

Lesson 5

Dietary Guidelines



Key Words

amenorrhea
anorexia nervosa
bulimia
diuretics
electrolyte
episodic
esophageal

What You Will Learn to Do

- Relate the NAS dietary guidelines to your personal diet

Linked Core Abilities

- Communicate using verbal, nonverbal, visual, and written techniques
- Take responsibility for your actions and choices

Skills and Knowledge You Will Gain Along the Way

- Identify the nine National Academy of Sciences dietary goals
- Identify factors that affect the nutritional requirements of individuals at various life stages
- Identify signs and symptoms of anorexia nervosa and bulimia
- Examine varying viewpoints on vitamin and mineral supplement usage
- Calculate your personal blueprint
- Define the key words contained in this lesson

Introduction

Today's hurry-up lifestyles, diverse family structures, fast-food restaurants, and personal finances have all impacted on the way we eat. Thus, by our actions, America has become a country that is overweight and suffering greatly from cardiovascular disease, cancer, diabetes, and other ailments that hinder our efforts to live a dynamic lifestyle.

This lesson explains the National Academy of Sciences' report on how we should eat, as well as some alternative choices that many nutritionists advocate.

The Lifetime Eating Plan

Nutritional needs vary at different ages. There are different needs for children (age two to adolescence), adolescents, adults, and the elderly. There are also special conditions and needs for pregnant women.

For example, the special concerns for teens are that they often have erratic eating habits, their calcium requirements are high, and after the onset of menstruation, females need more iron. General dietary recommendations are to ensure you eat sufficient calories to support your growth and activity levels with high-carbohydrate foods. Also, consume iron-rich foods and keep healthy snacks available.

Pregnant women need to increase their caloric intake and to eat adequate protein, iron, calcium, folic acid, and vitamin C. Proper nutrition is essential to avoid complications, including nausea, heartburn, constipation, and gestational diabetes. General dietary recommendations are to eat two dairy servings daily and two cups of calcium-rich vegetables; also eat green leafy vegetables, legumes, broccoli, asparagus, and whole grains. Avoid overcooking. An obstetrician may recommend supplements. Drink at least eight glasses of liquid daily. Avoid alcohol and caffeine.

The New American Diet—Step by Step

Another popular eating plan is the New American Diet. This plan yields similar dietary recommendations as those explained elsewhere in these nine guidelines. However, the basis for this plan is the development of a healthier lifestyle by following a three step approach: Phase I stresses the use of substitutions to your present diet; Phase II introduces new recipes; Phase III prescribes a new way of eating.

Eating Disorders

Eating disorders such as **anorexia nervosa** and **bulimia** are common in today's society. People with anorexia nervosa experience extreme weight loss, **amenorrhea**, and a variety of psychological disorders culminating in an obsessive preoccupation with the attainment of thinness. Fortunately, most anorectics recover fully after one experience with the disease. However, for 10 to 15 percent of its victims, the disease becomes **episodic** and relentless, resulting in death from the consequences of starvation.

A person with anorexia nervosa normally exhibits the following characteristics:

Key Note Terms

anorexia nervosa – an aversion to food syndrome; an eating disorder characterized by an extreme (prolonged) loss of appetite

bulimia – a disease (or eating disorder) with symptoms of a never-satisfied hunger

amenorrhea – an abnormal absence or suppression of the menstrual period

episodic – occurring, appearing, or changing at irregular intervals; incidental

Key Note Terms

diuretics – food, medication, and so on that promotes or tends to increase the excretion of urine

esophageal – of or relating to the esophagus (a muscular tube through which food passes from the mouth to the stomach)

electrolyte – substance that, when dissociated into ions in solution or fused, becomes electrically conducting

- **An unwillingness to maintain minimal normal body weight for the individual's age and height; weight loss that leads to the maintenance of a body weight 15 percent below normal; or a failure to gain the amount of weight expected during a period of growth, resulting in a body weight that is 15 percent below normal.**
- **An inordinate fear of gaining weight and/or becoming fat despite being significantly underweight.**
- **An unrealistic perception of body weight, size, or shape. The person “feels fat” or perceives that one specific part of the body is “too fat.”**
- **An absence of at least three, otherwise normal, menstrual cycles.**

On the other hand, people with bulimia experience alternate cycles of binge eating and restrictive eating. Purging usually follows binges, primarily by self-induced vomiting supplemented with the use of laxatives and **diuretics**. The physical and psychological results of such a struggle with bulimia include **esophageal** inflammation, erosion of tooth enamel caused by repeated vomiting, the possibility of **electrolyte** imbalances, and altered mood states, particularly anxiety and depression.

A person with bulimia normally exhibits the following characteristics:

- **An episodic eating binge, characterized by rapid consumption of large amounts of food in a short time.**
- **At least two eating binges per week for at least three months, even possibly experiencing a loss of control over eating behavior while in the process of binges.**
- **Frequent purges after eating; then engages in fasting, strict dieting, or vigorous exercise.**
- **A constant concern over body shape, size, and weight.**

If you think someone has an eating disorder,

- **Express your concern about the person's health. Although the person may deny there is a problem, show that you care.**
- **Try to focus on feelings that the person may be experiencing, such as excessive worrying, anxiety, poor self-esteem, anger, or hurt. Encourage the person to talk about issues not related to food. Be a good listener.**
- **Encourage the person to talk to parents, relatives, or a health care or mental health professional.**
- **Talk to someone else (possibly a professional) about your concerns for that person.**
- **Do not label the person. That may make the person feel accused and strengthen feelings of denial.**

Getting Help for Eating Disorders

For more information about anorexia, bulimia, and other eating disorders, contact:

National Eating Disorders Association

603 Stewart St., Suite 803

Seattle, WA 98101

(206) 382-3587

www.nationaleatingdisorders.org

The National Academy of Sciences believes there is a close association between total fat intake, saturated fat, high cholesterol, and heart disease. They developed nine guidelines for reducing the risk of chronic diseases and helping to provide protection against the possibility of early disease.

Note

The American diet consists of a total fat intake between 35 to 40 percent of the total calories consumed each day.

Guideline #1

The goals of this guideline are to reduce your total fat intake to 30 percent or less of your total calories, your estimated fatty acids (building blocks of fat) intake to less than 10 percent of your total calories, and your cholesterol intake to less than 300 milligrams. Take a look at Figure 1.5.1 and determine which of these foods has the lowest percent are of saturated fat.

Tips for achieving these goals include the following:

- **Limit your egg intake. Use two or three egg whites for every yolk. Cholesterol is in the yolk, and egg white is a great source of protein.**
- **Use skim milk or one percent milk. Purchase low-fat cheeses, yogurt, and other dairy products.**
- **Use margarine sparingly. The soft tub or liquid margarine is best.**
- **When ordering in a restaurant, tell the waiter to ask the chef to use only half the oils or fat products he would normally use.**

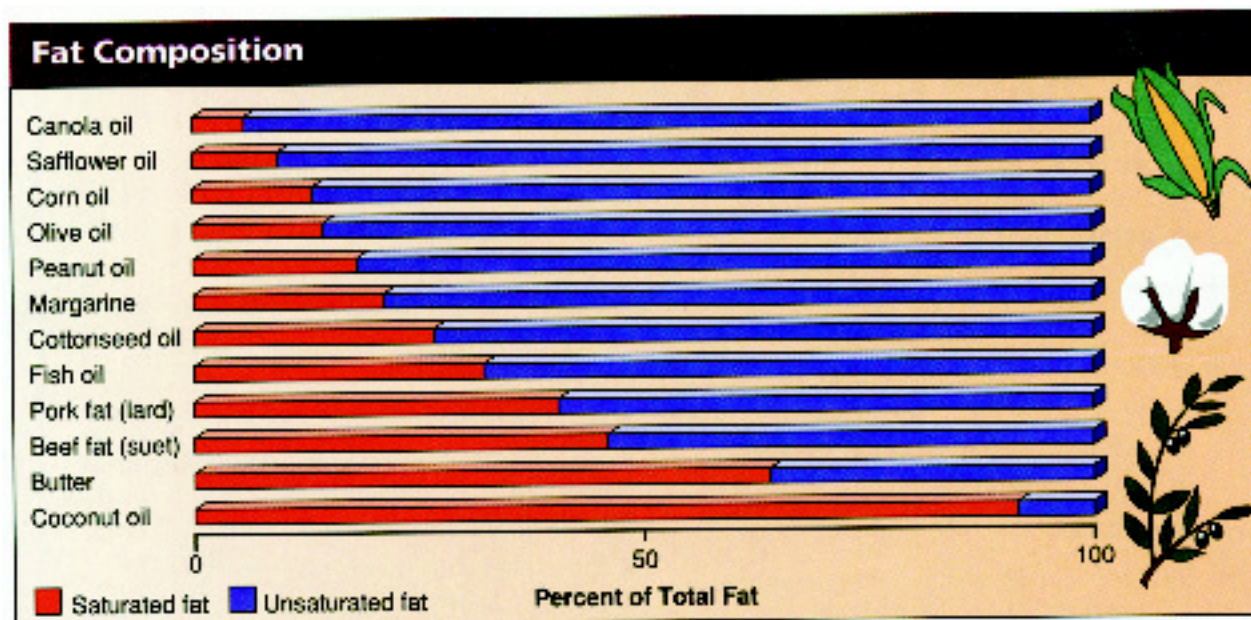


Figure 1.5.1: Which of the fat sources in the graph is lowest in saturated fat?

Courtesy of Function thru Form.

- **Try to eat more fish.** Cold water and deep sea running fish are best because of the high omega three oils (fat that may aid in the maintenance of the heart and blood vessels).
- **Eat lean meat and then sparingly.**
- **Bake and broil meat products, if possible.**
- **Use the lowest saturated fat cooking oils.**
- **When eating snacks, choose low-fat, low sugar content sweets.**
- **Learn how to read a label and calculate the fat content in food products.**

Figure 1.5.2 shows a sample food label that might appear on a package.

Figure 1.5.2: A typical food label gives you information about the contents of the product.

Nutrition Facts			
Serving Size: 1/2 cup (114 g)			
Servings Per Container: 4			
Amount Per Serving			
Calories 260		Calories from fat 120	
		% Daily Value*	
Total Fat 13 g			20%
Saturated Fat 5 g			25%
Cholesterol 30 mg			10%
Sodium 660 mg			28%
Potassium 400 mg			11%
Total Carbohydrate 31 g			11%
Sugars 5 g			
Dietary Fiber 0 g			0%
Protein 5 g			10%
Vitamin A 4% Vitamin C 2%			
Iron 4% Calcium 15% Vitamin D 25%			
* Percent (%) of a Daily Value is based on a 2000 calorie diet. Your Daily Values may vary higher or lower depending on your calorie needs:			
Nutrient		2000 Calories	2500 Calories
Total Fat	Less than	65 g	80 g
Sat Fat	Less than	20 g	25 g
Cholesterol	Less than	300 mg	300 mg
Sodium	Less than	2400 mg	2400 mg
Potassium		3500 mg	3500 mg
Total Carbohydrate		300 g	375 g
Dietary Fiber		25 g	30 g
Protein		50 g	65 g
Calories per gram			
Fat 9 Carbohydrate 4 Protein 4			

Alternative Guideline #1

An alternative goal for Guidelines #1 is to reduce fat intake to 20 percent or less of your total calories, saturated fat to 5 percent of your total, cholesterol intake to 100 milligrams, and use only 4 to 7 teaspoons of mono- or polyunsaturated fat a day.

Your eating habits can affect your health. Try to develop an eating plan that will keep you at your healthiest level and avoid eating disorders. A discussion of two acceptable eating plans and two common, potentially dangerous eating disorders was given at the beginning of this lesson.

Guideline #2

The goal of Guideline #2 is to increase starches and other complex carbohydrates, as shown in Figure 1.5.3. The typical American diet consists of 22 percent complex carbohydrates and 24 percent sugar.

General dietary recommendations are to receive 60 to 65 percent of your diet from the carbohydrate group, 50 to 55 percent of that from the complex carbohydrates, and 20 percent from sugar, with most of that coming from fruits.



Figure 1.5.3: Breads are excellent sources of starch.

Courtesy of Steven Mays.

Alternative Guideline #2

Almost all nutritionists agree with the National Academy's number two guidelines. By choosing those percentages, you will receive more than adequate amounts of fiber.

Guideline #3

The goal of this guideline is to maintain protein intakes at moderate levels. Americans receive 68 percent of their protein from animal sources (compared to 4 to 5 percent for the Chinese). There is evidence pointing to the rise in some cancers with the increase in animal protein.

The body needs no more than 0.45 of a gram of protein per pound of lean body weight per day. Since the minimum requirement is 0.16 grams per pound, 10 to 15 percent of your food should come from proteins and the majority of that from plant sources.

Alternative Guideline #3

The American Heart Association recommends no more than two protein servings daily. However, the U.S. Department of Agriculture recommends two to three servings of the milk, cheese, and yogurt group daily and two to three servings of the meat, poultry, fish, beans, eggs, and nuts group.

Guideline #4

The goal of this guideline is to balance food intake and physical activity to maintain appropriate body weight. Approximately 1/3 of the American population is overweight. Overweight teenage boys are more likely to die at a higher than usual rate by the age 45. Teenage girls who are overweight are eight times more likely to have trouble in later years with daily routines such as climbing stairs, lifting, and walking.

To balance food intake and physical activity requires planning each day's food intake based upon these guidelines as well as each week's physical activities to include at least three 30-minute workouts. While in school, participating in sports programs and daily physical activities is the best way to accomplish this goal.

Alternative Guideline #4

Body weight is not the best indicator of measuring food intake versus physical activity. Measurement of body fat is a healthier indicator and a much more concise measuring tool in determining the best balance of food intake and physical activity. Also, the more fat that accumulates around the stomach represents more of a danger to the person.

Fewer than 10 percent of Americans over age 18 exercise vigorously and regularly. Exercise can decrease a person's chance of dying of heart disease, cancer, and a host of other illnesses.

Guideline #5

The main goal of Guidelines #5 is to avoid alcoholic beverages. Alcohol can produce the following problems with nutritional balance and wellness:

- **Upsets metabolism**
- **Produces fullness, thus the person does not eat a balanced diet**
- **Increases nutritional needs**
- **Causes inadequate assimilation (digestion and absorption) of the nutrients.**

It is not easy to avoid the temptation of alcoholic beverages particular with the pressure that our peers put upon us. The best way to avoid alcoholic beverages is to make the decision not to drink an alcoholic beverage before it is offered to you.

Alternative Guideline #5

Try to avoid putting yourself into a situation that will force you to make the choice to drink or not to drink alcohol. First make the decision not to drink alcoholic beverages and let your friends know that alcohol is not for you. Whenever possible, avoid parties and other events where alcohol is served. If you have to attend these events, always plan ahead and have your decision made.

Guideline #6

The goal here is to limit the daily intake of salt to no more than 6 grams. Salt is 60 percent chloride and 40 percent sodium. Too much sodium can lead to high blood pressure in some people (those who are salt sensitive). Furthermore, salt absorbs water in the body, causing the blood pressure to increase because of the larger volume of water the heart must pass through the system. Try to avoid adding salt to your meals. It is best not to add table salt to any of your meals. All processed or manufactured food has salt added. Just read the label on any canned food and you will be surprised how much salt has already been added.

Alternative Guideline #6

There are several ways that you can cut down on your salt intake, including the following:

- **The National Academy of Sciences recommends no more than 2400 milligrams (1/2 teaspoon; 2.4 grams) of salt a day. One teaspoon of salt is equivalent to 5 grams.**
- **Switch to “lite” salt, thus reducing the sodium content by one half. You can also increase potassium (too little increases blood pressure) by using “lite” salt.**
- **Eat less processed or manufactured food.**
- **Avoid snack food or use unsalted varieties.**
- **Limit smoked foods.**
- **Limit brine prepared foods such as pickles, olives, and sauerkraut.**

Guideline #7

The goal for Guideline #7 is to maintain adequate calcium intake. Most Americans do not receive enough calcium from their normal diets. Ninety-nine percent of our body's calcium is present in the bones and teeth. One percent aids in the functioning of the blood, muscles, and nerves.

To meet its need for calcium, the body will pull calcium from the bones, causing them to lose their density. This condition, known as osteoporosis, can lead to hip, leg, and arm fractures. Diets that are low in calcium may also cause hypertension (high blood pressure) and some forms of cancer.

The referenced daily intake for ages 11 to 24 is 1200 milligrams a day. Adult men and women need 1000 milligrams. Pregnant and nursing women also need 1200 milligrams. To prevent osteoporosis:

- Participate in lifelong weight-bearing exercises to ensure the density of the bones.
- Avoid excessive protein.
- Eat a diet rich in calcium (skim milk, certain fruits, and vegetables).
- Take calcium supplements, if needed.
- Avoid starvation diets.
- Avoid alcohol and smoking.

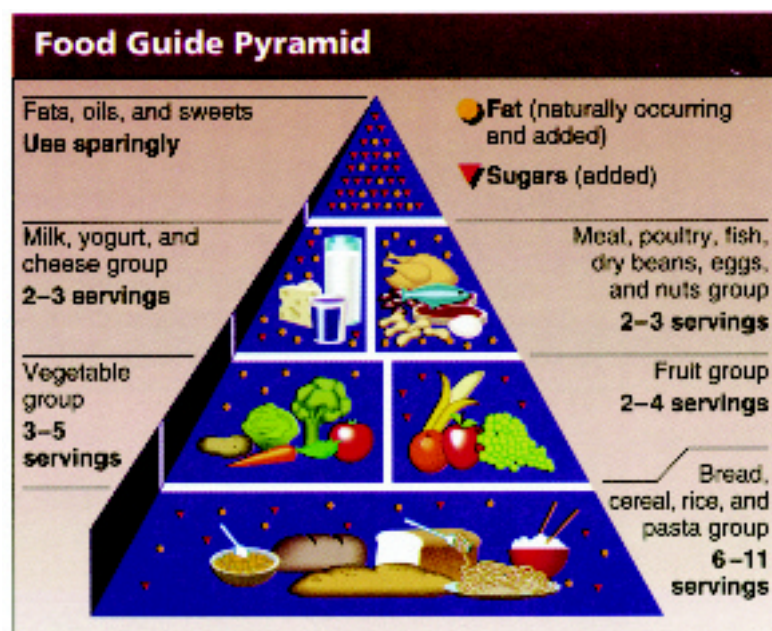
Alternative Guideline #7

A well-balanced diet following the Food Guide Pyramid guidelines, as shown in Figure 1.5.4, ensures adequate calcium intake. Make sure that there is a variety of colors on your plate each meal. For example, dark leafy green vegetable just like dairy products contain calcium.

Note

For more information on the Food Guide Pyramid, see Chapter 1, Lesson 3, “You Are What You Eat.”

Figure 1.5.4: The Food Guide Pyramid provides guidance for a well balanced diet.



Guideline #8

The goal for Guideline #8 is to avoid taking dietary supplements in excess of the referenced daily intake in any one day.

There are two schools of thought on this guideline. One says that we can get all of our vitamins and minerals from our normal diet without supplementation. The other opinion is that by taking supplemental dosages of specific vitamins and minerals, we can protect ourselves from birth defects, cataracts, cardiovascular disease, and cancer, as well as strengthen the immune system.

Alternative Guideline #8

As an alternative to Guideline #8, you can

- **Take a general vitamin/mineral supplement daily, not to exceed the RDI.**
- **Take a calcium supplement.**
- **Take antioxidant vitamins in supplemental form: vitamin C, vitamin E, and beta-carotene. (See the following nutrition prescription for an additional alternative.)**

Your Nutrition Prescription

Vitamin and mineral supplements are indispensable anti-aging weapons, but too many people use them shotgun style—a handful of this, a bunch of that—instead of coordinating them for the most life-lengthening strategy. To ensure that you are not over- or underdoing any element, you need a prescription customized for your age, gender, health, and lifestyle. Look at the Supplement Blueprint in Table 1.5.1 and see how much of each supplement you take. Then answer the following six questions. For each yes answer, follow the directions for revising the Supplement Blueprint. If you end up with more than one recommendation for a particular nutrient, follow the highest single dosage.

- **Are you male? Delete iron.**
- **Do you smoke or live/work with a smoker, or do you live in an air-polluted area? Increase C to 1000 mg, selenium to 400 mcg, beta-carotene to 25,000 IU, E to 400 IU, copper to 3 mg, and zinc to 50 mg.**
- **Do you exercise at least three times a week for 20 or more minutes? Increase E to 400 IU, magnesium to 400 mg, B-1 to 100 mg, and zinc to 50 mg.**
- **Are you on the Pill (birth-control pills)? Increase B-6 to 50 mg.**
- **Are you pregnant or nursing? Increase folic acid to 800 mcg, iron to 60 mg, calcium to 1300 mg, and magnesium to 400 mg. Delete A.**
- **Do you have high cholesterol levels and/or a family history of heart disease? Increase E to 400 IU, C to 1000 mg, beta-carotene to 25,000 IU, chromium to 200 mcg, and magnesium to 400 mg.**

According to Ronald Hoffman, Director of the Center for Holistic Medicine in New York City, supplements are especially important for people who do not eat (1) fresh fruits and vegetables daily; (2) dairy products more than once a week; or (3) at least two full meals a day. Some of the above recommendations are higher than the U.S.

Table 1.5.1: Personal Supplement Blueprint

Personal Supplement Blueprint		
Supplement	Longevity Standard	My Dose
Beta-carotene	15,000 IU	_____
Vitamin A	10,000 IU	_____
Vitamin B-1	25 mg	_____
Vitamin B-2	25 mg	_____
Niacinamide	100 mg	_____
Pantothenic acid	50 mg	_____
Vitamin B-6	25 mg	_____
Vitamin B-12	100 mcg	_____
Biotin	100 mcg	_____
Folic acid	400 mcg	_____
Vitamin C	500 mg	_____
Vitamin D	400 IU	_____
Vitamin E	200 IU	_____
Calcium	1,200 mg	_____
Chromium	100 mcg	_____
Copper	2 mg	_____
Iodine	150 mcg	_____
Iron*	18 mg	_____
Magnesium	200 mg	_____
Manganese	5 mg	_____
Molybdenum	50 mcg	_____
Selenium	200 mcg	_____
Zinc	30 mg	_____

* Double-check with your doctor before adding iron to your regimen. Some people are prone to iron overload.

RDI's because longevity research has leapfrogged over the old standards. However, all recommendations are well within safety guidelines. Avoid taking more than the amounts suggested; mega dosing can be dangerous. Remember, check with your doctor before starting any supplement regimen.

Guideline #9

The goal for this guideline is to maintain an optimal intake of fluoride, particularly during tooth formation, which normally continues until the beginning of the teenage years. The requirement for sufficient intake of fluoride begins during pregnancy to ensure proper tooth and bone development.

Fluoride is important to tooth and bone formation. It makes the teeth harder, and they can resist decay and breakdown. Only two-thirds of the U.S. population receives fluoridated water. The National Research Council of the National Academy of Sciences recommends 1 milligram of fluoride for each liter of water consumed.

Alternative Guideline #9

Most cities and towns in the United States add fluoride to the communities' drinking water, which provides the fluoride needed to help fight tooth decay; however, it is also recommended that you brush your teeth with a fluoride toothpaste to ensure that you are providing adequate protection for your teeth.

Conclusion

The nine guidelines presented in this lesson are the results of one of the most comprehensive scientific analysis of potential health risks and benefits stemming from diet. Implementing these guidelines means that we will need to devote more time and attention to our daily diets and the risk factors associated with improper diets.

In the following lesson, you learn tips and hints to help control your intake of fats in your diet. You will also learn that some fat is essential to good health.

Lesson Review

1. What is the goal for total daily fat intake?
2. What are the differences between anorexia nervosa and bulimia?
3. What are the signs of anorexia nervosa and bulimia?
4. What is the general dietary recommendation for daily carbohydrate intake?