

## **Carbohydrates and Diabetes**

People with diabetes must pay close attention to their dietary intake, portion sizes, and meal frequency. What you eat, or more specifically the carbohydrates (or carbs) in the food you eat, are the body's main source of glucose. Foods high in dietary carbohydrates include sugar, starchy foods like potatoes and pasta, and grain-based foods like breads and cereals. Carbohydrates can also be found in dairy products and fruits and vegetables, as well as many beverages.

Diabetes does not mean that these carbohydrate-containing foods must be completely cut out of the diet; in fact, many of these foods contain nutrients that are essential to good health. However, their intake must be carefully controlled and other blood glucose lowering tools such as exercise should be used to balance out their effects. For most people, special treats such as a slice of birthday cake can be an occasional indulgence as long as portions are controlled and they're figured into the overall daily carbohydrate and calorie allowance. Careful postprandial (after-meal) blood sugar testing and logging is an excellent tool for understanding the impact of new foods on blood glucose levels.

The American Diabetes Association (ADA) recommends that approximately 50 percent to 60 percent of total daily calorie intake should be in the form of carbohydrates. Some people may find this range works for them, but others will find that consuming that amount hampers their diabetes control. Working with your diabetes care team to discover how different foods and carb levels impact your control is the best way to determine your optimal daily carb intake level.

### **Other Food Factors**

Other nutrients in a meal, including fiber, fat, and protein content, can also make a big difference in how carbohydrates affect blood sugar levels. Pizza is a good example. It's infamous for causing a delayed blood glucose rise in people with diabetes. This is because the high fat content slows the absorption of carbohydrates in the intestines. And fiber, although considered a carbohydrate, usually causes less dramatic rise in blood glucose levels because it isn't absorbed in the gastrointestinal tract.

### **Not All Carbs are Created Equal**

To complicate things further, certain foods can cause a more dramatic blood glucose rise than others, even though they may have an equivalent amount of carbohydrates, gram-for-gram. This is attributable to the glycemic index (GI) or glycemic load (GL) of a food — those foods with a high GI will cause blood glucose to rise higher and faster than foods with a lower GI. Finally, it's important to realize that reactions to all foods are highly individualized, and a meal that sends one person's blood sugars sky-high may barely cause a blip for another. Home blood sugar testing is the best way to discover your own particular response pattern.