

Carbohydrates - The Good and Bad

Not all carbohydrates are created equally

Just as there are good and bad fats, nutritionists and diet proponents are increasingly distinguishing between carbohydrate types. A carbohydrate is a sugar (simple carbohydrate) or a starch (complex carbohydrate) containing chains of sugar molecules found in all fruits, vegetables, grains and starches. Although carbs provide the quickest source of energy, we tend to eat much more of them than our body needs to be healthy.

The key is how the body responds to certain carbs. For example, white bread, is digested quickly and raises blood sugar, therefore it's considered a bad carb. But on the other hand, the fiber in vegetables is indigestible and doesn't raise blood sugar levels, therefore they are good carbs. Other carbs, such as sugar alcohols or glycerin, common in many of today's processed foods, digest in the body but don't turn into blood sugars, therefore nutritionists see these as neutral carbs.

Do Carbohydrates Cause Weight Gain?

Maintenance of normal blood glucose levels is essential to health. Dietary sugars and starches are a primary source of blood glucose, as well they provide fuel for the brain and overall energy for the body. Advocates of low carb diets blame extreme fluctuations in blood sugar levels and surging insulin levels as the main reasons for weight gain. To control blood sugar fluctuations, the amount and type of carb being consumed needs to be controlled, as carbs impact blood sugar. For example, a food full of refined sugar and white flour, such as a jelly doughnut, will raise blood sugar much more dramatically than a salad. To be useful to your body, blood sugar has to be transported to your cells and it is done so by insulin. Once glucose reaches the cell, three things can happen to that glucose: it can be mobilized for immediate energy; it can be converted into glycogen (which is stored in the liver and muscles where it is readily available for energy use); or it can be stored as fat, in the form of a triglyceride. Since fat is more efficient and has more capacity to store energy than glucose, we can store a lot more fat in our body than glucose, and this in turn results in obesity. This excessive carbohydrate intake results in high amounts of blood sugar and, may over stimulate insulin production. The Atkins and other low carb diets help to stabilize insulin levels, which may cause weight loss.

Net Effect Carbs Explained

So why are an estimated 14 million Americans currently following a low carb diet? The low carb phenomenon is based primarily on the premise of *Dr. Atkins' New Diet Revolution*, and other low carb diets. They hypothesize that low carb diets achieve weight loss through metabolic processes which are produced naturally in the body when the dietary intake of *net effect carbs* (those carbs that will affect blood sugar levels) is

restricted below certain levels. Those following a low carb diet are allowed to subtract the carbohydrate count of those ingredients that do not affect blood sugar levels. This includes dietary fiber, sugar alcohols, glycerin and hydrogenated starch hydrolysates with the balance of the carbohydrates being *net effect carbs*.

The Carbs That Count

When following a low carbohydrate diet, you control the number of grams of carbohydrates you eat and focus on certain food groups over others — because not all carbohydrates are created equally.

Understanding Fiber

Simply put, fiber is the indigestible component of fruits, seeds, vegetables, whole grains and other edible plants. Fiber is generally classified as either soluble or insoluble. *Soluble fiber* is that which easily dissolves in water. Fruit pectin is an example of soluble fiber. Soluble fibers help to reduce cholesterol levels, normalize blood sugar levels and decrease the risk of certain types of cancer such as colon cancer. *Insoluble fiber* is not easily dissolved in water. Wheat bran is an insoluble fiber. Insoluble fibers help clean the colon, increase stool size and bulk and increase the transit time of stool in the colon, thus diminishing the concentration of toxins and preventing diseases such as diverticulitis.

Although fiber is a carbohydrate, it does not convert to glucose and thus does not raise your blood sugar levels the way carbohydrates typically do. In fact, fiber slows the entry and decreases absorption of glucose into the bloodstream. This in turn reduces the blood sugar spikes that cause insulin production and encourage the body to produce and store body fat. And by slowing down food's transit time in the intestinal tract, fiber will help keep you feeling full longer, resulting in fewer food cravings.

The fact that fiber is not converted to blood sugar is a bonus for people following a low carb diet because it allows a few extra carbs in the form of high fiber foods. For example, compare a cookie made with white flour and sugar with a couple of fiber rich crackers. Both contain 10 grams of carbs. However, eat the cookie and all 10 grams of carbs will go right to your blood stream increasing blood sugar levels. But when you eat the fiber rich crackers (which have 4 grams of fiber), only 6 of those 10 carb grams impact your blood sugar. Determining which carbs count is simple: check the total fiber grams listed on the food label and subtract that number from the total grams of carbohydrates listed. By choosing fiber-rich foods over refined ones, you can benefit your health and eat more 'good' carbohydrate-based foods.