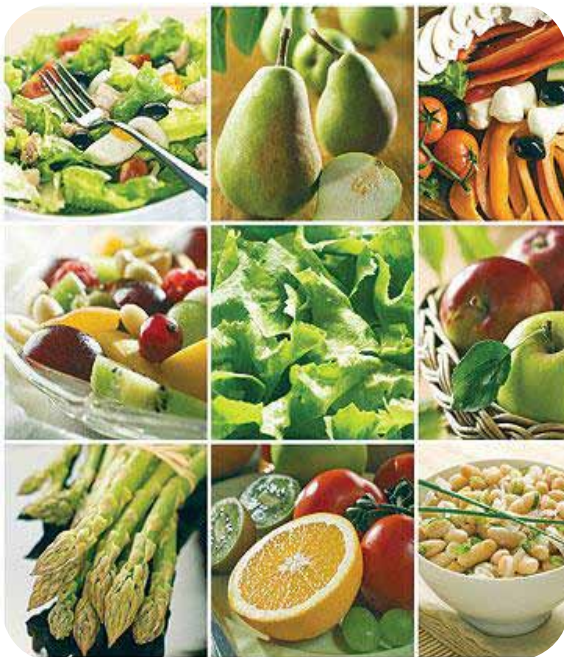


Kingdom of Saudi Arabia
Ministry of National Guard Health Affairs

Diabetes and Nutrition



Diabetes and Nutrition



You can take good care of yourself and your diabetes by learning

- what to eat
- how much to eat
- when to eat

Making wise food choices can help you

- feel good every day
- lose weight if you need to
- lower your risk for heart disease, stroke, and other problems caused by diabetes

Healthful eating helps keep your blood glucose, also called blood sugar, in your target range. Physical activity and, if needed, diabetes medicines also help. The diabetes target range is the blood glucose level suggested by diabetes experts for good health. You can help prevent health problems by keeping your blood glucose levels on target.



Blood Glucose Levels



What should my blood glucose levels be?

Target Blood Glucose Levels for People with Diabetes

| | |
|--|---------------|
| Before meals | 80 to 110 |
| 1 to 2 hours after the start of a meal | less than 180 |

How can I keep my blood glucose levels on target?

You can keep your blood glucose levels on target by

- making wise food choices
- being physically active
- taking medicines if needed

For people taking certain diabetes medicines, following a schedule for meals, snacks, and physical activity is best. It's advisable to eat your meals and snacks every 3 hours.

Fill in the times for your meals and snacks on these clocks



Breakfast



Morning Snack



Lunch



Afternoon Snack



Dinner



Evening Snack

Your Physical Activity Plan

What you eat and when also depend on how much you exercise. Physical activity is an important part of staying healthy and controlling your blood glucose. Keep these points in mind:

- Talk with your doctor about what types of exercise are safe for you.
- Warm up and stretch for 5 to 10 minutes before you exercise. Then cool down for several minutes after you exercise. For example, walk slowly at first, stretch, and then walk faster. Finish up by walking slowly again.

Before exercise:

Check your blood sugar:

- 1- If your blood sugar is higher than 250 mg/dl, don't exercise because you may harm your vessels or the ketones will be elevated in your blood. Drink 3-4 cup of water until you urinate, check your blood sugar if it's less than 250 you can start your exercise. .
- 2- If your blood sugar is less than 150 mg/ dl have a small snack before exercising such as: fruit and yogurt or 1 slice of bread and ½ cup of juice.

3- If your blood sugar is below 80 (don't exercise), this is Hypoglycemia and you should know the signs of low blood glucose. Always carry food or glucose tablets to treat low blood glucose.

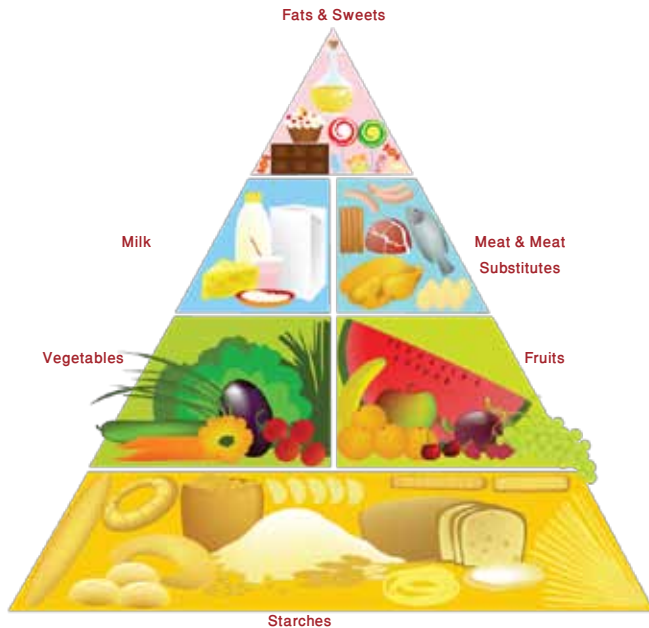
What should I do if I have hypoglycemia?

Low blood glucose can make you feel shaky, weak, confused, irritable, hungry, or tired. You may sweat a lot or get a headache. If you have these symptoms, check your blood glucose. If it is below 80, have one of the following right away:

- 1 serving of glucose gel-the amount equal to 15 grams of carbohydrate
- 1/2 cup (4 ounces) of any fruit juice
- 1/2 cup (4 ounces) of a regular (not diet) soft drink
- 5 or 6 pieces of hard candy
- 1 tablespoon of sugar or honey

After 15 minutes, check your blood glucose again. If it's still too low, have another serving. Repeat these steps until your blood glucose level is 70 or higher. If it will be an hour or more before your next meal, have a snack as well.

The Diabetes Food Pyramid



The diabetes food pyramid can help you make wise food choices. It divides foods into groups, based on what they contain. Eat more from the groups at the bottom of the pyramid, and less from the groups at the top. Foods from the starches, fruits, vegetables, and milk groups are highest in carbohydrate. They affect your blood glucose levels the most.

How much should I eat each day?

Have about **1,200 to 1,600** calories a day if you are a

- small woman who exercises
- small or medium-sized woman who wants to lose weight
- medium-sized woman who does not exercise much

| | |
|--|--|
| Choose this many servings from these food groups to have 1,200 to 1,600 calories a day: | |
| 6 starches | 2 milks |
| 3 vegetables | 4 to 6 ounces meat and meat substitutes |
| 2 fruits | up to 3 fats |

Talk with your diabetes teacher about how to make a meal plan that fits the way you usually eat, your daily routine, and your diabetes medicines. Then make your own plan.

Have about 1,600 to 2,000 calories a day if you are a

- large woman who wants to lose weight
- small man at a healthy weight
- medium-sized man who does not exercise much
- medium-sized or large man who wants to lose weight

| Choose this many servings from these food groups to have 1,600 to 2,000 calories a day: | |
|---|---|
| 8 starches | 2 milks |
| 4 vegetables | 4 to 6 ounces meat and meat substitutes |
| 3 fruits | up to 4 fats |

Talk with your diabetes teacher about how to make a meal plan that fits the way you usually eat, your daily routine, and your diabetes medicines. Then make your own plan.



Have about 2,000 to 2,400 calories a day if you are a

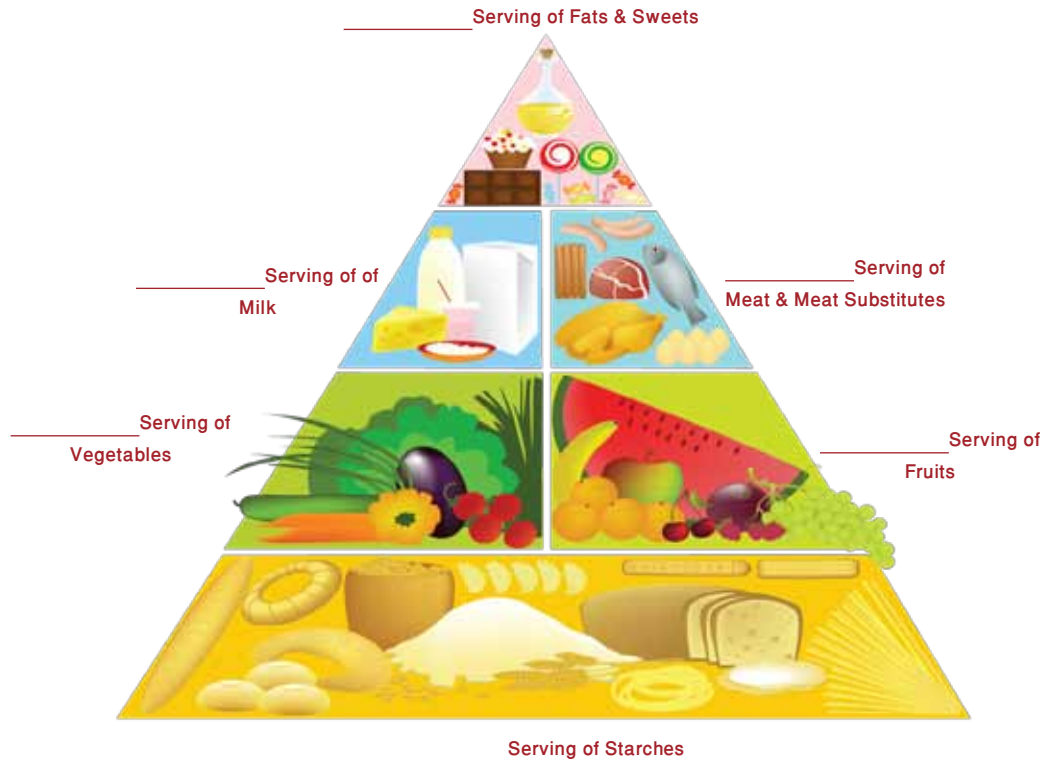
- medium-sized or large man who exercises a lot or has a physically active job
- large man at a healthy weight
- medium-sized or large woman who exercises a lot or has a physically active job

| Choose this many servings from these food groups to have 2,000 to 2,400 calories a day: | |
|---|---|
| 10 starches | 2 milks |
| 4 vegetables | 5 to 7 ounces meat and meat substitutes |
| 4 fruits | up to 5 fats |

Talk with your diabetes teacher about how to make a meal plan that fits the way you usually eat, your daily routine, and your diabetes medicines. Then make your own plan.

Make Your Own Diabetes Food Pyramid

Each day, I need



Starches

Starches are bread, grains, cereal, pasta, and starchy vegetables like corn and potatoes. They provide carbohydrate, vitamins, minerals, and fiber. Whole grain starches are healthier because they have more vitamins, minerals, and fiber.

Eat some starches at each meal. Eating starches is healthy for everyone, including people with diabetes.

Examples of starches are

- bread
- pasta
- corn
- pretzels
- potatoes
- rice
- crackers
- cereal
- tortillas
- beans
- yams
- lentils

How much is a serving of starch?

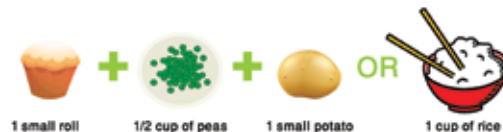
Examples of 1 serving:



Examples of 2 servings:



Examples of 3 servings:



If your plan includes more than one serving at a meal, you can choose different starches or have several servings of one starch.

What are healthy ways to eat starches?

- Buy whole grain breads and cereals.
- Eat fewer fried and high-fat starches such as regular tortilla chips and potato chips, french fries, pastries, or biscuits. Try pretzels, fat-free popcorn, baked tortilla chips or potato chips, baked potatoes, or low-fat muffins.
- Use low-fat or fat-free plain yogurt or fat-free sour cream instead of regular sour cream on a baked potato.
- Use mustard instead of mayonnaise on a sandwich.
- Use low-fat or fat-free substitutes such as low-fat mayonnaise or light margarine on bread, rolls, or toast.
- Eat cereal with fat-free (skim) or low-fat (1%) milk.

Vegetables

Vegetables provide vitamins, minerals, and fiber. They are low in carbohydrate.

Examples of vegetables are

- lettuce
- vegetable juice
- peppers
- green beans
- celery
- greens
- broccoli
- spinach
- carrots
- tomatoes
- chilies
- cabbage

How much is a serving of vegetables?

Examples of 1 serving:



Examples of 2 servings:



Examples of 3 servings:



If your plan includes more than one serving at a meal, you can choose several types of vegetables or have two or three servings of one vegetable.

What are healthy ways to eat vegetables?

- Eat raw and cooked vegetables with little or no fat, sauces, or dressings.
- Try low-fat or fat-free salad dressing on raw vegetables or salads.
- Steam vegetables using water or low-fat broth.
- Mix in some chopped onion or garlic.
- Use a little vinegar or some lemon or lime juice.
- Add a small piece of lean ham or smoked turkey instead of fat to vegetables when cooking.
- Sprinkle with herbs and spices.
- If you do use a small amount of fat, use canola oil, olive oil, or soft margarines (liquid or tub types) instead of fat from meat, butter, or shortening.

Fruits

Fruits provide carbohydrate, vitamins, minerals, and fiber.

Examples of fruits are

- apples
- strawberries
- grapefruit
- raisins
- watermelon
- mango
- papaya
- canned fruit
- fruit juice
- dried fruit
- bananas
- oranges
- peaches
- guava
- berries

How much is a serving of vegetables?

Examples of 1 serving:



Examples of 2 servings:



If your plan includes more than one serving at a meal, you can choose different types of fruit or have several servings of one fruit.

What are healthy ways to eat fruits?

- Eat fruits raw or cooked, as juice with no sugar added, canned in their own juice, or dried.
- Buy smaller pieces of fruit.
- Choose pieces of fruit more often than fruit juice. Whole fruit is more filling and has more fiber.
- Save high-sugar and high-fat fruit desserts such as peach cobbler or cherry pie for special occasions.



Milk

Milk provides carbohydrate, protein, calcium, vitamins, and minerals.

How much is a serving of milk?

Examples of 1 serving:



Note: If you are pregnant or breastfeeding, have four to five servings of milk each day.

What are healthy ways to have milk?

- Drink fat-free (skim) or low-fat (1%) milk.
- Eat low-fat or fat-free fruit yogurt sweetened with a low-calorie sweetener.
- Use low-fat plain yogurt as a substitute for sour cream.

Meat and Meat Substitutes

The meat and meat substitutes group includes meat, poultry, eggs, cheese, fish, and tofu. Eat small amounts of some of these foods each day.

Meat and meat substitutes provide protein, vitamins, and minerals.

Examples of meat and meat substitutes

- | | |
|-----------|-----------------------------|
| • chicken | • beef |
| • fish | • canned tuna or other fish |
| • eggs | • peanut butter |
| • tofu | • cottage cheese |
| • cheese | • lamb |
| • turkey | |

How much is a serving of meat and meat substitutes?

Meat and meat substitutes are measured in ounces. Here are examples:

Examples of 1-ounce serving:



Examples of 2-ounce serving:



Examples of 3-ounce serving:



*Three ounces of meat (after cooking) is about the size of a deck of cards.

What are healthy ways to eat meat and meat substitutes?

- Buy cuts of beef, pork, ham, and lamb that have only a little fat on them. Trim off the extra fat.
- Eat chicken or turkey without the skin.
- Cook meat and meat substitutes in low-fat ways:
 - o broil
 - o grill
 - o stir-fry
 - o roast
 - o steam
 - o microwave
- To add more flavor, use vinegars, lemon juice, soy sauce, salsa, ketchup, barbecue sauce, herbs, and spices.
- Cook eggs using cooking spray or a non-stick pan.
- Limit the amount of nuts, peanut butter, and fried foods you eat. They are high in fat.
- Check food labels. Choose low-fat or fat-free cheese.

Fats and Sweets

Limit the amount of fats and sweets you eat. Fats and sweets are not as nutritious as other foods. Fats have a lot of calories. Sweets can be high in carbohydrate and fat. Some contain saturated fats, trans fats, and cholesterol that increase your risk of heart disease. Limiting these foods will help you lose weight and keep your blood glucose and blood fats under control.

Examples of fats include

- | | | |
|------------------|-------------|----------------|
| • salad dressing | • oil | • cream cheese |
| • butter | • margarine | • mayonnaise |
| • avocado | • olives | • bacon |

Examples of fats include

- | | | |
|---------|-------------|-------------|
| • cake | • ice cream | • pie |
| • syrup | • cookies | • doughnuts |

How much is a serving of sweets?

Examples of 1 serving:



How much is a serving of fat?

Examples of 1 serving



Examples of 2 servings



How can I satisfy my sweet tooth?

Try having sugar-free popsicles, diet soda, fat-free ice cream or frozen yogurt, or sugar-free hot cocoa mix

Other tips:

- Share desserts in restaurants.
- Order small or child-size servings of ice cream or frozen yogurt.
- Divide homemade desserts into small servings and wrap each individually. Freeze extra servings.

Remember, fat-free and low-sugar foods still have calories. Talk with your diabetes teacher about how to fit sweets into your meal plan.





Diabetic Diet plan and Exchange lists

Diet Plan (1400 kcal, Diabetic diet)

Breakfast:

- 1 cup of Low fat of Milk or laban or yogurt.
- 2 slice of toast or 1 bun or 1/3 of Arabic bread.
- 1 egg or 30 gm of low fat cheese or $\frac{3}{4}$ cup of Beans.
- Slices of vegetables
- 5 olives or 1 Tsp on Olive oil.

Snack:

- 1 piece of fruit. Or
- 1 cup of yogurt.



Lunch:

- 1 cup of salad
- 1 cup of coked vegetables.
- 8 Tsp of rice or macaroni.
- $\frac{1}{4}$ slice of bread
- 40 g of chicken or meat or fish. (grilled or backed or boiled)
- 1 teaspoon of olive oil.

Snack:

- 1 piece of fruit.
- 1 cup of yogurt.

Dinner:

- 1 cup of salad
- 1 cup of coked vegetables.
- 8 Tsp of rice or macaroni.
- $\frac{1}{4}$ slice of bread
- 40 g of chicken or meat or fish. (grilled or backed or boiled)
- 1 teaspoon of olive oil.

Diet Plan (1600 kcal, Diabetic diet)

Breakfast:

- 1 cup of Low fat of Milk or laban or yogurt.
- 2 slice of toast or 1 bun or 1/3 of Arabic bread.
- 1 egg or 30 gm of low fat cheese or $\frac{3}{4}$ cup of Beans.
- Slices of vegetables
- 5 olives or 1 Tsp on Olive oil.

Snack:

- 1 piece of fruit.
- 1 cup of yogurt.



Lunch:

- 1 cup of salad
- 1 cup of coked vegetables.
- 10 Tsp of rice or macaroni.
- $\frac{1}{4}$ slice of bread
- 60 g of chicken or meat or fish. (grilled or backed or boiled)
- 1 teaspoon of olive oil.

Snack:

- 1 piece of fruit.
- 1 cup of yogurt.

Dinner:

- 1 cup of salad
- 1 cup of coked vegetables.
- 10 Tsp of rice or macaroni.
- $\frac{1}{4}$ slice of bread
- 60 g of chicken or meat or fish. (grilled or backed or boiled)
- 1 teaspoon of olive oil.

Diet Plan (1800 kcal, Diabetic diet)

Breakfast:

- 1 cup of Low fat of Milk or laban or yogurt.
- 2 slice of toast or 1 bun or 1/3 of Arabic bread.
- 1 egg or 30 gm of low fat cheese or $\frac{3}{4}$ cup of Beans.
- Slices of vegetables
- 5 olives or 1 Tsp on Olive oil.

Snack:

- 1 piece of fruit.
- 1 cup of yogurt. + 6 pieces of Biscuit



Lunch:

- 1 cup of salad
- 1 cup of coked vegetables.
- 10 Tsp of rice or macaroni.
- $\frac{1}{4}$ slice of bread
- 60 g of chicken or meat or fish. (grilled or backed or boiled)
- 1 teaspoon of olive oil.

Snack:

- 1 piece of fruit.
- 1 cup of yogurt.

Dinner:

- 1 cup of salad
- 1 cup of coked vegetables.
- 10 Tsp of rice or macaroni.
- $\frac{1}{4}$ slice of bread
- 90 g of chicken or meat or fish. (grilled or backed or boiled)
- 1 teaspoon of olive oil.

Diet Plan (2000 kcal, Diabetic diet)

Breakfast:

- 1 cup of Low fat of Milk or laban or yogurt.
- 2 slice of toast or 1 bun or 1/3 of Arabic bread.
- 1 egg or 30 gm of low fat cheese or $\frac{3}{4}$ cup of Beans.
- Slices of vegetables
- 5 olives or 1 Tsp on Olive oil.

Snack:

- 1 piece of fruit.
- 1 cup of yogurt. + 6 pieces of Biscuit



Lunch:

- 1 cup of salad
- 1 cup of coked vegetables.
- 10-12 Tsp of rice or macaroni.
- $\frac{1}{4}$ slice of bread
- 90 g of chicken or meat or fish. (grilled or backed or boiled)
- 1 teaspoon of olive oil.

Snack:

- 1 piece of fruit.
- 1 cup of yogurt.

Dinner:

- 1 cup of salad
- 1 cup of coked vegetables.
- 10 -12 Tsp of rice or macaroni.
- $\frac{1}{4}$ slice of bread
- 120 g of chicken or meat or fish. (grilled or backed or boiled)
- 1 teaspoon of olive oil.

Exchange list (Starches)

Bread

1 serving = 15 carbohydrate,
80 kcal

| Food | Serving size |
|--|-------------------------|
| Bagel, large (4 ounces) | 1/4 (1 ounce) |
| Bread: pumpernickel, rye, unfrosted raisin, white, whole-grain | 1 slice (1 ounce) |
| Bread, reduced-calorie | 2 slices (1 1/2 ounces) |
| Chapati, small (6 inches across) | 1 |
| English muffin | 1/2 |
| Hamburger bun | 1/2 (1 ounce) |
| Hot dog bun | 1/2 (1 ounce) |
| Pancake (4 inches across, 1/4-inch thick) | 1 |
| Pita (6 inches across) | 1/2 |
| Tortilla, flour or corn (6 inches across) | 1 |



Exchange list (Starches)

Cereals and grains

1 serving = 15 carbohydrate,
80 kcal



| Food | Serving size |
|--|---------------|
| Barley, cooked | 1/3 cup |
| Bulgur wheat, cooked | 1/2 cup |
| Cereal: bran, oats, spoon-size shredded wheat, frosted cereals | 1/2 cup |
| Cereal, puffed, unfrosted | 1 1/2 cups |
| Cereal, unsweetened, ready-to-eat | 3/4 cup |
| Couscous | 1/3 cup |
| Granola, low-fat or regular | 1/4 cup |
| Grits, cooked | 1/2 cup |
| Pasta, cooked | 1/3 cup |
| Quinoa, cooked | 1/3 cup |
| Rice, cooked: white, brown | 1/3 cup |
| Tabbouleh, prepared | 1/2 cup |
| Wheat germ, dry | 3 tablespoons |
| Wild rice, cooked | 1/2 cup |

Exchange list (Starches)

Starchy vegetables

1 serving = 15 carbohydrate,
80 kcal

| Food | Serving size |
|---|--------------------|
| Corn | 1/2 cup |
| Corn on the cob, large | 1/2 cob (5 ounces) |
| Mixed vegetables with corn, peas or pasta | 1 cup |
| Parsnips | 1/2 cup |
| Plantain, ripe | 1/3 cup |
| Potato, large, baked with skin | 1/4 (3 ounces) |
| Potato, mashed | 1/2 cup |
| Pumpkin, canned | 1 cup |
| Spaghetti or pasta sauce | 1/2 cup |
| Squash: acorn, butternut | 1 cup |
| Succotash | 1/2 cup |
| Yam or sweet potato, plain | 1/2 cup (4 ounces) |



Exchange list (Starches)

Crackers and snacks

1 serving = 15 carbohydrate,
80 kcal



| Food | Serving size |
|--|----------------------|
| Animal crackers | 8 |
| Graham crackers (2 1/2-inch squares) | 3 |
| Matzo | 3/4 ounce |
| Melba toast (2 inches by 4 inches) | 4 pieces |
| Oyster crackers | 20 |
| Popcorn, low-fat microwave or popped with no added fat | 3 cups |
| Pretzels | 3/4 ounce |
| Rice cakes (4 inches across) | 2 |
| Saltine crackers | 6 |
| Snack chips, fat-free or baked: tortilla, potato | 15 to 20 (3/4 ounce) |

Exchange list (Fruits)

Fresh fruit

One serving (exchange) of fruit contains about 15 grams of carbohydrate, no protein or fat, and 60 calories. Fruits in the amounts listed below equal one exchange. Unless otherwise specified, weights listed include skin, core, seeds and rind.

| Food | Serving size | Food | Serving size |
|-------------------------------------|-------------------|-------------------|---------------------------|
| Apple, small (2 inches across) | 1 (4 ounces) | Orange, small | 1 (6 1/2 ounces) |
| Apricots | 4 (5 1/2 ounces) | Peach, medium | 1 (6 ounces) |
| Banana, extra-small | 1 (4 ounces) | Pear, large | 1/2 (4 ounces) |
| Blackberries, blueberries | 3/4 cup | Pineapple, cubed | 3/4 cup |
| Cantaloupe, honeydew, papaya, cubed | 1 cup (11 ounces) | Plums, small | 2 (5 ounces) |
| Cherries | 12 (3 ounces) | Raspberries | 1 cup |
| Dates | 3 | Strawberries | 1 1/4 cup |
| Grapefruit, large | 1/2 (11 ounces) | Tangerines, small | 2 (8 ounces) |
| Grapes, small | 17 (3 ounces) | Watermelon, cubed | 1 1/4 cup (13 1/2 ounces) |
| Kiwi | 1 (3 1/2 ounces) | | |
| Mango, cubed | 1/2 cup | | |
| Nectarine, small | 1 (5 ounces) | | |



Exchange list (Starches)

Dried fruit

| Food | Serving size |
|---|---------------|
| Apples | 4 rings |
| Apricots | 8 halves |
| Blueberries, cherries, cranberries, mixed fruit | 2 tablespoons |
| Figs | 1 1/2 |
| Prunes | 3 |
| Raisins | 2 tablespoons |

Canned fruit, unsweetened

| Food | Serving size |
|--|--------------|
| Applesauce, apricots, cherries, peaches, pears, pineapple, plums | 1/2 cup |
| Grapefruit, mandarin oranges | 3/4 cup |

Fruit juice, unsweetened

| Food | Serving size |
|--|----------------------------|
| Juice: apple, grapefruit, orange, pineapple | 1/2 cup (4 fluid ounces) |
| Juice: fruit juice blends of 100 percent juice, grape, prune | 1/3 cup (2.7 fluid ounces) |

Exchange list (Non-leafy vegetables)



Vegetables come in many shapes and sizes. Nonstarchy vegetables contain only small amounts of carbohydrate and calories, but they pack an important nutritional punch.

One serving (exchange) of a nonstarchy vegetable usually contains 5 grams of carbohydrate, 2 grams of protein, no fat and only 25 calories. For the vegetables listed below, one exchange equals 1/2 cup cooked vegetables or vegetable juice, or 1 cup raw vegetables.

If you eat 1 1/2 cups or more of cooked vegetables or 3 cups or more of raw vegetables in a meal, count them as one carbohydrate exchange.

- Amaranth
- Artichoke
- Artichoke hearts
- Asparagus
- Baby corn
- Bamboo shoots
- Beans: green, Italian, wax



- Bean sprouts
- Beets
- Broccoli
- Brussels sprouts
- Cabbage: bok choy, Chinese, green
- Carrots
- Cauliflower
- Celery
- Chayote
- Cucumber
- Eggplant
- Green onions or scallions
- Greens: collard, kale, mustard, turnip
- Jicama
- Kohlrabi
- Leeks
- Mixed vegetables without corn, peas or pasta
- Mung bean sprouts
- Mushrooms
- Okra
- Onions

- Oriental radish or daikon
- Pea pods
- Peppers, all varieties
- Radishes
- Rutabaga
- Sauerkraut
- Soybean sprouts
- Spinach
- Sugar snap peas
- Summer squash
- Swiss chard
- Tomato: raw, canned, sauce, juice
- Turnips
- Vegetable juice cocktail
- Water chestnuts
- Zucchini

Exchange list (Meat and meat substitutes)



Most meats and meat substitutes are good sources of protein. One serving (exchange) of meat or meat substitute contains about 7 grams of protein. Check the product label to see how much fat and how many calories each product contains.

- Lean meat. One serving contains 0 to 3 grams of fat and 45 calories.
- Medium-fat meat. One serving contains 4 to 7 grams of fat and 75 calories.
- High-fat meat. One serving contains 8 or more grams of fat and 100 calories.

Meats and meat substitutes in the amounts listed below equal one meat exchange.

Lean meat and meat substitutes

| Food | Serving size |
|--|--------------|
| Beef, select or choice, trimmed of fat: ground round, roast, round, sirloin, tenderloin | 1 ounce |
| Beef jerky | 1/2 ounce |
| Cheese, 3 grams or less of fat per ounce | 1 ounce |
| Cottage cheese, fat-free, low-fat or regular | 1/4 cup |
| Egg substitutes, plain | 1/4 cup |
| Egg whites | 2 |
| Fish, fresh or frozen: catfish, cod, flounder, haddock, halibut, orange roughy, salmon, tilapia, trout, tuna | 1 ounce |

Exchange list (Meat and meat substitutes)

| Food | Serving size |
|---|--------------|
| Herring, smoked | 1 ounce |
| Hot dog, 3 grams or less of fat per ounce (Note: May also contain carbohydrate) | 1 |
| Lamb: roast, chop, leg | 1 ounce |
| Luncheon meat, 3 grams or less of fat per ounce: chipped beef, deli thin-sliced meats, turkey ham, turkey kielbasa, turkey pastrami | 1 ounce |
| Oysters, medium, fresh or frozen | 6 |
| Pork, lean: Canadian bacon, chop, ham, tenderloin | 1 ounce |
| Poultry without skin: chicken, Cornish hen, duck, goose, turkey | 1 ounce |
| Sardines, canned | 2 medium |
| Shellfish: clams, crab, imitation shellfish, lobster, scallops, shrimp | 1 ounce |
| Tuna, canned in water or oil, drained | 1 ounce |
| Veal: loin chop, roast | 1 ounce |
| Wild game: buffalo, ostrich, rabbit, venison | 1 ounce |

Exchange list (Meat and meat substitutes)

Medium-fat
meat and meat
substitutes



| Food | Serving size |
|---|--------------------|
| Beef: corned beef, ground beef, meatloaf, prime rib, short ribs, tongue | 1 ounce |
| Cheese, 4 to 7 grams of fat per ounce: feta, mozzarella, pasteurized processed cheese spread, reduced-fat cheeses, string | 1 ounce |
| Eggs (limit to 3 a week) | 1 |
| Fish, fried | 1 ounce |
| Lamb: ground, rib roast | 1 ounce |
| Pork: cutlet, shoulder roast | 1 ounce |
| Poultry: chicken with skin, dove, fried chicken, ground turkey, pheasant, wild duck or goose | 1 ounce |
| Ricotta cheese | 1/4 cup (2 ounces) |
| Sausage, 4 to 7 grams of fat per ounce | 1 ounce |
| Soy-based "bacon" strips | 3 |
| Veal, cutlet, no breading | 1 ounce |

Exchange list (Meat and meat substitutes)

High-fat meats and meat substitutes

| Food | Serving size |
|--|---|
| Bacon, pork | 2 slices (1 ounce each before cooking) |
| Bacon, turkey | 3 slices (1/2 ounce each before cooking) |
| Cheese, regular: American, bleu, Brie, cheddar, hard goat, Monterey Jack, queso, Swiss | 1 ounce |
| Hot dog, regular: beef, chicken, pork, turkey or combination | 1 (Note: Count as 1 fat and 1 meat exchange.) |
| Luncheon meat, 8 or more grams of fat per ounce: bologna, pastrami, hard salami | 1 ounce |
| Pork: ground, sausage, spareribs | 1 ounce |
| Sausage, 8 or more grams of fat per ounce: bratwurst, chorizo, Italian, knockwurst, Polish, smoked, summer | 1 ounce |



Exchange list (Milk and yogurt)



**Fat-free and
low-fat milk
and yogurt
products**

Milk and yogurt are excellent sources of calcium and protein. One serving (exchange) of milk or yogurt contains about 12 grams of carbohydrate, 8 grams of protein and variable amounts of fat. Check the product label to see how much fat and how many calories each product contains.

- Fat-free or low-fat milk and yogurt products. One serving contains 0 to 3 grams of fat and 100 calories.
- Reduced-fat milk and yogurt products. One serving contains 5 grams of fat and 120 calories.
- Whole milk and yogurt products. One serving contains 8 grams of fat and 160 calories.

Various types of milk and yogurt may count as slightly different milk and carbohydrate exchanges.

| Food | Serving size | Exchange value |
|--|--------------------------|---------------------------------------|
| Buttermilk | 1 cup (8 fluid ounces) | 1 fat-free milk |
| Chocolate milk | 1 cup (8 fluid ounces) | 1 fat-free milk plus 1 carbohydrate |
| Evaporated milk | 1/2 cup (4 fluid ounces) | 1 fat-free milk |
| Milk | 1 cup (8 fluid ounces) | 1 fat-free milk |
| Yogurt, plain or flavored with an artificial sweetener | 2/3 cup (6 ounces) | 1 fat-free milk |
| Yogurt, low-fat with fruit | 2/3 cup (6 ounces) | 1 fat-free milk plus one carbohydrate |

Exchange list (Milk and yogurt)

Reduced-fat milk and yogurt products

| Food | Serving size | Exchange value |
|-----------------|------------------------|-----------------------------|
| Milk | 1 cup (8 fluid ounces) | 1 reduced-fat milk |
| Soy milk, light | 1 cup (8 fluid ounces) | 1 carbohydrate plus 1/2 fat |
| Yogurt, plain | 2/3 cup (6 ounces) | 1 reduced-fat milk |

Whole milk and yogurt products

| Food | Serving size | Exchange value |
|-------------------|--------------------------|----------------------------------|
| Buttermilk | 1 cup (8 fluid ounces) | 1 whole milk |
| Chocolate milk | 1 cup (8 fluid ounces) | 1 whole milk plus 1 carbohydrate |
| Evaporated milk | 1/2 cup (4 fluid ounces) | 1 whole milk |
| Milk | 1 cup (8 fluid ounces) | 1 whole milk |
| Soy milk, regular | 1 cup (8 fluid ounces) | 1 carbohydrate plus 1 fat |
| Yogurt, plain | 1 cup (8 ounces) | 1 whole milk |

Other

| Food | Serving size | Exchange value |
|-------------------------------|--------------------------|----------------------------|
| Eggnog, made with whole milk | 1/2 cup (4 fluid ounces) | 1 carbohydrate plus 2 fats |
| Rice drink, fat-free, plain | 1 cup (8 fluid ounces) | 1 carbohydrate |
| Rice drink, low-fat, flavored | 1 cup (8 fluid ounces) | 2 carbohydrates |

Exchange list (Fats)

Fats come in various types. Unsaturated fats – including monounsaturated fats and polyunsaturated fats – are healthy if eaten in small amounts. But saturated fats and trans fats can increase your risk of heart disease. No matter which type of fat you choose, one fat exchange equals 5 grams of fat and 45 calories. Fats in the amounts listed below equal one exchange. Remember to include any fats you use for cooking as part of your daily fat allowance.

Monounsaturated fats



| Food | Serving size | Food | Serving size |
|---|-------------------------|----------------------------|--------------|
| Almonds | 6 | Olives, black | 8 large |
| Avocado | 2 tablespoons (1 ounce) | Olives, green with pimento | 10 large |
| Brazil nuts | 2 | Peanuts | 10 |
| Cashews | 6 | Pecans | 4 halves |
| Filberts (hazelnuts) | 5 | Pistachios | 16 |
| Macadamia nuts | 3 | Oil: canola, olive, peanut | 1 teaspoon |
| Nut butters, trans-free: almond butter, cashew butter, peanut butter (smooth or crunchy) | 1 1/2 teaspoon | | |

Exchange list (Fats)

Polyunsaturated fats



| Food | Serving size | Food | Serving size |
|---|--------------|--|---------------|
| Margarine, low-fat spread, 30 to 50 percent vegetable oil, trans-free | 1 tablespoon | Oil: corn, cottonseed, flaxseed, grape seed, safflower, soybean, sunflower | 1 teaspoon |
| Margarine, trans-free: stick, tub, squeeze | 1 teaspoon | Pine nuts | 1 tablespoon |
| Mayonnaise, reduced-fat | 1 tablespoon | Salad dressing, reduced-fat | 2 tablespoons |
| Mayonnaise, regular | 1 teaspoon | Salad dressing, regular | 1 tablespoon |
| Mayonnaise-style salad dressing, reduced-fat | 1 tablespoon | Seeds: flaxseed, pumpkin, sesame, sunflower | 1 tablespoon |
| Mayonnaise-style salad dressing, regular | 2 teaspoons | Tahini (sesame paste) | 2 teaspoons |
| Walnuts | 4 halves | | |

Exchange list (Fats)

Saturated fats



| Food | Serving size | Food | Serving size |
|----------------------------------|---------------|---------------------------------|-------------------|
| Bacon, cooked, regular or turkey | 1 slice | Cream, light | 1 1/2 tablespoons |
| Butter, reduced-fat | 1 tablespoon | Cream cheese, reduced-fat | 1 1/2 tablespoons |
| Butter, stick | 1 teaspoon | Cream cheese, regular | 1 tablespoon |
| Butter, whipped | 2 teaspoons | Oil: coconut, palm, palm kernel | 1 teaspoon |
| Coconut, shredded | 2 tablespoons | Shortening or lard | 1 teaspoon |
| Cream: half-and-half, whipped | 2 tablespoons | Sour cream, reduced-fat | 3 tablespoons |
| Cream, heavy | 1 tablespoon | Sour cream, regular | 2 tablespoons |



