

A collage of food items on forks and a skateboarder. The food items include a fork with blue cheese and tomatoes, a fork with a strawberry, a fork with grilled chicken and red peppers, a fork with a tomato, lettuce, and mango, and a fork with a piece of salmon and red peppers. A skateboarder in a red helmet and black shirt is also part of the collage.

2nd
Edition

Fueling the **Teen** Machine

What it takes to
make good choices
for yourself every day

Ellen Shanley and Colleen Thompson

Fueling the Teen Machine

SECOND EDITION

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— Ellen and Colleen

Preface

Okay, so you're not really a machine.

Your body does work like a machine, though. You've got to keep all the parts in working order, inside and out, and put the right fuel in so that it is efficient and lasts for years. No cars last forever, but some get better mileage and last longer than others. This book is designed to help you make the most of the model you have. You can't trade in your model, but you can improve it, tune it, and keep it in shape to last a long time and feel terrific.

The fact that you've even picked up this book says that you're interested in knowing what it takes to lead a healthy, active life, choosing nutritious (and tasty.) foods. Hopefully, you'll do more than just pick up this book—you'll read it, enjoy it, and refer to it many times.

We've updated the book to include the latest information on a host of topics ranging from sports nutrition to eating disorders to vegetarianism. Things have certainly changed since our first edition was published. This edition includes a chapter on physical activity, and more information on organic foods, "superfoods," and the latest scoop on fast food facts. You can find out the best websites to visit and even learn how to plan a menu! We've included the most current information on the Dietary Guidelines, the Food Guide Pyramid and the Dietary Reference Intakes. For you techies, we encourage you to download some cool apps for your phone that can track your fitness progress or tell you the calorie content in your favorite restaurant meal. Finally, there are some tasty recipes that we know you will enjoy! The recipes are easy and healthy with lots of "superfoods"! So take your time and enjoy the book. We hope you will enjoy reading it and will apply your newly learned facts to a healthy active lifestyle as a teenager!

Each chapter stands alone, but you'll probably want to read all of them to really arm yourself with the facts for "fueling your body." So start up your engines, and let's go.

The Basics

The teenage years are a busy time. You've got school, homework, after-school activities, things to do with friends and family, chores around the house, maybe even a job. Whew. With all there is to do, it's hard to find time to pay attention to what you eat. Yet, the one way to juggle all those responsibilities is to have enough energy to do them all (or at least as many as you want to.). How do you get that energy? Eat.

You're probably thinking, "Eat? That's easy. I already do that." You're right. It can be easy—if you have the right information to help you make choices. Eating is really all about choices. Nowadays there are so many choices that it can be hard to know where to start. The supermarkets seem to showcase new products every day. The labels use terms such as "lite," "lean," "low-fat," "nonfat," "organic," and "low-carb." The stores are full of new books on nutrition, the latest diets, supplements, sports nutrition, and a host of other topics. There's the Internet and infomercials for health and nutrition products. How can you sort



through all the information out there and make any sense of it for yourself and for what *you* need? We're going to help you do that. The best place to start is with some basic nutrition guidance. The best source for that is the Dietary Guidelines for Americans.

Every five years or so, the U.S. Department of Agriculture and the Department of Health and Human Services issue the Dietary Guidelines for Americans. The latest guidelines were issued in 2005. Their mission is "to provide positive, simple and consistent messages to help consumers achieve healthy, active lifestyles." The guidelines are general in nature, allowing consumers (that includes you) choice and flexibility when it comes to their diet. As of this book going to press, the 2010 guidelines were not released. We do know that the emphasis will be similar to that in the 2005 guidelines, including whole grains, increased fruit and vegetable consumption, and balancing food intake with physical activity.

The *Dietary Guidelines for Americans 2005* provide "science-based advice to promote health and to reduce risk for major chronic diseases through diet and physical activity." Unfortunately, the major causes of sickness and even death in the United States today are related to a poor diet and being physically inactive. These diseases include heart disease, diabetes, and certain cancers. In addition, poor diet and physical inactivity cause an energy imbalance. This means that we are eating more calories than we are using. This can cause overweight and obesity. So the newest Dietary Guidelines emphasize eating the right amount of calories and getting plenty of physical activity. For detailed information on the Dietary Guidelines you can visit the website at www.health.gov/dietaryguidelines/. Below is a summary of the guidelines and key recommendations.

ADEQUATE NUTRIENTS WITHIN CALORIE NEEDS

Key Recommendations

- Eat a variety of foods and beverages from all of the food groups.
- Choose foods that are lower in fat, saturated fat, trans fats, cholesterol, added sugars, and salt. Use "MyPyramid" to help you

choose a balanced diet that has enough calories and nutrients from all of the food groups.

WEIGHT MANAGEMENT

Key Recommendations

- To maintain body weight in a healthy range, balance the calories that you eat from food and beverages with the calories that you use being active.
- To prevent gradual weight gain over time, make small decreases in food and beverage calories and increase your physical activity.

PHYSICAL ACTIVITY

Key Recommendations

- Get plenty of physical activity and reduce sedentary activities to promote health, psychological well-being, and a healthy body weight.
- Your physical activity should include some cardiovascular activity, such as running, playing basketball or soccer, or any activity that gets your heart rate going. Add some stretching for flexibility and resistance or strength exercises for muscle and bone strength and endurance.
- Teens should aim for at least 60 minutes of physical activity on most, preferably all, days of the week.

FOOD GROUPS TO ENCOURAGE

Key Recommendations

- Eat enough fruits and vegetables while staying within energy needs. Two cups of fruit and 2½ cups of vegetables per day are a good start for someone eating about 2,000 calories each day.

- Try to vary the fruits and vegetables that you eat each day. Choose from all five vegetable subgroups (dark green, orange, legumes, starchy vegetables, and other vegetables) several times a week.
- Eat at least three or more 1-ounce equivalents of whole-grain products per day, with the rest of the recommended grains coming from enriched or whole-grain products. In general, at least half of the grains should come from whole grains (more information on whole grains in Chapter 2).
- Eat or drink at least 3 cups per day of fat-free or low-fat milk or equivalent milk products, such as cheese or yogurt.

FATS

Key Recommendations

- Eat less than 10 percent of calories from saturated fatty acids and less than 300 mg/day of cholesterol, and keep trans fatty acids in your diet as low as possible.
- Keep total fat intake between 20 to 35 percent of calories, with most fats coming from sources of healthy fatty acids, such as fish, nuts, and vegetable oils.
- For children and teens aged 4–18, the recommendation is 25–35% of calories from fat.
- When selecting and preparing meat, poultry, dry beans, and milk or milk products, make choices that are lean, low-fat, or fat-free.
- Limit intake of fats and oils high in saturated and/or trans fatty acids, and choose products low in such fats and oils.

CARBOHYDRATES

Key Recommendations

- Choose fiber-rich fruits, vegetables, and whole grains often.
- Choose and prepare foods and beverages with little added sugars or caloric sweeteners.

- Reduce your incidence of cavities by practicing good oral hygiene and eating sugar- and starch-containing foods and beverages less frequently.

SODIUM AND POTASSIUM

Key Recommendations

- Consume less than 2,300 mg (approximately 1 teaspoon of salt) of sodium per day.
- Choose and prepare foods with little salt. At the same time, consume potassium-rich foods, such as fruits and vegetables.

FOOD SAFETY

Key Recommendations

- To avoid microbial foodborne illness, do the following:
 - Clean hands, food contact surfaces, and fruits and vegetables. Meat and poultry should not be washed or rinsed.
 - Separate raw, cooked, and ready-to-eat foods while shopping, preparing, or storing foods.
 - Cook foods to a safe temperature to kill microorganisms.
 - Chill (refrigerate) perishable food promptly and defrost foods properly.
 - Avoid raw (unpasteurized) milk or any products made from unpasteurized milk, raw or partially cooked eggs or foods containing raw eggs, raw or undercooked meat and poultry, unpasteurized juices, and raw sprouts.

MyPYRAMID

The Dietary Guidelines are pretty general in nature, as you can see. To get more specific information on *what and how much* to eat, you

can check out MyPyramid. The pyramid is a way to put the Dietary Guidelines into practice. What is neat about the pyramid is that it is designed to be personalized. In other words, one size does not fit all. You may need a different amount of calories and different number of servings of fruits and vegetables than your best friend. After all, no two people are exactly alike, right?

MyPyramid offers personalized eating plans and interactive tools to help you plan and assess your food choices based on the Dietary Guidelines for Americans. You'll need to use the Internet to personalize your pyramid: go to www.mypyramid.gov. Once you're there, you can click on "Personalize MyPyramid" plan. Enter your gender, height, weight, and activity level. Then your personalized plan is created. You can even listen to podcasts, plan a healthy menu, and look up foods and play games.

So let's look more closely at this pyramid. You can see from Figure 1.1 (see the color insert immediately following page 40) that the pyramid has several colored striped sections. Each section is a different size, and each section represents a different food group. Let's take a quick look at each food group and talk about what is most important to know about each of these groups.

Grains

The biggest section of the pyramid is the orange section for grains. The advice for grains is pretty simple: Eat at least 3 ounces of whole-grain bread, cereals, rice or pasta every day.

Look for the word "whole" before the grain name on the list of ingredients on the food label (see Chapter 12 to learn more about the food label). Why are whole grains better? Whole grains have more fiber, vitamins, and minerals than simple or processed grains. The fiber in whole grains helps make you feel full and eat less. When choosing bread, look for "whole grain" on the label. We talk more about grains in Chapter 2, Finding Your Fuel.

Table 1.1 How to Use MyPyramid

FOOD GROUP/ SERVING SIZE	WHY SHOULD I?	HOW COULD I?
<p>Grains Approximately 5-7 ounces per day for most teens; make half of your servings whole grain</p> <p>An ounce is 1 slice of bread, 1 ounce of cereal, ½ cup pasta</p>	<p>Good sources of fiber, B vitamins, of fiber, B vitamins, iron, magnesium, zinc.</p>	<p>1 ounce whole-grain cereal for breakfast</p> <p>2 ounces whole-grain bread for sandwich with lunch</p> <p>Snack: 6 crackers</p> <p>½ cup pasta or rice with dinner</p> <p>Total = 5 servings (3 whole-grain)</p>
<p>Vegetables 2-3 cups/day for most teens</p> <p>Choose dark green, leafy veggies and deep orange veggies raw chopped vegetables</p>	<p>Vegetables provide essential vitamins such as vitamin A, vitamin C, and folate. They also provide fiber and some minerals.</p>	<p>½ cup raw carrot sticks with lunch</p> <p>½ cup leafy green lettuce and tomato on your sandwich</p> <p>1 cup cooked veggies with dinner</p> <p>Total = 2 cups</p>
<p>Fruits (1½-2 cups/day for most teens)</p> <p>Choose whole fresh fruit as much as possible</p> <p>Vary your fruits</p>	<p>Fruits give us vitamins A and C and are good sources of fiber</p>	<p>¾ cup fruit juice at breakfast</p> <p>1 cup berries with lunch</p> <p>Snack on 1 medium apple</p> <p>Total = 3 cups</p>

(continued on next page)

Table 1.1 How to Use MyPyramid (cont)		
FOOD GROUP/ SERVING SIZE	WHY SHOULD I?	HOW COULD I?
<p>Milk 3 cups/day</p> <p>Choose low-fat or skim milk, yogurt, cheese</p>	<p>This group provides calcium, vitamin D, protein, and riboflavin.</p>	<p>½ cup low-fat milk on cereal = ½ milk serving</p> <p>1 cup yogurt with lunch</p> <p>1 ounce string cheese snack = ½ milk serving</p> <p>1 cup low-fat milk with dinner</p> <p>Total = 3 cups</p>
<p>Meat and beans 5-6 ounces/day for most teens</p> <p>All foods made from meat, poultry, fish, dry beans, or peas, eggs, nuts, and seeds are considered part of this group. Dry beans (such as kidney beans, black beans, or garbanzo beans) and peas are part of this group as well as part of the vegetable group.</p>	<p>This group provides lots of protein as well as iron, niacin, vitamin B-6, vitamin B-12, and zinc.</p>	<p>2 ounces lean turkey for lunch</p> <p>3 ounces lean meat for dinner</p> <p>¼ cup almonds for snack</p> <p>Total = 5½ ounces</p>

Table 1.1 How to Use MyPyramid (cont)		
FOOD GROUP/ SERVING SIZE	WHY SHOULD I?	HOW COULD I?
<p>Oils 5 teaspoons/day for most teens</p> <p>Choose healthier oils, such as olive oil, canola oil, and the oil in nuts and fish.</p> <p>Solid fats from butter, margarine, and fatty meats are less healthy choices, so go easy on these.</p>	<p>Provide essential fatty acids necessary for health</p>	<p>2 teaspoons mayonnaise on sandwich</p> <p>3 teaspoons salad dressing (made with olive or canola oil) with dinner</p> <p>Total = 5 teaspoons</p>

Vegetables

The next section of the pyramid is the green section for vegetables. The advice for vegetables is “vary your vegetables.” You should try to eat plenty of vegetables every day and choose different vegetables as much as possible. The more color there is in your vegetables, especially dark green and orange, the better they are for you.

- Eat more dark green veggies (such as spinach, broccoli, and kale)
- Eat more orange veggies (such as carrots and sweet potatoes)
- Eat more beans and peas; they have lots of fiber.

Fruits

The red section of the pyramid is for the fruit group. Focus on fruit. Eat lots of fruit every day, and, just as with the vegetables, try to eat different varieties of fruit. Go easy on the fruit juice and focus on whole fruits. You'll get more fiber that way and less sugar. Oranges, apples, and bananas are great, but why not try to include more blueberries, strawberries, and cantaloupe, too. Nowadays, there are many exotic fruits available year-round right in your local supermarket. Try a mango or a kiwi for something new.

Milk and Milk Products

The blue section of the pyramid is for the milk group. Teens are still growing, and their bones are still growing, too. The calcium and vitamin D in milk and milk products really help you build and keep your bones strong and healthy. You need to drink plenty of milk every day, at least 3 cups. Low-fat and skim milk are just fine and taste great. You can choose low-fat yogurt, cheeses, and ice cream as well.

Meat and Beans

The purple strip on the pyramid is for meat and beans. Choose lean cuts of meat, poultry, and fish. Bake, broil, and grill your meat to keep it lean and tasty. Nuts and beans fall into this group, too. Almonds, peanuts, and cashews make a great snack that is packed with protein. Just watch the portion size, because it is easy to eat more than you need.

Fats and Oils

The thin yellow strip on the pyramid represents the group from which you need the least amount each day—fats and oils. Everyone needs a little bit of fat for the essential fatty acids. But some fats are better for you than others (see Chapter 2, Finding Your Fuel). Choose healthier fats, such as olive oil, canola oil, and the oil in nuts and fish. Solid fats from butter, margarine, and fatty meats are less healthy and should be limited in your diet.

Discretionary Calories

Finally, the pyramid refers to something called “discretionary calories.” These are food choices that are “extras” in the diet, including sweets, desserts, fried foods, sweetened drinks such as soda, etc. These foods can be part of your diet, but they need to be consumed in limited amounts. That’s because they don’t really give you much in the way of vitamins, minerals, or fiber. They mostly just give you extra calories—that you may not need. It’s all about choices. Make your choices count.

Be sure to visit the MyPyramid website to find out more about your personalized pyramid plan (for some quick info, check out Table 1.1). There are also lots of interactive tools, games, and menu planners there. You can have fun and learn a little something at the same time.

Mind you, no one can be perfect when it comes to eating. Who needs to be? All foods can certainly fit into a healthy diet. It’s really about choices and portions of foods. You needn’t deprive yourself of any one food. Just go easy on some things that don’t have a lot of nutrient value—such as candy, chips, and soda—and fill up on those things that do have a lot of nutrient value, such as whole grains, fruits, and vegetables.

Now let’s look at a sample day of eating that models the recommendations of the pyramid.

Breakfast:

- ¾ cup orange juice
- 1 cup cheerios (they are whole grain)
- ½ cup low-fat milk

Lunch:

- Turkey sandwich with lettuce, tomato, and mayonnaise on 2 slices whole-wheat bread
- ½ cup carrot sticks
- 1 cup yogurt with 1 cup fresh blueberries

Snacks:

1 ounce string cheese with 6 crackers; 1 apple; ½ cup nuts

Dinner:

3 ounces grilled chicken

1 cup broccoli

½ cup rice

1 dinner roll with 1 teaspoon butter or margarine

This daily menu meets all the recommendations of the pyramid. You can add some “discretionary calories” if you like, by adding some baked chips with lunch and ice cream for dessert.

Dietary Reference Intakes

Between the Dietary Guidelines and MyPyramid, you have the basic tools you need to plan a healthy diet. However, you might be wondering exactly how much of each nutrient you need in your overall diet. The Dietary Reference Intakes or DRIs (there’s an acronym for just about everything.) provide information on amounts of nutrients required in a healthy diet. The DRIs take into consideration more individual factors, such as age, gender, and whether or not a person is pregnant or breastfeeding. You can review the DRIs at the website for the Food and Nutrition Information Center.

<http://fnic.usda.gov>



There’s an app for this. Check out the apps for your phone or mp3 player on the mypyramid.gov website. They are free to download and give some great tips on the food guide pyramid, exercise, and other healthy options for teens.

Find Your Fuel

CHAPTER

2

In Chapter 1, we said that your body gets its “fuel,” or energy, from food. Let’s spend a little time looking at the different sources of energy in the diet and how each source contributes to your nutritional health.

Energy for your body comes from calories in food. Basically, there are three food components that provide energy in the form of calories: carbohydrate, protein, and fat. You need all three of these components to stay healthy. Each one gives you different vitamins and minerals as well as other important nutrients.

CARBOHYDRATES

Your body’s main source of energy (or calories) comes from carbohydrates. Carbohydrates are easily used by the body for energy, can be stored in the muscles for exercise, and provide lots of vitamins, minerals, and fiber. Each gram of carbohydrate provides 4 calories. You need from 45 to 65 percent of your calories from carbohydrate. The source of the carbohydrate is important. The best sources of carbohydrate from the pyramid are the grain group and fruits and vegetables. That is why they have the larger-sized strips on the pyramid; most of your carbohydrates should be from these groups. However, many Americans are getting too much carbohydrate from their “discretionary calories,” especially from added sugars and sweetened beverages. Research is showing that a diet that is high in simple sugars may

be linked with increased risk of developing Type 2 diabetes. Carbohydrates are definitely not all the same. Some are healthier than others. Let's look at the different kinds of carbohydrate.

Simple Carbohydrates

Simple carbohydrates are simple sugar units that your body can easily and quickly use for energy. Some simple carbohydrates are sugars, candies, sweetened gum, sweetened sodas, cookies, and cake.

Many foods have natural sources of sugar. For example, an apple or a glass of orange juice has the natural fruit sugar, fructose. Milk products contain the natural milk sugar, lactose. Natural sugars are not the sugars that you need to limit in your diet. Rather, it is added sugar that you need to be aware of. Excess intake of sugary foods has been linked with increased incidence of dental cavities. In addition, too much sugar can take the place of more nutritious foods in your diet. The best way to figure out if a food has sugar added is to look at the list of ingredients on the food label. Look for terms such as sucrose, corn syrup, and so on. When you see any of the following terms on a food label, it usually means that sugar has been added:

Sugar	Maple syrup
Sucrose	High-fructose corn syrup
Brown sugar	Chocolate
Confectioner's sugar (powdered sugar)	Dextrose
Corn syrup	Fructose
Honey	Maltose
Molasses	Lactose
Raw sugar	Glucose
Syrup	Fruit juice concentrate
	Invert sugar

Teens get a lot of added sugar from beverages. Take a look at the beverages listed in Table 2.1. Which beverage provides the most nutrition for the calories?

Table 2.1 Added Sugar in Common Beverages			
Food (8 ounces)	Calories	Added Sugar (grams)	Other Nutrients
Milk, low-fat, 1% fat	95	0	Protein, calcium, vitamin D
Chocolate milk, 1% fat	142	12	Protein, calcium, vitamin D
Orange juice	102	0	Vitamin C, potassium
Sports drink*	57	14	Potassium, sodium
Cola*	93	24	None
<p>*You should notice that the serving size here is 8 ounces, to be comparable to the size of a glass of milk. Most people drink at least a 12-ounce glass of soda or sports drinks. In fact, 20 ounces is the typical serving. So a 20-ounce bottle of soda really has about 60 grams of added sugar.</p>			

Complex Carbohydrates

Complex carbohydrates are sugar units that are linked together in chains. Also known as starches, complex carbohydrates must be broken down during digestion to provide your body with energy. Some examples of complex carbohydrates are pastas, whole grains, cereals, vegetables, and dried beans. Starchy vegetables include potatoes and corn.

The Dietary Guidelines recommend eating a variety of grains daily and making at least half of your grain choices be whole-grain foods. Whole grains provide complex carbohydrate and tend to have more nutrients and fiber than refined grains. Refined grains are carbohydrates that have been processed and have lost some of the nutri-

ents in the processing. Eating plenty of whole grains may reduce your risk of heart disease.

Look for the word “whole” in the ingredient list on the food label, as in whole-wheat flour or whole-wheat bread. If the label lists just “wheat flour” or “enriched flour,” it is probably not a source of whole grain. The following are some common terms on a label that indicate that whole grains are in the food:



Whole-wheat bread	Whole-wheat pasta
Brown rice	Whole-grain corn
Whole-grain cereals	Oatmeal
Whole oats	Bulgur
Cracked wheat	Whole rye

The Dietary Guidelines also recommend eating a variety of fruits and vegetables every day. Fruits and vegetables are carbohydrate sources, too. As we said in Chapter 1, choose a variety of fresh vegetables and fruits. Think about color when choosing your fruits and vegetables. Lots of color usually means lots of nutrients.

What about Artificial Sweeteners?

Some people use artificial sweeteners, such as saccharin or aspartame. You can use these sweeteners like sugar by sprinkling them into your coffee or on your cereal. There are also products that contain artificial sweeteners, such as diet sodas, dietetic candies, and yogurt sweetened with aspartame. These products are usually labeled “sugar-free” because they contain artificial sweeteners instead of regular sugar. Artificial sweeteners are much sweeter than regular sugar, as much as 200 times sweeter, so you don’t have to use very much of them to get the same amount of sweetness as you would with regular sugar. There are some newer sweeteners on the market that are considered “non-nutritive sweeteners” that are natural products with very few calories in a serving. The latest are sweeteners made from the stevia plant.

The leaves are naturally sweet, and the product made from the leaves has very few calories but compares to sugar in its sweetness.

Although people who use these products are often trying to reduce their calorie intake, no link between use of artificial sweeteners and weight loss has been found. Nonetheless, for people trying to reduce their intake of calories or simple carbohydrates, artificial sweeteners can be useful. People with diabetes often use these products because they have difficulty controlling their blood sugar.

The safety of some artificial sweeteners has been questioned. All products containing saccharin must be labeled with a warning to the public that it may cause cancer. It should be noted that the amount of saccharin consumed would have to be extraordinarily high to have such an effect. Some people with a disorder known as “PKU disease” cannot use aspartame. Others report side effects from aspartame, such as headaches, but these reports are rare.

If you use a lot of products that contain artificial sweeteners, you may want to limit your intake. For example, if you drink a lot of diet soda, substitute water or flavored seltzer water once in a while for a refreshing alternative.

PROTEIN

Protein is important for growth and tissue repair. Protein does provide energy in the form of calories, but only if other energy sources, such as carbohydrates, are not available. Like carbohydrate, protein provides about 4 calories for every gram. You don’t need as much protein as carbohydrate, though. You need only about 15–20 percent of your daily calories from protein. Americans tend to get plenty of protein in their diets.



Protein is made up of building blocks called amino acids. Your body makes some amino acids. These are called *nonessential* amino acids. Other amino acids must come from the foods you eat. These are called *essential* amino

acids. A protein with all the essential amino acids is considered a *complete* protein. Animal sources of protein, such as meat, milk, and eggs, are complete proteins. A protein lacking one or more essential amino acids is considered to be an incomplete protein. Plant sources of protein don’t contain all the essential amino acids that your body needs and are therefore considered incomplete proteins. But eating a variety of plant-based foods can provide you with all the essential amino acids.

If you are a vegetarian, you may be getting all of your protein from vegetable or plant sources. This does, however, require a certain amount of planning and knowledge. See Chapter 6 for more information on plant sources of protein and vegetarianism. Table 2.2 shows some common sources of protein and gives the amount (in grams) of protein in a typical serving. You can see how easy it is to get the amount you need.

Table 2.2 Common Sources of Protein	
Food Source	Grams of Protein
4 ounces grilled breast	34
4 ounces broiled lean steak	27
½ cup cottage cheese	14
1 cup cooked kidney beans	13
2 tablespoons peanut butter	8
6 ounces low-fat milk (1%)	7
4 ounces tofu	7
1 egg	6
4 ounces cooked pasta	6
2 slices whole-wheat bread	5

Extra protein in the diet isn’t usually necessary. Contrary to popular belief, eating more protein won’t give you more muscle. The only way to make your muscles bigger is to exercise them. If you eat too much protein, the extra amount not needed for growth and repair is

just extra calories. Extra calories, whether they are from carbohydrate, protein, or fat, get stored as body fat. See Chapter 8 on sports nutrition for more information on protein and muscles.

FAT: LIGHT, LOW-FAT, NONFAT

It seems that every time you turn around, someone is choosing a food that is lower in fat. Food companies keep coming out with new versions of their products that are lower in fat. People are always talking about how much fat is in food. Needless to say, fat has a pretty bad reputation.

The truth is that fat actually plays some important roles in the body, and we can't live without it. First let's talk about what fat is and why we need it. Then we can look at ways to limit fat in the diet if it's necessary to do so.



The good news is this: we need fat. Fat on our bodies does several things for us:

- provides insulation to keep us warm
- protects our internal organs, such as the heart, lungs, and reproductive organs
- is a source of stored energy

Fat in the Diet

Fat in the diet has some important functions as well:

- It is an important source of essential fatty acids, such as omega-3 and omega 6-fatty acids (important in brain development, protection against heart disease, and eye health).
- It provides flavor to food.
- It gives us a sense of fullness in our stomachs.
- It helps carry certain vitamins around in the bloodstream (vitamins A, D, E, and K).

What we don’t need is too much fat, either in our diet or on our bodies. Why not? Too much of certain kinds of fat in the diet can contribute to obesity (excess body fat) and can increase the risk of developing heart disease and certain kinds of cancer (see Table 2.3).

Table 2.3 Risks of Excess Fat in the Diet	
Obesity (excess fat of 30% over recommended weight for height)	Obese persons have a higher inci cidence of heart disease, stroke, diabetes, and some cancers. In addition, social pressure to be thin can make obesity difficult to handle emotionally.
Heart Disease	Excess dietary fat can cause elevated cholesterol in the blood as well as elevated levels of other blood fats that are known to be risk factors for heart disease.
Cancer	Excess dietary fat may increase risk of developing certain kinds of cancer, especially cancer of the breast, colon, esophagus, and prostate.

How much fat do we need? The Dietary Guidelines for Americans (see Chapter 1) recommend that teens choose a diet with about 25–35 percent of total calories coming from fat. So, if you’re eating about 2,000 calories per day, you don’t need more than 400–700 of those calories coming from fat. Because each gram of fat has 9 calories, that’s between 44–78 grams of fat each day.

Keep in mind that these amounts are guidelines. On average, over the course of the week, your intake of fat should be between 25–35 percent of calories. There are days when you may have a little more than recommended and others days when you may have a little less. This is perfectly normal.