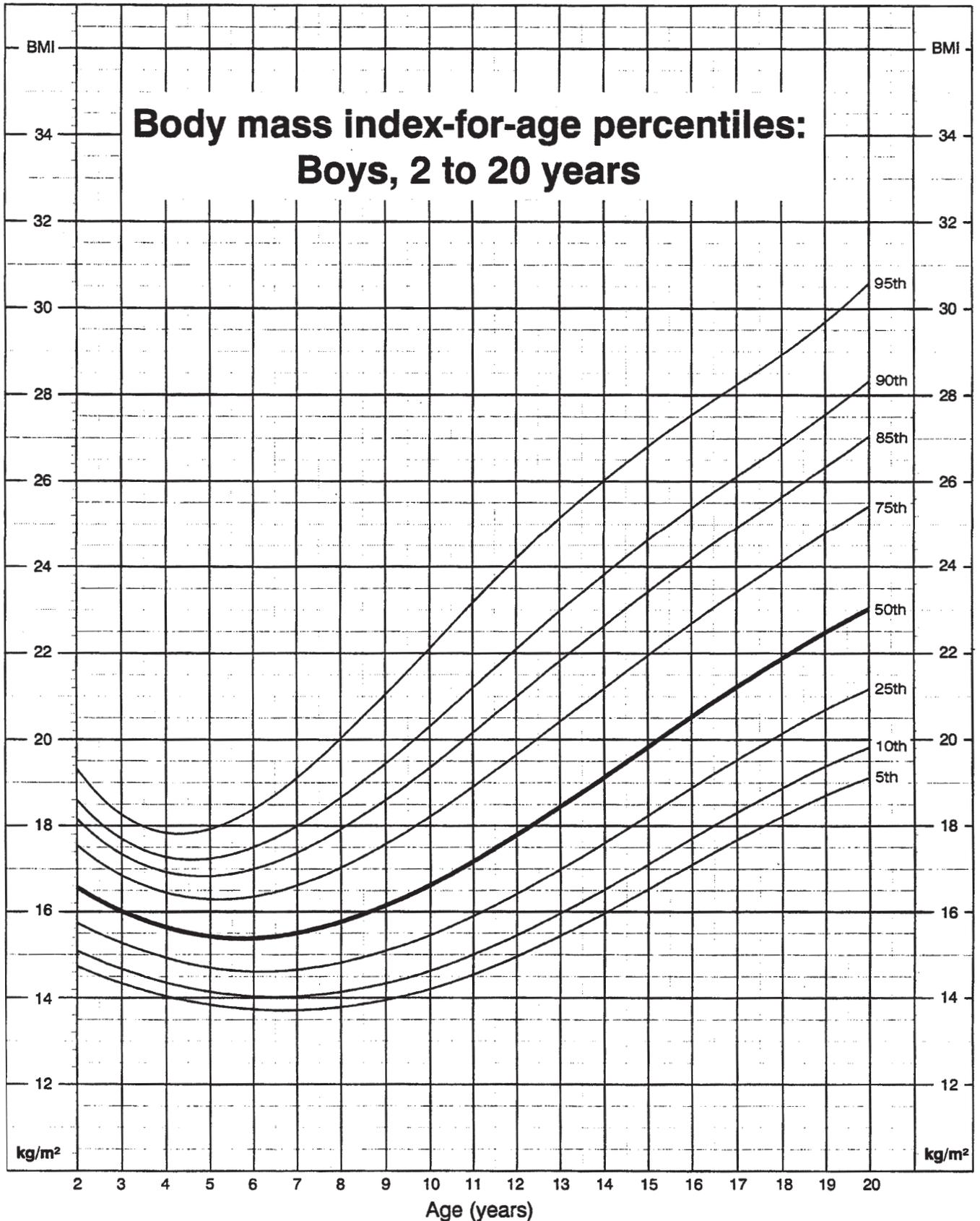
CDC Growth Charts: United States



SOURCE: Developed by the National Center for Health Statistics in collaboration with the National Center for Chronic Disease Prevention and Health Promotion (2000).



CDC Growth Charts: United States



SOURCE: Developed by the National Center for Health Statistics in collaboration with the National Center for Chronic Disease Prevention and Health Promotion (2000).

