

## **CHAPTER 4**

### **NUTRITION AND WEIGHT**

Food plays a big part in our lives. On the most basic level, we need to eat to keep our bodies going. But, unlike breathing and other vital body functions, you have to make decisions about what, when, and how much to eat. This ability to choose has both pluses and minuses. It gives you the power to select foods that you like and that are good for you. On the other hand, poor choices can result in obesity and health problems.

The question of what makes a good diet can be confusing even for adults. Things get even more complex when you add in the nutritional requirements of a growing child. The stakes are high, however. More and more evidence points to the impact of early diet on a person's health risks later in life. A healthy diet can prevent cancer, and reduce the risks of heart disease and diabetes. It also helps you achieve a healthy body weight, which in turn promotes normal sleep patterns and positive self-esteem.

### **Healthy eating vs “dieting”**

You won't find the roadmap to a healthy weight in any of the bestselling books by the latest diet gurus. Instead, the answer lies in the food and activity choices you make everyday. Developing a healthy eating style takes time and effort. It means looking closely at your current habits and learning new skills that will help you make better choices. It requires the support and involvement of your family medical team, as well. On the bright side, you will develop a lifestyle that will benefit you into adulthood.

Most kids don't need to lower their weight. While you are still growing upward, your BMI will gradually decline over time if you can slow or stop your weight gain. The exception would be if your doctor feels that obesity is causing you serious health problems. In this case, a dietitian would work with you to cut down your calorie intake safely without sacrificing nutrients.

Taking drastic measures to drop pounds fast isn't a good idea for anyone—particularly kids. Especially dangerous are the so-called “fad diets.” These schemes often revolve around eating just one type of food (like cabbage soup!) or buying expensive supplements and prepared foods. This type of diet deprives you of the nutrients you need. In the long run, it will hurt your health and your growth. It is also unsafe for kids to take diet pills. These are powerful medicines that can make you sick.

Sometimes people are so worried about being overweight that they are willing to ignore the dangers of crash diets and pills. This can be a warning sign of an eating disorder. Conditions such as *anorexia* (limiting your food intake to the point of starving) or *bulimia* (forcing yourself to throw up after you eat) grow out of an excessive concern about weight and appearance. These are both medical problems that need to be treated by a doctor.

### ***Building blocks of nutrition***

To determine a healthy diet, you need to assess if you are getting the right nutrients in the right amounts. The following nutritional components are the foundation of a health eating plan.

#### **Calories**

A calorie is a unit used to measure the heat produced when food is burned by the body. Each food has a specific calorie value. The number of calories a food has depends on which nutrients are contained in that food. For example, carbohydrate and protein each provide 4 calories per gram. A gram of fat yields 9 calories.

Three main factors influence your calorie needs. First is your resting metabolism. This is the amount of energy your body uses for basic functions such as breathing and keeping warm. The second factor is the energy you burn up in physical activity. Your

body also uses up a small amount of energy each day to digest and absorb the food you eat. Other factors such as growth, age, disease, and sex also have an impact on your calorie needs.

## **Carbohydrate**

Carbohydrate is one of the three major nutrients. The other two are protein and fat. Carbohydrate foods provide your body with energy, and fiber, as well as vitamins and minerals. Carbohydrates are the source of most of the fuel that your body needs to move, perform work, and live. They are sole source of energy for the brain and nerves. Carbohydrate is found mainly in grains, vegetables, fruits, desserts, and sweetened drinks. Other foods that offer carbohydrate are milk and dairy products, and dried beans and peas.

There are two types of carbohydrates: simple and complex. Simple carbohydrates include soda pop, table sugar, and candy. These foods can be digested very quickly. They provide extra calories without bulk so they don't fill you up. That's why you might feel hungry shortly after eating these foods. Simple carbohydrates also lack important vitamins and minerals your body needs to function. Complex carbohydrates, such as breakfast cereal, banana, and potatoes, are digested more slowly because they contain fiber or bulk. Eating these foods will keep you satisfied longer, as a result.

## **Protein**

Protein comes from foods such as eggs, meat, fish, poultry, beans, nuts, and dairy products. Grains and vegetables also add some protein to your diet. Even though meat is a main source of protein, vegetarians can easily get the protein they need without eating any animal product at all.

Your body uses protein to build and repair muscles, skin, and other cells. Other compounds that are critical to your body's functioning are also made of proteins. Enzymes, a type of protein, aid chemical reactions such breaking down food during

digestion. Hormones, such as insulin and thyroid which help regulate your metabolism are proteins as well. Antibodies, also made from protein, form a key part of your immune system.

Protein can also be a source of energy. During digestion, protein breaks down into smaller parts called amino acids. If your diet doesn't contain enough carbohydrate or fat, your body will convert amino acids into glucose (a type of sugar) for energy. Also, if you eat too much protein, your body will store the extra as glucose or fat. Eating too little protein can bring on serious health conditions. However, it is very rare for people in the developed world to get too little protein in their diets.

## **SIDEBAR**

### ***How much protein do you need?***

Even though protein is important, you can get too much of a good thing. Most Americans consume twice the amount of protein they need every day. A high protein diet can cause your body to lose calcium. It can also put a strain on your kidneys. Too much protein is extra risky for people with kidney disease or diabetes.

Eating too much protein can also lead to obesity since the extra calories are converted body fat. Ideally, you should get between 12 and 15% of your total daily calories from protein. A more accurate way to gauge your protein needs is by your age and body size. The protein requirement for the average adult is only about .36 grams per pound of body weight. At the other end of the spectrum, newborns need 1 gram per pound. Check the chart below to find out how much protein you should be getting.

<b>Protein Needs for Children and Teens</b>	
<b>Age</b>	<b>Daily Protein (per pound of body weight)</b>

0-6 months	1.0 grams
6-12 months	.7 grams
1-3 years	.6 grams
4-6 years	.55 grams
7-10 years	.45 grams
11-14 years (boys)	.45 grams
11-14 years (girls)	.46 grams
15-18 years (boys)	.41 grams
15-18 years (girls)	.37 grams

**END SIDEBAR**

**SIDEBAR/BOX**

<b>Protein in Common Foods</b>		
<b>Type of Food</b>	<b>Serving size</b>	<b>Grams of protein (approx.)</b>
Meat, poultry and fish	1 oz.	7
Beans, dried peas, lentils	1/2 cup cooked	7
Egg	1 large	7
Cheese	1 oz.	7
Milk	1 cup	8
Peanut butter	1 Tbsp.	5
Bread	1 slice	4
Cereal	1/2 cup	4
Vegetables	1/2 cup	2

**END SIDEBAR**

## Fat

This nutrient adds taste and texture to food as well as supply energy. Your body also needs fats to absorb certain vitamins such as vitamins A, D, E, and K. Fat is higher in calories than either carbohydrate or protein. This means that a diet that contains lots of fatty foods can cause you to put on weight.

There are several kinds of fats in foods. Each kind has a separate impact on your cholesterol level and heart health. In general, adolescents and children over age 2 should get more than 30% of their total calories each day from fat. If you have high cholesterol or other health problems, your doctor may make suggest a lower limit. Also, only about a third of your fat calories (7-10% of total calories) should come from saturated fats. Types of fats in foods include:

- **Monounsaturated fats.** These are sometimes called good fats. They help raise your good (HDL) cholesterol and lower your bad (LDL) cholesterol. Sources of monounsaturated fat include canola, olive, and peanut oils, as well as in avocados, most nuts, and peanut butter.
- **Polyunsaturated fats.** These fats found in many liquid vegetable such as those made from corn, sunflowers, and soybeans. These fats help lower total cholesterol, but they bring down good HDL cholesterol as well.
- **Omega-3 fats.** These fats, found in fatty fish such as salmon and sardines, shellfish, walnuts, and flax-seed oil, are part of the polyunsaturated group. They are important because they make the blood less likely to in your arteries. This helps reduce the risk of heart disease.
- **Saturated fats.** This type of fat comes mainly from animal sources such as meat and high-fat dairy products. They are also found in some vegetable foods such as coconut, palm, and palm kernel oil and cocoa butter. Saturated fat has the greatest ability to raise your bad cholesterol level. Most people should limit their intake of saturated and trans fats to 20 grams a day or less.
- **Hydrogenated fat and trans fatty acids.** Margarine and other solid vegetable fats are often chemically changed to prevent spoilage. This process is called

hydrogenation. Hydrogenated or partially hydrogenated oils contain some saturated fat. They also contain fat molecules called trans fatty acids. These substances can also up your bad cholesterol. Hydrogenated fats are often found in processed and packaged foods. You can tell if a food has these fats by looking for the words “hydrogenated” or “partially hydrogenated” in the ingredient list on the package.

- **Cholesterol.** This fat-like substance is found only in animal products such as meat, egg yolks, and high-fat dairy foods. A diet high in cholesterol can raise your level of blood cholesterol. You should limit your cholesterol to no more than 300 mg a day. (If your doctor says you have high cholesterol, you may need to a lower limit.) Egg yolks, which contain 215 mg cholesterol each, should be limited to a max of 3 or 4 a week.

## Vitamins and Minerals

These substances, called micronutrients, do not supply energy. But, that doesn’t mean they don’t count. You need vitamins and minerals for all aspects of your growth and functioning. You can get most, if not all, the micronutrients you need by eating a balanced diet that includes a wide variety of foods. A good rule of thumb is to eat colorfully. Choosing from a variety of dark green, orange, red, yellow, blue and purple fruits and vegetables will provide you with a broad spectrum of micronutrients. It will also make for an attractive dinner plate! Adding an age appropriate multivitamin pill with minerals is a good idea as well. Also, adding a calcium supplement is always a good idea. Only one in five teenage girls gets the recommended daily dose of calcium! Calcium supplements do not need to be expensive. Chewing on a calcium based antacid (like Tums) once a day will do the trick.

Here are some of the main vitamins and minerals a growing kid needs and the foods they’re found in.

Vitamin / Mineral	How it helps your body	Where you get it
Vitamin A	<ul style="list-style-type: none"><li>Promotes good eyesight</li></ul>	Spinach; cantaloupe;

	<ul style="list-style-type: none"> <li>• Aids growth</li> <li>• Promotes healthy skin</li> </ul>	carrots; sweet potatoes; nectarines; milk; eggs
Vitamin B group (B1, B2, B6, B12)	<ul style="list-style-type: none"> <li>• Helps makes protein</li> <li>• Releases energy when your body needs it</li> <li>• Helps make red blood cells</li> </ul>	Whole grains; fish and seafood; poultry and meat; eggs; dairy products; leafy green vegetables; beans and peas; citrus fruits
Vitamin C	<ul style="list-style-type: none"> <li>• Helps heal wounds</li> <li>• Fights infection</li> <li>• Keeps tissues healthy</li> </ul>	Citrus fruits; cantaloupe; strawberries; tomatoes; broccoli; cabbage
Vitamin D	<ul style="list-style-type: none"> <li>• Helps form strong bones and teeth</li> <li>• Helps body absorb calcium</li> </ul>	Milk and dairy products fortified with vitamin D; fish; egg yolks
Vitamin E	<ul style="list-style-type: none"> <li>• Maintains body tissues in eyes, skin, and liver</li> <li>• Protects lungs from damage by polluted air</li> <li>• Helps make red blood cells</li> </ul>	Whole grains; wheat germ; leafy green vegetables; sardines; egg yolks; nuts
Vitamin K	<ul style="list-style-type: none"> <li>• Helps clots from to stop bleeding</li> </ul>	Leafy green vegetables; liver; pork; dairy products
Calcium	<ul style="list-style-type: none"> <li>• Builds strong bones</li> </ul>	Milk, cheese, yogurt and other dairy products; calcium-fortified orange juice; calcium-fortified cereals; white beans;



		broccoli; sweet potatoes
Iron	<ul style="list-style-type: none"> <li>• Helps develop muscles</li> <li>• Aids production of blood cells</li> </ul>	Liver; meat and poultry; fortified cereals; clams and oysters; fish; dried beans and peas; spinach; raisins
Zinc	<ul style="list-style-type: none"> <li>• Promotes growth</li> <li>• Aids sexual maturation in teenagers</li> </ul>	Meat; seafood; dairy products; whole grains; breads and fortified cereals; nuts; dried beans

## Fiber

Fiber is a type carbohydrate that doesn't provide any food energy. Fiber isn't easily digested so it takes longer for fiber-rich foods to leave the stomach and enter the intestines. This helps your bowels function properly. Also, foods that are high in fiber are bulkier, so they give you a feeling of fullness after eating.

There are two kinds of fiber: soluble and insoluble. Soluble fiber dissolves in water. It is found in oats, barley, dried beans, fruits, and vegetables. Soluble fiber is beneficial because it slows the absorption of carbohydrates into your blood. This keeps your blood sugar at a more even level. Soluble fiber may also help lower your cholesterol level. Insoluble fiber does not dissolve in water. It is found in whole grains, vegetables, and fruit skins. Its main job is to promote normal bowel function. It also may reduce the risk of some forms of cancer.

## SIDEBAR

### *How much fiber do you need?*

Age Group	Adequate Intake of
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	<b>Fiber (grams/day)</b>
Children 1-3	19g fiber/ day
Children 4-8	25g fiber/day
Boys 9-13	31g fiber/day
Boys 14-18	38g fiber/day
Girls 9-13	26g fiber/day
Girls 14-18	26g fiber/day

Adequate intake is based on 14 g fiber per 1000 calories. Adequate intake may be adjusted for the specific calorie needs for your child.

**Cautions:** A diet that is too high in fiber can prevent your body from absorbing calcium and iron as well as other important vitamins and minerals. Too much fiber can cause also stomach cramping, bloating, and gas. This can be minimized by gradually increasing the amount of fiber in the diet over the course of several months. If you are having these symptoms, check to see if the amount of fiber you're eating is in line with the recommendation for your age and make changes if necessary. With a high fiber diet, it's also important that you drink plenty of fluids.

**END SIDEBAR**

#### **SIDEBAR/BOX**

<b>Foods with Fiber</b>		
<b>Food</b>	<b>Serving</b>	<b>Grams of fiber</b>
oatmeal	1 cup	4
raisin bran cereal	1 cup	7
corn bran cereal	1 cup	7
corn muffin	1 small	2
bran waffle	2 rounds	4

honey wheat berry bread	1 slice	3
fruit-filled cereal bar	1	1
apple, with peel	1 medium	3
raisins	1/4 cup	2
orange	1 medium	2
cooked green peas	1/2 cup	4
cooked broccoli	1/2 cup	2
cooked carrots	1/2 cup	2
corn on the cob	1 medium	2
chili	1/2 cup	6
frozen bean burrito	1	6
low-fat refried beans	1/2 cup	7

**END SIDEBAR****Fluid**

Even though it isn't considered a food, water is a critical nutrient. One of its major roles is to regulate your body temperature. It also keeps your eyes, mouth, and nose moist. Water is the main component of all your body fluids including blood, saliva, and stomach juices. It also helps cushion your joints and protect your organs.

Drinking lots of water is the most obvious way to keep your body supplied with fluid. It's also one of the best. Drinking several glasses of water a day is helpful when you're trying to control your weight because it helps make you feel full. In addition, you may mistake thirst for hunger when your body doesn't get enough fluid. In moderation, milk and fruit juice are good fluid choices. Milk provides calcium and protein; juice has important vitamins and minerals. Surprisingly, you can also get fluid from the foods you eat, especially fruits and vegetables. Drinks containing caffeine—coffee, tea, colas, and some other soft drinks—aren't good sources of fluid. Caffeine makes you urinate more so your body ends up losing water.

In general, it's a good idea to stay away from regular (non-diet) soft drinks. A 12-oz. can of regular soda has close to 200 calories. Drinking several sodas a day might fulfill your fluid needs—but at the cost of 1000 or more extra calories with zero nutrients.

## **SIDEBAR**

### ***How Much Fluid Do You Need?***

The amount of fluid you need daily will depend on your weight, age, and the amount you lose in sweat, urine, bowel movements, and just by breathing. Remember, you'll need to drink more if it is hot out or you are active and perspiring more. Regular urination is a sign that you getting enough liquid. Your urine should be the color of light lemonade. Darker urine may indicate that you need to up your fluid intake. The following are general guidelines for fluid intake based on age.

<b>Age</b>	<b>Daily Fluid Needs</b>
4-7 years	6 cups
8-12 years	7 cups
Teenagers and adults	8-10 cups

**END SIDEBAR**

**[GRAPHIC: Treat the following like a pull quote.]**

## **SIDEBAR**

***Interesting fact:*** The average adult loses about 10 cups of water each day in sweat, urine, bowel movements, and respiration.

**END SIDBAR**

## Eating from the food guide pyramid

The new Dietary Guidelines for Americans 2005, from the USDA, is included at the end of this chapter. This can be read online as well at

<http://www.health.gov/dietaryguidelines/dga2005/recommendations.htm>

The information in this new guideline can also be illustrated by looking at the healthy eating pyramids, presented here.

### Healthy Eating Pyramid

<http://www.hsph.harvard.edu/nutritionsource/pyramids.html>

The food guide pyramid tells you how many servings you should have of each of the basic food groups. It is your blueprint for constructing a healthy diet from the nutritional building blocks described above. The diet outlined in the pyramid is high in grains, cereals, breads, fruits and vegetables. It also calls for moderate amounts of protein and dairy, and a sparing use of fats and sweets.

### [GRAPHIC: FOOD GUIDE PYRAMID (ADULTS)]

The pyramid gives you the opportunity to choose a variety of foods. Eating from the pyramid will give you the nutrients you need to grow and help you keep your weight under control. Each category has a range of servings. This allows people with different calorie requirements use the pyramid. If you eat the lower number of servings in each food group each day, you'll end up consuming about 1600 calories. Choosing the number at the top of the range will give you closer to 2800 calories.

#### *Recommended Calorie Ranges*

Calories per day	Age group
1600	Women, older adults
2200	Kids, teen girls, active women, most men
2800	Teen boys, active men

Even though preschool children need a variety of foods, they may need less than food than their older siblings. The Food Guide Pyramid for Young Children reflects the particular needs of this age group. Standard serving sizes still apply for children between ages 4 and 6. (See What Counts as a Serving, p. XX). However, two- and three-year olds should be offered smaller portions in all food groups except milk. Children of all ages should drink a minimum of 2 cups of milk per day.

**[GRAPHIC: INSERT FOOD GUIDE PYRAMID FOR YOUNG CHILDREN]**

**SIDEBAR**

*What Counts as a Serving?*

<i>Food Groups</i>		
<b>Bread, Cereal, Rice, and Pasta</b>		
1 slice of bread	1 oz. of ready to-eat cereal	1/2 cup of cooked cereal, rice, or pasta
<b>Vegetable</b>		
1 cup of raw leafy vegetables	1/2 cup of other vegetables, cooked or chopped raw	3/4 cup of vegetable juice
<b>Fruit</b>		
1 medium apple, banana, orange	1/2 cup of chopped, cooked, or canned fruit	3/4 cup of fruit juice
<b>Milk, Yogurt, and Cheese</b>		
1 cup of milk or yogurt	1-1/2 oz. of natural cheese	2 oz. of process cheese
<b>Meat, Poultry, Fish, Dry Beans, Eggs, and Nuts</b>		
2-3 oz. of cooked lean meat, poultry, or fish	1/2 cup of cooked dry beans or 1 egg counts as 1 oz. of lean meat. 2 Tbsp. of peanut butter or 1/3 cup of nuts count as 1 oz. of meat.	

**END SIDEBAR**

### ***Making healthy choices***

The food guide pyramid is a great starting point for healthy eating. But, you can improve the quality of your diet even more by choosing foods that are lower in fat, sugar, and sodium. Ideally, you shouldn't get more than 30% of your total calories from fat. This is the equivalent of between 53 and 93 grams depending on whether you're at the high end or low end of the serving ranges on the pyramid. You will get half of this amount of fat even if you pick the lowest fat choice from each food group and prepare your food without adding fat. You can then decide how you want to spend your additional fat allowance each day.

Limiting the added sugar in your diet is also important, especially if you're concerned about your weight. Sugars include white sugar, brown sugar, raw sugar, corn syrup, honey, and molasses. Sugars supply calories but few if any other nutrients. Foods like candy, soft drinks, jams, jellies, fruit canned in heavy syrup and chocolate milk are high in added sugar.

Salt can also be a problem for some people. If you have high blood pressure or your doctor says you are at risk for it, you may want to go easy on salt and foods that are high in sodium. High-sodium foods include luncheon meats, many types of cheese, canned soups and vegetables, and soy sauce. You may be able to find low-sodium versions of many of these foods, however.

### **SIDEBAR**

<b>Food Group</b>	<b>Choose More</b>	<b>Choose Less</b>
Bread, cereal, rice, pasta	Whole grain bread, brown rice, fiber-containing cereal, rice cakes, pretzels, popcorn, mini bagels, instant hot oatmeal, vanilla wafers, ginger snaps	Pastries, sugar-coated cereals, granola, high-fat cookies and crackers, scones, cakes, pies
Vegetables	All; raw, cooked, frozen, baked	Avocado, olives, French

	French fries	fries
Fruits	All	Fruit juices, dried fruits, coconut
Milk, yogurt, and cheese	1% or skim, low-/non- fat yogurt, part-skim mozzarella, 1% cottage cheese, Parmesan, frozen yogurt, lite ice cream	Whole milk, chocolate milk, milk shakes, regular ice cream, regular cheese and sour cream
Meats and alternatives	Dried beans and peas, extra lean hamburger, white meat chicken and turkey, fish, egg white, water-packed tuna, tofu, turkey hot dogs, baked chicken nuggets, fat-free deli meats. remove visible fat whenever possible	Fried meats and fish, sausage, hot dogs, tuna in oil, bacon, poultry skin, egg yolk, peanut butter
Fats, oils, and sweets, miscellaneous; all sparingly	Limit added fat to 1 tsp per meal; olive or canola oil, margarine; low-/no- fat salad dressing, herbs, spices, mustard, pickles, salsa	Butter, chocolate, cream cheese, gravy and sauces, potato chips, potato and macaroni salads, ice cream, candy, soda pop

**END SIDEBAR**

### ***Size up your portions***

Controlling the portion size is key to successful weight control. It's not always easy to know how much food equals a standard serving (See *Eating from the Food Guide Pyramid*, p.XX). This is especially true when you eat out. You can't depend that the portion you're served equals a "sensible" serving. Researchers recently looked at how restaurant and fast food portions compared with recommended serving sizes. They found that restaurants provided servings that were 2 to 8 times larger than nutritional guidelines recommends. Portion sizes have gotten progressively larger over the years. At fast food restaurants, you get anywhere from 2 to 5 times the amount of food in a serving than you



would have thirty or forty years ago. In fact, since people are eat many more meals away from home than in the past, many experts blame the ballooning portion sizes for the current obesity epidemic.

You can fight back against portion inflation by learning how to recognize standard serving sizes. When eating at home, use measuring cups and spoons and food scale to control your food intake. This will help you become accustomed to recognizing—and eating—standard portions. Also, use the tips in the *Handy Portion Guide* (p. XX) to help you “eyeball” a reasonable portion of food.

## SIDEBAR

### *Handy Portion Guide*

**[GRAPHIC: INCLUDE A DRAWING OF EACH OF THE ITEMS LISTED UNDER “IS THE SIZE OF...” (THIS DOESN’T NEED TO BE IN CHART FORMAT)]**

#### *This much food...*

**3 oz. meat, fish, poultry**

**1 oz. cheese**

**½ cup rice**

**½ cup pasta**

#### *Is the size of...*

Deck of cards **OR**

Cassette tape **OR**

Palm of your hand

4 dice **OR** a nine volt battery

Cupcake wrapper

Ice cream scoop

**Small baked potato** Computer mouse

**Medium bagel** Hockey puck

**Medium piece of fruit** Baseball

**½ cup of fruits or vegetables** Light bulb

**2 Tbsp. peanut butter** Golf ball

**1 level tsp. oil, mayonnaise, salad dressing, etc.** Tip of your thumb

**END SIDEBAR**

### ***Sample meal plans***

Following meal plans demonstrate how the food guide pyramid allows you to put together menus at a range of calorie levels.

#### **1600 Calorie Meal Plan**

This sample menu for one day met the low-end number of recommended servings of food choices from each food group, providing approximately 1,600 calories. This calorie level would be appropriate for an 8- to 11-year old, depending on the child's size and activity level.

##### *Day 1 - 1600 calories*

<b>Meal</b>	<b>Food</b>	<b>Pyramid Servings</b>
Breakfast	2 oz. Bran Chex-type cereal	2 breads

	1 cup 1% milk	1 milk
	1 ¼ cup whole strawberries	1 fruits
Lunch	2 slices 100% whole wheat bread	2 breads
	1 oz. lean turkey ham	½ meat
	Lettuce, tomato, mustard	½ vegetable
	15 grapes	1 fruit
	Carrot sticks with 2 Tbsp. low-fat ranch dressing	1 vegetable; 1 fat; 1 milk
Afternoon Snack	1 Tbsp. peanut butter with celery sticks	½ meat; 1 fat; 1 vegetable
	popsicle	1 sweet
Dinner	12-inch flour tortilla	2 breads
	½ cup fat-free refried beans	1 meat
	Lettuce, tomato, salsa, 8 sliced black olives	½ vegetable; 1 fat
	1 ¼ cup honeydew melon	1 fruit
	Calorie-free flavored water	Free

*Day 2 - 1600 Calories*

<b>Meal</b>	<b>Food</b>	<b>Pyramid Servings</b>
Breakfast	1 package instant oatmeal-maple brown sugar	2 breads
	1 cup 1% milk	1 milk
	1 small banana	1 fruit
Lunch	2 slices 100% whole wheat	2 breads

	bread	
	2 Tbsp. peanut butter	1 meat; 1 fat
	1 Tbsp. grape jelly	1 sweet
	1 cup green apple slices	1 fruit
	8 oz. 1% milk	1 milk
Afternoon Snack	1 cup fat free vegetable soup	1 vegetable
	Mineral water	Free
Dinner	3 oz. grilled halibut fish	3 meats
	2/3 cup rice, cooked in vegetable broth	2 breads
	1 cup broccoli, stir-fried with 1 tsp. of olive oil	2 vegetables; 1 fat
	½ cup raspberries	1 fruit
	6 oz. V-8 juice	1 vegetable
Bedtime Snack	8 oz. 1% chocolate milk	1 milk; 1 sweet

*Day 3 -1600 Calories*

<b>Meal</b>	<b>Food</b>	<b>Pyramid Servings</b>
Breakfast	2 slices French toast (made with 1 egg and ¼ cup 1% milk)	2 breads; 1 meat; 1 fat; 1 milk
	¾ cup blueberries	1 fruit
	½ Tbsp. powdered sugar	1 sweet
Lunch	1 cup vegetarian chili	2 bread; 1 meat
	6 fat-free whole wheat	1 bread

	crackers	
	1 large green mixed salad with 2 Tbsp. low-fat ranch dressing	2 vegetables; 1 fat
	1 oz. low-fat cheddar cheese	1 milk; 1 fat
	diet caffeine-free coke	Free
Afternoon Snack	1 cup fresh cantaloupe	1 fruit
Dinner	2 oz. extra-lean hamburger	2 meats
	2 oz. hamburger bun	2 breads
	Lettuce, tomato, onion, pickle	1 vegetable
	6 oz. low-fat strawberry milkshake	1 milk; 1 sweet
Bedtime Snack	1 orange	1 fruit
	½ cup sugar-free Jell-O	Free

## 2200 Calorie Meal Plan

This sample menu for one day met the upper-end number of recommended servings of food choices from each food group, providing approximately 2,200 calories. This calorie level is 2,200 calories may be most appropriate for an active teenager depending on size.

### Day 1 - 2200 Calories

Meal	Food	Pyramid Servings
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Breakfast	3 oz. Bran Chex-type cereal	3 breads
	½ cup 1% milk	1 ½ milk
	1 large banana	2 fruits
Mid-Morning Snack	1 nectarine	1 fruit
Lunch	1 whole pita pocket	2 breads
	2 oz. tuna canned in water	1 meat
	lettuce, tomato, 1 Tbsp. light mayonnaise	½ vegetable; 1 fat
	1 kiwi	1 fruit
	1 cup low-fat vegetable soup	2 vegetables; 1 fat
	8 oz. 1% chocolate milk	1 milk; 1 sweet
	20 Goldfish crackers	1 bread
Afternoon Snack	¾ cup light vanilla ice cream	½ milk; 2 fats
	2 whole graham crackers	2 breads
Dinner	4 oz. grilled skinless chicken breast	1 ½ meat
	1 medium baked potato with 2 tsp. margarine	2 vegetables; 2 fats
	1 cup spinach salad with 2 tsp. olive oil and 1 Tbsp. balsamic vinegar	1 vegetable; 2 fats; 2 breads
	water	Free
Bedtime Snack	6 cups light popcorn	2 breads; 1 fat

diet cola Free

Day 2 - 2200 Calories

<b>Meal</b>	<b>Food</b>	<b>Pyramid Servings</b>
Breakfast	3 pieces 100% whole wheat toast	3 breads
	1 cup 1% milk	1 milk
	1 cup peaches	1 fruit
	3 tsp. margarine, divided on toast	3 fats
	1 Tbsp. cinnamon and sugar, divided on toast	1 sweet
Mid-Morning Snack	1 orange	1 fruit
Lunch	2 oz. whole wheat bagel	2 breads
	2 oz. Health Choice-style turkey ham	1 meat
	lettuce, tomato	½ vegetable
	2 tsp. Dijon mustard	Free
	1 kiwi	1 fruit
	1 cup celery sticks spread with 2 Tbsp. low-fat cream cheese	1 vegetable; 1 fat
	8 oz. 1% milk	1 milk
Afternoon Snack	1 granola bar	1 bread; 1 fat
Dinner	4 inch square vegetarian lasagna	2 breads; 1 ½ meats; 1 vegetable; 2 fats

	1 cup Caesar salad	1 vegetable
	2 Tbsp. fat-free Caesar dressing	Free
	2 oz. slice garlic bread, made with 1 tsp. margarine	2 breads; 1 fat
	1 cup 1% milk	1 milk
Bedtime Snack	1 ½ oz. pretzels	2 breads
	decaf iced tea with lemon	Free

Day 3 - 2200 Calories

Meal	Food	Pyramid Servings
Breakfast	2 4 1/2-inch square whole-grain waffles	2 breads
	1 cup hot chocolate prepared with 1% milk	1 milk; 1 sweet
	1 ¼ cup strawberries	1 fruit
	1 Tbsp. sugar	1 sweet
Mid-Morning Snack	1 medium blueberry muffin	2 breads; 2 fats
Lunch	1 cup spaghetti noodles, cooked	2 breads
	1/3 cup spaghetti sauce	1 vegetable
	1 cup tossed green salad	1 vegetable
	2 Tbsp. Italian-style low-fat dressing	2 fats
	½ cup green beans	1 vegetable
	1 cup 1% milk	1 milk



Afternoon Snack	4 whole apricots	1 fruit
	1 oz. string cheese	½ milk
Dinner	1 ½ cup black bean soup	1 ½ breads; 1 ½ meats
	1 Tbsp. light sour cream	1 fat
	2 oz. baked tortilla chips	2 breads; 1 fat
	6 oz. fat-free strawberry yogurt	1 milk
	½ cup pineapple	1 fruit
Bedtime Snack	2 slices whole wheat bread	2 breads
	1 hard cooked egg	1 meat
	1 Tbsp. mayonnaise	1 fat
	½ tsp. mustard	Free

### ***Evaluate your diet***

A food log is a tool you can use to record what you eat, when you eat it, and how hungry you are feeling at the time. It also lets you track the number of servings from each food group you are eating. That way, you can see how your diet stacks up against the recommended servings on the food guide pyramid. A dietitian can also use the information from a food log to determine if your diet is appropriate for your weight, sex, activity level, and disease risks. Keeping a food log on a regular basis can also help you reflect on your eating choices and make behavior changes. For example, if you find that skipping breakfast caused you to consume high-fat snacks in mid-morning, you might decide to try eating a healthy breakfast the following morning. At the end of the chapter, you'll have a chance to fill in your own food log. But first, let's take a look at how Jack and Jill completed theirs.

### **Jill's Sample Food Log**

<b>Time of Day</b>	<b>Food or Beverage</b>	<b>Amount (medium, cup, tsp., Tbsp., oz., etc.)</b>	<b>Level of Hunger (1 - 4)</b>	<b>Food Group and Number of Servings</b>
7:30 am	bagel with peanut butter	whole, 2 oz., 2 Tbsp.	4	grain (2), meat (1)
	juice	4 oz.	4	fruit (1)
10 am	banana	whole, medium	3	fruit (1)
12:30 pm	spaghetti with meat sauce	1 cup pasta, 1/2 cup sauce	3	grain (2), vegetable (1), meat (1)
	lettuce salad with ranch dressing	1 cup, 2 Tbsp.	3	vegetable (1), fats and sweets (1)
	green beans	1/2 cup	3	vegetable (1)
	garlic bread	1 small slice	3	grain (1)fats and sweets (1)
	low-fat milk	8 oz.	3	milk (1)
3:00 pm	potato chips	2 oz.	3	grain (2), fats and sweets (2)
	juice	4 oz.	3	fruit (1)
6:00 pm	flour tortilla	1, 7 inch round	4	grain (1)
	refried beans	1/2 cup	4	meat (1)
	cheddar cheese	1 oz. grated	4	milk (1)
	lettuce and tomato	1/4 cup	4	vegetable (1/2)
	sour cream	2 Tbsp.	4	fats and sweets (1)
	corn on the cob	1 medium ear	4	vegetable (1)
	butter	1 tsp.	4	fats and sweets

				(1)
	soda pop	12 oz. can	4	fats and sweets (1)
8:30 pm	Oreo cookies	4	2	fats and sweets (1)

Let's take a look at Jill's day...

### **Jill's Number of Servings**

Grains: 8

Fruits: 3

Vegetables: 4 1/2

Meats: 3

Milk: 2

Fats/Sweets: 9

### **Food Guide Pyramid Recommended**

#### **Number of Servings**

6 to 11

2 to 4

3 to 5

2 to 3

2 to 3

use sparingly\*

Jill's food choices covered all the recommended servings for the food guide pyramid. For a teenager, she needs one more serving from the milk group for good bone health. She had nine servings from the fats and sweets. This is acceptable since she is at a desirable body weight range and met the serving requirements for the other food groups. Jill was able to follow her own hunger cues and eat according to her appetite. Normal eating includes sometimes eating for pleasure. For example, Jill ate 2 Oreos at bedtime. Her hunger level was 2, which indicates she wasn't hungry. Jill did get enough on this day, however. Her intake was 3 cups. Her goal is 8 to 10 cups of fluid per day. She could have reached this goal if she'd had an 8 oz. glass of water before meals and snacks.

The detailed *nutritional analysis* below, gives you a closer look at each nutritional component of Jill's food intake.

### **Diet Summary**

Total Meals: 6

Total Foods: 23

Total Calories: 2475 calories

Total Protein: 66.211 gm

Total Carbohydrate: 348.951 gm

Total Fat: 100.196 gm

### Jack's Sample Food Log

Time of Day	Food or Beverage	Amount (cup, tsp., Tbsp., oz., etc.)	Level of Hunger (1 - 4)	Food Group
10:00 am	Fruitopia juice	20 oz.	4	fruit (5)
12:00 pm	cheese burger	1 burger	4	grain (2), meat (3)
	French fries with ranch salad dressing	20 fries, and 2 Tbsp. dressing	4	vegetable (2), fat (4)
	chocolate milk	8 oz.	4	milk (1), fats and sweets (1)
	oatmeal cookie	1 large	3	grain (2) fats and sweets (3)
3:30	soda pop	32 oz.	2	fats and sweets (8)
5:30 pm	chicken	1 thigh and 2 legs	4	meats (3)
	mashed potatoes with butter and gravy	2 cups potatoes, 1 Tbsp. butter, 1/2 cup gravy	4	vegetable (4), fats and sweets (5)
	peas	1/2 cup	4	vegetable (1)

	dinner rolls with butter and jelly	3 rolls, 3 tsp. butter, 3 Tbsp. jelly	4	grain (3), fats and sweets (6)
	chocolate chip mint ice cream	1 1/2 cups	2	milk (1) fats and sweets (1)
9:30 pm	skittles	1 package	3	fats and sweets (2)

Let's take a look at Jack's day:

### **Jack's Number of Servings**

Grains: 7  
Fruits: 5  
Vegetables: 7  
Meats: 6  
Milk: 2  
Fats/Sweets: 30

### **Food Guide Pyramid Recommended**

#### **Number of Servings**

6 to 11  
2 to 4  
3 to 5  
2 to 3  
2 to 3  
use sparingly\*

On this day, Jack met the recommended number of servings for the milk group, but he exceeded the limit for the rest of the food groups. He skipped breakfast and ate large portions at meal times. Jack's body set him up to over eat. He skipped breakfast, so had a hunger level of 4 by 10am. This led him to have a low-fiber, high-sugar drink left him still very hungry at 12pm. His snack food choices added to the high number of servings from fats and sweets that he accumulated. These foods also contributed a lot of calorie to his daily total. Since Jack is obese, he needs to cut down on his intake from the fats and sweets and meats groups if he wishes to lose weight. He can add more fiber to his diet and decrease his appetite, by switching his fruit and vegetable choices to whole fruits and non-starchy vegetables. For example, he could substitute a morning snack of an apple and an orange in place of the fruit juice. At dinner he could try adding a serving of broccoli and decreasing the portion of potatoes. Also, he can easily cut 500 calories out of his day

by drinking water or diet soda in the place of his afternoon drink of regular soda. While Jack consumed 7 1/2 cups of fluid he didn't meet his goal of 8-10 cups per day. Jack might feel more satisfied with his meals if he adds a glass of water before or during his meals. With this easy change he would meet his goal.

The detailed *nutritional analysis* below, gives you a closer look at each nutritional component of Jack's food intake.

#### Diet Summary

Total Days: 2

Total Meals: 6

Total Foods: 42

Total Calories: 6844 calories

Total Protein: 196.622 gm

Total Carbohydrate: 988.361 gm

Total Fat: 254.924 gm

**[GRAPHIC: THE INSTRUCTIONS BELOW AND THE LOG ITSELF SHOULD BE ON A SEPARATE PAGE THAT CAN BE REMOVED FROM THE MANUAL AND COPIED. THE INSTRUCTIONS SHOULD BE ON ONE SIDE AND THE LOG ON THE REVERSE SIDE.]**

#### **Instructions for completing your own food log**

On the back of this page, you'll find a blank food log that you can remove and copy. To complete the log:

- 1) Start with the time of day that you're eating your food.
- 2) In the next column, write down the food or beverage item that you are eating.
- 3) Next, measure the portion of food or beverage and be sure to include second or third servings.
- 4) Rate the level of hunger that you feel when you begin to eat: Level 1 = feeling full; Level two = not hungry; Level three = hungry; Level four = starved.

5) When you've finished eating for that day, compare your number of servings eaten from each food group to the recommended servings outlined in the food guide pyramid.

### My Food Log

Time of Day	Food or Beverage	Amount (cup, tsp., Tbsp., oz., etc.)	Level of Hunger (1 - 5)	Food Group

Take a look at your day...

#### **Number of Servings in Your Diet**

Grains: \_\_\_\_\_  
 Fruits: \_\_\_\_\_  
 Vegetables: \_\_\_\_\_  
 Meats: \_\_\_\_\_  
 Milk: \_\_\_\_\_  
 Fats/Sweets: \_\_\_\_\_

#### **Food Guide Pyramid Recommended Number of Servings**

6 to 11  
 2 to 4  
 3 to 5  
 2 to 3  
 2 to 3  
 use sparingly\*



### ***Make your own fast food***

It's hard to eat right when you're in a hurry. It's also tempting to grab for unhealthy snacks when hunger creeps up. Keep the following healthy alternatives in mind when you're on the go, but want to still eat right.

### **Quick and healthy breakfast ideas**

Starting your day with a good breakfast is important. If your body doesn't get the carbohydrate it needs, it will break down protein from your tissues to keep your brain supplied with energy. Cereal with milk and fruit will provide plenty of complex carbohydrates to get you going. Or, you can try one of the delicious recipes below.

#### **Fruit Smoothie**

8 oz. low-fat fruit yogurt

1 cup frozen berries or fresh banana

1 Tbsp. sugar

Blend and enjoy.

#### **Cheesy Bagel**

2 mini bagels

1 oz. part-skim mozzarella cheese

Grate cheese, top bagel halves and toast until melted.

#### **Breakfast Burrito**

1 8-inch wheat tortilla

1 egg

1 Tbsp. salsa

1 Tbsp. non-fat sour cream

Scramble egg in skillet coated with pan spray until just set.

Add egg, salsa and sour cream to tortilla and fold up.

**Waffles on the Run**

2 frozen whole-grain waffles

1 cup 1% milk

Toast waffles according to package direction. Pour a glass of milk. Grab both and go.

**Breakfast Parfait**

1 8-oz. carton low-fat vanilla yogurt

1/4 cup low-fat granola type cereal

1/2 cup fresh fruit

Layer above ingredients in large mug or bowl and enjoy!

**Pizza in the morning**

1 whole English muffin

1 Tbsp. spaghetti sauce

1 oz. part-skim mozzarella

8-10 pineapple chunks

Split muffin into halves. Top each half with 1 1/2 tsp. spaghetti sauce. Grate cheese and top of each half and toast until melted. Place 4-5 pieces pineapple on each.

**Post-exercise snack ideas**

Whether it's shoveling the walk, playing soccer, or swimming laps, physical activity makes you hungry. Your body is telling you that you need to replace the energy that you've just used up. Instead of racing to the nearest vending machine for a Coke and a candy bar, try one of these tasty and good-for-you snacks.

- 2 pieces of wheat toast with peanut butter
- 8oz cup of low fat chocolate milk
- 1 cup canned peaches (in light syrup) with cottage cheese
- 12 low-fat crackers with cheese slices

- 2 6-inch flour tortilla rolled up with cream cheese and turkey
- 1 granola bar and 8 oz. Gatorade
- 1 English muffin split and topped with 1 - 2 teaspoons spaghetti sauce and grated cheese. Microwave until cheese melts
- 1 cup low-fat milk and 2 graham crackers
- 6-inch pita, lightly toasted, with 1-2 tablespoons of humus
- 1/2 cup fruit juice with an apple and peanut butter
- 30 grapes with a string cheese
- 1 cup noodle or bean soup with grated cheese with 6 saltine crackers

### ***Getting help with your diet***

A registered dietitian can help you come up with a safe and healthy eating plan. He or she can assess your nutritional needs and health goals as well as look at your current eating habits. Individual assessment by a pediatrician and pediatric registered dietitian is always necessary for infants and children under age 3. For older children and teens, a dietitian will construct an eating plan that supports growth needs and weight control goals while taking into account age, sex, and activity level. (For information on how to find a pediatrician or pediatric registered dietitian, see *Additional Information*, p.XX)

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