

# Carbohydrates

## What are Carbohydrates?

Carbohydrates are simple sugars or a long chain of sugars linked together to form starch or fiber. Sugars and starches are easily digestible carbohydrates that fuel our cells with energy. Fiber, which is not as easily digested, provides numerous health benefits such as preventing constipation and reducing the risk of heart disease and diabetes through glucose and cholesterol regulation.

Most whole food sources of carbohydrates (unrefined carbohydrates) are nutrient dense and contain both fiber and starch and/or sugar, while highly processed carbohydrates (refined carbohydrates) lack significant amounts of fiber, digest quickly and increase blood sugar levels within 15 minutes, resulting in “quick energy.” When refined carbohydrates are eaten on their own, this energy boost lasts only a few minutes because insulin reacts immediately to lower blood sugar. The rapid drop in blood sugar may make you feel less energetic and cause you to crave more sugar.

## Choosing Carbohydrates

Carbohydrate containing foods, such as whole grains, vegetables, legumes, fruit and dairy products, provide essential nutrients that are vital to good health. These foods, in their minimally processed form, provide calories along with naturally occurring essential nutrients that are needed for optimal health and well-being. They contain fiber for digestion, minerals (like calcium, potassium and magnesium) that help lower blood pressure and decrease risk of heart disease, antioxidants that help decrease the damage done by free radicals produced in our bodies and phytochemicals that promote a strong immune system.

Less healthy carbohydrate sources in the form of simple sugars, refined grains and processed foods and beverages provide a lot of calories but are often lacking in vitamins, minerals and fiber. These carbohydrates can negatively impact cholesterol levels (increasing LDL-cholesterol and triglycerides), wreak havoc on blood glucose levels and lead to excessive calorie intake that can cause weight gain.

It is important to remember that all carbohydrates are not created equal and some are healthier than others. Therefore, work to replace the refined carbohydrates in your eating plan with unrefined carbohydrates.

## **Nutrient Dense Carbohydrates (choose more often)**

- **Whole Grains:** intact grains (steel cut oats, rye, barley, bulgur, buckwheat, quinoa, amaranth, brown rice, wild rice, millet, etc.); high fiber, low sugar whole grain cereal (cooked or dry); whole wheat pasta; whole grain bread/tortilla/crackers; popcorn
- **Starchy Vegetables and Legumes:** potatoes; winter squash; corn; peas; legumes (beans, lima beans, lentils, soybeans); etc.
- **Whole Fruits:** fresh, frozen or dried fruit without added sugar
- **Dairy:** milk, plain yogurt (regular or Greek)

## Processed Carbohydrates (limit or avoid)

- **Refined, Processed Grains:** white flour, refined cereal, sweetened cereal, white pasta, white rice, white bread/buns/rolls, products made with white flour (pancakes, waffles, muffins, crackers, etc.), pretzels, etc.
- **Added Sugars:** check ingredients for any kind of sugar, syrup, nectar, honey, fruit or cane juice/juice concentrate, words ending in “ose” (glucose, sucrose, dextrose, etc.), molasses, agave, barley malt, corn sweetener, dextrin, etc.
- **Sweets and Snack Foods:** candy, cookies, cakes, pies, ice cream, sherbet, sorbet, Jell-O®, jam, jelly, pudding, sweetened yogurt, frosting, icing, etc.
- **Beverages:** soft drinks, sodas, fruit drinks, juice, chocolate milk, meal replacement drinks, sports drinks, etc.
- **Convenience Foods (depending on brand and ingredients):** boxed dinners, sauces, frozen meals, fast food, meal replacement and snack bars, etc.

## Key Points and Recommendations

- **Include a variety of nutrient dense carbohydrates throughout the day.** These include whole grains, starchy vegetables, legumes, whole fruits, milk and yogurt.
- **Limit or avoid processed carbohydrates and added sugars** which can negatively impact cholesterol levels, wreak havoc on blood glucose levels and lead to excessive calorie intake that can cause weight gain.
- When trying to figure out how much carbohydrate to incorporate into your meals, the plate template below is a good place to start. Speak with a registered dietitian nutritionist for individual recommendations.

