

Facts About Carbohydrates

Carbohydrates (carbs) are one of three macronutrients that make up the food you eat. This worksheet will help you to learn what foods have carbs, how they are digested, and what functions they serve in our bodies.



What foods have Carbs?

Carbs are found in grains, dairy, fruits, vegetables, legumes, and desserts. The amount and type of carb differs in each food group. It is important to eat a variety of carbs to have satisfying and nutritious meals and snacks.

Digestion of Carbs

Some carbs are made up of one or two molecules (e.g. fruits, milk, and table sugar) and others are made up of many (e.g. rice, potatoes, beans). The body breaks down all carbs and converts each molecule into glucose which is transported through the blood stream. When glucose enters a cell it is converted into energy. Our cells use glucose in the same way, whether it came from cake, rice, or an apple, our cells don't know the difference.

What is Fiber?

Fiber is found exclusively in carbs. Foods like whole grains, beans, fruits, and vegetables contain fiber. Although fiber cannot be broken down by the body, it does have important functions. Fiber contributes to feelings of fullness, aids in digestion, and provides nutrients to our important gut bacteria. Eating large amounts of fiber may cause bloating or discomfort.

Functions of Carbs

- Carbs are the preferred source of energy for the brain, muscle, and body.
- Carbs are essential for reducing food preoccupation.
- Carbs are needed for protein to carry out functions like repairing and building tissue.
- Without Carbs, the body breaks down muscle and protein for glucose. This is why carbs are known as being "protein sparing."
- Carbs are needed for fat to be properly used as a fuel.
- Carb sources provide a variety of vitamins and minerals that are important to our health.

CarboHYDRATE

That's right, carbs are hydrating. Carbs are stored as glycogen in the liver and muscles. Every gram of glycogen stores 3-4 grams of water. This is the equivalent to 4-5 lbs of water in the body.

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Carbs and the Brain

The release of Serotonin requires intake of carbs. Serotonin is the satisfaction chemical in the brain which helps you to feel satiety at a meal or snack. Serotonin also regulates sleep and helps you to feel happiness and optimism.

After a period of fasting or semi-starvation, the brain releases Neuropeptide Y (NPY). When NPY builds up the brain, it tells your body to eat food especially in the form of carbs. You might believe that giving into this urge is a breakdown in willpower and that eating carbs may cause a food binge. This is false because eating enough food, including carbs, will stop the release of NPY, satisfy your hunger, and reduce food preoccupation.



Fiction vs Fact

Fiction: Carbs cause weight gain in the form of body fat.

Fact: When reintroducing carbohydrates after restricting them, the number on the scale will go up due to the hydrating effect of carbs. This does not mean you are gaining fat. In fact many quality studies have shown that carbs are more likely to be used for quick energy, burned due to the thermic effect of carbs, or stored as glycogen.

Fiction: Carbs are addicting.

Fact: Carbs and food help to release dopamine, a reward chemical of the brain. If you are deprived of rewarding activities or your brain has trouble releasing dopamine, food may be used to experience pleasure or motivation. Also, dieting has been known to increase the reward value of food, especially of high carb and high fat foods. As you renourish your body and allow yourself to eat foods that were previously avoided, the reward value of these foods will decrease over time. This is known as the habituation effect.

Test Your Knowledge on Carbohydrates

What types of foods have carbs?

How do carbs contribute to weight fluctuation?

What are the functions of carbs and fiber?

Which brain chemical is important for satisfaction?

Which brain chemical builds up during fasting?

