Fitness and Nutrition : Developing Healthy Eating Habits

Lesson 3 Overview

In this lesson, you'll apply the nutrition knowledge you've gained. Be aware of healthy menus all around you. Cruise lines now feature lower-salt, lower-fat "spa" menus. Some fitness clubs offer gourmet menus analyzed by consultant nutritionists. Hotel chefs are expected to provide macrobiotic menu items prepared with organic ingredients. Caterers offer vegetarian and vegan menus. School and university food services are adding soy milk, tofu, and veggie burgers to their traditional offerings. Nutrition has become an important aspect of the restaurant and food industries. When you complete this lesson, you'll be aware of why these nutritional changes are being made and how they affect our everyday lives.

3.1 Determine the calories needed to achieve energy balance and weight loss

Energy Balance and Weight Loss

READING ASSIGNMENT

Energy Balance and How to Get There

Feeling and staying healthy is based, in part, on the amount and type of fuel provided to the body. Sufficient amounts of the right type of energy help to maintain all of the body's systems.

[Woman on Scale]

Keeping a proper energy balance will help you maintain your weight.

The goal is energy balance. *Energy balance* is the relationship between *energy intake* (what you eat) and *energy output* (what you burn up); if energy in equals energy out, then you're in energy balance. Energy balance means that you're eating just the right amount and type of food to maintain your weight and to perform all of the tasks you want to do, such as basic body functions, exercise, and day-to-day activities. If you take in more energy than you put out, then you're in positive energy balance. This means that your body can open a savings account in your liver and fatty pads (doesn't that sound attractive!) and you'll gain weight. Positive energy balance is a good place to be if you're growing, as in childhood and adolescence; repairing, as in recovery from a broken leg or the flu; or pregnant. With a positive energy balance, the body is able to call on stored energy supplies as needed. However, a positive energy balance isn't a good thing if you're a fully grown adult who's in good health. Too much stored energy can lead to obesity and obesity-related diseases, such as diabetes and heart disease.

If you take in fewer calories than you need, you'll be in negative energy balance. You'll see weight loss, but you might also feel tired and suffer from depressed immunity. The moral of the story is that the body likes to be in balance. Think of your body as a car. When all of the fluid levels are correct, the oil and gas tank are filled with high-quality products, and the belts are all properly tightened, your engine just purrs along. Your body is the same way—it likes to stay in balance. An energy-balanced body will reward you with great performance. Selecting the correct amount of food, fluid, and exercise is the key.

Every person is in either negative or positive energy balance sometime throughout the day. After a good night's sleep, you're well rested, but your body is very low in usable energy. Thus, you're in negative energy balance. Another example would be if you woke up too late to grab breakfast and by noon all you've had time for was coffee. You'll definitely feel the effects of negative energy balance, including headache, fatigue, and lack of energy. Just about everybody is in positive energy balance during the holiday season or after a big birthday dinner. Both types of energy imbalances are easily correctable.

However, if you're constantly in energy imbalance, you'll see variations in weight and frequent changes in your energy levels. You need to assess your intake to avoid this. Let's look at how your body knows when and how much to eat.

Hunger and Satiety

What makes you feel hungry? How do you know when to stop eating? *Hunger* (feed me!) and *satiety* (I'm full) are a real team effort, with different parts of the body reacting in different ways. When you're awake, if the stomach goes without food for three or four hours, it starts to contract and might even generate a growling sound.

A part of your brain, the *hypothalamus*, gives you cues about when to stop and start eating. Being exposed to cold seems to trigger the hypothalamus to send out "eat" messages. This is a good survival instinct. When you eat, your metabolic rate increases, helping you to generate heat and increase your fat stores, which provide insulation. When protein, fat, and carbohydrate levels in the blood get too low, your liver sends messages to your brain to go on a search-and-seek mission.

An interesting connection exists among tasting, salivating, chewing and swallowing, and satiety. When you eat, food passes through your esophagus and into your stomach and small intestines. The stomach becomes distended and sends messages to your brain that say, "Enough already, turn it off!" However, research conducted among people with certain medical conditions that prevent food from entering the stomach, such as a hole in the esophagus, found that these people still experienced a sense of satiety. This finding demonstrates how the different parts of the body are interwoven.

[Couple Eating Pizza on Couch]

During meals, avoid distractions such as reading the newspaper and watching television.

The pace at which you eat also is important. You should try not to eat too quickly. If your body doesn't get a chance to register that you've eaten, you'll never feel satiated. This scenario will result in overeating and eventually excess weight gain. There's some truth to the suggestion that you should eat slowly, without any distractions, such as reading the paper or watching television, to help you eat only the amount of food you require.

Appetite

Another condition related to eating is the concept of appetite. Appetite has very little to do with physiological sensations of hunger. Appetite has to do with the *psychology* of hunger. To put it another way, *hunger* is a basic, physical response to the need for fuel, while appetite is a nonphysical trigger that forces you to eat, such as eating based on your mood, the time of day, or your cultural background. If you eat when you aren't physically hungry, then you're responding to your appetite. That extra slice of pizza and that dessert you thought you were too full to eat are examples of a response to appetite. Appetite can be related to culture and social "rules." For example, many people think of cold, sweet cereal when they head to the breakfast table. If they're met with barbecued ribs instead, their psychological appetite might say "no way," even though they're physically hungry.

Appetite can be taught. You're probably familiar with the concept of *behavior modification*. Small children are told, "Finish your broccoli and you can have dessert" or "Sit quietly for 15 minutes, and I'll give you a cookie." Both examples teach children to respond to appetite, not hunger. Child psychologists and nutritionists will tell you that food isn't a good reward. Try to remember that thought if you've promised yourself a pint of ice cream when you finish reading this study lesson.

Calorie Needs and Use

A shorthand way to determine the calories required for energy balance is to add a zero to your desired weight. For example, if you would like to weigh 140 pounds, you should take in approximately 1,400 calories per day. Most adults consume 1,200 to 2,500 calories per day. It's obvious from looking at energy expenditure tables that most people aren't burning the majority of their calories through exercise.

About 60 percent of all of the calories you eat go toward basic physiological functions, such as respiration, heart function, blood circulation, digestion, food absorption, body temperature regulation, and muscle tone (we aren't talking about biceps here; we're talking about muscles in the lungs and small intestine). Another 30 percent is used for physical activity, such as walking, chewing, speaking, and working out at the gym. The remaining 10 percent is the amount of heat you burn by processing food. It takes energy to break down popcorn into glucose and sushi into amino acids. If you want to get fancy about it, this process is called the *thermic effect of food.*

The body's energy needs increase when the outside temperature is extremely hot or cold, when you have a fever, if you drink caffeinated beverages or smoke cigarettes, if you're pregnant, or if you have a very lean body mass (like an Olympic runner). Some medications and medical conditions can also increase energy needs. As you get older, your energy needs decrease, which is part of the natural aging process. Your energy needs also go down when you sleep.

Women have lower energy needs than men do. This fact is related, in part, to gender differences in the ratio of lean muscle to fatty tissue. Lean muscle uses more energy than fatty tissue. Women have less lean muscle than men do. This doesn't mean that all women are fat or that women athletes aren't muscular. It just means that ratio-wise, women have more fatty tissue because of the physiological requirements of childbearing.

Recall the difference between hunger and appetite. Although a woman might "feel" that she needs the same portions of food as her male counterpart at mealtimes, the reality of the situation is that a 70-inch woman, no matter how lean she is, still requires less energy to run her body than a 70-inch man does. The man has many more square inches of muscle to fuel and probably has a bit less fatty tissue.

Evaluating Nutritional Claims and Diets

Now that you understand that weight gain and loss depends on your energy balance, you're in a good position to evaluate deceptive nutritional claims. Many different types of foods and the nutrients they contain have been sold over the years as "cures" for anything from premenstrual syndrome to cancer to impotence. To understand how the truth is distorted, let's establish some basic nutritional truths:

1. *Calories in equal calories out* is the rule of weight maintenance. If you need 2,000 calories to meet your daily energy needs and you eat 2,000 calories, you'll maintain your weight. If you eat more than 2,000 calories, you'll gain weight. If you eat fewer than 2,000 calories, you'll lose weight.
2. One pound of weight equals approximately 3,500 calories. To gain a pound, you have to add 3,500 calories to your diet.
3. You can't choose a particular spot from which to lose weight. You can tone an area or tighten up some muscles, but weight loss can't be targeted to a specific area.
4. As far as we know, there are no nutritional cures for cancer, AIDS, hepatitis, or other severe diseases. Good nutrition is very important in helping the body to combat disease, but there's no "miracle food."
5. Herbs are medicine, too. Just because a product is advertised as "all natural from herbs" doesn't mean it can't raise your blood pressure or cause kidney damage.
6. No one food will reverse or prevent aging, get rid of wrinkles or cellulite, or whiten your teeth. Good nutrition is a combination of lots of different types of food and fluids. If someone has found the fountain of youth, they're keeping it a secret.

Diet Myth: I Can Lose 10 Pounds in a Weekend

What about diet promoters who say you can lose 10 pounds in a weekend? Remember that calories in equal calories out and that to lose a pound you have to take away 3,500 calories. Many different products on the market guarantee weight loss. Some advocate grapefruit juice or vinegar preparations that will "burn" fat away. Not only is this impossible, but it could also be dangerous to drink acetic acid (the acid contained in vinegar) over extended periods of time.

Not only is it impossible to quickly lose real weight (as in fat), but it can also be dangerous to lose more than one or two pounds per week. Certain pharmaceutical and herbal preparations

can induce the loss of fluid in the body in a process called the *diuretic effect*. Along with water, you lose essential minerals, such as potassium and magnesium. If you lose enough of these minerals, your blood pressure will rise, your heartbeat will become irregular, and your kidneys will fail. Every year, people are treated in emergency rooms after taking certain weight-loss formulas. In the past several years, a number of deaths have been associated with some of these products.

Separating Fact from Fiction

Any plan that guarantees that you can "lose all of the weight you want and still eat everything you want" is obviously false advertising. It either doesn't perform the way it promises or it's so dangerous that no one should use it.

But what about products that seem reasonable? Many years ago, there was a "diet bread" that was very popular. You were to eat a slice of this thin bread before meals and follow the diet plan that came with the bread. People lost weight on this plan, crediting the bread for having special properties.

How did it work? It wasn't the bread. If you replaced the bread with a glass of water, you could save money and still lose weight. If you consume a small portion of a low-calorie food before you sit down to a meal, you're already partially full. As a result, you'll eat less food and still feel full. The diet plan that came with the bread was a reasonable, low-fat menu. Was this product false advertising? No, it was just a way to make the wallets of non-nutrition-savvy people a little lighter.

No food burns or absorbs calories, and no food instantly enhances physical or mental performance. The only way to lose weight is to take in fewer calories than you need. The only way to enhance performance—scholastic, athletic, or otherwise—is to eat a balanced diet, drink lots of fluids, and get reasonable amounts of exercise and rest.

"But," you say, "I feel better when I take the herbal study aid, or I lose weight when I make my favorite diet soup." The mind is a wonderful thing! The power of suggestion makes many things possible. If you think and believe that herbal study aid will help you concentrate, then it probably will. That diet soup you make is probably low in calories and fat, and you're probably careful about the other foods you eat with it. If it works and does no harm, then go with it!

Steps Toward Successful Weight Loss

Now that you've been introduced to some weight-loss tips that *won't* work, it's time to learn strategies that *will* help you lose weight. For permanent weight loss, experts make the following suggestions:

1. Use low-fat cooking methods, such as poaching, roasting, barbecuing, grilling, and steaming.
2. Avoid extreme calorie restrictions. Don't skip meals or fast.
3. Eat at least 1,200 calories per day.
4. Lose weight slowly, only 1 or 2 pounds per week. Remember, 3,500 calories equals one pound.
5. Select a diet that fits your lifestyle and food preferences. Plan for special events.
6. Exercise at least 30 minutes most days.
7. Be realistic. Look at your body type and heredity.
8. Forget the scale. Weigh yourself once a week at most.
9. Reward yourself with something other than food!

Key Points and Links

READING ASSIGNMENT

Key Points

- The body strives for energy balance, which is the relationship between energy intake (what you eat) and energy output (what you burn up).
- The primary rule of weight maintenance is calories in equal calories out. One pound of weight equals approximately 3,500 calories.

Links

- Calorie Calculator (www.calculator.net/calorie-calculator.html)
- Balance Food and Activity (www.nhlbi.nih.gov/health/educational/wecan/healthy-weight-basics/balance.htm)

Exercise: Eating and Energy

Based on what you've read, answer the following questions.

1. Identify some of the side effects of negative energy balance.
2. Which part of the brain signals when to start and stop eating?
3. How do hunger and appetite differ?
4. How can you approximate the number of calories required to keep you in energy balance?
5. About _____ percent of the calories you take in are used for physiological functions like breathing, blood circulation, and digestion.

Exercise Answer Key:
Exercise: Eating and Energy

1. Headache, fatigue, and lack of energy
2. Hypothalamus
3. Hunger is a physiological response; appetite is a psychological response.
4. Add a zero to the weight you would like to be.
5. 60

Exercise: Healthy Eating

Based on what you've read, answer the following questions.

1. How many calories do you have to take away to lose one pound?
2. What are some of the dangers of taking pharmaceutical and herbal preparations to lose weight?
3. List five different strategies that are effective in promoting weight loss.

Exercise Answer Key:
Exercise: Healthy Eating

1. 3,500
2. Certain pharmaceutical and herbal preparations can induce the loss of fluid in the body in a process called the diuretic effect. This not only causes a loss of water but will also result in the loss of minerals, such as magnesium and potassium, which can lead to increased blood pressure, irregular heartbeat, and kidney failure.
3. Any five of the following: Use low-fat cooking methods; avoid extreme calorie

restrictions; eat at least 1,200 calories per day; lose weight slowly, only 1 or 2 pounds per week; select a diet that fits your lifestyle and food preferences; exercise at least 30 minutes most days; be realistic; weigh yourself once a week at most; reward yourself with something other than food.

3.2 Calculate a person's ideal weight range

The "Right" Weight

READING ASSIGNMENT

An ideal body weight is the weight at which you feel your best, considering your height, bone structure, and muscle development. Where your actual weight is in reference to your ideal weight is often used as a health check, because it can be assessed quickly and easily and doesn’t require complicated equipment.

Determining Ideal Body Weight

Read on to determine your ideal weight. Women get 100 pounds and men get 105 pounds for their first 5 feet of height. Every additional inch adds 5 pounds. To create a weight range, you add or subtract 10 percent. So, a woman who is 5 feet, 4 inches tall should weigh somewhere around 120 pounds, with the range being 108 to 132 pounds. A man who is 5 feet, 7 inches would have an ideal body weight of 140 pounds, with a range of 126 to 154 pounds.

Body Fat Percentage

What you weigh isn’t as important as the proportion of your body that’s composed of fat. Why? Because muscle equals healthy living, whereas excess fat causes high blood pressure, diabetes, cancer, circulatory diseases, and other undesirable problems. Simply weighing a person doesn’t really give a good picture of that person’s physical condition, because the scale doesn’t indicate how much of that weight is fat and how much of it is muscle. Consider it this way: A person who includes weightlifting, skiing, and swimming in a regular exercise program will probably be composed of mostly lean muscle. However, this person will probably show up as “overweight” on a height-for-weight chart, because muscle is

denser and weighs more than fat.

Because excess fat can lead to poor health, most scientific techniques used to measure a person's fitness attempt to determine the percentage of body fat. A number of different methods are available for measuring body fat. Some of these methods involve water tank immersion, while others involve the use of electrodes.The image shows a *caliper*, which measures specific areas of fat that nutritionists can use to calculate body fat percentage.

BMI

[Measuring Body Fat with a Caliper]

Many different instruments are used to measure body fat. The caliper shown here is just one example.

One measure of how much fat a person is carrying is the *BMI*, or *body mass index*. BMI is more useful than a height-for-weight chart. You're likely familiar with those charts; you look up your height and then see what you're supposed to weigh.

However, it doesn't take into account how much of you is muscle and, more important, how much is fat. The BMI has ranges for height and takes other factors into consideration. Another perk of the BMI is that it can be used for all ages. Other charts, such as insurance tables, are geared specifically to adults or children.

To calculate your BMI, you need a ruler or tape measure and a scale:

1. Divide your weight (in pounds) by your height (in inches).
2. Divide your answer from #1 by your height (in inches).

3. Multiply your answer from #2 by 703. This is your BMI.

The tables below are from the National Heart, Lung, and Blood Institute, Centers for Disease Control and Prevention, and New York Bariatrics and Laparoscopy, which adds additional categories.

National Heart, Lung, and Blood Institute	
BMI	**Weight Status**
Below 18.5	Underweight
18.5–24.9	Normal or Healthy Weight
25.0–29.9	Overweight
30.0 and Above	Obese

Centers for Disease Control and Prevention	
BMI	**Weight Status**
Below 18.5	Underweight
18.5–24.9	Normal or Healthy Weight
25.0–29.9	Overweight
30.0 and Above	Obese

New York Bariatrics and Laparoscopy	
Classification	**BMI**
Underweight	<19
Ideal BMI	19–25
Overweight	25–30
Obese	30–35
Severely Obese	35–40
Morbidly Obese	40–50
Super Obese	>50

[BMI Charts]

For example, if you're 5 feet, 3 inches tall (63 inches total) and weigh 110 pounds, the steps will go as follows:

1. 110 ÷ 63 = 1.746

2. 1.746 ÷ 63 = 0.0277
3. 0.0277 × 703 = 19.4 BMI

A BMI of 18.5 to 25 is usually considered to be a healthy weight; 25 to 30 is considered overweight; and a BMI over 30 indicates obesity.

BMI charts and calculators are available from a number of different sources. For example, visit this one (www.nhlbi.nih.gov/health/educational/lose_wt/BMI/bmicalc.htm) from the national institutes of health.

To use a BMI chart, locate your height in the left-hand column then move across the chart to find your weight. The number at the top of the column is the BMI for that height and weight.

Obesity and Related Conditions

A person with a BMI of 25 to 30, or 10 to 20 percent over ideal body weight, is considered to be overweight. A person with a BMI over 30, or 20 percent above ideal body weight, is considered to be obese. *Morbid obesity* is when a person is over 100 percent of his or her ideal body weight. Morbid obesity is just what it sounds like—a body carrying around so much excess fat that it's life-threatening.

On the other side are people who are underweight. A person who's *underweight* is 15 to 20 percent below ideal body weight. Although much less common than being overweight, being underweight carries its own set of problems, such as decreased ability to fight off disease and poor growth (for children). Plain and simple, the body likes to be in balance.

Water Displacement

Let's say you don't want this wimpy pen-and-paper measurement stuff. You want to be able to measure body fat like the professionals do. Body composition isn't just about weight; what you're really looking for is the amount of lean body mass. You can estimate this number on paper, but you need to do some physical tests to get an accurate answer.

One physical test is the *water displacement test.* Water displacement measurement is a fairly common way to calculate body density. Body density is body mass divided by body volume. Fat and lean tissues have different densities. By using a scientific formula, you can calculate the ratio of fat to lean muscle if you know a person's volume and weight. Once you've done

that, you can figure out a person's body composition. Women should have 20 to 25 percent body fat; men should have 12 to 25 percent body fat. Anything over 25 percent body fat should set off an alarm, because hypertension, diabetes, and heart disease could be waiting in the wings.

Water displacement uses a person's above-water weight, submerged weight, and the amount of water displaced during submersion. You don your bathing suit and are lowered on a scale into a special tank. You have to exhale completely, hold your breath, and remain motionless while you're completely submerged. The measurement can be made only once the scale is steady and the water is still. As you can imagine, this technique isn't for everybody.

Bioelectrical Impedance Analysis (BIA) and Air Displacement

Two dry techniques to measure body density are also available: bioelectrical impedance analysis and air displacement. Both are fairly expensive. *Bioelectrical impedance analysis (BIA)* looks something like an EKG measurement. Electrodes are placed on the ankles and wrists. The way electrical current bounces off various parts of the body shows the technician how much fat and lean tissue a person has. Lean tissue conducts electrical current very well, whereas fat stops, or *impedes*, electrical current. Some gyms and health centers offer BIA analysis.

Air displacement measures the amount of air displaced rather than the amount of water displaced. One air displacement tool is the BodPod. The BodPod is a chamber containing a known volume of air. A person is sealed in the BodPod for a minute or two, and the air displacement is measured.

Why all of this discussion about weight? Unfortunately, the world is getting bigger—and we mean around the waist, not around the equator. As technology improves the availability of food, citizens of industrialized nations are increasing in belt and dress sizes. Obesity, which was once an issue limited to the over-40 crowd, now affects even very young children. Being overweight—or more specifically, overfat—brings with it all types of health issues. Diabetes, high blood pressure, heart disease, kidney disease, liver disease, and certain types of cancer have been linked to obesity.

Your Own Body Weight and Calorie Requirements

Now that you've learned the basics about body weight, consider the following questions with regard to your own weight and calorie requirements:

1. Do you think you respond more to hunger or to appetite? For example, do you eat only when you're hungry, or do you eat whenever there's a social opportunity to do so?
2. Calculate your target weight according to the 100-pounds-for-the-first-5-feet formula. Now calculate your BMI. How are you doing? Do the two calculations paint the same picture?
3. How many calories do you need each day? According to your calculation, are you eating within a correct range?

Key Points and Links

READING ASSIGNMENT

Key Points

- The proportion of your body that's made up of fat is more important than what you weigh.
- The body mass index (BMI) is one way to calculate your body fat percentage.

Links

- Healthy Weight Calculator (caloriecontrol.org/healthy-weight-tool-kit/assessment-calculator/)
- BMI Calculator (www.nhlbi.nih.gov/health/educational/lose_wt/BMI/bmicalc.htm)

Exercise: All About Weight

Based on what you've read, answer the following questions.

1. Calculate the ideal weight and the weight range for a woman who is 5 feet, 7 inches tall.
2. Calculate the BMI of a woman who's 5 feet, 4 inches tall and weighs 160 pounds. Would you classify this person as normal, overweight, or obese?
3. List three physical tests used to determine a person's body composition.
4. What you weigh isn't as important as the ratio of _____ to _____.
5. A person who is _____ is 15 to 20 percent below ideal body weight.

6. A person who is overweight is _____ to _____ percent over his or her ideal body weight.
7. When a person is carrying around excess fat to the point that it's life-threatening, or when a person is over 100 percent of his or her ideal body weight, he or she is considered to be _____ obese.
8. _____ is a method of measuring body mass index that uses electrodes placed on the ankles and wrists.

Exercise Answer Key:
Exercise: All About Weight

1. To calculate a woman's ideal weight, start with 100 pounds for the first 5 feet of height and add 5 pounds for each additional inch of height. An ideal range is within 10 percent of that weight. Therefore, Ideal weight = 135 pounds; ideal range = 121.5 to 148.5 pounds
2. (1) Divide 160 by 64. Answer = 2.5(2) Divide 2.5 by 64. Answer = .039 (3) Multiply 039 by 703. Answer = 27.4. BMI is 27.4. This person would be considered overweight, not obese.
3. Water displacement, bioelectrical impedance analysis, and air displacement
4. muscle, fat
5. underweight
6. 10, 20
7. morbidly
8. Biolectrical impedance analysis (BIA)

3.3 Identify the risks of trying to maintain a healthy weight using fad diets

Weight Management

READING ASSIGNMENT

Maintaining a proper weight has become a national health issue. Everyone seems to be discussing their weight and doing something about it. One in every five Americans is overweight. Adults aren't the only ones who are overweight; many children are overweight,

too, with serious consequences. Research has linked childhood obesity with an increase in Type II diabetes. Being overweight can bring on diabetes, high blood pressure, and heart disease. It also puts undue strain on the back, legs, and circulatory system.

Overweight individuals aren't necessarily well nourished. They may still suffer from vitamin and mineral deficiencies. How is this possible? Just because a person eats a lot of food doesn't mean the foods eaten are nutritious. Very few people gain too much weight overeating fresh fruit salad, baked sweet potatoes, or grilled vegetables. Cookies, soda, hot dogs, and chocolate cake all might taste great, but they offer very little in the way of nutrition.

Weight gain or loss can be irritating or scary, depending on the circumstances. Sudden weight loss can be a symptom of diabetes and some cancers, but it can also mean that a person isn't eating sufficient calories. Sudden weight gain can be an indicator of some types of heart disease or cancer, or it can mean a person has been consuming too many calories.

Conversely, people who are underweight might have problems fighting off infections and illnesses. If the body has to use all of its energy just to get the basic systems running, it won't have the reserves it needs to assist in warding off bacteria and viruses.

[Fast Food Hamburger and Fries]

Fast food may taste great, but it contains very little nutrition.

Calories in equal calories out. Period. It takes about 3,500 calories to lose or gain a pound. That means 3,500 calories per week (or 500 calories each day of the week) must be cut out to lose a pound a week, or added to gain a pound.

So how is it that some people can chow down 15 times a day and maintain their weight while some people only have to look at food to gain weight? Many theories exist about the cause of obesity. Some scientists look at heredity and genes, others look at social influences, and still

others look at everything from evolution to blood type. We don't really know what predisposes certain people to obesity. What we do know is that obesity is dangerous.

The Low-Fat Approach

This brings us to the concept of weight management. Many weight-loss systems are available today. They range from self-help books and products to counselor-driven programs to 12-step-like groups. Some weight-loss systems are done under medical supervision. No one system works for everyone. The best weight-management programs are based on good science and firm nutrition theories. Remember that weight loss is a long-term commitment and that any successful plan will include changes in behavior, eating patterns, food selection, and physical activity.

Weight management isn't just for people who are overweight. People who are chronically underweight have to make a conscious effort to maintain weight. Weight gain can be difficult for people with chronic medical conditions. People who don't feel well often don't feel like eating. Drug therapy can interfere with the ability or the desire to eat or interfere with the body's ability to absorb nutrients. Psychological or emotional stress can also contribute to weight loss or weight gain, depending on the individual.

[Woman Holding Scale]

The benefits of weight loss result from long-term commitment.

Too many calories, especially from fat and sugar, help to put on the pounds and keep them there. It's been estimated that most Americans are eating at least 200 extra calories a day. That translates into a weight gain of 15 to 18 pounds a year.

Behavior changes, regular exercise, and a healthy, low-fat diet have been found to work best for weight management over the long haul. A good diet watches for fat, not calories. Low-fat

diets are more effective than low-calorie diets. Foods with less fat tend to have fewer calories anyway.

[Pizza with Vegetable Toppings]

Rather than eliminating foods like pizza from your diet, try to find ways of reducing their fat and calorie content. This pizza is topped with vegetables, instead of high-fat alternatives like sausage and pepperoni.

Calorie counting and food deprivation aren't as effective as simply eating more low-fat foods. In other words, have the pizza. Rather than allowing yourself only one-half slice of a sausage-and-pepperoni pizza, go ahead and eat three slices of vegetarian pizza heaped with three kinds of peppers, four kinds of mushrooms, and some olives. If you feel full, you'll feel satisfied and more likely to continue on the plan.

Maintaining a healthy weight is a lifelong commitment. Fast weight-loss programs don't help people keep weight off for extended periods because they don't teach them anything. People can restrict their calories for several weeks and lose weight. However, after the diet, they often return to their "normal" eating patterns that caused the weight gain in the first place.

Consider the following facts: A 16-ounce glass of cola has about 200 calories and about 45 grams of sugar. The 32-ounce supersize version has up to 400 calories and about 95 grams of sugar. Do the french-fry math. An average order of french fries has about 350 calories and

16 grams of fat. Supersize that and you can get up to 600 calories and 30 grams of fat.

As a reference, an average, moderately active adult male should consume about 2,500 calories and 85 grams of fat per day. An average, moderately active adult female should consume 1,800 calories and 60 grams of fat per day. Going by the above numbers, this means that one helping of super-sized fries contains one-third to one-half of most people's fat needs for the day. See the following table for tips on how to pick healthier food items when you want to grab the potato chips or the ice cream in the freezer.

Intelligent Grazing

Instead of	Think of
Potato chips or fries	Baked potato, pretzels, baked snack chips, low-fat popcorn
Snack cakes and frosted cakes	Angel food cake with puréed raspberries or strawberries, small amount of chocolate syrup or maple syrup
Soda and no-juice fruit drinks	Sparkling water, flavored water, fruit juice, blended fruit smoothies, unsweetened or low-sweetened iced tea
Ice cream and ice cream beverages	Nonfat or low-fat frozen ice milk or yogurt, sorbets, fruit ice, smoothies made with soy or rice milk or nonfat dairy milk
Cookies with cream fillings	Graham crackers with small amounts of peanut butter and fruit preserves, ginger snaps, vanilla wafers, marshmallows
Chips and dip	Veggie sticks (carrots, celery, broccoli, cauliflower, jicama, radishes, zucchini) and humus (garbanzo bean dip), or dips made with mashed beans or low-fat yogurt

The Dangers of Yo-Yo Dieting

At least 50 percent of women and 25 percent of men are trying to lose weight at any one time, but only 10 percent keep it off for over a year. Some people have a cycle of losing weight, gaining it back, and then losing it again. This cycle is called *yo-yo dieting.*

After a while, it becomes almost impossible for a yo-yo dieter to lose weight. The body becomes so efficient at saving the calories it's given that a person can't restrict calories to a low-enough level to lose weight. The body says, "I don't know if you're starving me or fattening me up this week, so I'm not taking any chances. I'm saving all the calories I can." The body is efficient and learns to extract every calorie it can from the food it's given. Starvation just causes the body to crave high fat to replace the lost body fat.

Another side effect of yo-yo dieting is that the body redeposits fat in the abdominal area (stomach) when it can. Fat above the waist is easier to lose than fat below the waist. This is simple physics. Your heart has to pump blood to all areas of the body. Gravity helps the heart with the distribution of fluid. Anything above the heart is more work, because it makes the heart work against gravity; anything below the heart requires less work. When you see people who are dieting, the first noticeable place they lose weight is usually in their face. The body works from the top down, getting rid of the weight in areas that require more work to maintain. So, if there's extra fat, the body is going to deposit it below the waist, where it doesn't require so much work. You thought you had a choice where you lost your weight? Think again. There's no such thing as "spot" reducing.

A variation of yo-yo dieting is eating only once a day. People who eat only once a day have a very low resting metabolism. This means they need fewer calories. Their body has adapted to the idea that it won't be getting very much food, so it reduces its calorie needs. Their metabolism rises after each meal to burn calories. Unfortunately, they probably also find themselves with very little energy, because their blood sugar levels are so low for most of the day. It would be almost impossible to get all the nutrients needed at one meal a day. If people following this eating pattern decided to eat several times a day, they'd see a weight gain, because their bodies would store all of the extra, unneeded energy.

So, is all hope lost? Should we just give up? Not at all. Remember the basic tenet of weight —calories in equal calories out. You have to come up with a plan that you can follow, with allowable exceptions, for the rest of your life that allows for the right amount of calories for you. Look at how and what you like to eat and work with that to devise a comfortable eating plan. Also consider the *U.S. Department of Agriculture (USDA)* dietary guidelines when creating a meal plan.

Build a Healthy Base

- Eat a variety of grains daily, especially whole grains.
- Eat a variety of fruits and vegetables daily.
- Keep food safe to eat

Choose Sensibly

- Choose a diet that's low in saturated fat and cholesterol.
- Choose beverages and foods to moderate your intake of sugar.
- Choose and prepare foods with less fat.
- If you drink alcoholic beverages, do so in moderation.

Diet Revolutions?

The diet industry is a billion-dollar industry and one of the largest sectors in the food industry. You might be familiar with many of the different diets promoted by the diet industry, ranging from high-protein diets to high-carbohydrate diets. Let's take a look at some popular weight-loss systems.

High-Protein Diets

Cheeseburgers, hold the bun. Steak and potatoes, hold the potatoes. BLTs, hold the toast. Is this any way to diet? The most popular diet books of the past decade preach the gospel of bacon, hold the pasta. Dr. Robert Atkins created a "diet revolution," and *Sugar Busters* and *Protein Power* all preached the power of high-protein, high-fat, low-carbohydrate, low-sugar diets.

High-protein, high-fat, and low-carbohydrate diets, such as the Atkins diet and the Zone, are very popular. With an Atkins-style diet, you eliminate almost all grains, breads, pastas, cereal, and starches, and eat mostly meat, fish, poultry, eggs, vegetables and dairy products. The theory behind high-protein, low-carbohydrate diets is that carbohydrates trigger the body to release insulin to help it use up the carbohydrates. If too many carbohydrates are eaten, then the body will overproduce insulin, and insulin tells the body to store extra energy as fat. Dr. Atkins's solution is to eliminate carbohydrates from the diet, forcing the body to look to protein and fat for energy. The body isn't designed to do this very efficiently, so it has to work harder (translation: burn more calories).

Yes, eating out is much more fun when you're on a high-protein diet. Many steakhouses and hotels offer "Atkins" menus to attract more clientele. It's much easier for the food service staff to serve a bacon-wrapped steak, hold the potato, than it is to create an interesting seasonal vegetable grill with barley pilaf served on a tomato-and-pepper reduction.

Lots of people lose weight on the Atkins or Zone diets. Fats tend to “stay with you”—that is, they tend to keep you feeling full for long periods of time. Perhaps small amounts of fat help some people to eat less, because they feel satisfied.

It sounds like a dream come true: eat all of the protein and fat you want and lose weight. Think about an eating pattern as a marriage you plan to keep for life. Are you prepared to go through life eating bacon, burgers, and beef, hold the bread, potatoes, and tomatoes? If you answered with an emphatic “yes,” consider the consequences. Depending on your genetics, you might be losing weight but eating yourself into early coronary artery disease, hypertension, diabetes, or arthritis. The excessive amounts of cholesterol and saturated fats in the Atkins and Zone diets can lead to clogged arteries that can, in turn, lead to heart attacks and strokes. High-fat diets can also cause constipation. Is that something you want to look forward to for the rest of your life? And, because of the limited amounts of carbohydrates, these diets contain very few nutrients and little fiber.

In many cases, the weight loss generated by such diets is mostly artificial. Carbohydrates hold water. If you don’t eat carbohydrates, your body holds on to less water. Eating fat decreases your appetite, and eventually you might reduce the amount of food you’re eating every day. In the end, the pounds come back, because no one can maintain this eating style over the long run.

Of the two diets—Atkins and Zone—Dr. Barry Sears’ Zone Diet is a little less extreme, allowing 40 percent of calories to come from carbohydrates in the form of fruits and vegetables. The 30-percent protein component is supposed to come from lower-fat fish and chicken and yogurt or cottage cheese. This is a more reasonable approach than the Atkins diet, but it’s still limited in calcium and fiber and has more protein than the USDA and American Dietetic Association recommend. Eating elevated amounts of protein for extended periods has been linked to kidney and liver disease and might cause certain vitamin deficiencies.

You should be familiar with both of these diets. At its peak, there were “Zone” restaurants in most major cities. Dr. Sears has expanded his Zone philosophy to include soy. One of his current books is *The Soy Zone.* This addition to the Zone repertoire allows vegetarians or people who don’t want to eat animal products to follow a high-protein, plant-based diet.

High-Carbohydrate Diets

People who design diets often like to experiment with different combinations of nutrients. Let's now take a look at high-carbohydrate, moderate-protein diets. It's very interesting that both high-protein *and* high-carbohydrate diets promise the same end result—weight loss.

Proposed by Dr. Dean Ornish, a cardiologist, the Ornish diet is extremely limited in fat; actually, it's practically fat-free. Dr. Ornish's diet plan is almost vegan, with fruit, vegetables, grains, beans, and legumes as the main components of the daily diet. Limited amounts of nonfat cottage cheese and yogurt are allowed, but no meat, poultry, or seafood. The diet is very "bulky," so people feel full after a meal. Dr. Ornish also recommends a regular routine of weight-bearing and stress-reducing exercise. The Ornish diet does work and has helped people with risk factors for heart disease to lower some of their risk. However, the Ornish diet takes a lot of commitment, because all of the menu items have to be prepared from scratch, and time needs to be set aside each day for exercise and stress reduction.

When it comes to losing weight and keeping it off, there's no easy, painless solution. Any diet that contains 1,400 to 1,500 calories or fewer per day will produce short-term weight loss in most adults. You can live on 1,500 calories of chocolate and bacon and lose weight. However, you'll probably destroy your health; you'll be very skinny for a couple of months, but it's not worth the time you'll spend sitting in the cardiologist's office. Most diets, no matter how weird, produce some weight loss for a short amount of time. After that, weight comes back with a vengeance as your body attempts to stabilize its metabolism.

Why do these "miracle" diets work at all? Although they accomplish it in different ways, all of these diets require that certain foods be eliminated or reduced, which means that, by hook or by crook, calorie intake is reduced. But once the calories and eliminated foods are returned to the daily intake, the pounds also return.

Eat your vegetables, have a piece of fruit, strive for a balanced diet, and exercise. You'll get healthy, look and feel good, and save a lot of money on all of those diet products and books you don't need.

Key Points and Links

READING ASSIGNMENT

Key Points

- No one weight-loss system works for everyone.
- There are many types of diets.

Links

- American Institute for Cancer Research (www.aicr.org)
- American Heart Association Heart-Check Food Certification Program (www.heart.org/HEARTORG/GettingHealthy/NutritionCenter/Heart-CheckMarkCertification/Heart-Check-Mark-Certification_UCM_001179_SubHomePage.jsp)
- Stop Yo-Yo Dieting (www.everydayhealth.com/wellness/state-of-resilience/yo-yo-dieting-how-avoid-weight-loss-regain/)

Exercise: Diets

Based on what you've read, answer the following questions.

1. Explain why “yo-yo” dieting might actually result in weight gain.
2. Describe why the Atkins and Zone diets cause weight loss, and identify the risks associated with each diet plan.
3. Why is a high-carbohydrate, moderate-protein diet like the Ornish diet often very difficult for a person to follow?
4. List some health risks of being overweight.
5. The theory behind high-protein, low-carbohydrate diets is that carbohydrates signal the body to produce _____ which in turn signals the body to store extra energy as fat.
6. Fat _____ the waist is harder to lose than fat _____ the waist.

Exercise Answer Key:
Exercise: Diets

1. The body adjusts to getting the most from fewer calories, and when calorie intake is then increased, the body “hoards” the extra calories as fat.
2. Both diets limit food intake, thus lowering calorie consumption, and eating a lot of fat decreases a person’s appetite. However, both diets might cause heart disease, stroke, and constipation.
3. A diet like the Ornish diet is hard to follow because it takes a lot of commitment, mainly

because all of the menu items have to be prepared from scratch and time needs to be set aside each day for exercise and stress reduction.

4. Diabetes, high blood pressure, heart disease, stress on back and legs
5. Insulin
6. below, above

3.4 Analyze nutrition labels

Portions and Nutrition Labels

READING ASSIGNMENT

You've learned about the basics of hunger and appetite and the importance of having a healthy body weight. You've learned about weight-loss strategies that work and examined those that don't. In the next few sections of this study lesson, you'll learn about serving sizes and portion control and how to create menus and recipes that can be part of a healthy weight-maintenance plan.

We'd all like to eat whatever we want without suffering any health consequences. It would be nice if we had magic wands and could take all of the sugar out of chocolate cake and all of the fat out of prime rib. We may not be able to do that, but we can substitute many menu items that taste good without so much of the bad stuff.

Two very easy ways to cut down on calories work well for the kitchen budget: paring down serving sizes and serving gravies, sauces, and salad dressings on the side. We can learn how to read food labels. We can organize healthy shopping trips and explore how to take a commonsense approach to healthy eating.

How Much Is Enough?

Serving sizes can be tricky. People's perception of what they eat is usually quite different from what they actually eat. This false perception works both ways. Underweight people tend to overestimate what they eat, while overweight people tend to underestimate their intake. Estimates of portion sizes tend to be a combination of social background, degree of hunger, time of day, food-packaging suggestions, and restaurant servings.

[Salmon, Potatoes, and Vegetables]

Balance is a key to good nutrition.

The spoilsports known as nutritionists and dietitians suggest guidelines that most people tend to disregard (or disdain). A serving of meat should be no bigger than a deck of cards. Entrée plates should be equally divided into thirds, with one-third for vegetables, one-third for carbohydrates, and one-third for the entrée. You get the idea. For more information on serving sizes, visit the websites of the Academy of Nutrition and Dietetics (www.eatright.org/) and the American Institute for Cancer Research. (www.aicr.org/?referrer=www.aicr.org/)

What Counts as a Serving

Starch: 1 slice of bread, 1/2 bagel or hamburger bun, 1/2 cup cooked rice or pasta, 3 cups popped popcorn (no butter), 1 tortilla, 1 ounce unsweetened cold cereal (about 3⁄4 cup), 1 small baked sweet potato or white potato

Fruit: 1 small piece of fresh fruit, 1/2 cup chopped fresh fruit (or fruit canned in juice or water or frozen without sugar), 3/4 cup unsweetened fruit juice, 2 tablespoons dried fruit (such as raisins or apricots)

Vegetables: 1 cup fresh, raw vegetables; 1/2 cup cooked vegetables

Protein: A serving of meat should be the size of a deck of cards or a small human fist (about 2 to 3 ounces), 1/2 cup cooked dried beans or peas, 2 tablespoons of peanut butter or other nut butters, 1 large egg, 3 large egg whites, 1 ounce nuts, 1/2 cup tofu or soy meat Dairy: 1 cup milk, yogurt, or soy milk (purchase enriched soy milk); 1/2 cup cottage cheese; 2 teaspoons cream cheese; 1 ounce solid cheese

Fat: 1 teaspoon vegetable oil, butter, or margarine; 1/8 avocado, 2 slices bacon, 5 olives

Just Read the Label

Many people are surprised at how much information is contained on the labels of packaged foods. Knowing how to read and interpret food labels is an important skill that will help you determine which foods are good, healthy, and fresh and which ones you should avoid. However, food labels can be tricky. Let's discuss the information contained on a food label and determine what it means.

By law, a food label must contain

- The name of the food and manufacturer (with contact information)
- The net weight or quantity contained in the package
- All ingredients, listed in descending weight, with the heaviest ingredient listed first
- The serving size, as specified by the FDA

Two important sections on the food label are the Nutrition Facts and the % Daily Values. Under *Nutrition Facts*, the manufacturer must list the total calories, calories from fat, total fat, saturated fat, cholesterol, sodium, total carbohydrates, dietary fiber, sugars, protein, vitamin A, vitamin C, calcium, and iron for a serving size. The only time another nutrient must be listed is when a manufacturer makes a nutritional claim, such as "fortified with potassium."

The *% Daily Values* are based on a 2,000-calorie daily diet, with 30 percent of calories coming from fat, 10 percent from protein, and 60 percent from carbohydrates. Consumers have to do some division or multiplication, depending on the number of calories they eat in a day.

The USDA has certain rules for the terms food manufacturers use on their labels:

- *Fresh* means that a food is raw or unprocessed and has never been frozen or reheated. It also means that no preservatives have been added (low-level irradiation is allowed).
- *Healthy* denotes that a food is low in fat and saturated fat, has no more than 60 milligrams of cholesterol per serving, and has at least 10 percent of the *recommended dietary allowances (RDA)* for vitamins A or C and for protein, calcium, iron, and fiber. Healthy also means that a side dish has no more than 360 milligrams of sodium per serving and an entrée no more than 480 milligrams.
- *More* indicates that a food has at least 10 percent more of the RDA for a particular

nutrient than a regular food. For example, calcium-fortified orange juice can make a label claim of “more calcium” than regular orange juice.

- *Light* is one of the more confusing words that appear on labels. *Light* can mean several things. It can be used to describe a color or texture, as in “light wheat bread.” (This meaning of light contains no particular nutritional information.) It can mean that a food contains one-third fewer calories or half the fat of a regular product. It can also mean that a low-fat, low-calorie food has had its sodium content reduced by half.

Many other terms appear regularly on food labels.

- *Reduced* means that a product has had its fat or sodium content lowered by 25 percent. For example, baked potato chips can be 25 percent reduced in fat and carry a “reduced fat” label.
- *Less* means that a food contains 25 percent fewer calories or nutrients than a comparable product.
- *High* means a food contains 20 percent or more of a particular nutrient in a serving of food.
- *Good source* means a food contains 10 to 19 percent of the RDA for a particular nutrient.
- *Lean* means a meat product has fewer than 10 grams of fat and fewer than 95 milli grams of cholesterol.
- *Extra lean* means a meat product has fewer than 5 grams of fat and 95 milligrams of cholesterol.
- *Free* means a product contains only negligible amounts of fat, saturated fat, cholesterol, sodium, sugar, or calories.
- *Fortified* means a manufacturer has added 10 percent or more of the RDA for a particular nutrient.

“Low” can mean several different things:

- *Low fat* means there are fewer than 3 grams of fat per serving.
- *Low saturated fat* means there’s less than 1 gram of saturated fat per serving.
- *Low sodium* means there’s no more than 140 milligrams of sodium per serving.
- *Low cholesterol* means there’s no more than 20 milligrams of cholesterol per serving.
- *Low calorie* means there’s no more than 40 calories per serving.

Food manufacturers are currently permitted to say that their products can be part of a diet to help prevent or limit the following conditions:

- Osteoporosis (added calcium)
- Cancer (low fat or fiber)
- Heart healthy (soy or omega-3 fatty acids)
- Heart disease (low cholesterol or fiber)
- Hypertension (sodium)
- Birth defects (folic acid)

Key Points and Links

READING ASSIGNMENT

Key Points

- It's important to know how to read and interpret food labels so that you can determine which foods are good, healthy, and fresh and which ones you should avoid.

Links

- How to Understand and Use the Nutrition Facts Label (www.fda.gov/Food/IngredientsPackagingLabeling/LabelingNutrition/ucm274593.htm)
- Understanding Food Nutrition Labels (www.heart.org/HEARTORG/HealthyLiving/HealthyEating/Nutrition/Understanding-Food-Nutrition-Labels_UCM_300132_Article.jsp#.Vxt8GZMrLXQ)
- The Basics of the Nutrition Facts Panel (www.eatright.org/resource/food/nutrition/nutrition-facts-and-food-labels/the-basics-of-the-nutrition-facts-panel)

Exercise: Cutting Calories and Serving Sizes

Based on what you've read, answer the following questions.

1. Name two easy ways to cut down on calories during the week.
2. Give an example of what's considered one serving for each of the following food groups: starch, fruit, vegetables, protein, dairy, and fat.

3. Describe the difference between a product that's "reduced" and one that's "low-fat."
4. By law, what are the four required elements that a food label must contain?
5. The % Daily Values information on a food label is based on a diet of _____ calories.
6. Low fat used on a food label means there are fewer than _____ grams of fat per serving.
7. Soymilk that's labeled "more calcium" must contain _____% more calcium than regular soymilk.

Exercise Answer Key:

Exercise: Cutting Calories and Serving Sizes

1. Reduce serving/portion sizes and serve gravies, sauces, and salad dressings on the side.
2. Here are some examples:
   Starch—1 slice of bread, ½ cup cooked rice/pasta, ½ bagel, 1 tortilla
   Fruit—½ cup chopped fresh fruit, 1 small piece of fresh fruit, ¾ cup unsweetened fruit juice
   Vegetables—1 cup fresh, raw vegetables, ½ cup cooked vegetables
   Protein—A meat serving the size of a deck of cards, ½ cup cooked beans or peas, 2 tablespoons of peanut butter
   Dairy—1 cup milk, yogurt, or soy milk, 1 ounce solid cheese
   Fat—2 slices bacon, 5 olives, 1 teaspoon vegetable oil/butter or margarine
3. A reduced product has had its fat or sodium content lowered by 25 percent. A low-fat product has fewer than 3 grams of fat per serving.
4. The name of the food and manufacturer; the net weight or quantity contained in the package; all ingredients listed in descending weight; the serving size, as specified by the FDA.
5. 2,000
6. 3
7. 10

3.5 Create healthy meal plans using alternatives for staples, breakfast, and

dessert

Healthy Eating

READING ASSIGNMENT

Not all cooking methods are created equal. Boiling carrots for hours will cook all of the beta-carotene out of them (as well as flavor and color). Steaming or fast grilling is a better cooking method for vegetables, helping to retain their nutrients. Interestingly, fresh tomatoes or carrots cooked in a microwave for a very brief time release more of their nutrients than when eaten raw. The vitamins, minerals, and botanicals in slightly cooked tomatoes and carrots are used more efficiently by humans than those in raw tomatoes and carrots. Go figure!

Does this mean you should microwave everything? Absolutely not. Many foods release their nutrients just fine when eaten uncooked or prepared with various methods.

If you eat a varied diet, you aren't relying on one food to supply you with all of your daily needs. For example, you can get all of your vitamin C by drinking a gallon of orange juice every morning. However, that would be boring and expensive, and it doesn't ensure that particular juice has all of the vitamin C it promises. You might have left the carton open to air and light, which would destroy some of the vitamin C. If the orange juice is pasteurized, some of the vitamin C could have been lost during the heating process. You would be much better off drinking some orange juice in the morning, tossing some fresh grapefruit sections onto your green salad at lunch, piling on the fresh salsa (tomatoes, peppers, and chilies have vitamin C), munching on some mango or kiwi, and adding some strawberries to your frozen yogurt. Eating a variety of foods cooked in a variety of different ways is a better way to get your nutrients than relying on one food source or cooking technique.

Sneaking in the "Good Stuff"

"Good food" can help to keep the immune system functioning at its best and can be lower in calories and higher in nutrients. You'll be surprised how you can "sneak in" good nutrition and "sneak out" some of the less beneficial ingredients. The following tips can help you transform unhealthy eating habits:

- **Fruits instead of cookies and cakes:** Eat fresh apples, pears, oranges, grapes, bananas, peaches, apricots, melon slices, and dried fruit; poached or baked apples or pears; baked bananas; apple and pear cobblers (use low-fat granola and graham

crackers for a crust).

- **Veggies instead of chips:** Eat carrot and celery sticks, radishes, cherry tomatoes, jicama, broccoli, cauliflower, cucumbers, bell pepper strips, roasted summer squash and eggplant, grilled carrots, baked white and sweet potatoes, and baked beet, carrot, and potato chips.
- **Juice instead of soda:** Drink fresh or frozen orange juice; cranberry-orange juice blends; grape juice; nectars, such as apricot, mango, peach, or pear; smoothies made with fresh fruit and juice; fruit ices or sorbets made with juice, puréed fruit, and orange or apple juice concentrate.
- **Whole instead of white:** Eat whole-wheat bread and pasta; carrot and zucchini muffins; corn bread; oatmeal; graham crackers; bran and whole-grain cold cereals.

All fruits are good, and some are great! A food science professor at Rutgers University went looking for fruit that contained at least eight important vitamins and minerals per 3-ounce serving. He found that kiwi, papaya, cantaloupe, strawberries, mangoes, lemons, oranges, and avocados fit the bill. Walnuts and Brazil nuts, carrots, sweet potatoes, and broccoli were pretty nutrient-dense, too.

Another way to increase the amount of nutrients in the diet is to add nuts to sauces, salads, cooked grains, vegetable dips, pancake batter, and so on. Yes, nuts are higher in calories than many foods, but their fat is unsaturated, and research indicates that they might offer many health benefits. Chop some nuts and roll them into tofu, seitan, or tempeh and then bake to create a crusted entrée. Purée pine nuts with basil and olive oil to make a fast pesto sauce for pasta or veggies.

Look beyond the low-carb mania we discussed earlier and think about pasta. Pasta is a great food. Pasta is low-calorie (about 100 calories per 1⁄2 cup serving), high in complex carbohydrates, low in fat and sodium, and generally fortified with folic acid, niacin, riboflavin, and iron. Pasta can be prepared quickly, it stores well, and it tastes good!

Now that you're in the nutrition mindset, you should think about sneaking nutritious foods into everyday meals. Consider the following during shopping and meal preparation:

- Add canned beans and soybeans to soups, pastas, pizzas, and stews.
- Mix edamame into green salads or pasta salads, eat them as a snack instead of chips, or use them as a hot or cold side dish.

- Alternate peanut butter with soy butter, hazelnut butter, and almond butter.
- Flavor soups and stews with miso, puréed vegetables, and nutritional yeast to increase the soy, vitamin, and mineral content of your meals.
- Use soy-based""“coffee cream."
- Add nuts and dried fruit to muffin and quick bread batters, rice, couscous, and barley.
- Grate raw beets, carrots, jicama, and other root veggies into thin sticks and add them to salads and soups.
- Use lower-fat cooking techniques: steaming, poaching, barbecuing, wok-cooking, broiling, baking, and roasting.
- Use vegetable and fruit juice, vegetable or mushroom broth, or wine as a cooking liquid, rather than always using oil or margarine. Not only will this cut down on fat, but it will create new taste sensations!

When it comes to nutrition, your stomach doesn’t distinguish what time of day it is. Who hasn’t had a bowl of corn flakes for dinner or a cold burrito for breakfast? It isn’t the chronology that matters; it’s the balance. Add some kiwi, tomato, and pineapple slices to that morning burrito and throw together a fruit smoothie to have with that cereal (and toss some nuts into the cereal or have half of a bagel with peanut butter with it). Remember that you’re dedicated to balance and variety on your menu.

Let’s spend a little time talking about healthy foods that will please palates; reduce fat, salt, and calorie intake; and increase vitamin, mineral, and water intake.

Winter Vegetables

When people reduce calories, they don’t necessarily want to reduce mouthfeel or the amount of food on their plate. The secret is to select ingredients that have lots of “chew” but not a lot of calories. Winter vegetables are a great way to get a lot of “chew” without the calories.

Winter vegetables are tolerant to cold weather. Many vegetables referred to as winter vegetables can actually be grown throughout the year. They’re not only grown in the winter months.

[Bowl of Soup]

Winter vegetables like carrots can be used to create hearty soups and stews.

Winter vegetables are sturdy, which means they'll stand up to lots of preparation. They're high in fiber, which means they're lower in calories. Fairly large servings can be eaten without excess calories. Winter vegetables give a pleasant, "full" sensation without a lot of fat or salt. Hearty greens (such as cabbage, kale, mustard greens, and turnip greens), a variety of onions (such as leeks; white, yellow, and red onions; and shallots), and root vegetables are high in vitamins and minerals with little fat or salt. They have lots of texture, flavor, and color. Presented in a creative way, most people will forget that they're "eating their vegetables" without the benefit of lots of butter or cream. Winter vegetables are economical as well; they're usually less expensive than dairy or meat ingredients. Combine good nutrition with good economic sense!

Delicate greens are readily available during the summer, but sturdy greens, such as collards, kale, and chard, are available fresh and reasonably priced throughout the winter. Store fresh greens in a closed container to keep them from drying out and keep them cool. The following are just a few ways that greens can be used:

- Shred greens finely and use them uncooked as a salad garnish.
- Lightly steam shredded greens and use them to garnish soups and stews.
- Chop and steam, mix with egg whites or silken tofu and breadcrumbs, and fry or bake as a green pancake to accompany entrées.

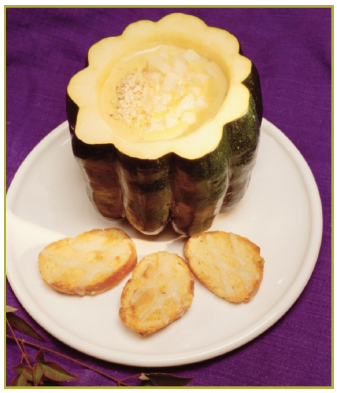
Greens have a reputation for being difficult to clean and being overly strong in flavor. Solve the cleaning issue by purchasing already-cleaned greens (and already chopped, to save labor). Forget the notion of simmering greens for hours. Most greens can be quickly steamed

or lightly sautéed for a holiday-colored, fresh-tasting side dish.

Greens can be used as a side dish, tossed into other side dishes, such as pasta or rice, and even used as part of a stuffing mixture for poultry and seafood. When fresh greens aren't available or convenient, buy frozen ones. Be sure to allow them to thaw and squeeze excess water from them to ensure that the finished product isn't soggy.

Onions are available fresh in the spring and summer and as storage vegetables the rest of the year. Onions are great as an ingredient; however, they can also stand alone as an accompaniment dish. Leeks, which resemble overgrown green onions, are mild in flavor and can be sliced and stewed, sautéed, or steamed and served with a light, creamy sauce. Leeks have a delicate onion flavor and a moist, tender mouthfeel. Use leeks in stuffings and soups when you want a hint of onion flavor.

Yellow and white onions can get a bit powerful in the winter months. Knock off some of that power by baking or broiling. The heat releases some of the acid and caramelizes some of the onion's natural sugar, resulting in a soft-but-crunchy, slightly sweet new side dish. Leeks and onions add lots of flavor without any fat or salt.



[Winter Squash]

Squash can be puréed and used as a base for soups.

Winter squash aren't grown or harvested in the winter; they're called "winter" squash because they can be stored throughout the long winter months. Winter squash mature for longer than their "summer" cousins (zucchini, crookneck, pattypan, and so on), and they have a tougher and darker skin. Popular winter squash varieties are butternut, Hubbard, acorn,

and banana squash.

Winter squash can be sweet or savory; it can be used in a dessert pie or a savory soup. And, as an added bonus, winter squash is easy to prepare. For example, cut a winter squash into squares and bake it (cut side down) on a baking sheet with a little water on it (about 1/2 inch). For a sweet squash, sprinkle it with cinnamon, nutmeg, ginger, mace, cloves, and orange zest. For a savory squash, sprinkle it with garlic and onion powder, white or black pepper, red pepper flakes, and thyme or rosemary. Puréed winter squash can be used as a sauce for poultry or green vegetables or as a base for a hearty winter soup (think winter squash, carrots, potatoes, and celery soup) Mashed winter squash can be an ingredient in soups or pasta fillings. When fresh squash isn't available or convenient, explore your frozen options. Frozen winter squash is very easy to handle, because it's already cut up and cooked —you just have to decide how to season it and heat it.

Root vegetables also are reliable winter vegetables. Carrots, beets, turnips, celery root, and parsnips are colorful, flavorful, full of texture, and best of all, relatively inexpensive. You can steam carrots, celery roots, and beets until they're soft enough to purée. Add herbs, onions, and garlic to puréed root vegetables for "creamy" soup with no fat calories. Use the same purée as the base for a sinless sauce or gravy. See the following box for a great recipe for carrots.

Potage Crecy (purée of carrot soup) is a classic and colorful option for carrots. The result is a silky soup that gives the impression of being creamy and buttery. To prepare the soup, follow these steps:

- Cook carrots and potatoes together until they're tender enough to purée.
- Purée carrots and potatoes until creamy.
- Season with garlic, white pepper, and parsley.

Winter squash (try banana or butternut), sweet potatoes, or any root vegetable can be prepared in a similar way. Season squash or sweet potato soups with white pepper, cumin, and thyme (savory) or ginger, mace, and nutmeg (holiday flavors).

Potatoes

Potatoes—sweet or savory—are always a favorite. Baked, boiled, steamed, sautéed, or fried, potato dishes can warm the cockles of the coldest customer's heart. White potatoes can be

baked and heaped with toppings (try a stuffed baked potato paired with a vegetable or bean soup for a wintry evening meal), mashed with fresh herbs and other veggies (mash in some carrots for sweetness and color or turnips for some “snap”), or roasted with dried herbs and sautéed with peppers, onions, and herbs. Leftover mashed potatoes can be used in potato pancakes or as a topping for baked casseroles. Roesti potatoes resemble potato pancakes made with hash browns and can be served with sautéed onions and cracked black pepper.

Fresh sweet potatoes can be simply baked or roasted. Their natural color and flavor require little assistance. However, there are a number of creative ways to flavor and use sweet potatoes. Add pineapple juice and minced oranges to mashed sweet potatoes and create a sweet potato pancake. Puréed sweet potato makes a great soup base, as well as a great sweet potato pie. Mashed sweet potatoes can be mixed with mashed white potatoes to create a new dish (with a lovely color).

Frozen Vegetables

With the miracle of frozen foods, many veggies are available at a reasonable price year round. If you’re using frozen veggies in the wintertime, consider using the heartier veggies to fit the season—leave the zucchini for the warmer months.

Frozen vegetables are blanched, so they require very little cooking time. Take advantage of their just-harvested flavor and color and create your own blends. Add a sauce (use some puréed winter squash), another vegetable (mushrooms and onions are always a welcome addition), or some dried herbs (dill, tarragon, mint, and rosemary spice up green veggies, such as peas or green beans) to complete the flavor.

Frozen vegetables shouldn’t be thawed slowly, because this will make them soggy. The correct technique is to move them straight from the freezer to the frying pan, steamer, or oven. Brightly prepared vegetables can be served in larger portions on an entrée plate, adding flavor and color without cholesterol or sodium.

Beans

[Bean Salad]

Bean dishes are typically high in protein and low in fat.

Beans are high in protein, fiber, minerals, and vitamins and low in salt and fat. Just consider all the wonderful colors and flavors that beans can add to your menu: green, yellow, pink, and red lentils; white, yellow, and green limas; black beans; cranberry beans; Christmas beans (yes, they're red and green); pink and red pinto beans; white navy beans; beige and white garbanzo beans; and white or green soy beans.

Some cooks will tell you that the more you soak and rinse beans, the less likely they are to cause socially inappropriate flatulence. It's possible to produce a successful bean dish without soaking, if time is constrained. Just increase the cooking time and liquid content if the beans can't be soaked.

Cook several types of beans together for a flavorful side dish. Smoked turkey wings and tofu hot dogs can be used to add a smoky flavor to beans without the fat and salt of bacon. Chopped peppers, tomatoes, and onions and dried herbs and spices (red pepper flakes, tarragon, white and black pepper, garlic, oregano, curry, chili powder) can be added during cooking to give even more flavor.

Cooked beans can be puréed to form a soup base. Thin puréed beans with tomato juice or vegetable stock to make a flavorful, vegetable-based sauce for entrées and other vegetables. Cooked beans also can be used as ingredients in stews, casseroles, stuffings, and hot sandwich wraps. Puréed beans can be used for low-fat, savory dips. Bean dips can be served hot or cold to accompany crudités (crunchy vegetables), bread sticks, hot breads, baked vegetable chips, and roasted vegetables or potatoes. Be sure to stock up on a variety of beans so they're always on hand.

Fruit Goes with Everything

Inexpensive fresh fruit is readily available during the summer months. Regional fresh fruit may not be available in large varieties in the winter months, but traditional winter standbys, like apples, pears, and citrus fruits, are always available.

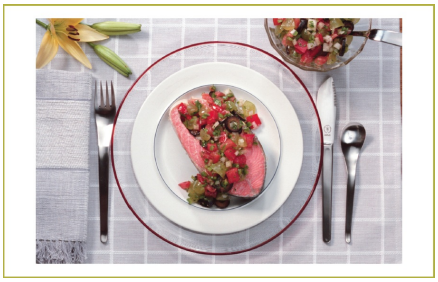
[Apple with Roasted Poultry]

Apples and pears are a fine accompaniment to poultry dishes.

In many cases, apples and pears can be used interchangeably for sweet and savory dishes. They can be baked and stewed and served hot with roasts and desserts alike. Add apples or pears to stuffings and breads for a hint of sweetness and crunch. Finely diced apples can "smooth" out heavily flavored soups and stews. Think about scattering tangerine sections on poultry or using pink grapefruit segments as a poultry garnish.

Dried fruit is always popular. In addition to its sweetness, dried fruit is a concentrated source of many nutrients. The captured summer sunshine is reflected in the sweetness of black and golden raisins, dried peaches, apricots, apples, pears, cranberries, cherries, figs, and dates. Add dried fruit to pie fillings and muffin batters; to poultry, pork, and beef dishes; and to stuffings and sauces. It can also be used as a dessert garnish.

The Salsa Alternative



[Fresh Salsa on Salmon]

Fresh salsa is a low-fat alternative to gravies and sauces.

Salsa is a low-fat, high-flavor alternative to gravies and sauces. If made with fresh vegetables, salsa is low in fat and sodium, not to mention high in vitamin C and minerals. No longer just for chips, salsa can be used as a condiment for meats, fish, salads, soups, casseroles, and vegetables.

Red tomatoes were the traditional base for salsas, but with popularity comes variety! Now when you think salsa, think mango, papaya, pineapple, orange, summer squash, and roasted vegetables. The term salsa has come to mean just about any combination of chopped fruit or vegetables with hot or mild spicing. Although most salsa ingredients are used uncooked, roasted chilies and toasted nuts can be used to add flavor and texture. See the box below for instructions on how to roast peppers.

Take a salsa-building tour of a local grocery store or farmers' market. You'll see that chilies can be purchased fresh, canned, or dried. Select chilies based on the amount of heat desired. Bell peppers are extremely mild. Anaheim chilies are fairly mild. Moving up the scale, jalapeños and serranos are hot, and habanero and Thai chilies are very hot. Removing the seeds takes away some, but not all, of the heat.

Roasted Peppers

Peppers can be roasted directly on a stove flame (right in the burner) or under a broiler.

- If a direct flame is available on the stovetop, cook the pepper, turning it occasionally, until the skin has blistered.
- If a direct flame isn't available, place the pepper on a baking sheet in the oven on high heat (400 degrees or higher).
- After the skin of the pepper has blackened, place the pepper in a plastic bag and allow it to "rest" for several minutes. This makes it easier to peel the blackened skin away.
- Remove the pepper from the bag and peel off the blistered skin and remove the seeds. *Note:* don't touch your eyes after you've touched peppers, because the capsaicin contained in the peppers will burn sensitive skin.

Salsas can be sweet or savory. Try sweet combinations, such as strawberries, vinegar, sugar, and black pepper; or navel oranges, mango, chopped chili, chopped cilantro, and lime juice. The following can be added to a basic blend of chopped onions and chopped chilies: cooked beans, olives, parsley, cut corn, minced garlic, chopped pimentos (roasted red peppers), chopped fresh pineapple or canned, drained pineapple chunks, mango, papaya, kiwi or banana, zucchini, crookneck squash or apples, avocado, grapefruit, oranges, or berries. For extra flavor, grill fruit or veggies, allow them to cool, and then chop them and add them to the salsa.

Salsas can be made ahead of time and stored in the refrigerator for up to two days. Think salsa instead of sauce or gravy for poultry, fish, seafood, beef, pork, vegetable and grain side dishes, chips or raw vegetables, and dessert. Salsa can also be used instead of salad dressing and is a way to sneak yet another serving of vegetables into the meal.

Soy Speak

Soy is in; it's hot, it's healthy, and many people are talking about it. What's the buzz? Although still high in fat (unless you select a low-fat soymilk or tofu), soy products are very low in saturated fats. Some research has indicated that the proteins and *isoflavones* (natural plant estrogens) found in soy can help to reduce cholesterol, decrease the risk of heart disease, and ease symptoms of menopause. Conveniently, the United States is one of the world's largest growers of soybeans (although close to 75 percent of the crop is exported or used for animal feed).

Tofu is probably the most familiar soy product. Nothing more than coagulated soymilk (similar to milk curd), tofu is available in different firmness and flavors. Silken tofu is custard-like and can be the "cream" in pies, soups, custards, and sauces. Soft tofu blends well and can be used instead of dairy products in smoothies, salad dressings, and dips. Firm and extra-firm tofu are tough and can be marinated, chopped, diced, sautéed, baked, and so on.

If really firm tofu is needed, such as for grilling or roasting, drain blocks of tofu. To do this, place the tofu block between weights, such as several dinner plates, and allow it to drain for several hours. This will condense and compress the tofu, making it suitable for tofu "steaks," fajita strips, and barbecued tofu sandwiches.

Tofu has a neutral flavor, so it will take on whatever personality you give it. Marinate tofu in

fresh or dried herbs, salad dressings, vinegars, barbecue sauce, or chili sauce. Commercially available flavored tofu is available, both sweet and savory. Try almond-flavored tofu for dessert items and barbecue-, Southwestern-, Mediterranean-, or Asian-flavored tofu for entrées.

Soymilk is available in several flavors and fat levels. Soymilk is naturally high in protein but low in calcium and vitamins A, D, and B12. For this reason, fortified brands are also available. Soymilk comes in a variety of flavors, including vanilla, mocha, almond, and chocolate.

Tempeh is a firm cake of pressed, fermented soybeans that's sometimes mixed with grains, such as rice or wheat. Tempeh's mild, smoky flavor and chewy texture works well in chili, casseroles, stir-fried dishes, and hot sandwiches. Tempeh is sold in blocks and is available in various flavors. In terms of food safety, treat tofu and tempeh like meat.

Soy nuts are roasted soybeans and have a nutty, peanut flavor. They can be used in Thai dishes, as salad toppings, and as an ingredient in baking and trail mixes. Fresh soybeans, which are called *edamame*, can be steamed and eaten as a bar snack, tossed onto salads, or served as a side dish to an entrée.

Soy cheese and *soy yogurt* can be used just like their dairy cousins. Soy cheese is available in various flavors, such as mozzarella and cheddar. Soy yogurt is generally available as a sweetened, fruit-flavored product. Use it as is, in sauces, or freeze it for a fast dessert. Frozen soymilk (also called *rice milk*) is the soy equivalent of ice cream and is available in many flavors and forms (for example, sandwiches and popsicles).

Meat analogs, such as tofu dogs, burgers, crumbles, breakfast strips, and "fake" sandwich meat, are generally made from soy protein and are designed to mimic their animal counterparts. Experiment with different brands to find the type that has the best flavor and texture. For example, several brands of soy burgers must be fried to be palatable, which might defeat the purpose of your healthy substitutions.

Consider the following tips for cooking with soy:

- **Tempeh.** Marinate in Italian dressing or barbecue sauce and grill, or dice and mix into soups or chilis; slice and grill and serve as a tempeh dip sandwich.
- **Soymilk.** Use in place of regular milk in puddings, custards, sauces, hot chocolate,

coffee beverages, and soups.

- **Soy crumbles.** Sauté, bake, or grill with fresh or dry herbs and use as a pizza topping or in chili, casseroles, or “meat” sauces. Also use in tacos or with tofu as a “morning scramble.”
- **Soft tofu.** Use instead of ricotta cheese in stuffed shells and lasagna. Add to fruit smoothies and salad dressings. Scramble tofu instead of eggs (remember to season with pepper, hot sauce, sautéed veggies, and other similar flavors).
- **Silken tofu.** Use instead of mayo or sour cream in recipes; can be used in pudding, pie fillings, custard, smooth sauces (tofu Alfredo or primavera), or soups. Make tofu frosting by blending a small amount of tofu with instant pudding mix.
- **Firm tofu.** Add to brochettes instead of meat, use in stir-fries, cut into cubes to make a sandwich spread (toss with celery, onions, pickles, and regular or vegetarian mayo), grill, roast, or bake with bread stuffing.

Although not a soy product, *seitan* is a popular vegetarian meat substitute. Originally processed by Buddhist monks, seitan is in wide national and international production. Seitan is compressed, fermented gluten (wheat protein). It’s available in blocks, strips, and crumbles and can be frozen until ready to use.

Seitan has a very firm texture and will hold up to poaching, roasting, grilling, and baking. Serve it as a “steak” (marinated in lemon or lime juice, garlic, and onions) or as a substitute for beef or chicken strips. Commercially available meat analogs made with seitan are available, some in the shape of roasts, which can be flavored and served just like roast beef.

Soy products have been around for the past 2,000 years or so. Soy is definitely not a fad! When cooking, consider the soy substitutes shown in the following box.

Soy Substitutes

Instead of:	**Soy Sub:**
8 ounces ricotta cheese	8 ounces mashed, firm tofu
8 ounces milk	8 ounces soy or rice milk

8 ounces yogurt	8 ounces blended silken tofu or soy yogurt
1 large egg	2 tablespoons blended firm tofu
1 ounce baking chocolate	3 ounces unsweetened cocoa powder and 1 tablespoon soy oil
1 pound ground beef	1 pound diced, firm tofu; 12 ounces crumbled seitan; or 12 ounces tempeh (marinate for extra flavor before cooking)

Breakfasts

Many consider breakfast to be the most important meal of the day, and with good reason. Upon waking, most people are at an energy deficit. A good breakfast can rejuvenate a person and prepare him or her to face the day. However, the traditional breakfast fare of fried eggs, pancakes, and sausage probably isn't the healthiest way to get moving.

Breakfast can include a variety of foods. In the winter, breakfast can include an assortment of hot cereals, baked hash browns or baked white or sweet potatoes, steamed or grilled tofu, steamed or stir-fried white or brown rice, hot baked apples or pears, warm apple sauce, assorted breads, and fresh fruit. To heat up the morning, include a veggie chili with steamed tortillas and fresh salsa. Also, try including nontraditional side dishes, such as those in the image below.

The following healthful condiments can take the place of pancake syrups and sugary jellies: low-fat cream cheese; nut butters (for example, peanut, almond, and pistachio); fruit preserves (made without sugar, if possible); ground cinnamon, nutmeg, and ginger; dried fruit; wheat germ; and chopped nuts. The following are healthful breakfast beverages: non- and low-fat dairy milks, veggie milks (soy, rice, grain), hot tea, coffee, hot cocoa, and fruit juices.

During warmer weather, replace hot cereal with cold cereals (made without sugar). Other

warm-weather breakfast options include chilled, cubed tofu; bagels; fresh fruit salad; whole fruit; melon slices; assorted mini-muffins; and cold breakfast burritos filled with mashed pinto beans, chilies, tomatoes, and cilantro.

Low-fat, high-energy beverages include the following:

- Latte blended with bananas, dates, and raisins
- Cappuccino blended with cocoa powder, fresh berries, and vanilla extract
- Steamed milk blended with banana, strawberry preserves, crushed pineapple, and cocoa powder
- Steamed milk blended with nutritional yeast, orange juice concentrate, banana, and raisins

[Breakfast of Eggs, Rice, and Avocados]

Try pairing nontraditional sides with traditional breakfast items. This breakfast includes eggs, rice, and avocados.

Scramble firm tofu just like you would eggs—on the griddle, in a sauté pan, or in the oven—with sautéed veggies and serve it alongside of or over steamed rice or hash browns. Breakfast burritos are a good way to use leftover beans, potatoes, and chopped veggies (even spinach). Wrap them up (check the label of the flour tortillas to be sure there's no lard) and steam or microwave them individually. Have salsa, chopped cilantro, chopped tomatoes, chopped chilies, and hot sauce as condiments.

Breakfast parfaits can be made a day ahead of time. Use a large glass or plastic cup and alternate layers of creamy, crunchy, and soft ingredients. The "creamy" layer could be soft, mashed tofu (flavored with a little almond extract), soy yogurt, cottage cheese, or fruited

yogurt. The “crunchy” layer could be granola, crushed cold cereal, chopped nuts, trail mix, fruit chips (like apple or banana chips), or wheat germ. The “soft” layer could include fresh seasonal fruit, stewed fruit, thawed frozen fruit, leftover bread pudding, or leftover fruit cobblers.

Potatoes make a good base for a healthy breakfast. Bake russet potatoes and top them with sautéed onions, peppers, tomatoes or chopped fresh vegetables, and salsa. Use the same toppings for baked hash browns. Steam new or red potatoes and season with fresh, chopped herbs or roast some yams, sprinkle with cinnamon and nutmeg, and add some margarine. Mashed potatoes can be made with soymilk, topped with salt and pepper, and served as a warm morning comfort food. Leftover mashed potatoes can be mixed with breadcrumbs, a little milk, salt, and pepper, formed into patties, and turned into potato pancakes.

Desserts

[Fresh Fruit Dessert]

Fresh fruit dishes are a great way to end a meal.

Everyone likes to end even a quick meal with something sweet. Fresh berries, served chilled on their own or with sorbets, are easy and fast to assemble. Pair strawberries with orange sorbet or blueberries and raspberries with lemon or strawberry sorbet. If you have extra berries, purée them with a small amount of orange juice or apple juice concentrate and use as a dessert sauce. Melon can be sliced, wedged, or balled, served chilled on its own, soaked in white wine, or sprinkled with fresh orange or lemon zest. Suggest a trio of melon slices studded with fresh mint or sprinkled with berries. Create your own honeydew or watermelon sorbet by puréeing melon with a small amount of fruit juice concentrate or fruit

liqueur and freezing in individual serving dishes.

Another dessert option is frosted grapes, strawberries, or melon balls. Moisten grapes with water or apple juice before freezing; berries and melons have sufficient natural moisture. Simply place the fruit in a single layer on a baking sheet and allow it to cool in the freezer until frosty but not frozen. Serve as soon as removed from the freezer.

Fresh peaches, plums, and apricots can be cut and sprinkled with orange zest and orange juice concentrate and marinated overnight in the refrigerator. Garnish the fruit with raisins and nuts or use it as part of a sorbet sundae. If there's room on the grill, wrap peach or apricot halves seasoned with cinnamon and ginger in foil and cook until just tender. Use the fruit as a "fire-and-ice" dessert by pairing it with sorbet or soy ice cream.

Corporate Nutrition

If you decide to pursue a career in corporate nutrition, you might have the opportunity to work with hotels and restaurants in offering healthy menus. The Omni Hotel chain launched an "Ideal Nourishment" menu for travelers who want to eat healthily on the road. The menu offers health-conscious meals that are heart-healthy, high-protein/lowcarbohydrate, low-sodium, sugar-free, and/or vegetarian. The chain had a competition among all its corporate chefs. Recipes had to be gourmet cuisine that fit at least one of the health-conscious food menus. The following were some of the winners selected to be offered on chainwide menus: cardamom-encrusted Atlantic salmon, apple/fennel slaw and vegetable *nage* (broth flavored with vegetables or herbs), low-sodium rosemary lamb chops, black-bean enchiladas and grits and vegetables, and sugar-free chocolate/strawberry cheesecake. To continue the healthy theme throughout the property, most Omni hotels have in-house health clubs or swimming pools. In-room mini bars are stocked with healthy snacks.

Some hotels construct their own elaborate nutrition programs. Others simply offer a variety of menu items prepared to the customer's request. For example, fish or poultry can be fried, grilled, sautéed, broiled, poached, or roasted. Potatoes are available in low-fat options. Salad dressings, sauces, and gravies can be served on the side. Burgers can be beef, turkey, chicken, ostrich, salmon, or even vegetarian (Portobello mushroom burgers). Sorbets, sherbets, and fruit ices are lower-fat alternatives to ice cream on the dessert menu.

Organizations such as the American Heart Association have nutrition programs that can

easily be adapted to a restaurant or hotel menu. Such programs generally offer guidelines for healthy eating and recipes that have been nutritionally analyzed. A food establishment can submit its recipes and menus to these organizations to obtain approval. For example, the American Heart Association has a heart-check mark that signifies menus or recipes that meet the American Heart Association's guidelines. For a fee, a recipe, menu, or food product can carry this symbol, letting customers know that they're ordering or purchasing a bona fide healthy food.

Visit Heart-Check Mark Certification (www.heart.org/HEARTORG/HealthyLiving/HealthyEating/Heart-CheckMarkCertification/Heart-Check-Mark-Certification_UCM_001179_SubHomePage.jsp) to learn more.

Key Points and Links

READING ASSIGNMENT

Key Points

- There are many ways to "sneak in" good nutrition and "sneak out" some of the less beneficial ingredients.
- If you seek a career in corporate nutrition, you may be able to work with hotels and restaurants in offering healthy meals.

Links

- Eat Right (www.eatright.org/)
- Healthy Holiday Recipes (www.ncsf.org/enew/articles/articles-recipesforasuccessfulholidayseason.aspx)

Exercise: Healthy?

Based on what you've read, answer the following questions.

1. Identify a healthy substitute for peanut butter.
2. What are some healthier alternatives to using margarine or butter as a cooking medium?
3. Name three ways you can "sneak in" good nutrition.
4. What's the appropriate technique for cooking frozen vegetables?

5. What are some of the nutritional benefits of beans?
6. Name a soy-based product that can be used as a healthy alternative to steak, milk, and cream.

Exercise Answer Key:
Exercise: Healthy?

1. Soy butter, hazelnut butter, or almond butter
2. Use vegetable and fruit juice, vegetable or mushroom broth, or wine as a cooking liquid.
3. Choose fruits instead of cookies and cakes, veggies instead of chips, juice instead of soda, and whole-wheat instead of white.
4. Remove the vegetable from the freezer and place it directly into boiling water or the oven.
5. Beans are high in protein, fiber, minerals, and vitamins and low in salt and fat.
6. Firm tofu, soymilk, and silken tofu

3.6 Compare diets for varying fitness levels

Menu Planning for Athletes

READING ASSIGNMENT

So, how much do professional sports figures earn per year? Are their performances important? Do the food and beverages they consume affect their performance?

Twenty years ago, preparing breakfast for a college football team meant a dozen eggs, a pound of bacon, and one or two steaks for each player, with large pitchers of whole milk on the tables. Today, it could mean egg-white omelets filled with grilled vegetables, fresh fruit salad garnished with nuts, and whole-wheat muffins. My, how times have changed! We're seeing more and more endurance-sport athletes leaning toward plant-based diets.

If you decide to pursue a career in the fitness and nutrition field, you'll inevitably be asked to help an amateur or professional athlete design an exercise or diet plan. In Southern California, some amateur bicycle clubs are so organized that they hire chefs and trainers to plan and cater meals at the end of their rides. The same goes for a lot of sports across the

country.

The USDA ChooseMyPlate (www.choosemyplate.gov/) website provides nutrition information for amateur and professional athletes. Visit USDA Lifecycle Fitness and Nutrition (fnic.nal.usda.gov/lifecycle-nutrition/fitness-and-sports-nutrition) to access the links to fitness and sports nutrition. Energy is the most important part of a hard-training athlete's diet. The major source of energy should come from carbohydrates, with fat being a secondary source.

Fats

No more than 30 percent of an athlete's diet should come from fat. High-fat meals are usually too low in carbohydrates, which limits the amount of glycogen that can be stored for competition energy. High-fat meals can contribute excess calories and saturated fats while offering little in the way of energy needs.

A note of caution about fat intake: some athletes seek to reduce their fat intake to minuscule levels. Although fats shouldn't play a major role in a healthy diet, they shouldn't be excluded or reduced to almost nothing. Several studies have shown that athletes who ate diets that were less than 15 percent fat (about half of the recommended amount) had more incidences of inflammatory disease, such as arthritis, and depressed immune responses. Translated into English, this means that vigorously training athletes (college runners and swimmers were the main groups studied) who limited their fat intake increased their risk for sore and inflamed muscles and joints and left themselves open to colds, flu, and other contagious diseases. When the athletes increased their fat intake to 30 percent of their daily calories, their problems disappeared. What's the moral of the story? Balance, but don't restrict, nutrients.

Proteins

No one should rely on proteins as their main source of energy—athletes included. Protein is required for the maintenance and repair of muscles, but it doesn't "build up" muscles. Rippling biceps are the result of a balanced diet, adequate hydration, and lots of exercise. Although some sports do require slightly higher levels of protein, only 3 or 4 more ounces a day are needed. Most nutrition calculations are performed using the metric system. See the following box for information on how to convert from English measurements to metric measurements.

Conversion Factors

1 kilogram (kg) = 2.2 pounds (lbs)
1 gram = 0.035 ounce

Converting pounds to Kilograms

To convert pounds to kilograms, you need to use the following conversion factor:
(1 ÷ 2.2 = .45)

Most training athletes require 1.4 to 1.7 grams of protein per kilogram of body weight, 1.4 gm/kg for endurance training, and up to 1.7 gm/kg for strength training. Therefore, if you weigh 154 pounds and want to figure your protein needs for endurance training, the calculation would be as follows:

154 pounds x .45 = 69.3 kg of body weight
69 kg x 1.4 gm/kg = 96.6 grams of protein needed per day

Remember that protein contains 4 calories per gram, so you would need 386.4 calories of protein per day.

Your protein needs for strength training would be as follows:

154 pounds x .45 = 69.3 kg of body weight
69.3 kg 1.7 = 117.8 grams of protein needed per day, or 471.2 calories of protein per day
(117.8 grams x 4 calories/grams of protein)

If a person is a weekend warrior, then the protein needs go down to 0.8 gram of protein per kilogram of body weight.

We mere mortals require only about 1 gram of protein per kilogram. Good sources of protein for an athlete's menu include low-fat items such as egg-white omelets; lean poultry, beef, pork, and veal; poached, steamed, grilled, or broiled (just not fried) seafood; nuts; soy products, such as tofu, soy cheeses, and tempeh; and all kinds of beans and legumes.

Carefully read the labels of meal replacement fluids or bars to assess the amount of protein they contain.

[Poultry Meal]

Lean sources of protein, such as poultry, are ideal for an athlete's diet.

Very high-protein diets can be dangerous. Such diets won't add to muscle bulk or improve muscle tone. Such diets may be very high in fat, because many protein sources come wrapped in animal fat. In addition, eating too much protein encourages the body to get rid of water. Too much protein makes the kidneys work harder and, if done over extended periods of time, can lead to mineral loss in bones, osteoporosis, heart disease, and even certain types of cancers.

Carbohydrates

An endurance-training athlete should consume approximately 6 grams of carbohydrates per kilogram of body weight; a strength-training athlete should try for 7 grams of carbohydrates per kilogram of body weight. The following shows how to determine the carbohydrate needs of an endurance-training athlete who weighs 154 pounds:

154 pounds x .45 = 69.3 kg of body weight

69.3 kg x 6 = 415.8 grams of carbohydrates per day, or 1,663.2 calories of carbohydrates per day (415.8 calories x 4 calories/gram for carbohydrates)

High-carbohydrate foods include whole grains, such as oatmeal, whole-grain bread, bagels, pita bread, tortillas and rolls, crackers, rice and pasta, dried fruit, fresh fruit and fruit juice, white or sweet potatoes, and some energy bars.

Carbo-Loading

You may have heard the term *carbo-loading*. Glycogen, an end product of the body's processing of glucose, helps muscles to work harder and longer during exercise. That's because glycogen is how the body stores carbohydrates. However, getting more glycogen to muscles seems to help only in activities that require aerobic exercise for 90 minutes or more. For example, marathon runners, cross-country skiers, competitive swimmers, triathlon participants, time-trial cyclists, or rowers would benefit from carbo-loading. Athletes who engage in aerobic activities that are fewer than 90 minutes don't seem to benefit from carbo-loading. So, forget the spaghetti dinner on bowling night; it won't improve your score. But think about carbo-loading when going for that 50-mile bike ride or that 5-mile swim.

Carbo-loading is achieved by increasing carbohydrate calories to 60 to 70 percent of daily calories while slightly decreasing workout duration and intensity several days prior to competition. This regimen increases the store of glycogen in the muscles and liver, offering extra energy on race day. See the following box for a sample carbo-loading menu.

Sample Carbo-Loading Menu for Athletes in Extended Training Programs

Breakfast

- 8 ounces cranberry-orange juice
- 2 cups cold cereal or oatmeal with raisins, chopped dried apricots, and fresh chopped apples
- 8 ounces nonfat milk or nonfat fortified soy or rice milk
- 2 slices banana bread with fruit preserves

Snack

- Toasted bagel with skim-milk mozzarella and tomato sauce and tomato slices
- 8 ounces orange juice
- 8 ounces sparkling water

Lunch

- Veggie and lean meat (3 ounces sliced turkey, chicken, or beef) submarine sandwich

heaped with shredded lettuce, sliced bell peppers, shredded carrots, sliced radishes and onions; 1 ounce mayo-type salad dressing, fruit basket (two pieces fresh fruit, such as peaches, tangerines, and apples)
- 12 ounces fruit juice smoothie (made with fresh fruit juice, banana, and ice)

Snack

- 4 peanut butter or oatmeal-raisin cookies
- 4 ounces frozen yogurt or ice milk topped with fresh or frozen berries

Evening Meal

- 1 cup Caesar salad with 1 ounce salad dressing
- 4 ounces herb grilled chicken or turkey breast
- 1 cup rice pilaf or 1 large baked sweet potato with 1 ounce of butter or sour cream
- 1 dinner roll
- 1 cup grilled vegetable brochettes (mushrooms, cherry tomatoes, bell pepper, sweet onions, summer squash, fresh fennel)
- Angel food cake topped with sorbet and fresh fruit
- 8 ounces milk “shake” (nonfat milk or soy milk blended with frozen strawberries and ice)

Snack

- 2 cups popcorn (flavored with chili or herb blend)
- 8 ounces sparkling water

Carbo-loading is generally considered to be safe, although individual medical status should always be considered. The downside to carbo-loading is a temporary weight gain. Every gram of stored glycogen grabs about 3 grams of water. The resultant weight gain is usually lost during competition, but some athletes say that even a slight weight gain throws off their timing.

Vitamins and Minerals

An athlete’s diet must contain adequate amounts of vitamins and minerals. In particular, female athletes are at a higher risk for iron deficiency. Endurance and marathon runners also are at a higher risk for iron deficiency. The impact on the body from long-distance running

can cause increased red blood cell breakdown and signal the kidneys to excrete these broken blood cells. This can result in “sports” or “runner” anemia. Note that this isn’t a true anemia and can be solved with a few days of rest and adequate diet and hydration.

Fluid Intake

Fluids are very, very important for athletes. Exercise requires energy, and the burning of energy uses fluids. A hard-training athlete can lose up to 6 to 10 cups of fluid per hour.

You sweat to keep your body cool. The amount you sweat depends on the type of clothing you’re wearing, how hot and humid or cold the weather is, and how fit you are. Your blood also helps to cool the body. When you start heating up, blood flows to the surface of the skin to get “cooled off.” This can interfere with muscle efficiency, because the heart has to divide its power between pumping blood to muscles and pumping blood to the skin surface. It also requires more fluid.

It’s easy for an athlete to become dehydrated. Signs of dehydration are headache, inappropriate tiredness, decreased energy or performance, inappropriate elevated heart rate, and infrequent urination. When possible, athletes should drink fluids during exercise and consume lots of fluid before and after exercise

[Athlete Drinking Water]

Athletes should remain hydrated before, during, and after exercise.

A leading university in Florida developed Gatorade, one of the first, and still very popular, sports beverages. The formula is based on the components of human perspiration.

Are such special sports beverages necessary? Actually, water and a banana or an orange will do the same job as most sports drinks. What you’re looking for before, during, and after

exercise is a source of water, carbohydrates, and a small amount of potassium, sodium, chloride, and phosphorus (the minerals lost in sweat). For most weekend warriors, water and fruit are adequate. However, mineral needs may be higher than can be met with straight fruit or fruit juice when exercise lasts more than four hours. Also, *fructose*, the sugar found in most fruit and fruit juice, can cause cramping when taken in large enough amounts to rehydrate an athlete who's competing in a marathon or other endurance event. When exercising more than four hours at a time, it might be a good idea to drink a balanced sports drink that contains water and nutrients in a rapidly available form.

Athletes and Weight Loss

Some athletes might participate in sports that have specific weight categories. Some athletes feel that weight loss is necessary for better performance. Extreme or unrealistic weight loss, combined with hard training, can result in premature osteoporosis and eating disorders, such as anorexia nervosa. Female athletes who experience excessive weight loss can develop *amenorrhea,* or loss of menstruation. This condition probably occurs because of the combination of low body weight, increased physical activity, inadequate energy intake, and low body fat levels.

Take a Pill, Run Faster?

What about herbal and "natural" supplements that purportedly enhance athletic performance? You may have heard that ginseng will help to reduce fatigue (maybe), chromium will increase your fat-burning ability (no), and sodium bicarbonate (baking soda or Alka-Seltzer) will reduce muscle cramps (absolutely not!).

Some very serious side effects can result when athletes use odd supplements or engage in extreme or very fast weight loss or fast muscle building. We're sure you've read or heard stories about athletes who have developed serious physical impairments from using unsavory supplements.

If athletes want to improve their performance, they need to eat right, drink fluid, get enough rest, and concentrate on the workout. That will do it, and it won't cost extra money.

It will also keep their hearts, kidneys, and livers from working overtime. You're the culinary nutrition person, and you're going to fix them right up with the fluids, carbs, protein, fats,

minerals, and vitamins they need!

Key Points and Links

READING ASSIGNMENT

Key Points

- An athlete’s diet must contain sufficient amounts of vitamins and minerals.

Links

- Fitness and Sports Nutrition (fnic.nal.usda.gov/lifecycle-nutrition/fitness-and-sports-nutrition)

Exercise: Fitness and Diets

Based on what you've read, answer the following questions.

1. Why should competitive athletes avoid high-fat meals?
2. Why are high-protein diets considered dangerous?
3. How is carbo-loading achieved?

Exercise Answer Key:

Exercise: Fitness and Diets

1. High-fat meals are usually low in carbohydrates, which limits the amount of glycogen that can be stored for competition energy.
2. High-protein diets are very high in fat, they encourage the body to get rid of water, and they can lead to osteoporosis, heart disease, and certain types of cancers.
3. Carbo-loading is achieved by increasing carbohydrate calories to 60 to 70 percent of daily calories while slightly decreasing workout duration and intensity several days prior to competition.

Lesson 3 Review

Self-Check

1. Which one of the following gives you cues about when to stop and start eating?

a. Hypothalamus

b. Goiter

c. Brain

d. Stomach

2. Inducing the loss of fluid in the body in a process called?

a. The thermic effect

b. The diuretic effect

c. The calorie effect

d. The digestive effect

3. Which one of the following which measures specific areas of fat that nutritionists can use to calculate body fat percentage?

a. Caliper

b. Measuring Tape

c. Ruler

d. Catiper

4. Which one of the following is when a person is over 100 percent of his or her ideal body weight?

a. Severely Obese

b. Morbidly Obese

c. Super Obese

d. Obese

5. Which one of the following is a chamber containing a known volume of air?

a. BodPod

b. BodPad

c. Body density

d. Impedes

6. Which one of the following diet plan is almost vegan, with fruit, vegetables, grains, beans, and legumes as the main components of the daily diet?

a. Dr. Barry Sears' Zone Diet

b. Yo-yo diet

c. Dr. Ornish's diet

d. Dr. Atkins's diet

7. Which one of the following causes people to go through a cycle of losing weight, gaining it back, and then losing it again?

a. Dr. Barry Sears' Zone Diet

b. Yo-yo diet

c. Dr. Atkins's diet

d. Zone diet

8. The % Daily Values on a information label is based on a

a. 2,000-calorie daily diet.

b. 1,000-calorie daily diet.

c. 1,500-calorie daily diet.

d. 2,500-calorie daily diet.

9. Which one of the following is the only other reason a nutrient must be listed is when a manufacturer makes a nutritional claim, such as "fortified with potassium."?

a. Fortified with calcium

b. Fortified with flouride

c. Fortified with potassium

d. Fortified with iron

10. Which one of the following is a firm cake of pressed, fermented soybeans that's sometimes mixed with grains, such as rice or wheat?

a. Soymilk

b. Tempeh

c. Tofu

d. Curd

11. Which one of the following is a popular vegetarian meat substitute?

a. Soy crumbles

b. Soft tofu

c. Seitan

d. Soymilk

12. Which one of the following is another name for fresh soybeans?

a. Edamame

b. Analogs

c. Tempeh

d. Seitan

13. Which one of the following was the major source of energy for a hard-training athlete's diet?

a. Fat
b. Fatty Acids
c. Proteins
d. Carbohydrates

14. Which one of the following is an end product of the body's processing of glucose, helps muscles to work harder and longer during exercise?

a. Carbohydrates
b. Glycogen
c. Calories
d. Fatty Acids

15. Which one of the following is the sugar found in most fruit and fruit juice?

a. Glycogen
b. Amino Acids
c. Fructose
d. Carbohydrates

Self-Check Answer Key

1. Hypothalamus
   Explanation: A part of your brain, the _hypothalamus_, gives you cues about when to stop and start eating.
   Reference: Section 3.1

2. The diuretic effect
   Explanation: Certain pharmaceutical and herbal preparations can induce the loss of fluid in the body in a process called the _diuretic effect_. Along with water, you lose essential minerals, such as potassium and magnesium.
   Reference: Section 3.1

3. Caliper
   Explanation: A _caliper_, which measures specific areas of fat that nutritionists can use

to calculate body fat percentage.
Reference: Section 3.2

4. Morbidly Obese
   Explanation: _Morbid obesity_ is when a person is over 100 percent of his or her ideal body weight.
   Reference: Section 3.2

5. BodPod
   Explanation: The _BodPod_ is a chamber containing a known volume of air.
   Reference: Section 3.2

6. Dr. Ornish's diet
   Explanation: Dr. Ornish's diet plan is almost vegan, with fruit, vegetables, grains, beans, and legumes as the main components of the daily diet.
   Reference: Section 3.3

7. Yo-yo diet
   Explanation: Some people have a cycle of losing weight, gaining it back, and then losing it again. This cycle is called _yo-yo dieting_.
   Reference: Section 3.3

8. 2,000-calorie daily diet.
   Explanation: The % Daily Values are based on a 2,000-calorie daily diet, with 30 percent of calories coming from fat, 10 percent from protein, and 60 percent from carbohydrates.
   Reference: Section 3.4

9. Fortified with potassium
   Explanation: The only time another nutrient must be listed is when a manufacturer makes a nutritional claim, such as "fortified with potassium."
   Reference: Section 3.4

10. Tempeh
    Explanation: _Tempeh_ is a firm cake of pressed, fermented soybeans that's

sometimes mixed with grains, such as rice or wheat. T
Reference: Section 3.5

11. Seitan
    Explanation: Although not a soy product, _seitan_ is a popular vegetarian meat substitute.
    Reference: Section 3.5

12. Edamame
    Explanation: Fresh soybeans, which are called _edamame_, can be steamed and eaten as a bar snack, tossed onto salads, or served as a side dish to an entrée.
    Reference: Section 3.5

13. Carbohydrates
    Explanation: The major source of energy should come from _carbohydrates_, with _fat_ being a secondary source.
    Reference: Section 3.6

14. Glycogen
    Explanation: _Glycogen_ is an end product of the body's processing of glucose, helps muscles to work harder and longer during exercise.
    Reference: Section 3.6

15. Fructose
    Explanation: _Fructose_ is the sugar found in most fruit and fruit juice, can cause cramping when taken in large enough amounts to rehydrate an athlete who's competing in a marathon or other endurance event.
    Reference: Section 3.6

Flash Cards

1. Term: Energy Balance

Definition: The relationship between energy intake (what you eat) and energy output (what you burn up); if energy in equals energy out, then you're in energy balance

2. Term: Energy Intake
Definition: What you eat

3. Term: Energy Output
Definition: What you burn up

4. Term: Hypothalamus
Definition: Gives you cues about when to stop and start eating

5. Term: Satiety
Definition: Means your body is full

6. Term: Hunger
Definition: A basic, physical response to the need for fuel

7. Term: Appetite
Definition: A nonphysical trigger that forces you to eat, such as eating based on your mood, the time of day, or your cultural background

8. Term: Diuretic Effect
Definition: When certain pharmaceutical and herbal preparations can induce the loss of fluid in the body

9. Term: Body Mass Index (BMI)
Definition: One measure of how much fat a person is carrying

10. Term: Morbid Obesity
Definition: When a person is over 100 percent of his or her ideal body weight

11. Term: Body Density
Definition: Body mass divided by body volume

12. Term: Air Displacement

Definition: Measures the amount of air displaced rather than the amount of water displaced

13. Term: Underweight
Definition: A person 15 to 20 percent below ideal body weight

14. Term: Yo-Yo Diet
Definition: The cycle of losing weight, gaining it back, and then losing it again

15. Term: Atkins Diet
Definition: A high-protein, high-fat, and low-carbohydrate diet created by Dr. Robert Atkins

16. Term: Zone Diet
Definition: A high-protein, high-fat, and low-carbohydrate diet created by Dr. Barry Sears

17. Term: % Daily Values
Definition: Based on a 2,000-calorie daily diet, with 30 percent of calories coming from fat, 10 percent from protein, and 60 percent from carbohydrates

18. Term: Nutrition Facts
Definition: List of the total calories, calories from fat, total fat, saturated fat, cholesterol, sodium, total carbohydrates, dietary fiber, sugars, protein, vitamin A, vitamin C, calcium, and iron for a serving size

19. Term: Tofu
Definition: Probably the most familiar soy product

20. Term: Soymilk
Definition: Naturally high in protein, but low in calcium and vitamins A, D, and B12

21. Term: Tempeh
Definition: A firm cake of pressed, fermented soybeans that's sometimes mixed with grains, such as rice or wheat

22. Term: Soy Nuts

Definition: Roasted soybeans that have a nutty, peanut flavor

23. Term: Meat Analogs
Definition: Meat substitutes, such as tofu dogs, burgers, crumbles, breakfast strips, and "fake" sandwich meat, that are made from soy protein and designed to mimic their animal counterparts

24. Term: Glycogen
Definition: An end product of the body's processing of glucose, helps muscles to work harder and longer during exercise

25. Term: Carbo-Loading
Definition: Increasing carbohydrate calories to 60 to 70 percent of daily calories while slightly decreasing workout duration and intensity several days prior to competition

26. Term: Fructose
Definition: The sugar found in most fruit and fruit juice

Exercise

1. Review Exercise: Healthy Nutrition

Based on what you've read, answer the following questions.

1. What healthful condiments might you suggest to take the place of pancake syrups and sugary jellies for breakfast?
2. What are some ways you could use fruit as a dessert?
3. What does the "heart-healthy" symbol indicate?
4. What are some possible career opportunities in corporate nutrition?
5. Name some healthful hot-weather breakfast menu items.

Exercise Answer Key:

Review Exercise: Healthy Nutrition

1. Low-fat cream cheese and nut butters (peanut, almond, and pistachio), fruit preserves

made without sugar, ground spices (cinnamon, nutmeg, and ginger), dried fruit, wheat germ, and chopped nuts

2. Answers will vary but may include the following: Fresh fruit that has been grilled and paired with a fresh sorbet; frozen fruits; sliced, wedged, or balled melon served chilled or puréed with fruit juice
3. The heart-healthy symbol next to an item means that the item meets American Heart Association food guidelines.
4. Menu planning for hotels and spas
5. Cold cereal, tofu, fruit salad, cold breakfast burrito, and so on.