



## Diabetes: Understanding Carbohydrates, Fats, and Protein

Food is a source of fuel and nourishment for your body. It's also a source of pleasure. Having diabetes doesn't mean you have to eat special foods or give up desserts. Instead, you can learn how to plan meals to suit your body. To start, learn how different foods affect blood glucose.



### Carbohydrates

Carbohydrates are the main source of fuel for the body. Carbohydrates raise blood glucose. Many people think carbohydrates are only found in pasta or bread. But carbohydrates are actually in many kinds of foods.

- **Sugars** occur naturally in foods such as fruit, milk, honey, and molasses. Sugars can also be added to many foods, from cereals and yogurt to candy and desserts. Sugars raise blood glucose.
- **Starches** are found in bread, cereals, pasta, and dried beans. They're also found in corn, peas, potatoes, yam, acorn squash, and butternut squash. Starches also raise blood glucose.
- **Fiber** is found in foods such as vegetables, fruits, and whole grains. Unlike other carbs, fiber isn't digested or absorbed. So it doesn't raise blood glucose. In fact, fiber can help keep blood glucose from rising too fast. It also helps keep blood cholesterol at a healthy level.

### Did You Know?

Even though carbohydrates raise blood glucose, it's best to have some in every meal. They are an important part of a healthy diet.

### Fat

Fat is an energy source that can be stored until needed. Fat does not raise blood glucose. However, it can raise blood cholesterol, increasing the risk of heart disease. Fat is also high in calories, which can cause weight gain. Not all types of fat are the same.

### More Healthy

- **Monounsaturated fats** are mostly found in vegetable oils such as olive, canola, and peanut oils. They are also found in avocados and some nuts. Monounsaturated fats are healthy for your heart. That's because they lower LDL (unhealthy) cholesterol.
- **Polyunsaturated fats** are mostly found in vegetable oils such as corn, safflower, and soybean oils. They are also found in some seeds, nuts, and fish. Polyunsaturated fats lower LDL (unhealthy) cholesterol. So, choosing them instead of saturated fats is healthy for your heart.

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## Fat (*continued*)

### Less Healthy

- **Saturated fats** are found in animal products such as meat, poultry, whole milk, lard, and butter. Saturated fats raise LDL cholesterol and are **not** healthy for your heart.
- **Hydrogenated oils** and trans fats are formed when vegetable oils are processed into solid fats. They are found in many processed foods. Hydrogenated oils and trans fats raise LDL cholesterol and lower HDL (healthy) cholesterol. They are **not** healthy for your heart.

## Protein

Protein helps the body build and repair muscle and other tissue. Protein has little or no effect on blood glucose. However, many foods that contain protein also contain saturated fat. By choosing low-fat protein sources, you can get the benefits of protein without the extra fat.

- Plant protein is found in dry beans and peas, nuts, and soy products such as tofu and soymilk. These sources tend to be cholesterol free and low in saturated fat.
- Animal protein is found in fish, poultry, meat, cheese, milk, and eggs. These contain cholesterol and can be high in saturated fat. Aim for lean, lower-fat choices.