

Carbohydrates

Not sure what to think about carbohydrates these days? You've come to the right section. Here are the facts to separate the hype from the truth about carbohydrates.

Check out the following topics:

- What are carbohydrates?
- What are the types of carbohydrates?
 - Complex Carbohydrates
 - Simple carbohydrates (sugars)
- How much carbohydrate do I need?

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
- Foods containing added sugars (e.g., cakes, cookies, and sugar-sweetened beverages).

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

What about foods higher in carbohydrates such as sodas and candies that also contain added sugars? Those are the ones that add extra calories but not many nutrients to your diet.

Quick Q& A

I've heard there are "good" carbs and "bad" carbs? Can you provide me more information?

Some diet books use "bad" carbs to talk about foods with refined carbohydrates (i.e., meaning they're made from white flour and added sugars).

Examples include white bread, cakes, and cookies.

"Good" carbs is used to describe foods that have more fiber and complex carbohydrates. Complex carbohydrates are carbohydrates that take longer to break down into glucose.

These terms aren't used in the *Dietary Guidelines for Americans 2005*. Instead, the guidelines recommend choosing fiber-rich carbohydrate choices from the vegetable, fruit, and grain groups and avoid added sugars.

It is also recommended that at least half of your daily grain choices are whole grains.



To learn more about a meal plan that includes fiber-rich carbohydrates, visit MyPyramid.gov

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.

Whole Grains

Whole grains are a good source of fiber and nutrients. Whole grains refer to grains that have all of the parts of the grain seed (sometimes called the kernel). These parts of the kernel are called the bran, the germ, and the endosperm.

If the whole grain has been cracked, crushed, or flaked (as in cracked whole grain bread or flake cereal), then the whole grain must still have about the same proportions of bran, germ, and endosperm to be called a whole grain.¹

When whole grains are processed, some of the dietary fiber and other important nutrients are removed. A processed grain is called a "refined" grain.

Some refined grain products have key nutrients, such as folic acid and iron, which were removed during the initial processing and added back. These are called enriched grains. White rice and white bread are enriched grain products.

Some enriched grain foods have extra nutrients added. These are called fortified grains.²

Whole Grain "Buzz Words"

***The Dietary Guidelines for Americans* recommend that you try to make at least half of your daily grain choices as whole grains.**

You can find out if the food you are eating is made of whole grains by looking at the ingredients list of the food label. The whole grain should be the first ingredient listed. The following are some examples of how whole grains could be listed:

- brown rice
- buckwheat

- bulgur (cracked wheat)
- millet
- wild rice
- popcorn*
- quinoa
- triticale
- whole-grain barley
- whole-grain corn
- whole oats/oatmeal
- whole rye
- whole wheat

*Popcorn is a whole grain that can have added fat and salt. Try air-popping your popcorn to avoid these extras. If you're buying microwave popcorn, look for a lower-fat variety. You may also want to try the snack size bag to help with portion control.

Here are some explanations of less-familiar grains:³

Bulgur. A staple of Middle Eastern dishes. Bulgur wheat consists of kernels that have been steamed, dried, and crushed. It has a tender and chewy texture.

Millet. A staple grain in parts of Africa and Asia. Millet comes in several varieties and has a bland flavor that is a background to other seasonings.

Quinoa. A grain that has been traditionally used in South American cuisine. Its texture has been compared to that of couscous.

Triticale. A grain that is a hybrid of wheat and rye. It comes in several varieties including whole berry, flakes, and flour.



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.⁴ What's the difference? In general, foods with added sugars have fewer nutrients than foods with naturally-occurring sugars.

How can I avoid added sugars?

One way to avoid these sugars is to read the ingredient lists on food labels.

Look for these ingredients as added sugars:⁵

<ul style="list-style-type: none">• Brown sugar• Corn sweetener• Corn syrup• Dextrose• Fructose• Fruit juice concentrates• Glucose• High-fructose corn syrup• Honey	<ul style="list-style-type: none">• Invert sugar• Lactose• Maltose• Malt Syrup• Molasses• Raw sugar• Sucrose• Sugar• Syrup
---	--

If you see any of these in the ingredient list, you know the food has added sugars. The closer to the top of the list, the more of that sugar is in the food.

You can learn more about sugars on the food label by visiting [How to Understand and Use the Nutrition Facts Label](#).

Other tips for avoiding added sugars include—

- Choose water instead of sugar-sweetened sodas.
- Choose 4 fluid ounces (1/2 cup) of 100% fruit juice rather than a fruit drink.
- Have a piece of fruit for dessert and skip desserts with added sugar.
- Choose breakfast cereals that contain no or less added sugars.

You probably already know sugars and starches can play a role in causing cavities. But it's worth mentioning again, particularly as far as kids are concerned. Be sure to also brush, floss, and drink fluoridated water to help prevent cavities.

How much carbohydrate do I need?

Your best approach is to follow a meal plan that gives you 45% to 65% of the calories as carbohydrates.

In order to meet your carbohydrate requirement each day, you need to know how many carbohydrates are in all of the foods you eat. It really is impossible to list every carbohydrate containing food here, however, here are some approximate amounts from common examples:

- One slice of bread - 12.5 grams total, of which 10 grams are starch and less than one gram is fiber.
- One cup of pasta - 43 grams total, of which 36 grams are starch and 2.5 grams are fiber.
- One medium apple - 19 grams total, of which eight grams are starch and three grams are fiber.
- One Snickers candy bar - 63.5 total grams, of which 53 grams are sugar, two grams are fiber.
- One cup of raisin bran cereal - 43 grams total, of which seven grams are fiber, 17 grams are starch and 16 grams are sugar.
- One cup of sugar frosted corn flake cereal - 28 grams total, of which 15 grams are starch, one gram is fiber, 12 grams are sugar.
- One four ounce glass of red wine - three grams total, of which, less than one gram is sugar.
- One eight ounce serving of low fat milk - 12 grams total, of which 12 grams are lactose.
- One cup broccoli - six grams total, of which 2.5 grams are fiber and 1.5 grams are sugar.
- One cup green beans - eight grams total, of which four grams are fiber.
- One cup sweet corn - 31 grams total, of which 21 grams are starch, three grams are fiber.
- Two cups lettuce - two grams total, of which one gram is fiber.
- One cup asparagus - four grams total, of which two grams are fiber.
- One medium orange - 15 grams total, of which three grams are fiber.
- One half medium grapefruit - nine grams total, of which 1.5 grams are fiber.
- One medium chocolate chip cookie - 16 grams total, of which seven grams are sugar.
- One cup strawberries - 12 grams total, of which three grams are fiber.
- One cup blueberries - 21 grams total, of which four grams are fiber and 15 grams are sugar.
- One half cup marinara sauce - 14 grams total, of which less than one gram is fiber.
- One medium tomato - five grams total, of which 1.5 grams are fiber.
- One medium potato with skin - 29 grams total, of which three grams are fiber, 25 grams are starch.
- One cup carrots - 12 grams total, of which 3.5 grams are fiber and two grams are starch.
- One slice of an apple pie - 40 grams total, of which 18 grams are sugar.
- One eight ounce cup of orange juice - 26 grams total, of which 21 grams are from fruit sugars.
- One cup of dry beans like pinto beans or navy beans - 47 grams total, of which 19 grams are fiber, 28 grams are starch.