

Nutrition / Healthy Diet Basics

Do you ever feel like you can't keep up with the changes in technology? Sometimes it seems that way with dietary advice, as if things are always changing. While it's true that the fields of diet and nutrition are areas of evolving research, there are some basic concepts you can keep in mind. By knowing these basics, you will be better equipped to sort through nutrition research and dietary advice.

Water

Ever notice how lifeless a house plant looks when you forget to water it? Just a little water and it seems to perk back up. Water is just as essential for our bodies because it is in every cell, tissue, and organ in your body. That's why getting enough water every day is important for your health.

Healthy people meet their fluid needs by drinking when thirsty and drinking fluids with meals. But, if you're outside in hot weather for most of the day or doing vigorous physical activity, you'll need to make an effort to drink more fluids.

Where do I get the water I need?

Most of your water needs are met through the water and beverages you drink.

You can get some fluid through the foods you eat. For example, broth soups and other foods that are 85% to 95% water such as celery, tomatoes, oranges, and melons.

What does water do in my body?

Water helps your body with the following:

- Keeps its temperature normal.
- Lubricates and cushions your joints.
- Protects your spinal cord and other sensitive tissues.
- Gets rid of wastes through urination, perspiration, and bowel movements.

Why do I need to drink enough water each day?

You need water to replace what your body loses through normal everyday functions. Of course, you lose water when you go to the bathroom or sweat, but you even lose small amounts of water when you exhale. You need to replace this lost water to prevent dehydration.

Your body also needs more water when you are—

- In hot climates.
- More physically active.
- Running a fever.
- Having diarrhea or vomiting.

To help you stay hydrated during prolonged physical activity or when it is hot outside:

1. Drink fluid while doing the activity.
2. Drink several glasses of water or other fluid after the physical activity is completed.

Also, when you are participating in vigorous physical activity, it's important to drink before you even feel thirsty. Thirst is a signal that your body is on the way to dehydration.

Some people may have fluid restrictions because of a health problem, such as kidney disease. If your healthcare provider has told you to restrict your fluid intake, be sure to follow that advice.

Under normal conditions, most people can drink enough fluids to meet their water needs. If you are outside in hot weather for most of the day or doing vigorous activity, you may need to increase your fluid intake.

If you think you're not getting enough water each day, the following tips may help:

- Carry a water bottle for easy access when you are at work or running errands.
 - Freeze some freezer-safe water bottles. Take one with you for ice-cold water all day long.
 - Choose water instead of sugar-sweetened beverages. This tip can also help with weight management. Substituting water for one 20-ounce sugar-sweetened soda will save you about 240 calories.
 - Choose water instead of other beverages when eating out. Generally, you will save money and reduce calories.
 - Give your water a little pizzazz by adding a wedge of lime or lemon. This may improve the taste, and you just might drink more water than you usually do.
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Carbohydrates

What are carbohydrates?

Your body uses carbohydrates (carbs) to make glucose which is the fuel that gives you energy and helps keep everything going.

Your body can use glucose immediately or store it in your liver and muscles for when it is needed.

You can find carbohydrates in the following:

- Fruits
- Vegetables
- Breads, cereals, and other grains
- Milk and milk products sugar-sweetened
- Foods containing added sugars (e.g., cakes, cookies, and beverages).

Healthier foods higher in carbohydrates include ones that provide dietary fiber and whole grains as well as those without added sugars.

What are the types of carbohydrates?

There are two main types of carbohydrates:

- Complex carbohydrates
- Simple carbohydrates

Complex Carbohydrates

Starch and dietary fiber are the two types of complex carbohydrates. Starch must be broken down through digestion before your body can use it as a glucose source.

Quite a few foods contain starch and dietary fiber such as breads, cereals, and vegetables:

- Starch is in certain vegetables (i.e., potatoes, dry beans, peas, and corn).
- Starch is also found in breads, cereals, and grains.
- Dietary fiber is in vegetables, fruits, and whole grain foods.

Simple Carbohydrates

Simple carbohydrates include sugars found naturally in foods such as fruits, vegetables milk, and milk products. Simple carbohydrates also include sugars added during food processing and refining. What's the difference? In general, foods with added sugars have fewer nutrients than foods with naturally-occurring sugars.

Protein

What do you think about when you hear the word *protein*? Maybe it's an ad for some protein shake that promises massive muscles? Or is it the last high-protein diet craze you read about? With all this talk about protein, you might think Americans were at risk for not eating enough. In fact, most of us eat more protein than we need. Protein is in many foods that we eat on a regular basis.

What is Protein?

Proteins are part of every cell, tissue, and organ in our bodies. These body proteins are constantly being broken down and replaced. The protein in the foods we eat is digested into amino acids that are later used to replace these proteins in our bodies.

Protein is found in the following foods:

- meats, poultry, and fishs
- legumes (dry beans and peas)
- tofu
- eggs
- nuts and seeds
- milk and milk products
- grains, some vegetables, and some fruits (provide only small amounts of protein relative to other sources)

As we mentioned, most adults in the United States get more than enough protein to meet their needs. It's rare for someone who is healthy and eating a varied diet to not get enough protein.

What are the types of protein?

Proteins are made up of amino acids. Think of amino acids as the building blocks. There are 20 different amino acids that join together to make all types of protein. Some of these amino acids can't be made by our bodies, so these are known as *essential* amino acids.

It's *essential* that our diet provide these.

In the diet, protein sources are labeled according to how many of the essential amino acids they provide:

- A *complete* protein source is one that provides all of the essential amino acids. You may also hear these sources called *high quality proteins*. Animal-based foods; for example, meat, poultry, fish, milk, eggs, and cheese are considered complete protein sources.
- An *incomplete* protein source is one that is low in one or more of the essential amino acids. *Complementary* proteins are two or more incomplete protein sources that together provide adequate amounts of all the essential amino acids.

For example, rice contains low amounts of certain essential amino acids; however, these same essential amino acids are found in greater amounts in dry beans. Similarly, dry beans contain lower amounts of other essential amino acids that can be found in larger amounts in rice. Together, these two foods can provide adequate amounts of all the essential amino acids the body needs.

Vitamins and Minerals

Vitamins and minerals are nutrients your body needs to grow and develop normally. The NIH Vitamin and Mineral Facts Sheets provide information about the role of vitamins and minerals in health and disease. Vitamins are organic substances (made by plants or animals), minerals are inorganic elements that come from the earth; soil and water and are absorbed by plants. Animals and humans absorb minerals from the plants they eat. Vitamins and minerals are nutrients that your body needs to grow and develop normally. Vitamins and minerals, have a unique role to play in maintaining your health. For example Vitamin D helps your body absorb the amount of calcium (a mineral) it needs to form strong bones. A deficiency in vitamin D can result in a disease called rickets (softening of the bones caused by the bodies inability to absorb the mineral calcium.) The body cannot produce calcium; therefore, it must be absorbed through our food. Other minerals like chromium, copper, iodine, iron, selenium, and zinc are called trace minerals because you only need very small amounts of them each day. The best way to get enough vitamins is to eat a balanced diet with a variety of foods. You can usually get all your vitamins from the foods you eat.

Vitamins and Mineral Examples

- Calcium
- Chromium
- Folate
- Iron
- Magnesium
- Selenium
- Vitamin A
- Vitamin B12
- Vitamin D
- Vitamin E
- Vitamin K: Interactions with Coumadin
- Zinc
- Vitamin B6

Calcium and Bone Health

Bones play many roles in the body. They provide structure, protect organs, anchor muscles, and store calcium. Adequate calcium consumption and weight bearing physical activity build strong bones, optimizes bone mass, and may reduce the risk of osteoporosis later in life.

Folic Acid

Folic acid is a B vitamin. It is used in our bodies to make new cells. If a woman has enough folic acid in her body before she is pregnant, it can help prevent major birth defects of her baby's brain and spine.

Iron and Iron Deficiency

Iron is a mineral needed by our bodies. Iron is a part of all cells and does many things in our bodies. For example, iron (as part of the protein hemoglobin) carries oxygen from our lungs throughout our bodies. Having too little hemoglobin is called anemia. Although anemia has a number of causes, iron deficiency anemia is the most common type of anemia.

Sodium and Potassium

Nearly all Americans eat too much salt (sodium). Most of the salt comes from eating processed foods (75%), or adding salt to food while cooking and using the salt shaker at meals (5% to 10%). On average, the more salt a person eats, the higher his or her blood pressure.

Dietary Fat

How Are Oils Different from Solid Fats?

All fats and oils are a mixture of saturated fatty acids and unsaturated fatty acids. Solid fats contain more saturated fats and/or trans fats than oils. Oils contain more monounsaturated (MUFA) and polyunsaturated (PUFA) fats. Saturated fats, trans fats, and cholesterol tend to raise "bad" (LDL) cholesterol levels in the blood, which in turn increases the risk for heart disease. To lower risk for heart disease, cut back on foods containing saturated fats, trans fats, and cholesterol.

The *Dietary Guidelines for Americans 2010* recommend that Americans:

- Consume less than 10% of calories from saturated fats.
- Replace solid fats with oils when possible.
- Limit foods that contain synthetic sources of *trans* fatty acids (such as hydrogenated oils), and keep total *trans* fatty acid consumption as low as possible.
- Eat fewer than 300 mg of dietary cholesterol per day.
- Reduce intake of calories from solid fats.

	Age Group	Total Fat Limits
Children	ages 2 to 3	30% to 40% of total calories
Children and adolescents	ages 4 to 18	25% to 35% of total calories
Adults	ages 19 and older	20% to 35% of total calories

What Are "Oils"?

Oils are fats that are liquid at room temperature, like the vegetable oils used in cooking. Oils come from many different plants and from fish. Oils are NOT a food group, but they provide essential nutrients. Therefore, oils are included in USDA food patterns.

Some commonly eaten oils include:

- canola oil
- corn oil
- cottonseed oil
- olive oil
- safflower oil
- soybean oil
- sunflower oil

Some oils are used mainly as flavorings, such as walnut oil and sesame oil. A number of foods are naturally high in oils, like:

- nuts
- olives
- some fish
- avocados

Foods that are mainly oil include mayonnaise, certain salad dressings, and soft (tub or squeeze) margarine with no *trans* fats. Check the Nutrition Facts label to find margarines with 0 grams of *trans* fat. Amounts of *trans* fat are required to be listed on labels.

Most oils are high in monounsaturated or polyunsaturated fats, and low in saturated fats. Oils from plant sources (vegetable and nut oils) do not contain any cholesterol. In fact, no plant foods contain cholesterol.

A few plant oils, however, including coconut oil, palm oil, and palm kernel oil, are high in saturated fats and for nutritional purposes should be considered to be solid fats.

Solid fats are fats that are solid at room temperature, like butter and shortening. Solid fats come from many animal foods and can be made from vegetable oils through a process called hydrogenation.

Food Groups

What are the basic food groups? Foods are grouped together when they share similar nutritional properties, by understanding the basic food groups, you'll be able to plan a healthy daily diet. This section helps explain the food groups based on the Dietary Guidelines for Americans, 2010 and provides information about food plans. There are five groups consisting of vegetables, fruits, grains, dairy and a protein group which includes meat, poultry, fish and nuts.

What are the basic food groups?

1. Vegetables
2. Fruits
3. Grains
4. Dairy
5. Protein

Vegetables

The vegetables you eat may be fresh, frozen, canned or dried and may be eaten whole, cut-up, or mashed. You should eat a variety of dark green, red and orange vegetables, as well as beans and peas (which are also considered part of the protein group).

- **Health Benefits**

- Eating a diet rich in vegetables and fruits as part of an overall healthy diet may reduce risk for heart disease, including heart attack and stroke.
- Eating a diet rich in some vegetables and fruits as part of an overall healthy diet may protect against certain types of cancers.
- Diets rich in foods containing fiber, such as some vegetables and fruits, may reduce the risk of heart disease, obesity, and type 2 diabetes.
- Eating vegetables and fruits rich in potassium as part of an overall healthy diet may lower blood pressure, and may also reduce the risk of developing kidney stones and help to decrease bone loss.
- Eating foods such as vegetables that are lower in calories per cup instead of some other higher-calorie food may be useful in helping to lower calorie intake.

- **Nutrients**

- Most vegetables are naturally low in fat and calories. None have cholesterol. (Sauces or seasonings may add fat, calories, or cholesterol.)
- Vegetables are important sources of many nutrients, including potassium, dietary fiber, folate (folic acid), vitamin A, and vitamin C.
- Diets rich in potassium may help to maintain healthy blood pressure. Vegetable sources of potassium include sweet potatoes, white potatoes, white beans, tomato products (paste, sauce, and juice), beet greens, soybeans, lima beans, spinach, lentils, and kidney beans.
- Dietary fiber from vegetables, as part of an overall healthy diet, helps reduce blood cholesterol levels and may lower risk of heart disease. Fiber is important for proper bowel function. It helps reduce constipation and diverticulosis. Fiber-containing foods such as vegetables help provide a feeling of fullness with fewer calories.
- Folate (folic acid) helps the body form red blood cells. Women of childbearing age who may become pregnant should consume adequate folate from foods, and in addition 400 mcg of synthetic folic acid from fortified foods or supplements. This reduces the risk of neural tube defects, spina bifida, and anencephaly during fetal development.
- Vitamin A keeps eyes and skin healthy and helps to protect against infections.
- Vitamin C helps heal cuts and wounds and keeps teeth and gums healthy. Vitamin C aids in iron absorption.

Dark Green Vegetables

bok choy
broccoli
collard greens
dark green leafy lettuce
kale
mesclun
mustard greens
romaine lettuce
spinach
turnip greens
watercress

Starchy vegetables

cassava
corn
fresh cowpeas, field peas, or black-eyed peas (not dry)
green bananas
green peas
green lima beans
plantains
potatoes
taro
water chestnuts

Red & orange vegetables

acorn squash
butternut squash
carrots
hubbard squash
pumpkin
red peppers
sweet potatoes
tomatoes

Beans and peas*

black beans
black-eyed peas (mature, dry)
garbanzo beans (chickpeas)
kidney beans
lentils
navy beans
pinto beans
soy beans
split peas
white beans

Other vegetables

artichokes
asparagus
avocado
bean sprouts
beets
Brussels sprouts
cabbage
cauliflower
celery
cucumbers
eggplant
green beans
green peppers
iceberg (head) lettuce
mushrooms
okra
onions
turnips
wax beans
zucchini

Daily Recommendation*

Children 2-3 Years old	1 cup**	Woman 19-30 years old	2 ½ cups**
4-8 Years old	1 ½ cup**	31-50 years old	2 ½ cups**
Girls 9-13 Years old	2 cup**	51+ years old	2 cups**
14-18 Years old	2 ½ cup**	Men 19-30 years old	3 cups**
Boys 9-13 Years old	2 ½ cup**	31-50 years old	3 cups**
14-18 Years old	3 cup**	51+ years old	2 ½ cups**

*The amounts are appropriate for individuals who get less than 30 minutes per day of moderate physical activity, beyond normal daily activities. Those who are more physically active may be able to consumer more while staying within calorie needs.

**In general, 1 cup of raw or cooked vegetables or vegetable juice, or 2 cups of raw leafy greens can be considered as 1 cup from the Vegetable Group. The chart lists specific amounts that count as 1 cup of vegetables (in some cases equivalents for ½ cup are also shown) towards your recommended intake.

Fruits

• Health Benefits

- Eating a diet rich in vegetables and fruits as part of an overall healthy diet may reduce risk for heart disease, including heart attack and stroke.
- Eating a diet rich in some vegetables and fruits as part of an overall healthy diet may protect against certain types of cancers.
- Diets rich in foods containing fiber, such as some vegetables and fruits, may reduce the risk of heart disease, obesity, and type 2 diabetes.
- Eating vegetables and fruits rich in potassium as part of an overall healthy diet may lower blood pressure, and may also reduce the risk of developing kidney stones and help to decrease bone loss.
- Eating foods such as fruits that are lower in calories per cup instead of some other higher-calorie food may be useful in helping to lower calorie intake.

• Nutrients

- Most fruits are naturally low in fat, sodium, and calories. None have cholesterol.
- Fruits are sources of many essential nutrients that are underconsumed, including potassium, dietary fiber, vitamin C, and folate (folic acid).
- Diets rich in potassium may help to maintain healthy blood pressure. Fruit sources of potassium include bananas, prunes and prune juice, dried peaches and apricots, cantaloupe, honeydew melon, and orange juice.
- Dietary fiber from fruits, as part of an overall healthy diet, helps reduce blood cholesterol levels and may lower risk of heart disease. Fiber is important for proper bowel function. It helps reduce constipation and diverticulosis. Fiber-containing foods such as fruits help provide a feeling of fullness with fewer calories. *Whole or cut-up fruits are sources of dietary fiber; fruit juices contain little or no fiber.*
- Vitamin C is important for growth and repair of all body tissues, helps heal cuts and wounds, and keeps teeth and gums healthy.

Common Fruits

Apples
Apricots
Bananas
Cherries
Grapefruit
Grapes
Kiwi fruit
Lemons

Berries

strawberries
blueberries
raspberries

Melons

cantaloupe
honeydew
watermelon

Limes
 Mangoes
 Nectarines
 Oranges
 Peaches
 Pears
 Papaya
 Pineapple
 Plums
 Prunes
 Raisins
 Tangerines

100% Fruit juice
 orange
 apple
 grape
 grapefruit

	Daily	Recommendation*	
Children 2-3 years old	1 cup**	Women 19-30 years old	2 cups**
4-8 years old	1 to 1 ½ cups**	31-50 years old	1 ½ cups**
Girls 9-13 years old	1 ½ cups**	51+ years old	1 ½ cups**
14-18 years old	1 ½ cups**	Men 19-30 years old	2 cups**
Boys 9-13 years old	1 ½ cups**	31-50 years old	2 cups**
14-18 years old	2 cups**	51+ years old	2 cups**

*The amounts are appropriate for individuals who get less than 30 minutes per day of moderate physical activity, beyond normal daily activities. Those who are more physically active may be able to consume more while staying within calorie needs.

** In general, 1 cup of fruit or 100% fruit juice, or ½ cup of dried fruit can be considered as 1 cup from the Fruit Group. The following specific amounts count as 1 cup of fruit (in some cases equivalents for ½ cup are also shown) towards your daily recommended intake.

Grains

There are two types of grains – whole grains and refined grains. At least half of the grains you eat should be whole grains, such as whole-wheat bread, whole-grain cereals and crackers, oatmeal, bulgur, and brown rice. Refined grains include white bread, white rice, enriched pasta, flour tortillas, and most noodles.

What Foods Are in the Grains Group?

Any food made from wheat, rice, oats, cornmeal, barley or another cereal grain is a grain product. Bread, pasta, oatmeal, breakfast cereals, tortillas, and grits are examples of grain products.

Grains are divided into 2 subgroups, **Whole Grains** and **Refined Grains**.

Whole grains contain the entire grain kernel — the bran, germ, and endosperm.

Refined grains have been milled, a process that removes the bran and germ. This is done to give grains a finer texture and improve their shelf life, but it also removes dietary fiber, iron, and many B vitamins.

Most refined grains are *enriched*. This means certain B vitamins (thiamin, riboflavin, niacin, folic acid) and iron are added back after processing. Fiber is not added back to enriched grains. Check the ingredient list on refined grain products to make sure that the word "enriched" is included in the grain name. Some food products are made from mixtures of whole grains and refined grains.

• Health Benefits

- Consuming whole grains as part of a healthy diet may reduce the risk of heart disease.
- Consuming foods containing fiber, such as whole grains, as part of a healthy diet, may reduce constipation.
- Eating whole grains may help with weight management.
- Eating grain products fortified with folate before and during pregnancy helps prevent neural tube defects during fetal development.

• Nutrients

- Grains are important sources of many nutrients, including dietary fiber, several B vitamins (thiamin, riboflavin, niacin, and folate), and minerals (iron, magnesium, and selenium).
- Dietary fiber from whole grains or other foods, may help reduce blood cholesterol levels and may lower risk of heart disease, obesity, and type 2 diabetes. Fiber is important for proper bowel function. It helps reduce constipation and diverticulosis. Fiber-containing foods such as whole grains help provide a feeling of fullness with fewer calories.
- The B vitamins thiamin, riboflavin, and niacin play a key role in metabolism – they help the body release energy from protein, fat, and carbohydrates. B vitamins are also essential for a healthy nervous system. Many refined grains are enriched with these B vitamins.
- Folate (folic acid), another B vitamin, helps the body form red blood cells. Women of childbearing age who may become pregnant should consume adequate folate from foods, and in addition 400 mcg of synthetic folic acid from fortified foods or supplements. This reduces the risk of neural tube defects, spina bifida, and anencephaly during fetal development.
- Iron is used to carry oxygen in the blood. Many teenage girls and women in their childbearing years have iron-deficiency anemia. They should eat foods high in heme-iron (meats) or eat other iron containing foods along with foods rich in vitamin C, which can improve absorption of non-heme iron. Whole and enriched refined grain products are major sources of non-heme iron in American diets.
- Whole grains are sources of magnesium and selenium. Magnesium is a mineral used in building bones and releasing energy from muscles. Selenium protects cells from oxidation. It is also important for a healthy immune system.

Whole Grains

amaranth
brown rice
buckwheat
bulgur (cracked wheat)
millet
oatmeal
popcorn
rolled oats
quinoa
sorghum
triticale
whole grain barley
whole grain cornmeal
whole rye
whole wheat bread
whole wheat crackers
whole wheat pasta
whole wheat sandwich buns and rolls
whole wheat tortillas
wild rice

Ready-to-eat breakfast cereals

whole wheat cereal flakes
muesli

Refined Grains

cornbread*
corn tortillas*
couscous*
crackers*
flour tortillas*
grits
noodles*
pitas*
pretzels
white bread
white sandwich buns and rolls
white rice

Pastas

spaghetti
macaroni

Ready-to-eat breakfast cereals

corn flakes

		Daily recommendation*	Daily minimum amount of whole grains
Children	2-3 years old	3 ounce equivalents**	1 ½ ounce equivalents**
	4-8 years old	5 ounce equivalents**	2 ½ ounce equivalents**
Girls	9-13 years old	5 ounce equivalents**	3 ounce equivalents**
	14-18 years old	6 ounce equivalents**	3 ounce equivalents**
Boys	9-13 years old	6 ounce equivalents**	3 ounce equivalents**
	14-18 years old	8 ounce equivalents**	4 ounce equivalents**
Women	19-30 years old	6 ounce equivalents**	3 ounce equivalents**

	31-50 years old	6 ounce equivalents**	3 ounce equivalents**
	51+ years old	5 ounce equivalents**	3 ounce equivalents**
Men	19-30 years old	8 ounce equivalents**	4 ounce equivalents**
	31-50 years old	7 ounce equivalents**	3 ½ ounce equivalents**
	51+ years old	6 ounce equivalents**	3 ounce equivalents**

*The amounts are appropriate for individuals who get less than 30 minutes per day of moderate physical activity, beyond normal daily activities. Those who are more physically active may be able to consume more while staying within calorie needs.

**In general, 1 slice of bread, 1 cup of ready-to-eat cereal, or ½ cup of cooked rice, cooked pasta, or cooked cereal can be considered as 1 ounce equivalent from the Grains Group.

Dairy

Most of your choices should be fat-free or low-fat milk and milk products, but all milks and calcium-containing milk products count in this category. Examples include milk, cheeses, and yogurt as well as lactose-free and lactose-reduced products and soy beverages. Foods that are made from milk but have little or no calcium are not included, such as butter, cream, sour cream, and cream cheese. Fat-free or low-fat milk and milk products

• Health Benefits

- Intake of dairy products is linked to improved bone health, and may reduce the risk of osteoporosis.
- The intake of dairy products is especially important to bone health during childhood and adolescence, when bone mass is being built.
- Intake of dairy products is also associated with a reduced risk of cardiovascular disease and type 2 diabetes, and with lower blood pressure in adults.

• Nutrients

- Calcium is used for building bones and teeth and in maintaining bone mass. Dairy products are the primary source of calcium in American diets. Diets that provide 3 cups or the equivalent of dairy products per day can improve bone mass.
- Diets rich in potassium may help to maintain healthy blood pressure. Dairy products, especially yogurt, fluid milk, and soymilk (soy beverage), provide potassium.
- Vitamin D functions in the body to maintain proper levels of calcium and phosphorus, thereby helping to build and maintain bones. Milk and soymilk (soy beverage) that are fortified with vitamin D are good sources of this nutrient. Other sources include vitamin D-fortified yogurt and vitamin D-fortified ready-to-eat breakfast cereals.
- Milk products that are consumed in their low-fat or fat-free forms provide little or no solid fat.

Why is it important to make fat-free or low-fat choices from the Dairy Group?

Choosing foods from the Dairy Group that are high in saturated fats and cholesterol can have health implications. Diets high in saturated fats raise "bad" cholesterol levels in the blood. The "bad" cholesterol is called LDL (low-density lipoprotein) cholesterol. High LDL cholesterol, in turn, increases the risk for coronary heart disease. Many cheeses, whole milk, and products made from them are high in saturated fat. To help keep blood cholesterol levels healthy, limit the amount of these foods you eat. In addition, a high intake of fats makes it difficult to avoid consuming more calories than are needed.

Milk***all fluid milk:**

fat-free (skim)
 low fat (1%)
 reduced fat (2%)
 whole milk

flavored milks:

chocolate
 strawberry
 lactose-reduced milks
 lactose-free milks

Milk-based desserts*

puddings
 ice milk
 frozen yogurt
 ice cream

**Calcium-fortified soy milk
(soy beverage)**

		Daily			Recommendation*
Children	2-3 years old	2 cups	Women	19-30 years old	3 cups
	4-8 years old	2 ½ cups		31-50 years old	3 cups
Girls	9-13 years old	3 cups		51+ years old	3 cups
	14-18 years old	3 cups	Men	19-30 years old	3 cups
Boys	9-13 years old	3 cups			31-50 years old
	14-18 years old	3 cups		51+ years old	3 cups

Cheese***hard natural cheeses:**

cheddar
 mozzarella
 Swiss
 Parmesan

soft cheeses:

ricotta
 cottage cheese

processed cheeses:

American

Yogurt***all yogurt:**

fat-free
 low fat
 reduced fat
 whole milk yogurt

* In general, 1 cup of milk, yogurt, or soy milk (soy beverage), 1 ½ ounces of natural cheese, or 2 ounces of processed cheese can be considered as 1 cup from the Dairy Group.

Protein

Choose a variety of lean meats and poultry, seafood, beans and peas, eggs, processed soy products, unsalted nuts, and seeds. Make sure to eat at least 8 ounces of seafood each week. Nuts, seeds, and legumes Lean meats, poultry, and fish

*Oils are NOT a food group, but they provide essential nutrients such as vitamin E.

• Health Benefits

- Meat, poultry, fish, dry beans and peas, eggs, nuts, and seeds supply many nutrients. These include protein, B vitamins (niacin, thiamin, riboflavin, and B6), vitamin E, iron, zinc, and magnesium.
- Proteins function as building blocks for bones, muscles, cartilage, skin, and blood. They are also building blocks for enzymes, hormones, and vitamins. Proteins are one of three nutrients that provide calories (the others are fat and carbohydrates).
- B vitamins found in this food group serve a variety of functions in the body. They help the body release energy, play a vital role in the function of the nervous system, aid in the formation of red blood cells, and help build tissues.
- Iron is used to carry oxygen in the blood. Many teenage girls and women in their child-bearing years have iron-deficiency anemia. They should eat foods high in heme-iron (meats) or eat other non-heme iron containing foods along with a food rich in vitamin C, which can improve absorption of non-heme iron.
- Magnesium is used in building bones and in releasing energy from muscles.
- Zinc is necessary for biochemical reactions and helps the immune system function properly.
- EPA and DHA are omega-3 fatty acids found in varying amounts in seafood. Eating 8 ounces per week of seafood may help reduce the risk for heart disease.

- **Nutrients**

- Diets that are high in saturated fats raise “bad” cholesterol levels in the blood. The “bad” cholesterol is called LDL (low-density lipoprotein) cholesterol. High LDL cholesterol, in turn, increases the risk for coronary heart disease. Some food choices in this group are high in saturated fat. These include fatty cuts of beef, pork, and lamb; regular (75% to 85% lean) ground beef; regular sausages, hot dogs, and bacon; some luncheon meats such as regular bologna and salami; and some poultry such as duck. To help keep blood cholesterol levels healthy, limit the amount of these foods you eat.
 - Diets that are high in cholesterol can raise LDL cholesterol levels in the blood. Cholesterol is only found in foods from animal sources. Some foods from this group are high in cholesterol. These include egg yolks (egg whites are cholesterol-free) and organ meats such as liver and giblets. To help keep blood cholesterol levels healthy, limit the amount of these foods you eat.
 - A high intake of fats makes it difficult to avoid consuming more calories than are needed.
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- **Why Is It Important to Eat 8 Ounces of Seafood per Week?**

- Seafood contains a range of nutrients, notably the omega-3 fatty acids, EPA and DHA. Eating about 8 ounces per week of a variety of seafood contributes to the prevention of heart disease. Smaller amounts of seafood are recommended for young children.
- Seafood varieties that are commonly consumed in the United States that are higher in EPA and DHA and lower in mercury include salmon, anchovies, herring, sardines, Pacific oysters, trout, and Atlantic and Pacific mackerel (not king mackerel, which is high in mercury). The health benefits from consuming seafood outweigh the health risk associated with mercury, a heavy metal found in seafood in varying levels.

- **What Are the Benefits of Eating Nuts and Seeds?**

- Eating peanuts and certain tree nuts (i.e., walnuts, almonds, and pistachios) may reduce the risk of heart disease when consumed as part of a diet that is nutritionally adequate and within calorie needs. Because nuts and seeds are high in calories, eat them in small portions and use them to replace other protein foods, like some meat or poultry, rather than adding them to what you already eat. In addition, choose unsalted nuts and seeds to help reduce sodium intakes.

Meats*

Lean cuts of:

beef
ham
lamb
pork
veal

Game Meats:

bison
rabbit
venison

Lean Ground Meats:

beef
pork
lamb

Lean luncheon or deli meats

Organ Meats:

liver
giblets

Poultry

chicken
duck
goose
turkey
ground chicken and turkey

Nuts and Seeds*

almonds
cashews
hazelnuts (filberts)
mixed nuts
peanuts
peanut butter
pecans
pistachios
pumpkin seeds
sesame seeds
sunflower seeds
Walnuts

Processed Soy Products

tofu (bean curd made from soybeans)
veggie burgers
tempeh
texturized vegetable protein (TVP)

Seafood*

Finfish such as:

catfish
cod
flounder
haddock
halibut

Eggs*

- chicken eggs
- duck eggs

Beans and Peas

- bean burgers
- black beans
- black-eyed peas
- chickpeas (garbanzo beans)
- falafel
- kidney beans
- lentils
- lima beans (mature)
- navy beans
- pinto beans
- soy beans
- split peas
- white beans

- herring
- mackerel
- pollock
- porgy
- salmon
- sea bass
- snapper
- swordfish
- trout
- tuna

Shellfish such as:

- clams
- crab
- crayfish
- lobster
- mussels
- octopus
- oysters
- scallops
- squid (calamari)
- shrimp

Canned fish such as:

- anchovies
- clams
- tuna
- sardines

Daily

Recommendation*

Children	2-3 years old	2 ounce**	Women	19-30 years old	5 ½ ounce**
	4-8 years old	4 ounce**		31-50 years old	5 ounce**
Girls	9-13 years old	5 ounce**		51+ years old	5 ounce**
	14-18 years old	5 ounce**	Men	19-30 years old	6 ½ ounce**
Boys	9-13 years old	5 ounce**		31-50 years old	6 ounce**
	14-18 years old	6 ½ ounce**		51+ years old	5 ½ ounce**

*The amounts are appropriate for individuals who get less than 30 minutes per day of moderate physical activity, beyond normal daily activities. Those who are more physically active may be able to consumer more while staying within calorie needs.

** In general, 1 ounce of meat, poultry or fish, ¼ cup cooked beans, 1 egg, 1 tablespoon of peanut butter, or ½ ounce of nuts or seeds can be considered as 1 ounce equivalent from the Protein Foods Group.